

THE ARCHEOLOGY OF A MESTIZO HOUSE

By

CARL DEMPSEY MCMURRAY, JR.

A THESIS PRESENTED TO THE GRADUATE COUNCIL OF
THE UNIVERSITY OF FLORIDA
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
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By

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Chairman: Dr. Charles H. Fairbanks

Major Department: Anthropology

In the Spring of 1972 the remains of two First Period houses were uncovered on Spanish Street in St. Augustine, Florida. The results of this excavation are presented with emphasis on Charles Fairbanks' "backyard archeology" approach. The artifacts from some 50 18th century features are described and illustrated. Stanley South's Mean Ceramic Date Formula is discussed and applied to the British, Spanish and aboriginal ceramics from the site. An interpretation of Mestizo lifestyle in St. Augustine based on documentary and archeological sources is offered.

Chairman

CHAPTER 1 INTRODUCTION

In a paper presented at the 5th Annual Conference of the Society for Historical Archeology Charles H. Fairbanks discussed the need, in St. Augustine, for what he referred to as "backyard archeology." He stated that for too long historical archeology in that city had dealt with architecture and not with the inhabitants and their lifestyles. In order to get information about the people, the archeologist must excavate in the back and side yards of the lots in St. Augustine. In the middens, trash, and fire pits is where the information lies. Since the time of that meeting several people have used this approach in St. Augustine with admirable results. These include Kathleen A. Deagan (1974) at the Maria de la Cruz Houses, R. Bruce Council (MS--no date) at the DeBurgo-Pellicer House, John Clauser at the Ximenez-Fatio House, and this author at the Maria de la Cruz Houses (MS--no date).

This thesis has been written based on data acquired by the "backyard archeology" approach. While a major portion of the manuscript does deal with the remains of two houses, the other features are the trash, fire and midden pits found in the yard of Block 16, Lot 23 in St. Augustine. Herein is an example of some of the kinds of information needed about the people of the Oldest City.

Historical Background

The establishment of the city of St. Augustine, and hence a colony in Florida, by Spain in the sixteenth century was a politico-military expediency strictly designed and carried out as a defense against French encroachment and danger to the Bahama Channel (Lanning 1935:111-115). The old enemy of Spain, France, had marked with more than idle curiosity the shipment of New World gold and silver from Mexico and Peru to Spain. The Spanish flota, the great treasure fleet, had to sail through the relatively narrow Bahama Channel and up the coast of Florida before setting out across the Atlantic for Spain (Lorant 1946:5).

So in the year 1562, France sent 150 men under Jean Ribault ostensibly to explore the country, but more importantly, to find a place for a French colony to be established (Lorant 1946:6-7).

After landing near the mouth of the present St. Johns River which he named the River of May, Ribault and his men sailed northward, discovering seven more rivers on the voyage and finally establishing a settlement called Charlesfort on Parris Island, South Carolina (Lorant 1946:8). Ribault left most of his men there and returned to France for supplies. Political conditions were not good and he was delayed two years in returning. His men in the meanwhile despairing of his return built a makeshift ship in order to return to France themselves. After many weeks becalmed, dying of thirst and

hunger, they were rescued by an English ship and returned to England and thence to France.

The Spanish, realizing the threat to their ships, sent a force from Cuba to seek out Charlesfort and deal with the French. This mission was in part carried out. The men burned Charlesfort, which they found abandoned, and returned to Cuba.

In the meantime another expedition from France, under Rene de Laudonierre, sailed from Havre de Grace to the New World landing at almost exactly the same spot at which Ribault had landed at the mouth of the River of May. After a few days visiting and talking with the local chief, Saturiba, Laudonierre's men began construction of a fort which they named Ft. Caroline in honor of the French king (Lorant 1946:11).

This deed was even more dangerous to Spanish shipping and could not be allowed. As a result Pedro Menendez de Aviles was sent to destroy the fort and drive out the Lutheran French, in which purpose he succeeded very well (Lyon 1973:182-183).

Menendez had a good many other responsibilities besides the destruction of the French and securing the Florida coast and the Bahama Channel. His contract with the king of Spain included many rights and titles for himself in return for his establishing a fort and settlement at St. Augustine, plus forts and settlements at San Mateo (the site of Ft. Caroline) and at Santa Elena (the site of Port

Royal) (Chatelain 1941:19). Menendez lost no time in setting up this defense system along the coast. He constructed blockhouses and stationed garrisons along the seacoast at strategic points on both the east and west sides of the peninsula of Florida (Chatelain 1941:19-20). This definite military posture of St. Augustine was to continue for almost two centuries. It became the raison d'etre of the city and pervaded all areas of the lifestyles of the city's inhabitants (Arana 1960:iii).

Population

The population makeup of St. Augustine was for the most part determined by the defense mission of the series of nine forts (Harrington et al. 1956) which were constructed over the years. Actual population figures are scattered but some idea of numbers and makeup can be gleaned from the available documents. Menendez in 1565 brought approximately 1500 people with him. The exact composition of this group is not clear. Probably about 1200 were men, including soldiers, laborers and craftsmen. The remaining figures then must represent women and children (Chatelain 1941:117). As might be expected the population fluctuated over the years with an overall general increase realized. Dunkle (1955:49) estimates a population of 1400 for St. Augustine in 1685. In 1689 the census taken by the Bishop of Cuba indicated that 500 families (1444 people) lived in St. Augustine. Unfortunately there is no individual

breakdown on what these figures represent except that they include whites, Indians and negroes. Chatelain lightly treats population. He gives an increase from 300 in the early years of St. Augustine to over 3000 at the end of the first Spanish occupation in 1763 (1941:128).

The military strength of the garrison in 1671 and thereafter was supposed to be 350. This figure was seldom realized (Arana 1960:20), however Arana goes on to say that there were always more civilians than military, which would put the white population at 700 plus. This seems to indicate that what figures do exist are consistent.

Men to women ratios in the population of St. Augustine are more difficult to discern. There are several references to very small groups of women coming into the colony over the years, but never is there made any definite statement as to exactly how many women at any one time inhabited St. Augustine. Luis Arana (1960:9) says " . . . population predominantly native born(italics mine)." He does not make clear whether this native born refers strictly to criollos (Florida-born Spaniards), or whether this category also includes mestizos (white/Indian mixture). Arana is not at fault in his failure to clarify this situation. Apparently no studies of any depth have been made into the Peninsulare/mestizo/criollo ratios in St. Augustine.

It is obvious that a mestizo population began to appear with the coming of the first Spaniards. Madariaga (1947:15) says "The Spaniards felt no repugnance to mating with Indian

women, and moreover, during the first years of exploration and conquest, the numbers of women who sailed over was very small; a mestizo population soon began to appear in the New World."

Criollos began to appear in Florida with the coming of the first Spanish women to the colony. The Bishop of Cuba, Altamurano, toured the missions in Florida in 1606. In St. Augustine he ordained twenty young men, a number of whom were criollo (Chatelain 1941:121, Geiger 1937:195-199, Lanning 1936:152-160). In 1608 there is a record of the birth of Maria, daughter to one Diego Hernandez de Aredina and his wife, "native of this land." After only 33 years this child is one of the second generation of criollos already in Florida (Chatelain 1941:128).

Arana in The Spanish Infantry: The Queen of Battles, devotes a large section to the role of criollo men in the defenses of St. Augustine (1960:80-89). It seems that in the early years they were, by royal proclamation, banned from military service. This situation occurred all over the New World, but the ban was apparently unofficially lifted in St. Augustine in order that quotas could be met. In fact, documents examined by this author indicated that there were mestizos serving with the regiment. If this reference is any indication of the overall loosening of regulations against criollo involvement in community matters, perhaps in St. Augustine they began generally to play important roles much earlier than their brothers in other parts of the New World.

The mestizo situation is even less known than the criollo. Undoubtedly a mestizo population began very early in and near St. Augustine, for there were Indian towns nearby from before the coming of the Spanish; these towns persisted until the end of the First Spanish Period. In 1726 (Solana) the officials of St. Augustine visited 16 Indian towns located in the vicinity of the city. They reported a total of 990 men, women and children living in these towns. Bartram (1942:51) during his visit in 1765-66 also reported that an Indian enclave had lived just outside the north wall of the city and that that area was in ruins. Officially recognized unions between Spanish soldiers and Indian women were scarce, perhaps even discouraged. There is reference in Geiger (1937:79) to the marriage between the Cacica Dona Maria and Clemente Vernal. Dona Maria was the ruler of the Indians of San Juan (del Puerto). She was a woman of intelligence who commanded great respect; this marriage was obviously political. To this author's knowledge there exists no previous reference to mestizo lifeways in St. Augustine nor any reference to the role of mestizos in the affairs of the city.

It is believed by this author and others that unions between Indian women and Spanish men were of such a magnitude of occurrence that Indian women became the major figures in Spanish-Indian acculturative processes in St. Augustine and, perhaps, in all of Spanish Florida. Kathleen A. Deagan has made a thorough search of the documents, correlated this

data with archeologically retrieved data, and tested the implications of this hypothesis (Deagan 1974). Her dissertation is a major step in the study of Spanish-Indian cultural relationships in Spanish Florida.

Physical Makeup

The actual physical makeup of the city of St. Augustine both affected and was affected by the defense mission and the resulting population. The layout of St. Augustine and the other cities of the New World was established by royal proclamation. This "grid plan" layout represented something entirely new in Spanish city building even though the idea itself is from Greek and Roman times (Foster 1960:38). The royal cedula of 1573 reads as follows:

The main plaza whence a beginning is to be made, if the town is situated on the seacoast, should be at the landing place of the port. . . . The Plaza shall be of an oblong form, which shall have at the least a length equal to one and a half times the width, in as much as this size is best for fiestas in which horses are used and for any other fiestas. The size of the Plaza shall be proportional to the number of the inhabitants. . . . From the Plaza shall run four main streets at each corner of the Plaza. The four corners of the Plaza shall face the four principal winds. . . . For the temple of the cathedral, the parrish church or the monastery, building lots shall be completely isolated that no building shall be added there except one appertaining to its commodiusness and ornamentation (Nuthill 1921:743-753).

It is evident that these guidelines were used in the layout of St. Augustine. Figure 1 is a map of St. Augustine in 1763. The city is long and narrow. This is related to

geographical factors, i. e. the bay to the east and the marsh/creek to the west. A plaza is very prominent and fairly large. The map also shows two separate buildings in the plaza which apparently are the church buildings.

Architecture and Building Construction

The dominating architectural feature of the city at all times was, of course, the fort. The early forts were wooden-palisaded all around. In 1672 construction was begun on the great four-bastioned coquina-walled fortress, the Castillo de San Marcos. So much has been written by way of description of this fort that it will be omitted here. Let it suffice to say that the fort represents the essence of the city of St. Augustine.

The houses of St. Augustine have also received a good deal of attention in the literature. Albert Manucy has done a comprehensive work on this aspect of the city (1962). In the early years after the establishment of the city, the houses were of wattle and daub construction with palm thatch roofs. Within twenty years most of the wattle and daub was replaced by houses of wood with palm thatch roofs. Figure 2 shows a detail of a map of St. Augustine about 1595. One can see that the dock and sides of the house are planks and that the roofs are of some other material. This roof construction may well be Indian in style, although the style may just represent the absence of good supplies of nails (Charles H. Fairbanks personal communication).

Although there is evidence of the use of tabby and coquina before 1702, apparently almost every structure except the fort was of wood and thatch until after this time. In that year Colonel Moore of South Carolina burned the entire town of St. Augustine with the exception of a few houses (Manucy 1962:23). Recovery from this destruction took many years. The documents are full of references to the rebuilding of houses destroyed by the fire. These references continue into the 1730's (Benevides 1731).

The next phase in construction placed emphasis on masonry. Two different types of masonry construction were used, both separately and together. The first was tapia or tabby, which uses a concrete-like material composed of sand, shell (usually oyster), lime made from burning shell, and water in equal parts. This mixture was poured into wooden forms and allowed to harden. House walls were a succession of these pours. Floor forms were much like the concrete floor forms of today.

Also in use was the shell-stone called coquina, for which St. Augustine is famous. The building of the Castillo (1672-1696) was the first large stone project. After its completion the stone became available for use in other official buildings. During the building boom of 1703-1740 coquina came into in such general use that the original quarry was exhausted so that a new one had to be opened (Manucy 1962:67).

Generally speaking, then, house construction in St. Augustine passed through three stages, wood, tabby and coquina. These stages are not mutually exclusive. Except for the very early years all three types probably existed at the same time.

The Houses of St. Augustine

Manucy defines three different types of floor plans for the houses of St. Augustine. These are: 1.) the Common Plan, 2.) the St. Augustine Plan, and 3.) the Wing Plan (see Figure 3 for diagrams of these plans). Each of the three types will be treated briefly with some details omitted for discussion later in the paper.

The first and by far the most popular was the Common Plan. This house consisted of one or two rooms and is the simplest of the three types. It is, according to Manucy, the common Spanish house both in the Old World and the New. Its prototype is the one-room cottage of the Medieval laborer (Manucy 1962:50). The one room was probably used as living, dining and bedroom with perhaps a loft for additional sleeping facilities. The two-room type divided sleeping from eating and living space. This Common Plan unit was always a single story.

The second type, the St. Augustine Plan, is slightly more complicated. This plan was especially designed and adapted for living conditions in St. Augustine (Manucy 1962:55). This type house could be described as a one and a half or

two story Common Plan house. Going further than this, the distinguishing feature of the St. Augustine Plan house is the porch or loggia attached to one side of the house. Manucy's study of this style revealed that the houses were of tabby, of coquina, or both. It was situated so that the porch or loggia was always on the south or east side of the house. This arrangement allowed the prevailing southeast winds of summer to cool the house and permitted a warm sheltered spot in the sun during the winter. The main entrance to these houses was through a courtyard which the loggia faced. The courtyards invariably were surrounded by a garden wall which may or may not have been of the same material as the house.

The third type, the Wing Plan, resulted in an "L," "U," or "H" shaped house. This was the least common form, perhaps because of its expense.

Popularity information was compiled by Manucy from various maps. In 1764, Common Plan houses made up 64%, St. Augustine Plan 25%, and Wing Plan 11%. These figures did not change much in 24 years, for in 1788 Common Plan was 70%, St. Augustine Plan 21%, and Wing Plan 9% (Manucy 1962:59-60).

CHAPTER 2
SA 16-23, THE HOUSES OF MARIA DE LA CRUZ

In the spring of 1972 the University of Florida held its annual Field School in St. Augustine. Under the supervision of Dr. Charles H. Fairbanks, assisted in the field by this author and R. Bruce Council, seventeen students from the University of Florida and one from Florida State University undertook ten weeks of excavation on Spanish Street. The site chosen was St. Augustine Block 16, Lot 23. At the time of excavation this was an empty lot bounded on the north by the Old City Laundry Building (which has since been torn down), on the east by Spanish Street, on the south by an abandoned clapboard house (now also torn down), and on the west by the backs of residences fronting on Cordova Street.

This dig was originally undertaken to archeologically explore the remains of Minorcan dwellings which were known to have been in the area from at least 1788. While we did find evidence of a probable Minorcan house, the emphasis of the excavation came to rest on two tabby foundations, the remains of two First Spanish Period houses.

Earliest documentary reference to the site is on the Jeffrys map (the publishing date of this map is in dispute). In any event, the map was based on information gathered about 1740. It shows two houses in the same location and

oriented in the same directions as the uncovered foundations. A very similar and much clearer map is that of de Solis published in 1763 and illustrated in Figure 1. The Puente map of 1764 also shows the same two houses and the Key lists them as belonging to the heirs of one Maria de la Cruz. The Jesse Fish Account List reveals that Maria de la Cruz was an Indian.

The St. Augustine Vital Statistics File has reference to upwards of fifteen Maria de la Cruzes. Almost any of them could have been the one who owned the property; however, only three are listed as being Indian. The first of the three was born at San Luis de Talimali which is apparently another name for San Luis de Apalache. This mission was moved to the vicinity of St. Augustine about 1726. This Maria was married to Joseph Gabriel Vasques, a soldier. Information on the second Maria is very scanty. The only entry on the Vital Statistics File is of her marriage to a Cacique named Joseph de Fuentes, evidently an Indian. The third and probably the best choice is Maria Sebastiana de la Cruz, whose parents were born at Nombre de Dios. In 1728 she married Joseph Gallardo, a soldier of the regiment, whose parentage suggests he was mestizo.

References to ownership of the lot after Puente are infrequent. The Moncrief map of 1765 shows that Samuel Piles owned the property. Jesse Fish bought the property from Piles' estate. Roque's map of 1788 lists the lot as

Crown property, with a timber and thatch house belonging to Bartolome Usina, a Minorcan. The Usina heirs held the property until 1834. The next reference to the lot is in 1905 at which time a man named Andrew Burgess had a dwelling there. Finally, in 1970, the land became the property of Saint Augustine Restoration, Incorporated, with offices at 48 King Street, St. Augustine (Notes on Preliminary Cartographic Study of Block 16 on file at Historic St. Augustine Preservation Board).

Excavation Procedures

After an intensive surface collection, the site had a modified Chicago Grid established on it. Two major trench lines were begun and expanded as needed to uncover the houses. Baulks two feet wide were left between squares, which means that actual digging area per square was only 8 feet by 8 feet. Squares were designated by the number on their southwest corner stakes (See Figure 4 for extent of excavations).

Vertical control was maintained by the use of a transit. A temporary benchmark was established on the southeast corner of the Old City Laundry Building to the north of the site. The Datum Plane was 4.2 feet above present ground surface; all vertical measurements were taken down from this plane. A permanent transit station was set up. It was located as follows: from the transit station to

the temporary benchmark, the angle is $N43^{\circ} 27'E$ at a distance of 100.0 feet. The station was also tied into the grid. From the station to stake 60N 40E the angle is $N2^{\circ} 16'W$, at a distance of 47.2 feet; to stake 80N 110E, the angle is $N54^{\circ} 6'E$ at a distance of 90.1 feet.

In order that general elevation of the site relative to mean sea level might be known, elevations of two manhole sewer covers were run in. These covers were directly adjacent to the site in Spanish Street. From the transit station to the center of the cover located just south of the south wall of the Old City Laundry building, the angle is $N39^{\circ} 33'E$ at a distance of 111.0 feet. Elevation 4.20 feet Below Datum; MSL +7.196 feet. From the station to the center of the cover south of the first, the angle is $N98^{\circ} 9'E$ at a distance of 85.0 feet. Elevation 3.85 feet Below Datum; MSL +7.541 feet.

Tools used in the excavation were square-pointed shovels, trowels, and brushes. The first two squares were excavated by arbitrary 6 inch levels; all other squares were dug by natural strata. Material from all squares was sifted through either one of two gasoline-powered mechanical shaker screens with mesh of the same dimensions. When use of one of these screens was precluded, a slant frame hand screen with $1/4$ inch hardware cloth was used. All material from each level, zone, pit, or posthole was collected together and placed in polyethelene bags marked as to provenience. After bagging, the material was washed, dried, cataloged and analysed, at

which point it was returned to the Historic Saint Augustine Preservation Board for storage. Stratigraphic records were kept and profile drawings were made. Aerial field maps of individual squares were drawn to scale and a final composite map was made.

Maria's Houses

The most significant features uncovered by the excavations were assigned numbers four and seven. The features are the remains of "2 stone houses" (Puente 1764). Both houses seem to have been of the type called St. Augustine Plan by Manucy (1962:55), although some evidence exists for the South house to have been Wing Plan.

The North House

The remains of the North house, which was designated Feature 4, were poured tabby footings varying in width from 0.6 ft. to 2.0 ft., with an average width of 1.5 ft. Thickness of the footings was 1.0 ft. The tabby was poured directly into a trench with slightly sloping sides and a flat bottom, which had been prepared with a thin layer of oyster shell. The footings described a rectangle approximately 17.0 ft. (North-South) by 34.0 ft. (East-West). Bisecting this rectangle north to south is the tabby footing of a partition wall. The resulting configuration is two rooms side by side each with interior dimensions of approximately

15.0 ft. by 15.0 ft. (See Figure 5).

The exterior walls of the house were of squared coquina rubble courses as evidenced by the blocks of coquina found mortared to the footing at approximately 70N 95E (See Figure 6). This apparently unique construction method is suprising as Manucy says that coquina walls were laid directly on the prepared layer of oyster shell (1962:68). The interior partition wall was poured tabby with wooden posts placed in the wall for added strength. The posts could support the weight of the roof while the tabby was drying. This was a common construction technique of the times and called by the Spanish ostion y postes (Manucy 1962:69).

The width of the tabby footings and the coquina course suggests that the house was at least one and a half stories and probably two stories high. Manucy gives wall thicknesses for one and a half story buildings as one tercia (11 inches) and for two story buildings as 1 1/2 tercias (17 1/2 inches) (1962:67). Common wall height was 7 varas or about 19 feet (Manucy 1962:80).

It is evident that this house had one of two types of roof. Several pieces of barrel tile were recovered. This may be indicative of the ubiquitous red tile roof of Spain and Latin America. There was a kiln firing these tiles in St. Augustine from at least the year 1737 (Justis 1737). Besides roofing, these tiles were used as drainpipes to

carry runoff from flat poured tabby roofs which were in use from earliest times in Florida (Bartram 1942:52). Since only a few of these tiles were found, it is likely that the roof was of this latter type, although it is possible that the valuable tiles were robbed after the abandonment of the building.

That the house was St. Augustine Plan was confirmed by the uncovering of a loggia. The remains consisted of a series of postholes describing a rectangle 18.0 feet (East-West) by 8.0 feet (North-South) centered on the south side of the house. Entrance to the house was through a doorway opening on this loggia (Manucy 1962:55). Archeologically a gap in the tabby footing was found in the south wall at about the center of the loggia remains which may represent this doorway. In the west room of this North house the remains of a poured tabby floor was uncovered. It is likely that the entire house was floored in this manner.

The South House

Approximately 25 feet south of Feature 4, more tabby footings were unearthed. These were assigned Feature number 7. These footings were almost exactly the same width and thickness as those of the North house. The house that rested on these footings was approximately 39.0 feet long (North-South). Its width is unknown due to a sewer line disturbance and to the fact that Spanish Street cuts across the remains. East-West dimensions of the remains uncovered was 9.0 feet.

The interior partition wall was not centered, resulting in a north room approximately 12.0 feet long and a south room approximately 21.0 feet long (interior dimensions). The loggia was not uncovered, since it would have been on the east side of the house (i.e. under the street). The house was nonetheless probably St. Augustine plan. It was two stories high and slightly larger than the North house. Here again, coquina was found mortared to the tabby indicating that this house was also of stone. No evidence of posts were found in the interior partition wall, so it is possible that it was not of ostion y postes construction.

It is well within the realm of possibility that the South house was even more elaborate than the North house. The South house may have been what Manucy calls Wing Plan. Along the west side of the west tabby footing, tabby juts out westward in two places, suggesting that this house may have had a third room on the ground floor (See Figure 7). This area was extremely disturbed mainly by Feature 1-11 which is believed to be the wall trench for Bartolome Usina's thatch roof house of 1788.

Surrounding the property was a wall of coursed coquina rubble set on a tabby footing like both the houses. This excavated footing ran from the south wall of the South house westward approximately 70.0 feet at which point it turned north. The surface of the ground within the courtyard was apparently covered with crushed coquina. This was evidenced by a fairly uniform scatter of this material in the area

between the two houses. It is of course very possible that this is only a scatter of construction debris.

What has emerged is a description of two very simple houses, modest but quite substantial. Further architectural details are impossible to substantiate but a fairly accurate estimate can be made.

Bartram (1942:52) says only the best houses were made of coquina, so it is suprising that Maria's houses were of that material. It seems unlikely that Bartram would have visited the poorer neighborhoods of St. Augustine. He undoubtedly described what he saw and this is not contradictory to what in fact existed in places unseen by him.

Bartram further reported that all the houses had windows covered by lath-like lattice work and sealed by simple inside shutters. The windows on the more elaborate houses protruded into the street. The houses at SA 16-23 probably had windows like the former. Projecting balconies and intricate doors were part of the upper class house architectural inventories. It seems improbable that these lower class houses would have been similarly outfitted.

The unpretentiousness of Maria's houses can be somewhat better confirmed. Arnade (1961:175-181) presents data concerning the appraisal of some private buildings done by Juan de Cotillo and Pablo Castello in late 1763-early 1764. In one appraisal of the house of Salvador de Porras, in the masonry section of the report, a value of 1860 pesos for

340 cubic varas of hewn stone which made up the entire structure is listed. Extrapolating similar figures for the North house (assuming dimensions as follows: 2 walls, 11 varas long, 7 varas high and $1/3$ vara thick; 2 walls, 6 varas long, 7 varas high and $1/3$ vara thick) we get a little less than 79 cubic varas of stone. The appraised price of 4 pesos per cubic vara results in a value of 316 pesos for the coquina in the North house. This is approximately $1/4$ the value of the appraised house which is located in a more prosperous part of the city (see Puente).

So it seems that, while at first glance the houses at SA 16-23 were above the economic means of the inhabitants, closer analysis has revealed they are in fact very modest houses and quite appropriate to the posited lower class economic status of the inhabitants.

Dating Features 4 and 7

As is the case with many historic period houses, the date of the construction of the houses of Maria de la Cruz is somewhat vague. It is clear that the houses were in existence by at least 1740. The Jeffry's Map was made from information taken "from the Spanish during the last war." This last war referred to must be Ogelthorpe's attacks on St. Augustine in 1739-40.

By 1788 (Roque Map), the houses had been replaced by one of thatch and timber owned by Bartolome Usina.

From map data then, he have a range of years in which the houses are known to have existed: from sometime before 1740 until sometime before 1788. This range can be further defined. In 1702 Colonel Moore of South Carolina attacked St. Augustine, causing indirect and direct destruction of most of the town (Boyd Smith and Griffin 1951). As has been stated, rebuilding in tabby and stone began in 1703 and continued into the 1730's. In all likelihood, Maria's houses were built during this time.

This building boom was slow in materializing. Hostile Indians kept St. Augustinians from making forays for wood with which to rebuild. After the completion of the fort, stone became available for general construction use. It wasn't until 1713 that the governor's house was completed (Manucy 1962:26). Maria's houses must have been built after this date since it is inconceivable that an Indian/mestizo building as substantial as the one on the lot at SA 16-23 would have been completed before the governor's. The date of construction, then, appears to be between 1713 and 1739.

The date of destruction can also be made more precise. Since the houses had been replaced by 1788, one can assume that they were destroyed during the British Dominion. Documentary sources state that British soldiers (the first British to arrive) pulled down many houses that they might have the wood for fires since firewood was so scarce (Bartram 1942:52). This destruction was widespread,

extending to about "half the town" (Bartram Ibid.). The substantiality of the houses on 16-23 has been emphasized again and again and one might wonder how such substantial buildings came to be so easily destroyed. What must be remembered is the amount of wood even in a stone house. The loggia supports, the balcony, the window frames, the door jambs, the second story joists, and the roof supports were all of wood which would have been pulled down. It is not likely that the houses were destroyed all at one time; it is likely that because of their proximity to the fort, Maria's houses were among the first to go. It would seem that probably within the first year of British rule they would have been essentially destroyed. This would indicate a destruction date of about 1764. Thus, we can see from documentary evidence that the houses were built after 1713 and destroyed shortly after 1764.

Wells

The water supply of St. Augustine was individual dug wells. These could be very shallow due to the high water table. According to Manucy the first wells were cased with planks or barrels while later examples (after 1770) were cased with stone (1962:125-126).

Two definite wells were uncovered on the site. These were given Feature numbers 36 and 37. Both fell into Manucy's "early" category, which is in keeping with the proposed date of the site.

Feature 36

This well was located in the north half of square 60N 90E. The center was approximately 3.0 feet south of the tabby footing Feature 4 (See Figure 5). The top of this feature was at 6.1 feet below datum.

The feature appeared in horizontal cross-section as broken concentric circles. The outside ring was composed of light brown sand mixed with crushed coquina; this ring varied in thickness from 0.4 to 0.8 feet. When material from this ring was screened it was found to contain numerous wood splinters indicating that this well was probably encased by planks. The splinters were aligned almost perpendicularly with the surface of the ground. The next concentric ring was composed of four smaller rings. They were (outside to inside) dark grey sand, light grey sand, and tan sand, all of which alternated with the light brown matrix. The individual rings were 0.1 feet or less in thickness. The thickness of the larger composite ring varied from 0.8 to 1.0 feet. The final ring was crushed coquina which varied in thickness from 0.05 to 0.10 feet. The area enclosed by these rings was approximately 2.0 feet in diameter and was a dark black sand. The average overall diameter of Feature 36 was approximately 4.5 feet.

One half of the feature was excavated so that a profile drawing could be made. Due to the high water table the remaining half of the feature collapsed before the profile

drawing was accomplished; however, the presumed bottom of the feature at that time was recorded at 8.1 feet below datum. The excavation of the second well proved this assumption to be in error. This first well probably bottomed out at approximately 11.0 feet below datum and was probably a barrel well also.

Indications are that the well was open for a long period and filled by gradual accretion. The ceramics from the well suggest that it was open in the early part of the 18th century and remained open into the British Dominion.

The well was evidently covered. It was located directly adjacent to the posts of the loggia and could have thus been covered by a projection of this structure; or it may have been covered by the balcony overhang. It may also have had a well house around it. The best explanation seems to be that the well was partially covered by the roof overhang but designed to catch rainwater runoff. This added rainwater would have gone a long way in freshening the ground water.

Feature 37

The second definite well uncovered by excavation was located in the south half of square 40N 90E. In horizontal cross-section it somewhat resembled Feature 36, i. e., it consisted of concentric circular areas. The area enclosed by these circles was approximately 2.5 feet in diameter. This feature first appeared at 5.8 feet below

datum (See Figure 7).

The water table was very high at the time of excavation so digging of this well temporarily ceased at 7.1 feet below datum. When finally the well points and pump were installed the removal continued to a depth of 8.2 feet below datum. At this depth the top of a barrel was encountered (See Figure 9). Within the barrel were alternate layers of clean white sand and dark humic stained sand, indicating intermittent filling. The barrel extended from 8.2 to 11.1 feet below datum. The staves were removed along with the top iron hoop. Some pieces of wooden hoop about one inch wide were also excavated. This barrel had a reconstructed top diameter of 28 inches.

In the upper levels of this feature (specifically, at 7.6 feet B.D.) a New Castle-on-Tyne slip-decorated lead-glazed earthenware dish was uncovered (Figure 10). On the inside bottom of the dish was written in slip the date 1813. This gives us a terminus post quem for this particular level in the well. The well was thus open during the Second Spanish Period. This fact is borne out by a large number of Pearlware sherds recovered from this feature. Other artifactual evidence suggests that the well was open during the British Period (1763-1783), and probably even during the First Spanish Period. Pipestem dating gave a date of 1745 for the well, which is late in the First Spanish Period.

The construction pit for the well was also recovered and excavated. This feature was assigned number 29. It was a large roughly rectangular pit 4-5 feet across. This pit was dug, then the barrel casing was set in the bottom and the earth filled in around the barrels. Artifacts recovered from this feature support the idea that it was constructed during the First Spanish Period; thus it is contemporaneous with the stone houses.

Four other features were deemed possible wells, well pits, or attempted wells. These were Features 20, 33, 39, and 53. Each of these features will be discussed and described in turn along with most of the other features uncovered on the site.

Other Features

Fifty-six other features were excavated on the site. Of this number, 34 will be described. These 34 were chosen because each of them appeared at 5.9 feet below datum or deeper. This depth was used as criterion because it represents the surface elevation during colonial times, as evidenced by the crushed coquina in the courtyard.

This arbitrary cutoff was necessary because of the problem of deciding which features were closed contexts. One can never be sure of closed contexts in St. Augustine because 400 years of material accumulation occurs in 2-3 feet of matrix.

Feature 5- was an irregular pit with its center at 74.0N 102.0E. It was approximately 2.0 feet by 2.0 feet across and 1.1 feet deep. This pit seems to have been under the floor of the North house (Feature 4).

Feature 6- an irregular trash or fire pit with its center at approximately 25.0N 114.5E. This feature was 1.2 feet deep and approximately 5.0 feet (N-S) by 4.0 feet (E-W). It was under or in the floor of the South house (Feature 7.).

Feature 9- possible fire pit with its center at 27.0N 107.0E. This pit was 1.1 feet deep and was precedent to Feature 1-11.

Feature 10- a short, relatively shallow trench aligned North-South. This feature was cut by Feature 4 (North house wall). North of the wall the trench was 3.5 feet wide and 5.3 feet long; south of the wall the feature merged with Feature 8 and was for all practical purposes indistinguishable from it.

Feature 13- roughly circular, possible storage pit with straight walls and a round bottom. The center was at approximately 17.0N 113.0E. This feature was 1.5 feet deep, seemed to have been dug with a shovel and was under or in the floor of the South house (Feature 7).

Feature 15- roughly rectangular trash pit 3.0 feet by 3.5 feet. The center was at approximately 37.0N 112.0E. The pit was 1.2 feet deep and under or in the floor of the South house (Feature 7).

Feature 16- irregularly rectangular trash pit 2.5 feet (N-S) by 4.0 feet (E-W). The center was at 32.0N 115.0E. It was 1.0 feet deep and within the walls of Feature 7 (South house).

Feature 17- a trench, 2.0 feet wide (N-S) by 8.0 feet long (E-W). It cut across the north center of square 10N100E. This trench was 1.2 feet deep. It is probably an old wall trench and was precedent to Feature 1-11 (wall trench of Minorcan house).

Feature 18- an irregularly shaped trash pit, 2.5 feet (N-S) by 2.0 feet (E-W). Its center was at approximately 14.5N 103.0E. This pit was shallow, as were most of the others, only 1.2 feet deep. It was also precedent to Feature 1-11.

Feature 19- a probably fire pit shaped like an irregular triangle measuring approximately 3.0 feet on a side. Its center was at 65.5N 105.5E. It was located just outside and south and west of the doorway to Feature 4 (North house).

Feature 20- this was an irregular circle 8.0 feet in diameter. It consisted of a grey sandy core surrounded by light yellow-orange mottled fill. The center was located at 55.0N 105.0E. It was 1.1 feet deep. The very irregular bottom of this feature suggested that it was an old tree root system long since removed; however, it could also have been an attempt to dig a well.

Feature 21- a rectangular trash pit with irregular sides sloping to a roughly circular bottom. Its center was at 67.5N 102.0E and it was 1.0 feet deep.

Feature 22- a semi-circular storage pit with its center at 66.4N 98.4E. It was 0.8 feet deep. It cut Feature 19 and hence was dug subsequent to it.

Feature 24- a long trench, 2.0 feet wide (E-W) by 8.0 feet long (N-S). Its center was at 37.0N 108.5E. This feature was 1.2 feet deep and precedent to Feature 7, the South house wall.

Feature 27- a circular trash pit, 2.5 feet in diameter. Its center was at 36.0N 106.0E and it was 1.2 feet deep.

Feature 29- well pit. Already described in detail.

Feature 31- roughly rectangular fire pit with its center at 57.5N 108.5E. It was 0.6 feet deep and intrusive to Feature 20.

Feature 32- an irregular shallow trash pit with its center at 47.7N 103.7E. This pit was only 0.4 feet deep.

Feature 33- roughly circular pit 3.0 feet in diameter with its center at 35.6N 94.5E. This is one of the features that could possibly have been a well. It was recorded as being only 1.5 feet deep, but it extended from 6.1 feet below datum to 7.6 feet below datum which is below present water table and could thus have been a shallow well.

Feature 34- an extended trash pit 4.0 feet wide (N-S) by 13.0 feet long (E-W) with its center at approximately

55.5N 96.0E. This feature was 1.7 feet deep and extended below the water table.

Feature 36- a barrel well already described in detail.

Feature 37- another well made of barrels also formerly described.

Feature 38- semi-circular feature with a 2.0 feet radius. Its center was located at 36.5N 72.5E. This pit is fairly shallow (0.8 feet) and could have been a forge area. It is more likely a trash-fire pit.

Feature 39- large irregular rectangle 5.0 feet (N-S) by 8.0 feet (E-W). The center of this feature was located at approximately 37.5N 83.0E. It was at least 1.3 feet deep and extended into the water table. This is believed to be a well construction pit.

Feature 40- a very large pit or trench with reconstructed dimensions of 6.0 feet by 8.0 feet. Its center was at 53.0N 96.0E. Its depth, like many others, was indeterminant because it extended below the water table. It was precedent to Feature 34.

Feature 41- a large posthole (1.3 feet in diameter) with its center at 37.5N 58.5E. It was 1.6 feet deep and extended below the water table.

Feature 42- this was also a large posthole (1.2 feet in diameter) with its center at 37.0N 57.0E. It was 1.6 feet deep and also extended below the water table.

Feature 43- a short, shallow trench aligned East-West. It was parallel to and just north of Feature 4 wall with its center at 90.1N 97.5E. This trench was 0.6 feet deep and filled with shell and mortar rubble.

Feature 44- a large irregularly shaped pit which was precedent to Feature 40. Its center was located at 52.4N 92.4E. It was 0.9 feet deep.

Feature 46- a possible footing trench with its center at 38.0N 67.0E. It was 0.6 feet deep.

Feature 47- clearly an aboriginal pit, irregularly rectangular, 1.0 feet (N-S) by 2.0 feet (E-W). Its center was at 37.0N 58.0E and it was filled with clam shells 0.5 feet deep.

Feature 48- a large squarish aboriginal trash pit. It measured 4.0 feet (N-S) by 4.5 feet (E-W) by 0.3 feet deep. Its center was at 37.3N 66.8E. The fill of this feature was an extremely large amount of oyster and other marine shell.

Feature 50- roughly semi-circular pit with a 2.0 feet radius. It was located at 35.9N 44.3E along the south wall of the excavation unit. It was 0.5 feet deep.

Feature 51- an irregular pit located in the extreme NW corner of the excavation unit. Its center was at 39.0N 41.5E. The feature was 2.0 feet in diameter and 1.2 feet deep.

Feature 52- a shallow trench 5.0 feet long (N-S) by 2.0 feet wide (E-W). Its center was located at approximately 37.5N 48.5E and it was 0.4 feet deep.

Feature 53- a large irregular trash pit or possible well construction pit, 6.0 feet in diameter with its center at 68.5N 80.0E. It was 1.1 feet deep.

Feature 54- a short shallow trench, 3.3 feet long (E-W) by 1.2 feet wide (N-S). It was 0.7 feet deep with its center at approximately 37.5N 21.9E.

Feature 56- an irregularly shaped pit with its center at 38.7N 39.9E. It was at least 0.4 deep but extended below the water table.

Feature 57- shallow trench with its center at 36.5N 18.0E. This is probably an extension of Feature 54 trench.

It is the artifacts from these features which will be used to compute the Mean Ceramic Date Formula and which will be described in the next chapter.

CHAPTER 3 THE ARTIFACTS

Artifactual material from SA 16-23 spans the years from Protohistoric times to the late 19th and early 20th centuries. All expected categories of artifacts were recovered. The first section of this chapter will be devoted to a description of the ceramics and a discussion of how they may be used to date the houses and the site in general. To this end Stanley South's Mean Ceramic Date Formula will be applied to the ceramics recovered from the site. The second section of the chapter will contain a brief description of the other categories of artifacts found on the site. All artifacts used in the formula application and described in this chapter are those contained in the features just described in the preceeding chapter.

Aboriginal Ceramics

The San Marcos Series

The San Marcos pottery series was first defined by Hale G. Smith. This analysis was done with ceramics recovered from a number of sites in St. Augustine including 1) the Castillo de San Marcos moat and glacis, 2) the city moat, 4) the Dragoon Lot, 3) the Cubo redoubt, and 5) the City Gates (Smith 1948:314-316).

This series of pottery is a rather thick ware with coarse sand, limestone and/or shell tempering. This shell tempering may be strictly a St. Augustine trait inasmuch as Judith McMurray, in her work with San Marcos pottery from San Juan del Puerto found no shell in the temper (McMurray, J. 1973:52-54). Core colors range from grey to black. Interior colors may be varying shades of grey, red and buff (Smith 1948:314). The exterior colors vary from salmon, orange and red, to brown, grey and black. Stamped decoration (simple, cross-simple and complicated) seemed to be more common than plain finish or red filming (Otto and Lewis 1974:95). The vessels were coil constructed with grooved paddles used as malleating and smoothing tools so that the stamping is functional as well as decorative (Smith 1948:3-4, Goggin 1951:170, Otto and Lewis 1974:95).

San Marcos vessel forms vary from globular pots and somewhat elongated vessels with semi-conical bases to shallow bowls. Casuela forms have also been reported (Smith 1948:315, Otto and Lewis 1974:95-96). Plate forms with annular foot-rings indicated Spanish ceramic influence (Goggin 1952:61). In addition, according to Otto and Lewis, loop and strap handles recovered at SA 16023 may have come from serving vessels such as pitchers, mugs or utilitarian vessels such as chamberpots. These loop and strap may show Spanish or even English influence (1974:90).

Rim forms show a great deal of variability but are

usually slightly flaring with folded lips. The stamped decorations are carried up to the rim edge. On other examples the decorated body is separated from an undecorated rim by circular, semi-circular or triangular punctations (Smith 1948:315, Goggin 1952:60, Otto and Lewis 1974:90). These circular punctations were probably done with a hollow reed, the semi-circular ones look like fingernail imprints, while the triangular impressions were probably done with a stylus (Ibid.).

Otto and Lewis hypothesized that the reason for the astonishing abundance of this San Marcos pottery is due to the fact that it was used as the utilitarian ware by the Spanish in place of any Old World ware. A number of implications of this hypothesis were developed and tested against archeological and documentary evidence.

The test implications were as follows:

- 1) Cooking ware sherds would be found in substantial quantities at domestic sites because food preparation vessels would be used daily, roughly handled, and frequently broken.
- 2) It is known that the Spanish often used earthenware containers to cook foods (Goggin 1952:72). Therefore if the St. Augustine householders relied on imported Spanish earthenware vessels for cooking, these sherds would be found in significant quantities in St. Augustine.
- 3) The Spanish also used metal containers for cooking (Foster 1960:88). But if the Spanish in St. Augustine used many metal vessels for cooking, there would be archeological or documentary evidence for their use.
- 4) Direct evidence for use in food preparation may appear on some sherds. This would include signs of exposure to fire or even encrusted food remains. In addition, association with food remains would provide indirect evidence of use in cooking (Otto and Lewis 1974:102).

All the implications were at least partially confirmed by data retrieved from SA 16-23.

San Marcos sherds were found to the almost total exclusion of all other utilitarian wares. Of a total of 37,754 sherds of all kinds excavated, 24,022 or 62.63 per cent were San Marcos (McMurray MS--no date). This situation seems to be the case at several other sites in St. Augustine such as the Ximenez-Fatio House and the De Burgo-Pellicer House (McMurray 1972:66, eidleman MS--no date, Clauser MS--no date, Council MS--no date, Deagan 1974:75).

Imported Spanish earthenwares (or for that matter English coarse earthenwares) were few in number at SA 16-23. From the features previously described there was a total of 4,985 San Marcos sherds, while there were only 340 sherds of English and Spanish utilitarian earthenwares (this includes Spanish Olive Jar, Spanish Storage Jar (a misnomer), Rey ware, Marine ware, El Morro ware, any lead-glazed earthenware, obvious English wares such as Brown Salt-glazed Stoneware, North Devon Gravel Tempered and any slip decorated ware).

There are two or three references in the documents to the received shipment of metal containers (Contradurias 1566-1569, 1611-1616 in Otto and Lewis 1974:103); their use was, according to Otto and Lewis, probably restricted to soldiers in the Castillo or to upper class households. There is evidence from SA 16-23 that a more widespread use

of metal containers was the case. A small to medium sized iron kettle was excavated from a mixed provenience. While it is probably 19th century it could be from the 18th century. Of course this one example does not preclude confirmation of this test implication.

A very thorough examination of all the San Marcos sherds excavated at SA 16-23 was made by Otto and Lewis. They found a number of them that showed evidence of direct use in a fire. An even smaller number were found which exhibited the residue of burned food remains encrusted on them.

Thus the four test implications were confirmed. San Marcos pottery was the common cooking ware in use in St. Augustine during the 18th century Spanish period. This fact indicates a certain economic and social interaction between the Spanish and the Indians. While all the specifics of this interaction are not presently known, Kathleen Deagan's work in St. Augustine has shown that Indian and mestizo women were the main factor in bridging the gap between aboriginal and colonial cultures (Deagan 1974).

The St. Johns Series

A very few sherds of St. Johns series pottery were excavated at SA 16-23. This is the chalky ware made by the Timucua (Goggin 1952). The number of sherds was negligible and the Timucua had ceased to exist as an entity in Florida by the time of the occupation of the houses belonging to the heirs of Maria de la Cruz.

So St. Johns pottery or its makers probably have no bearing on the life of people in St. Augustine at that time. These few sherds seem to be residual.

Spanish Ceramics

A number of different types of Spanish ceramics were recovered from the closed contexts at SA 16-23. Both utilitarian and tablewares were excavated. The number of fragments of each type is very small, which suggests that both of these categories of Spanish ceramics were replaced by ceramics from elsewhere. It has already been shown that the San Marcos series of aboriginal pottery had replaced the Spanish utilitarian wares. In lower class households Spanish tablewares were replaced by examples manufactured primarily in England.

The Spanish utilitarian wares that were represented on the site were Olive Jar, Storage Jar, Marine Ware, El Morro Ware, and Rey Ware. It is not within the scope of this paper to describe these wares in detail (see Goggin 1960, Smith 1962, Noel Hume 1969, and Ashdown 1972), so the remarks about each will be limited.

Spanish Olive Jar

Olive Jar fragments were by far the most abundant of all types of Spanish ceramic at SA 16-23; eighty-one sherds were excavated from closed contexts. This fact is not

surprising since the Olive Jar was probably the most sturdy and durable ceramic made in Spain. This durability is attested to by the fact that olive jars were made expressly for the transport (in sea-going vessels) of quantities of wine, olive oil, olives, dates, condiments, and dried vegetables. Size and shape of vessels changed somewhat through time and Goggin isolated Early (1500-1580), Middle (1580-1780), and Late (1780-present) varieties. The Early variety is characterized by small globular vessels with strap handles on the shoulder near the mouth. Middle and Late variety jars are generally bulbous or carrot-shaped. The difference between these two types is primarily the finer paste in the Late style. During all periods, vessels made for wine transport were glazed on the interior.

These long-lived pots were used secondarily for water or food storage. To this purpose they were stacked in racks or possibly set in holes in the ground. There is also evidence of the jars being used as building materials (see Fairbanks 1972:144).

All three varieties were found in the closed 18th century contexts at SA 16-23. Ten sherds of Early variety were excavated; these presumably are merely residual on the site. Middle variety was, as might have been expected, the most abundant with 60 sherds recovered. Late variety was represented by eleven sherds.

Tuscan Oil Jars

Related to the Spanish Olive Jar is the vessel type called Iberian Storage Jar by Noel Hume (1970) and others. These vessels are much larger than Olive Jars. They measure up to three feet in height and were previously believed to have been designed for the storage of water. According to Ashdown (1972), these vessels originated in Tuscany and were made for transportation of olive oil. They were used secondarily for storage much like their Spanish cousins. Only four fragments of this Tuscan Oil Jar were excavated at SA 16-23. This dearth may extend to the whole of St. Augustine or it may simply reflect the economic status of this mestizo household. Another explanation for the small number of sherds recovered may be that these jars were strictly Italian trade goods and thus reflect the small amount of Italian trade to St. Augustine where the English traders held sway.

Marine Ware

The name Marine Ware derives from the fact that this ceramic has been found almost exclusively at ports. The formal description has never been published. This ware is usually a flower-pot shaped vessel with a flat bottom and straight, slightly sloping sides. Generally the pale grey or green paste is covered with a white or pale green lead-glaze. The very few examples from closed contexts at

SA 16-23 are pale green with no glaze. Examples from other, mixed proveniences conform more closely to the standard. This does not seem to have been a very important ceramic at SA 16-23 (Carl Clausen personal communication).

Other Utilitarian Wares

Two other types of Spanish utilitarian ware were found on the site at SA 16-23 but only in mixed contexts. These were El Morro Ware and Rey Ware. Both of these types were formally described by Hale G. Smith (1962:68-70) from excavated material from El Morro, San Juan, Puerto Rico.

El Morro Ware paste is moderately compact and orange-red in color. Vessel forms are plates, shallow bowls and wide mouth jars, both with and without strap handles. The surface is smoothed with the addition of a very thin lead glaze on some examples. The beginning date of this type is thought to be about A. D. 1550-1600. Both types were probably manufactured in Puerto Rico or Cuba (Ibid.).

Rey Ware is similar to El Morro but somewhat finer in paste texture generally and in temper specifically. There are pitcher forms as well as plates, jars and bowls. Rey Ware glaze is thick brown, yellow, red, or green. This type is also believed to have been made in Puerto Rico or Cuba. It has its beginning in the middle of the 18th century.

Not too much significance should be attached to the fact that El Morro Ware and Rey Ware are missing from the

closed contexts at SA 16-23. El Morro with its early date probably was not a popular import during the generally hard times (economically) in St. Augustine. Rey Ware, being an 18th century type, was simply replaced by less expensive, more available, English goods at least in this lower class household.

The final category of Spanish coarse ceramics is Spanish Roof Tile. This is the ubiquitous orange-red barrel tile of Spain and Latin America. Several pieces of this ceramic were excavated from the closed contexts at SA 16-23. They were orange-red with a grey core. They are slightly concave with gentle ridges running across the pieces. The undersides have a large amount of coarse sand pressed into the clay; clearly they were formed in a sand mold. The earliest documented reference to these tiles is in 1737 (Justis 1737).

Majolica

The name majolica is generally applied to the tin-enameled earthenware of Spain. It is primarily a tableware. The same type of ceramic is called Faience in France, Delft in Holland, and Delftware in England. Majolica made its appearance in the New World in 1493 and is still being made today in Mexico. Descriptions of all types excavated at SA 16-23 will be found in Goggin's Spanish Majolica in the New World (1968).

The discussion of majolica herein will be in terms of what Goggin called "complexes," which he equated with "series" in aboriginal Southeastern archeology (1968:203). The complex is a higher order classification than type and is believed to have more validity for historical analyses (Ibid.). For simplicity's sake the complexes were designated alphabetically.

A number of the earliest types of majolica composed the first group (complex A), including Columbia Plain, Isabela Polychrome, Yayal Blue on White, La Vega Blue on White, and Santo Domingo Blue on White. These types range in time from 1493 to 1650 and are all of Spanish origin (1968:207). Of these only one sherd of one type, Columbia Plain, was found in closed contexts at SA 16-23. The very small numbers of these earliest types may confirm Goggin's idea that the earliest areas of settlement in St. Augustine remain as yet undiscovered (1968:219).

Caparra Blue is the only type in complex B. One or two sherds of this type were excavated at SA 16-23, but none from the closed contexts previously described. This type is probably Spanish in origin and seems to date only from the 16th century (Ibid.:204).

The two types in this complex (C) are Ichucknee Blue on Blue and Ichucknee Blue on White. Since these types are early 17th century (1615-1650), it is not surprising that only eight sherds of Ichucknee Blue on White and no Ichucknee Blue on Blue were recovered.

Fig Springs Polychrome is the single type in complex D. Several pieces of this type were found at SA 16-23, but only in mixed proveniences.

This complex (E) includes Tallahassee Blue on White, San Luis Blue on White, and San Luis Polychrome. The vessel form is typically a small bottomed, wide brimmed ring footed deep plate (Goggin 1968:205). The time range for this complex is most of the 17th century with San Luis Polychrome extending into the very early 18th century. The origin of manufacture is not known but it believed to have been Mexico.

With this complex we begin to get more substantial numbers of sherds at SA 16-23, especially San Luis Polychrome. Two sherds of Tallahassee Blue on White, eight of San Luis Blue on White, and thirty-one sherds of San Luis Polychrome support the presumed early 18th century Spanish occupation of the houses of Maria de la Cruz.

Mt. Royal Polychrome and Aucilla Polychrome form one group (complex F). Both types have medium to thin-walled brimmed plates as the typical vessel form. Mt. Royal Polychrome seems to date from the middle third of the 17th century, while Aucilla Polychrome begins about 1650 and ranges late into the century (Goggin 1968:205). Goggin believed that these two types were possibly manufactured in Mexico. This may indeed be the case but there was evidence possibly to the contrary from excavated material at SA 16-23

(see further discussion in complex G, below). Numerically these were minor types at the site; two sherds of Mt. Royal Polychrome and eight sherds of Aucilla Polychrome were all that were recovered from the closed contexts.

Abo Polychrome, the single type in this complex (G), is characterized by thinness of vessel walls and a thick, even, white enamel. Complexes G and F share the use of distinctive yellow or orange bands bordered with black; thus, small sherds of these three types can be confused. There is also an affinity of this complex with complex H. Abo Polychrome dates from the last half of the 17th century. It is Mexican in origin and was probably manufactured at Puebla. There were nineteen sherds excavated.

Since much of the supplies for St. Augustine came from Mexico, it is reasonable to expect comparable amounts of Mt. Royal Polychrome, Aucilla Polychrome and Abo Polychrome if all three types were indeed made in Mexico. Since it has already been shown that Abo Polychrome occurs much more frequently, one can assume that Mt. Royal Polychrome and Aucilla Polychrome were manufactured in Spain with Abo Polychrome being a New World (i.e. Mexican) derivative.

Puebla Polychrome comprises yet another single type complex (H). Design elements are unique so they will be mentioned. Decoration is overall and in style much like earlier Moorish decoration in Spain (Goggin 1968:206). Specifically, it consists of thin black-line decoration in

in lattice-like or lace-like work along with bands of deep, dark blue. The range for this type is the second half of the 17th century and it is certain to have been made at Puebla, Mexico. Twenty-eight sherds of this type were excavated at SA 16-23, making Puebla Polychrome the second most frequently occurring type.

Puaray Polychrome, Castillo Polychrome, and San Augustin Blue on White make up complex I. They form a good unit and possibly form a developmental series (Goggin 1968:190). These types seem to be related to complexes G and H because of similar vessel characteristics such as thin walls and thick enamel. Typical vessel forms are plates with overall design on the interior. The first two types date from the last quarter of the 17th century while San Augustin Blue on White seems to be very early 18th century. All three types were manufactured at Puebla. Only two of the types were found at SA 16-23 from closed contexts. One sherd of Castillo Polychrome and twenty-two sherds of San Augustin Blue on White were excavated; no Puaray Polychrome was recovered. This disparity is somewhat puzzling; perhaps it only emphasizes the early 18th century date of the site.

Puebla Blue on White and Huejotzingo Blue on White are the two late 18th to early 19th century types composing this complex (J). Both seem to have developed out of complex I, but are different enough to be set apart (Goggin 1968:206). Here again, plates were the most common vessel forms. Both types were manufactured in Puebla, Mexico,

where, even today, similar types are made. Twenty-six sherds of Puebla Blue on White and nine sherds of Huejotzingo Blue on White were recovered from the 18th century features at SA 16-23.

One other type of majolica, Aranama Polychrome, not included in Goggin's complexes was found on the site. This type is believed to be a degenerated form of Abo Polychrome, with which it can be confused. Its range in time is late 18th to early 19th century. Only three pieces of this type appeared in closed contexts.

The one non-majolica type to be described here is a Mexican pottery type variously referred to as Aztec IV (Smith 1949:12-13), Guadalajara Polychrome (Goggin 1968:227), and Tonalá Polychrome (Fairbanks 1972:170). Since the town is even today the center for this pottery industry, the latter name is probably the best. This type is a fine unglazed, highly polished surface of a grey or buff color (Ibid.). At the beginning of Spanish times in Mexico this ware was generally slipped in red with painted black and white designs. It soon became popular in Spain and naturally began to reflect Spanish decorative taste with elaborate floral patterns (Ibid.). Both the early red slipped variety and the floral pattery type were represented in the small group of fragments from SA 16-23.

It can be seen from the preceeding discussion of majolica that the site was occupied first in the late 17th

century before the construction of the two stone houses. The total sherd count of 168 indicates that majolica probably was not used as a tableware during the occupation of Maria's houses. This count represents only 15.75 per cent of the total tableware (including English; see Table 1) recovered from the site. As will be seen shortly, there was more English Delftware used on the site than majolica (327 sherds, which is 30.65 per cent of the total tableware; see Table 2). It seems, then, that there was an historically long lacuna in fine ceramics which was filled by European (especially English) ceramics. This is not too surprising in view of expanded English trade during the 18th century and the fact that Florida was always a cultural and economic backwater.

English Ceramics

For the sake of convenience the English ceramics will be divided into four broad categories: earthenwares, refined earthenwares, stoneware (including other than English, i.e. Rhenish), and porcelain. Other European and in one case Chinese ceramics were subsumed under this group because it is believed that they were in use on the site as a result of English trading. All the types of English ceramics found at SA 16-23 will be briefly defined and discussed within these rather broad categories. Information on these categories and types is based on Ivor Noel Hume's A Guide to the Artifacts of Colonial America (1970).

TABLE 1
MAJOLICA TOTALS AND PERCENTAGES AT SA 16-23

<u>Type</u>	<u>Count</u>	<u>% of Majolica</u>	<u>% of Total Tableware</u>
San Augustin B/W	22	13.09	2.06
Aucilla Poly	8	4.76	0.75
Puebla Poly	28	16.66	2.63
San Luis Poly	31	18.45	2.91
Aranama Poly	3	1.78	0.28
Abo Polychrome	19	11.31	1.78
Huejotzingo B/W	9	5.36	0.84
San Luis B/W	8	4.76	0.75
Puebla B/W	26	15.47	2.44
Tallahassee B/W	2	1.19	0.19
Columbia Plain	1	0.60	0.09
Mt. Royal Poly	2	1.19	0.19
Ichucknee B/W	8	4.76	0.75
Castillo Poly	1	0.60	0.09
Total	168	99.98	15.75

TABLE 2
ENGLISH TABLEWARE TOTALS AND PERCENTAGES AT SA 16-23

<u>Type</u>	<u>Count</u>	<u>% of English Tableware</u>	<u>% of Total Tableware</u>
Delftware	327	36.37	30.65
Jackfield	33	3.67	3.09
Nottingham	19	2.11	1.78
Agateware	21	2.34	1.97
Creamware	221	24.58	20.71
White Salt-glazed Stoneware	122	13.57	11.43
Clouded wares	36	4.00	3.37
Scratch Blue	6	0.67	0.56
English Porcelain	3	0.33	0.28
Chinese Porcelain	18	2.00	1.69
Annular wares	6	0.67	0.56
Pearlware			
Shell edge	5	0.56	0.47
Plain	10	1.11	0.94
Transfer Print	38	4.23	3.56
Underglaze Poly	34	3.78	3.19
Total	899	99.99	84.25

This section of this chapter will strongly support the contention that the lower class inhabitants of 18th century St. Augustine relied almost exclusively on English ceramics for their tablewares. After a description and discussion of the ceramics in general, Stanley South's Mean Ceramic Date Formula will be applied to both the English and then the Spanish ceramics. The resultant date and its implications will be explained, along with a further application of the formula.

Earthenware

The tin-enameled earthenware of England is called Delftware. This is the British equivalent of the Spanish majolica. Despite similarities between the two wares, they are not easily confused.

Delftware paste is a pale yellow, buff, or sometimes, pink. This bisquit is coated with a lead oxide glaze to which a small amount of tin oxide was added. The resulting glaze was an opaque white which most often appears rather blue. The enamel was painted with cobalt blue, manganese purple, copper green, antimony yellow, and an orange made from iron dust (Noel Hume 1970:106). Vessel forms include plates, bowls, cups, drug jars, chamberpots, mugs, and larger tablewares such as punchbowls. Decoration ranges from none to very elaborate chinoiserie designs spread over the entire vessel. Delftware ranges in time from 1600 to

1802. Seventeenth and eighteenth century types can be differentiated on the basis of decoration in most cases. No complete vessels were excavated at SA 16-23. Fragments of plates, bowls, cups, chamberpots, and drug jars did occur on the site in some proveniences. Only plate, bowl, and possibly cup fragments were identified from the closed contexts. Decoration motifs were difficult to discern due to small sherd size; however, polychrome floral patterns were observed as well as blue on white decoration. All the Delftware from the site is presumed to be from the 18th century. It is very likely that some portion of this ware is in fact from the 17th century. Many sherds were without any added color at all and were classified as plain white even though many were probably simply undecorated portions of decorated vessels. A total of 226 sherds of decorated Delftware and 101 pieces of plain white Delftware were unearthed from the closed contexts. These two figures combined represent 36.37 per cent of all English tableware and 30.65 per cent of the total tableware from all closed contexts at the site (see Table 2). Delftware can thus be seen to be the most frequently occurring tableware on the site.

The second category of earthenware to be discussed here is the ubiquitous slip-decorated ware. These various wares fell between the very coarse earthenwares and the refined tablewares (Noel Hume 1960:134). This type ranges from

the last quarter of the 17th century to the end of the 18th century. The majority of these wares are commonly buff to yellow-bodied and decorated with combed lines in iron oxide over which was applied a pale yellow glaze. Mugs, pitchers, posset cups and chamberpots were made in both Staffordshire and Bristol. Slipware serving dishes were strictly a Staffordshire commodity (Noel Hume 1970:135). The most common variety is the one ". . .sweepingly combed in black over a white slip and beneath a lead glaze to create a wasplike effect in yellow and black stripes" (Ibid.). Other popular styles include light stripes over a black slip and the marbelized blend of white and dark and light-brown slips.

A total of 190 sherds of slip-decorated ware was recovered from SA 16-23. This amount seems to be almost evenly divided among the several varieties with perhaps a few more of the combed form described above. This is another 17th century type of English ceramic found on the site which adds even further support to the idea of large amounts of English trade with St. Augustine at a time when England and Spain were political adversaries.

The only really coarse earthenware found on the site is represented by the few sherds of North Devon Gravel Tempered (one of which was found in a closed context). This type is found in some abundance on British colonial sites; its absence here is probably a cultural one. Vessel forms

of this type were generally confined to creampans, jugs, and small storage jars. Dairying is not part of Spanish 18th century cultural assemblage and so it seems likely that creampans would not have been traded to any great extent. The other vessel forms were replaced by other types (Spanish and Indian).

Refined Earthenwares

Refined English earthenwares found at the site include Jackfield ware, refined Agateware, "clouded" wares, all in fairly small quantities, and Creamware in much larger amounts.

Jackfield ware is in fact a name applied to two very similar wares made contemporaneously, the first at the Jackfield pottery in Shropshire, the second by Whieldon and others in Staffordshire (Noel Hume 1970:123). Both types are covered by a brilliant black glaze; the difference between the two types is restricted mainly to paste. Jackfield pottery examples are fired to a purple or grey, while Staffordshire types have a red body. Tea wares and pitchers are the most common vessel forms. Thirty-three sherds of Jackfield ware were recovered from the site. Examples of wares from both the Jackfield pottery and Staffordshire were noted. Jackfield as well as the other two kinds of refined earthenware to be discussed range in time from about 1740 to about 1780. It seems likely, then, that these fragments of Jackfield must date from the British

Dominion in St. Augustine, since partaking of tea in any quantity is not peculiar to Spanish culture.

The Astbury-Whieldon partnership was responsible for the development of refined Agateware. This term refers to vessels whose paste is a swirled mixture of two or more colors of clay covered with a black or red-black glaze. Items made of this ware include teapots, toys and knife handles. Only seventeen sherds of this type were identified from excavated material from SA 16-23.

In the mid 18th century in England there was developed by Astbury, Whieldon and Wedgwood the "clouded" wares including the variety called "Whieldon" ware. These "clouded" wares were the new (1750) cream colored body covered with purple, blue, brown, green, and grey under the glaze. "Whieldon" ware is essentially the same thing except that some teawares were cast in relief, in designs of pineapples and cauliflowers. These types seemed to be fairly popular at SA 16-23; thirty-six fragments of these wares were recovered.

Developing out of or more likely contemporaneously with these cream-bodied wares came the type known originally as Queensware and finally as Creamware. This is the yellow-white bodied ware so popular that it has been found all over the world in 18th century sites. Noel Hume says the ware was not developed until 1762 (1970:125); however, Kathleen Deagan in other work done at SA 16-23 expresses

the idea, which is supported here, of a date for Creamware as early as 1750 (Deagan 1974:129). There were 221 sherds (24.58% of the English tableware and 20.71% of the total tableware) of Creamware excavated at Maria's houses.

The final type to be described in the Refined Earthenware classification is Pearlware. This type is the next step up from Creamware in the pottery industry's attempts to develop an inexpensive substitute for porcelain. Pearlware ranges from the late 18th century into the early 19th century. A total of eighty-seven sherds of all varieties of Pearlware were excavated at SA 16-23, including Transfer Printed, Plain, and those with handpainted and stenciled decoration. Most of these sherds came from the barrel well, Feature 29. This well was probably constructed during the First Spanish Period, remained open through the British Dominion, and was filled in during the Second Spanish Period. In a number of cases our "closed" 18th century contexts were in fact contaminated by two or three pieces of Pearlware. This was to be expected due to the arbitrary method of describing "closed." Pearlware vessel forms include everything from "closestool pans to egg cups" (Noel Hume 1970:131). The most common forms are plates and bowls. At SA 16-23 Blue and Green Shelledge plates and the "annular" bowls most frequently occurred.

Stoneware

Several types of stoneware were in the closed contexts on the site. Westwäld Blue/Grey Stoneware as well as British Brown Stoneware and White Salt-glazed Stoneware were present. This hard-fired utilitarian/tableware was of some importance in British and (in St. Augustine) Spanish households during the 18th century. This is especially true of the White Salt-glazed Stoneware, which in England replaced Delftware as the most popular tableware of the 18th century before the development of Creamware.

British Brown Stoneware was invented late in the 17th century in England in order to compete with the Rhenish Stoneware market. This British variety was very much like the Bellarmine jugs (which were found on the site in mixed proveniences). Thirteen sherds of British Brown Stoneware were recovered from the features on the site. Related to this type but considerably finer is Nottingham Stoneware. This is not a salt-glazed type and had a very shiny, smooth brown surface. This ware is an early and middle 18th century type which was represented on the lot by nineteen sherds. The Rhenish Westwäld type with its grey body covered with white floral sprigs and dark cobalt blue had a very minor impact on the Spanish of St. Augustine; only nine sherds were excavated.

The most important stoneware type is White Salt-glazed Stoneware developed in England in the early 18th century.

This was the most frequently occurring type at Maria's houses, almost rivaling Delftware and Creamware in frequency. One hundred twenty-two sherds were found. This type was pressed on molds in the form of plates with designs in relief on the marly. Teapots, tankards, bowls, in fact, all classes of tablewares were made of White Salt-glazed Stoneware. The most commonly found form on the site was the "barley" pattern plate which dates from ca. 1740 (Noel Hume 1960:115).

Another form of white salt-glazed stoneware had decoration; the lines were filled with cobalt blue. This type, Scratch Blue, began in the middle of the 18th century and, according to Noel Hume, the bulk of it was confined to the last quarter of the 18th century. Scratch Blue was very poorly represented at the site; only six sherds were found. This dearth suggests that the closed contexts at the site were pre-British Dominion. For that matter, it confirms that most of the presumed closed contexts are in fact closed, except for the slight contamination mentioned above.

Porcelain

Three pieces of English porcelain and eighteen fragments of Chinese export porcelain were contained in the features at SA 16-23. The English examples are probably from the British Period although it is possible that they are pre-British. The Chinese porcelain probably came to St. Augustine

from the Spanish controlled Philippines via Mexico. In any event, porcelain was not very important in this mestizo household in St. Augustine.

Mean Ceramic Date Formula

The Mean Ceramic Date Formula is an analytic tool designed by Stanley South to be used by historical archeologists as an aid in dating historic sites. It was originally made for use with British ceramics (South 1972:70-102); however, South has since applied it, with some modification, to Spanish ceramics (South 1974:96-109). The formula is based on three concepts that are basic to archeological thought: horizon, terminus post quem, and the battleship curve. Horizon is described as:

a primarily spatial continuity represented by cultural traits and assemblages whose nature and mode of occurrence permit the assumption of a wide and rapid spread.

The archeological units linked by a horizon are thus assumed to be approximately contemporaneous (Wiley and Phillips 1958:31-34 in South 1972:73).

The beginning manufacture date of any ceramic type is the terminus post quem for its appearance on any archeological site. The battleship curve is essentially the unimodal curve and its mirror image. This curve refers to the fact that a ceramic type has its beginning manufacture date, a rise in popularity, and a decrease in popularity to extinction (end of manufacture) (Ford 1962).

At its publication in 1972 the Mean Ceramic Date Formula received some rather severe criticism (see Walker 1972:127-151) but was generally well received (Binford 1972:117-125, D. South 1972:164-174, Stone 1972:179-183). South believed there is a correlation between the mean occupation date of a site and the mean ceramic date of a site. To show this correlation the formula was applied by South to a number of sites whose mean occupation dates were extrapolated from documentary sources. In some cases the computed Mean Ceramic Date was the same as the mean occupation date. In every instance the Mean Ceramic Date more closely approximated the mean occupation date than did the kaolin pipestem borehole diameter date, which with several modifications has been used for twenty years by archeologists as a dating aid (Harrington 1954, Binford 1962, Hanson 1971, and Heighton and Deagan 1972). Despite the criticism, the tool is useful, especially on sites where the dates from documents are vague or nonexistent. It is for this reason that the formula is herein applied to the material from SA 16-23, the houses of Maria de la Cruz.

The Mean Ceramic Date of the site based solely on the English ceramic types from the closed contexts is 1754.07 (see Table 3). This is almost ten years before the beginning of the British Dominion in St. Augustine. This fact of multi-cultural occupation of the site presents an obvious problem, i.e., using only English ceramics cannot give a

TABLE 3
THE APPLICATION OF THE MEAN CERAMIC DATE FORMULA
TO THE ENGLISH CERAMICS AT SA 16-23

<u>Type Name and Number*</u>	(xi) <u>Type Median</u>	(fi) <u>Sherd Count</u>	(xi·fi) <u>Product**</u>
Decorated Delft(49)	1750	226	56500
Plain Delft(65)	1720	101	22220
Slip-decorated(56)	1733	190	44270
Jackfield(29)	1760	33	8580
Nottingham(46)	1755	19	4845
Agateware(42)	1758	21	5418
Westerwald(44)	1738	9	2142
Creamware(25)	1771	221	59891
North Devon Gravel- tempered(61)	1713	1	213
White Salt-glazed Stoneware(16)	1753	122	30866
Cloudedware(36)	1755	36	9180
British Brown Stoneware (54)	1733	13	3029
Annular ware(13)	1805	6	1830
English Porcelain (31)	1770	3	810
Scratch Blue(34)	1760	6	1560
Chinese Porcelain(39)	1730	18	4140
Pearlware			
Shelledge(19)	1805	5	525
Plain(20)	1805	10	3020
Transfer Print(11)	1818	38	12084
Underglaze Painted(12)	1805	34	10370
	<u>Totals</u>	<u>1112</u>	<u>282523</u>

Mean Ceramic Date Formula
simply expressed:

$$\text{Date} = \frac{(\text{xi} \cdot \text{fi})}{\text{fi}} + 1500$$

$$\text{Date} = 1754.07$$

*See South 1971:84-85.

**The constant 1500 was subtracted from the type Median.

TABLE 4
THE APPLICATION OF THE MEAN CERAMIC DATE FORMULA
TO THE SPANISH MAJOLICA AT SA 16-23

<u>Type Name and Number*</u>	<u>(xi) Type Median</u>	<u>(fi) Sherd Count</u>	<u>(xi·fi) Product**</u>
San Augustin B/W(22)	1715	22	4730
Aucilla Poly(17)	1668	8	1344
Puebla Poly(12)	1675	28	4900
San Luis Poly(14)	1690	31	5890
Aranama Poly(16)	1775	3	825
Abo Polychrome(15)	1675	19	3325
Huejotzingo B/W(23)	1800	9	2700
San Luis B/W(9)	1660	8	1280
Puebla B/W(13)	1775	26	7150
Tallahassee B/W(18)	1668	2	336
Columbia Plain(1)	1535	1	35
Mt. Royal Poly(20)	1650	2	300
Ichucknee B/W(8)	1633	8	1064
Castillo Poly(19)	1695	1	195
	Totals	168	34074

Mean Ceramic Date Formula
simply expressed:

$$\text{Date} = \frac{(\sum xi \cdot fi)}{\sum fi} + 1500 \qquad \text{Date} = 1702.82$$

*See South 1974 96-109.

**The constant 1500 was subtracted from the type Median.

true mean occupation date to this 18th century site. South himself points out that any ceramic type with good beginning and ending dates can be used in computing the formula (1972:80). This is understatement. The situation in St. Augustine, multi-cultural, multi-component sites, makes it necessary to include all ceramics possible in working the formula. Table 4 shows the results of applying the formula to the Spanish majolica from the site. The Mean Ceramic Date is 1702.82. This 50 year difference simply demonstrates that SA 16-23 is a multi-component site. The combined date using both English and Spanish ceramics was computed thus:

<u>Type</u>	<u>Sherd Count (fi)</u>	<u>Product (xi.fi)</u>
English	1112	282523
Spanish	168	34074
	<hr/>	<hr/>
Totals	1280	316597

$$\text{Date} = \frac{\text{xi} \cdot \text{fi}}{\text{fi}} + 1500 \quad \text{Date} = 1747.34$$

This is a good date falling within the range estimated as the occupation date of the site (1713-1763) and probably best represents the occupation of the houses. This date can be refined even further. One more type of ceramics needs to be added to the computation--the San Marcos series of aboriginal pottery. It should be remembered that 4985 sherds of this utilitarian ware were excavated from the site's

features. Almost four times as many aboriginal sherds as European ones were present. This is so significant that it cannot be overlooked. Under normal circumstances an aboriginal ceramic type probably could not be used in the formula because its beginning and ending dates could not be precisely stated. In this case, valid dates for the occurrence of San Marcos sherds in St. Augustine are available. The earliest substantiated date is 1686. This date is from the excavation of the fill of the moat at the Castillo de San Marcos (Smith 1948). The end date of the range may be taken to be 1763, which is the date that all the Guale Indians (the potters) departed St. Augustine. The midpoint of this range is 1725. Adding this to the formula we get:

<u>Type</u>	<u>Sherd Count (fi)</u>	<u>Product (xi·fi)</u>
English	1112	282523
Spanish	168	34074
San Marcos	4985	1111625
	<hr/>	<hr/>
Totals	6265	1428222

$$\text{Date} = \frac{\sum xi \cdot fi}{\sum fi} + 1500 \qquad \text{Date} = 1727.81$$

This date probably best represents the occupation of the lot itself. This is because there was obviously a 17th century occupation or use of SA 16-23 as evidenced by the number of sherds of 17th century majolica. It is possible, of course, that the occupants of the house lived on the lot

prior to the construction of the stone houses. Nevertheless, since we wish to date house occupation, the date from combined English and Spanish ceramics seems best.

Kaolin Clay Pipes

One other very important datable ceramic needs to be discussed. This is the kaolin clay pipe. They are ubiquitous on British colonial sites and, it seems, on Spanish colonial sites as well. Over twenty years ago Harrington (1954) wrote about the use of pipestem dating. This method has been refined over the years by Binford (1962), Hanson (1971), and most recently by Heighton and Deagan (1972).

Three bowl fragments and two whole bowls were excavated from the closed contexts at SA 16-23. Of the fragments, two were plain and one was fluted. This latter example is very similar to specimen number 25 illustrated by Noel Hume (1960:303) and dated 1790-1820 by him. This date is consistent with the provenience of the excavated fragment, which came from a feature open during the Second Spanish Period.

Both the whole bowls found were undecorated. One has smoothing marks along both top and bottom mold seams and around the inside edge of the lip of the bowl itself. A tentative date for this specimen is 1730-1770, based on its shape. It is most like the decorated example number 20

illustrated by Noel Hume (1970:303), except that unlike his illustration, the excavated bowl has no spur. This bowl was used at least for a short time because it is burned black inside and outside the edge of the mouth. The second whole bowl was a waster. It could never have been used. While the borehole is evident inside the bowl, it is absent from the short projecting stem fragment. It resembles none of Noel Hume's examples; however, since it was excavated from the Second Spanish Period barrel well, it is believed to date from the late 18th or early 19th centuries.

One hundred and thirteen stem fragments were excavated with the following measured borehole diameters: 5/64 inch diameter, 80; 4/64 inch diameter, 30; and 6/64 inch diameter, 3. This resulted in a mean borehole diameter of 4.76 (64ths). Both the Binford and the Heighton-Deagan Formulas were applied to this sample with the following results:

Binford Formula

$$Y = 1931.85 - 38.26X \quad Y = \text{Mean site date} \quad X = \text{Mean stem diameter (4.76)}$$

$$Y = 1749.74$$

Heighton-Deagan Formula

$$Y = \text{Mean stem diameter (4.76)}$$

$$X = \frac{-\log Y + 1.04435}{.05324} \quad X = 7.007$$

$$\text{Date} = 1600 + 22X$$

$$\text{Date} = 1754.15$$

The closeness of the Heighton-Deagan date (1754.15) and the Mean Ceramic Date of the English ceramics (1754.07)

needs some comment. We believe it can be easily explained as a simple indication that English ceramics and English pipes had the same rise in popularity and thus occurred in the same proportions in the cargoes which came to St. Augustine during this time. This may seem to be too obvious an observation to make; however, in the absence of good documentation of cargoes, we feel it a necessary one.

Metal Artifacts

The metal artifacts from SA 16-23 will be described by type of metal rather than by function of object with the exception of buttons. It is felt that buttons can be valuable dating aids, and since there is such a variety of materials from which they can be made, they should be grouped together. Artifacts of iron, lead, copper, brass and white metal were excavated.

Iron

Nails are probably the most common iron artifact found on any historic site. Handwrought nails were the only type available during the 17th and most of the 18th centuries; unfortunately, no one has evolved a chronology for them (Noel Hume 1972:252). During the late 18th century cut nails began to be produced. The cut nails of today are much the same as these. Taken from the features described in Chapter 2 were 1028 handwrought nails, 79 cut nails and 109

handwrought spikes. Very poor preservation made any further classification impossible. These nails were, in fact, little more than amorphous lumps of iron. Most were found to be nails only by an examination of their cross-sections. The explanation for the occurrence of so many nails and spikes has already been touched on in Chapter 2 in the section on houses. Tabby houses had a considerable amount of wood built into them. Support posts, door and window frames, floor joists, roof beams, and balconies all were built of wood. The timber and thatch house of Bartolome Usina, the Minorcan, also contributed many nails to this collection taken from the site.

Another artifact of iron associated with the houses is the one fragment of a "T" shaped shutter hold-back. This is probably from the British period in St. Augustine since Spanish fenestration does not include this hardware. Only after windows were glazed did outside shutters become the fashion.

Oddly enough no hinges or hinge fragments were excavated from the closed contexts, although they did appear on the site. There was an inordinate amount of strap iron which could have been hinges or barrel hoops. Undoubtedly it represents both.

A number of iron artifacts associated with the preparation and consumption of food were found. These include one iron pot fragment, one bail handle for an iron pot, two

knives (one with the remains of a bone handle--see Figure 35) and two pot hooks.

There was excavated one rather unique artifact. This was a large gouge-like implement (see Figure 35). Presumably this was some sort of woodworking tool. Since it is the only tool found, it is believed to represent woodworking in general on the site and not the specific craft.

The final category of iron artifacts is horse hardware. One horseshoe was found in a closed context on the site. This shoe (see Figure 24) most closely resembles the one illustrated in Noel Hume and dated 1800 (1972:238), which is, of course, Second Spanish Period. Since the evolution of horseshoe form is only generally known, it could be British. The next most obvious type of horse hardware one would expect to find is bit and bridle. There were a few small to medium iron rings excavated which may have been parts of bits but this is a very tentative identification. Three iron buckles were taken from the features. All seem to be strap end harness buckles although the largest of the three may be a belt buckle (see Figure 24). These buckles are not very good dating aids. They do seem to be 18th century and are similar to the one illustrated by Noel Hume (1972:85). It is probable that horses were not maintained at the homes of the lower class inhabitants of St. Augustine. Perhaps these artifacts further support the supposition of blacksmithing on the site.

Brass

Brass artifacts from the site include buttons, buckles, common pins, thimbles, tacks, and a small sun dial. Fragments of seven buckles were recovered. Most were apparently belt buckles and one was definitely a shoe buckle. The belt buckles were most commonly slightly rounded, two-piece rectangles. There was one cast buckle very different from the rest. It was a flat ellipsoid 2.125 inches long and 1.75 inches wide with a .75 inch square cut out of the center. On the face of the buckle parallel to each side of the square is a shallow groove. The area near the edge of the buckle is decorated by an incised scalloped line with three short incised lines inside each scallop (see Figure 24). This buckle may have been of local manufacture, or perhaps it was of Spanish manufacture.

The shoe buckle was elaborately cast with scrollwork, flower petals, and star points (?) in relief, all very crudely finished. The edge around the various features is cut out but not filed smooth. Since the buckle is broken in half it may have been discarded as a waster, which seems to suggest that perhaps metal working was being done on the site.

The last buckle was probably a women's belt buckle. It was hollow-cast of extremely thin brass. The face of the buckle is cut out and set with faceted glass stones. The edge of the face was crimped to

hold the stones in place. This is a very small buckle, approximately one inch long and 0.75 inch wide (see Figure 24).

Other brass artifacts were two common pins approximately one inch long with wound heads, one small (child's) thimble fragment, and two types of decorative tacks. The first type (two examples) is very short, less than one half inch long. The head on this type is a high dome slightly less than one half inch in diameter. The second type was much larger and heavier. Two of these were found. They were .75 inch in length with flat disk heads .75 inch in diameter. This type seems to have been made in one piece.

It is surprising that no gun parts were found in this excavation. Deagan found a ramrod ferrule, butt plates, trigger guard, and side plates (1974). There is a brass object originally thought to be a sear from a musket lock, but it was finally identified as probably being a clock part (Charles H. Fairbanks, personal communication).

A small brass or cuprous alloy sundial was excavated from a mixed provenience in 1973. It is similar to those found at Port Royal, Jamaica (Robert Harper personal communication). This is a pocket sun dial which sometimes were attached to watches as auxillary time pieces (see Figure 26).

Lead

A small number of lead artifacts came from the closed contexts. These included five musket balls, three swan shot, and two small two inch square sheets, one of which was folded. These were probably used to secure the piece of flint tightly into the jaws of the cock of a musket lock. Two other lead sheets were rolled into cylinders and were probably line or net sinkers (see Figure 27). There is a remote possibility that they could have been used as beads.

Buttons

A total of 26 buttons of 12 different types was recovered from the closed contexts at SA 16-23.

The most numerous type was the one-hole bone button or button back. Six whole examples and one fragment were excavated. They ranged in size from 12 mm. to 26 mm. in diameter with the center hole ranging from 1.5 mm. to 4 mm. in diameter. These could be the backs from South's Type 4 (1964:116) or possibly examples of his Type 15 (1964:119). They probably are some of both. Type 4 was found by South in a closed context dated 1726-1776. Type 15 was also found to date from as early as 1726.

Two buttons are of South's Type 3 (1964:115) or Olsen's Type B (1963:552). Only one of them is complete. It is a domed, very thin, brass or copper front of an elaborate raised cross design. This front is crimped over a convex

4-hole bone back which is grooved to receive the crimped edge. It is 17 mm. in diameter. The other example of this type is only the 4-hole bone back. Olsen dates this type from 1700 to 1790. South found it at Brunswick Town in the closed 1726-1776 context.

Three examples of Olsen's Type C or South's Type 8 were recovered. They are of cast white metal with an iron-wire eye set in a boss on the back. The mold seams and plugs are visible. Two are plain. One of these is 18 mm. in diameter. The size of the other cannot be determined. The third is 17 mm. in diameter and has on the front a decoration of laurel leaves around the edge with the raised numeral "60" in the center. This is a uniform button of the British regiment stationed in St. Augustine from 1764 to 1784. Olsen dates this type from 1760 to 1790.

Two buttons of South's Type 7 or Olsen's Type D were found. One is of cast white metal, 17 mm. in diameter with an iron-wire eye. There is a faint suggestion of concentric rings on the back of this button which is the characteristic which distinguishes it from Type C. The other is of cast brass and probably had a brass wire eye. It is 18 mm. in diameter. This type is dated by Olsen from 1760 to 1785 and was found by South in the 1726-1776 context.

There were two buttons similar to Olsen's Type E or South's Type 11 recovered. These are flat to slightly convex, cast of white metal. The shank and button were cast as one piece. Seam marks are visible on the back and the

shank may or may not be set on a boss. Both examples were 18 mm. in diameter. They date from 1750 to 1812 (Olsen 1963:553). South found them in the closed 1726-1776 context. This is a very common military and civilian button of the 18th century.

One example of South's Type 9 or Olsen's Type G was excavated. This is a small (12 mm. diameter) coin shaped disc of brass with a brass eye soldered to the back. Because of its small size, it is probably a sleeve link. The type is dated by Olsen from 1785 to 1800 and was found by South in the 1726-1776 context, but only as a sleeve link.

Two buttons were excavated that were cast brass with the disc and the shank of one piece. The shank is drilled to form the eye. One is 16 mm. in diameter and probably a sleeve link. The other is 20 mm. in diameter and may have been a knee button. In many ways these seem similar to Olsen's Type A except that Olsen's illustrated example (1963:553) is not flat but convex. Contrary to South's statement that his Type 31 is found only as a sleeve link in 18th century contexts, and as larger buttons only in 19th century contexts, we believe this to be South's Type 31. The context at SA 16-23 definitely dates from 1700 to 1760, based on associated artifacts.

Two 2-hole shell buttons with a central depressed area for the holes were excavated. These do not fit any type of South's or Olsen's. One is 10 mm. in diameter with holes 1.5 mm. in diameter set side by side in a 4 mm.

diameter central depression. South's Type 22 is probably related but has four holes. This type is found only in 19th century contexts. The other excavated example is 15 mm. in diameter with holes 1.75 mm. in diameter set in a 4.5 mm. diameter depression.

Also from 19th century contexts is South's Type 23, which are 4-hole porcelain buttons. Four examples of this type were found. They range in size from 9.5 mm. to 15 mm. in diameter. All have holes set in a central depression ranging from 5 mm. to 10 mm. in diameter. Three have backs like very short, truncated cones, while the fourth has back and front both convex joining in a fairly sharp edge. This type is found by South in an 1800 to 1865 context. These examples from SA 16-23 all come from Second Spanish Period contexts.

Apparently no button making was practised in St. Augustine during the First Spanish Period since all the recovered buttons seem to be English imports. Buttons, and by extension, clothing must have been part of the English trader's cargoes along with ceramics and pipes. The dates from the buttons, ceramics and pipes are all comparable and thus indicate a close association between these artifacts.

Glass

The glass from SA 16-23 includes tableware, containers and beads. Not much glass was found, probably because this

was a lower class household. Other types of containers such as ceramic, skin and wood were probably also used (Deagan 1974:135). Glass objects were undoubtedly status symbols among mestizos in St. Augustine (Deagan 1974).

Tableware

This category is comprised of the goblets and tumblers. No intact vessels were found and none were reconstructable. Goblet fragments include three stems and one base (see Figure 31). One of the stems is a cylinder 20 mm. in diameter; the other two are thinner (12 mm. in diameter) with knops (Noel Hume 1969), which are solid bulbular expansions 20 mm. to 26 mm. in diameter. These latter two resemble the goblet illustrated by Hale Smith (1951:257). One base fragment was found. It was circular and slightly convex, 8 cm. in diameter. Body fragments suggest the most popular goblet form was one with a straight "V" shaped bowl above a drawn stem (see Deagan 1974:215).

The bases of two tumblers were recovered. They were 4.5 cm. and 5.2 cm. in diameter and fairly thick and heavy. They seem to be of straight sides although it is possible that one example has sides that flare slightly outward.

All the tableware glass is apparently British in origin, since it is all very similar to that found at Williamsburg by Noel Hume (1969) and at Frederica by Kathleen Deagan (1972). It is possible that some Spanish

glass was overlooked because no study in depth exists.

Containers

The most frequently occurring glass at the site was olive-green bottle. Fragments of 27 necks and 22 bases were recovered; of these, three necks and four bases were whole or nearly whole. One of the neck fragments seems to be of a pre-1740 type. Its shape is more like the illustrated example dated 1733 in Noel Hume (1970:65). The shape and angle between the neck proper and the shoulder of the only completely measurable fragments suggests that it dates from about 1770 (Noel Hume 1970:67). Below are listed the measurements of these necks and bases according to the form used by Brown on the glass from Ft. Michilimackinac (1971) and Deagan at SA 16-23 (1974).

<u>Bases</u>	<u>Diameter</u>	<u>Kick-up Height</u>	<u>*Glass Thickness</u>
1.	10.0 cm.	4.5 cm.	0.6 cm.
2.	7.6 cm.	2.8 cm.	0.5 cm.
3.	11.0 cm.	4.5 cm.	0.6 cm.
4.	9.5 cm.	4.0 cm.	0.5 cm.

Mean Base Diameter = 9.53 cm.

Mean Kick-up Height = 3.95 cm.

Mean Glass Thickness = 5.50 cm.

*measured at wall of bottle, 3 cm. above base

<u>Necks</u>	<u>Orifice Diameter</u>	<u>Lip Diameter</u>	<u>**Neck Length</u>
1.	2.0 cm.	3.1 cm.	11.6 cm.
2.	2.2 cm.	3.5 cm.	-
3.	2.3 cm.	3.4 cm.	-

Mean Orifice Diameter = 2.16 cm.

Mean Lip Diameter = 3.33 cm.

Mean Neck Length = -

**measured from shoulder to lip

One case bottle neck and base were found in the closed contexts at SA 16-23. The base is 7.3 cm. square; the orifice diameter is 2.3 cm.; the lip diameter is 2.6 cm.; and the neck length is 3.3 cm.

Bottles from SA 16-23 do not differ significantly from examples from British colonial sites of the early to middle 18th century. They are quite similar to those found at Williamsburg and Frederica. It seems that here again we have evidence that in this case glassware was brought in by English traders along with clothing, ceramics and pipes.

Beads

A total of thirty-five beads were excavated at SA 16-23. Of this number, only five were from the closed contexts. All beads were of glass; no stone or bone aboriginal beads were found.

Two classification systems have been developed for use with beads. Beck's (1928) system did not seem to lend

itself well to the beads from the site. Kidd's (1970) is much more flexible and allows for expansion and new type designations. For this reason it was chosen.

Of the five beads excavated, four were tube beads and the fifth was a wire-wound bead. All probably date from the 18th century.

One of the tube beads is the type generally known as Cornaline D'Aleppo. This is a thin cylinder of glass with a dark green core covered by a layer of opaque red. This example was fragmented so its length is not known. Its diameter is 6 mm. This particular combination does not occur in the Kidd system, so I have designated it a IIIa13.

Two of the remaining tube beads were dark blue glass with white stripes, a type known as "cane" beads (Kidd 1970:49). One is 10 mm. long and 3 mm. in diameter. It was classified as type Ib25. The other was 8 mm. in length and 7 mm. in diameter (almost round) so it was classified as type IIb70. Both of these designations are new to the system.

The final tube bead is in fact a clear sphere, light grey in color, 6.5 mm. in diameter. It was classified as type IIa9.

The one wire-wound bead excavated was a blue "raspberry" bead 6.5 mm. in length and 10 mm. in diameter. Its designation in the Kidd System is WIId2.

It seems that this mestizo household used more beads than criollo or peninsulare households extant at the same

time (Deagan 1974 and Beidleman 1975). Number of beads recovered per site probably is not a good criterion due to different recovery techniques, extent of excavations, etc. Thus it is difficult to assess to what extent beads were important to the inhabitants of St. Augustine. Perhaps with further work on Spanish sites this importance or lack of it can be clarified.

Stone

Aboriginal

From the closed contexts at SA 16-23 no aboriginal stone was recovered. This is not too surprising, since all stone tools were probably replaced by European iron and steel. It would be especially necessary for mestizos to use European tools for prestige.

Food Preparation

One fragment of a mano was found at the site (see Figure 33). This stone is not of native Florida rock and is undoubtedly of Mexican origin. It is a rounded square in cross-section and slightly thicker in the middle than on the ends. It is very similar to Central Mexican examples found archeologically (see MacNeish et al. 1967:103-104). It is also much like those excavated by Hale Smith at Santa Rosa Pensacola (1965:106). This, along with the majolica of Mexican origin and Tonalá Polychrome, is the only

archeological evidence of any economic contact with New Spain.

Gunflints

A total of nine gunflints or gunspalls were excavated (see Figure 34). Of these two are the amber or honey colored French prismatic type. One seems to have been a regulation British prismatic type (it is very badly battered). Five of the remaining six are gunspalls. These spalls have been attributed to Dutch origin by Wittoft (1966:25); but Deagan has shown (1972) that this type was being struck from ballast rock by British soldiers at Frederica. Apparently this gunspall type is one which a relatively non-skilled knapper can produce. All the flints recovered were fragmented and heavily battered which may indicate their secondary use as strike-a-lights, although it is possible their small size may preclude their being so used. The final example is a grey-white non-Florida stone (quartzite?) which was probably the center portion of an aboriginal projectile point. It seems to have been worked into a gunflint or at least into a strike-a-light (see Figure 34).

Bone

Bone artifacts other than button backs were few from the closed contexts. One fragment of a knife handle was recovered. Two other artifacts of bone were one tuning peg from a stringed instrument and the back of a bone brush.

This brush fragment is approximately two inches long and has drilled holes to receive the bristles which were apparently held in place by brass wire. Both of these artifacts are probably of European origin (see Figure 35).

CHAPTER 4 THE IMPLICATIONS OF SA 16-23

Data recovered archeologically from historic or prehistoric sites, more often than not, pose more questions than they answer. The results of both the documentary and the archeological research described in the preceeding chapters have suggested answers to many questions about the people in 18th century St. Augustine. This same research has, on the other hand, made it exceedingly clear that much more work is needed before any complete statement concerning the lifestyles of the people of St. Augustine can be produced.

Spanish-Indian Interaction

In making the search of the documents concerning the ownership of St. Augustine Block 16, Lot 23 evidence came to light which led us to believe that an Indian/mestizo ghetto existed in the northwest quadrant of the city. It is presumed that the Indians and mestizos formed at least part of the lower economic group in St. Augustine, a presumption that can be supported by archeological evidence. The geographic extent of this ghetto is at present unknown, but it may be possible through further research to define

it. Temporal extent is a little clearer. At the end of the First Spanish Period, the area came to be inhabited by the Minorcans (another minority group). They remained in the area at least through the middle of the 19th century. Even today the area is inhabited by lower income group households. Thus it seems that the general northwest portion of the city has a long history as a lower class domestic section.

The early 18th century ownership of the property provides us with some insight into the relationships between Spanish and Indian culture in St. Augustine. The Puente Map lists the lot as belonging to the "heirs of Maria de la Cruz, an Indian." What is the significance of a woman, an Indian woman, owning the property? This is difficult to assess, although Deagan (1974) has suggested an answer. Indian women in this colonial backwater were the major integrating factor between Spanish and Indian culture. It seems likely that the importance of these women extended to the ownership of real property. It is possible that the female ownership may reflect Indian inheritance rules, and further, that these rules were being recognized by Spanish law. On the other hand, the implication may be that mestizo heirs of an Indian woman and a Spanish garrison member had more inheritance rights than did Indians per se. There are other reasons why the property was not listed in the name of Maria's husband, but we believe these must at least be considered.

Joseph Gallardo, Maria's husband, plays his own part in illuminating the relationships between peninsulares, criollos, and mestizos. It is recorded that he was a native of New Spain. His father was born in Castile. The ancestry of his mother is obscure; it is likely that she was a criollo or possibly a mestizo. Evidence has already been presented that banned even criollo men from military participation, yet Joseph Gallardo is listed as being a soldier of the regiment. Whether he was a mestizo or a criollo, his occupation suggests that racial strife was low key or nonexistent in St. Augustine. This is a unique situation. In other parts of the Spanish Empire in the New World mestizos and criollos were despised by native born Spaniards (Chapman 1933:116-120).

Archeological findings at SA 16-23 support this close, amiable relationship between the Spanish and the Indians in St. Augustine. The strongest of such evidence is the overwhelming amounts of the San Marcos series of aboriginal pottery found at the site. It should be recalled that almost four times as many San Marcos sherds were excavated as were Spanish and English ceramics combined. There must have existed in the city some mechanism for the distribution of this pottery. It is possible that Indian women married to Spanish men organized these transactions. More likely there was a market in addition to small shops at which foodstuffs, pottery and crafts, and European goods were

bartered. In either event Indians must have had a free and easy access to the area of the city within the city gates.

Perhaps even more indicative of the influence of Indian culture on that of the Spanish is the subsistence pattern observed at SA 16-23. A highly detailed account of this pattern may be found in Deagan (1974) and especially in Cumbaa (1975). The floral remains from the site included corn cobs, seeds from two varieties of watermelon, peach pits, wild cherry pits, pumpkin seeds, and the preserved skin of an orange (all based on Deagan's 1973 excavation). The corn has been tentatively identified as ten row Caribbean Flint corn which has been found on several late prehistoric sites in the Southeast (Deagan 1974:84). The mano fragment unearthed further supports this use and preparation of corn at SA 16-23. This obvious Mexican import suggests that perhaps the corn recovered could be a Mexican variety. Mexican corn has been found in Florida at Santa Rosa Pensacola, a site in existence at approximately the same time as Maria's houses (Smith 1965:109).

The other plant remains represent food grown in a garden on the site. The watermelons, the peach, and the orange were introduced fruits while the pumpkin and the wild cherry were probably local plant resources (Ibid.:85). The skin of the orange preserved in a well excavated during the 1973 excavation could not be identified as to species but is believed to be a sour orange type known as Seville.

Exportation of oranges was important to the economy of 18th century St. Augustine and will shortly be discussed further.

The emphasis in animal resources at the site was definitely on wild foods. Domestic animals were used, including cow, pig, chicken, and turkey, but the preponderance of recovered food remains make it clear that the subsistence pattern was an aboriginal coastal adaptation (Deagan 1974:92). The most frequently occurring remains were those of shellfish, especially the eastern oyster, but other mollusks were used as well. Fish remains were numerous, with catfish and mullet most frequent. Catfish were probably caught with hook and line and mullet netted. There were found in the closed contexts of the 1972 excavation the rolled lead sheets which could have been either line or net weights. Wild mammals were used. Deer bones were recovered, but most of the mammal bones were those of small marsh animals.

It seems from the above discussion that this mestizo household, and by extension, the entire population of St. Augustine had at least adequate food supplies. This is at variance with the documentary sources concerning the almost perpetual state of starvation endured by the city due to lateness or non-arrival of the situado (Gannon 1965:56). This coastal adaptation is seemingly unique for colonial sites. At Frederica, the British colonists relied

almost solely on imported, domestic food sources (Deagan 1972). It may be that this adaptation may not extend to the middle and upper classes in St. Augustine. Regardless of the reasons for it, the adaptation demonstrates the high importance of Indian influence on the lives of the inhabitants of the city.

Spanish influence on Indian lifestyles will not be discussed. This problem has been treated by many historians and religious experts. Archeologically at the site there was negative evidence showing the importance of Spanish culture. This was the plethora of European non-ceramic artifacts and the almost total absence of aboriginal ones.

English Trade in St. Augustine

Spain and England were from the earliest times keen opponents in establishing their empires in the New World (see Wright 1971, TePaske 1964 and Haring 1918). Despite political machinations, economic ties between the Spanish in St. Augustine and the English traders from Georgia and South Carolina were very strong even during times of war between the two countries (Harmon 1969:40-41).

One of the earliest documented references to this "illegal" trade between the Spanish in St. Augustine and foreign traders is in 1683. At that time a Dutch trader from New York put into port at St. Augustine carrying a cargo supposedly bound for Jamaica. The civic officials

decided it was in the best interests of the entire population of the city to purchase that cargo. There was some disagreement between the officials but in the end the entire cargo was bought including flour, salt pork, iron pots, gun powder, and firearms (Arana 1970:16).

The earliest reference to specific trade with the English in the 18th century may be contained in a letter from Governor Corcoles to the King detailing the purchase of wine, beef, pork, and flour (Corcoles 1716). Even though trade between foreign nationals and Spanish subjects in the New World was prohibited by royal decree, in times of emergency it was apparently overlooked if not condoned by the crown.

Joyce Harmon in her Trade and Privateering in Spanish Florida details the fact that, despite the laws of both Spain and England, trade between the English colonies and St. Augustine flourished. This was true even in time of war between the two countries. Harmon lists ships names, ports of origin, destination, and cargo for hundreds of ships sailing between Georgia-South Carolina and St. Augustine during the 18th century. The manifests of cargo emphasize foodstuffs, but there is always the mention of "European dry goods" as well. One might wonder what goods St. Augustinians had to offer in return for these cargoes. The answer supplied by Harmon is animal skins, honey, and most important, oranges. Apparently very large amounts of

oranges and orange juice were exported from St. Augustine. These were used as an ingredient in a beverage popular at the time in the English colonies (Deagan 1974:86).

Most of the artifacts from SA 16-23 were probably English in origin and undoubtedly represent the "European dry goods" listed on ships manifests. The range of dates of each category of artifacts (ceramics, pipes, bottles, buttons, etc.) suggests that the English cargoes contained each of these categories throughout the history of the trade.

This dependence on English goods in our mestizo household has added significance for the historical archeology in St. Augustine. We believe that economic class may be archeologically discerned based on ceramics. Work at SA 16-23 has shown that English tablewares were used almost to the total exclusion of any other types. In her work at the Ximenez-Fatio House, Beidleman has found that most of the tableware used by this middle class criollo household was Spanish and French (personal communication). Rigorous testing of this hypothesis is needed by further archeological excavation at sites of known peninsulare, criollo and mestizo occupation.

Some of the answers about mestizo lifestyle have been offered here. Since there is at this time very little in the way of comparative material, these answers must be viewed as tentative. But, a beginning has been made.

CHAPTER 5 SUMMARY AND CONCLUSIONS

The establishment of the city of St. Augustine was a political act by Spain against its old enemy France. The location of the site of the city was believed to be the best for the defense of the Spanish Treasure Fleet which passed through the Bahama Channel and up the coast of Florida.

Previous population studies, infrequent as they are, have provided some information concerning numbers of people living in St. Augustine over the years. Most of these studies have failed to produce any breakdown on either sex or race ratios. It does seem evident that a mestizo population began to appear in the city as in other parts of the Spanish Empire from earliest times. It is not known what role was played by mestizos, criollos and peninsulares in the affairs of the city or for that matter what were the relationships between these three groups, although we have suggested in this thesis some of the answers to these vital questions.

The physical aspect of the city itself was dominated throughout its history by the succession of forts culminating in the completion of the stone fortress, the Castillo de

de San Marcos. Architecture through the centuries has received a great deal of attention in the literature. Building materials of the houses and other buildings have evolved from wood, through tabby, to coquina. All the types of houses probably existed contemporaneously except in the very early years when all the houses were of wood.

Albert Manucy in his work has posited the existence of three house styles in St. Augustine, one of which originated in that city. The Common Plan house, the simplest, is a one story, two room house. This was the common house plan of the medieval laborer. The second type, the St. Augustine Plan, is a one and one-half or two story version of the common plan with the addition of a porch or loggia situated on the east or south side of the structure. This style peculiar to the city was designed to provide shade and cool in the summer and a warm, sheltered area in the winter. The third type was called by Manucy the Wing Plan. The configuration of this house was "L," "U," or "H" shaped. It was the least popular style of house in St. Augustine, probably because of the expense of construction.

Excavation of Block 16, Lot 23 on Spanish Street in St. Augustine during the Spring of 1972 uncovered the remains of two First Spanish Period houses. This property is listed as belonging to the heirs of Maria de la Cruz, an Indian. The implications of this ownership have already been discussed in detail in the preceding chapter. The

houses were according to Puente, "two stone houses." The excavated remains consisted of poured tabby footings with coquina blocks mortared to them (a new construction technique in St. Augustine). The width of the footings suggested that the houses were two stories high. Their configuration was such that they are both believed to be St. Augustine Plan, although it is possible that the South house was in fact Wing Plan. The houses were enclosed by a patio wall which was constructed in the same manner as the houses. The courtyard surface was apparently of crushed coquina. In the courtyard were found the remains of two barrel wells, both of which were open during the First Spanish Period. One, Feature 36, was filled in during the British Dominion; the other, Feature 37, stayed in use into the Second Spanish Period, as evidenced by the 1813 slip-decorated dish recovered from it.

Some 50 other features were excavated, 34 of which were described. These features were chosen for description on the basis of the elevation of their appearance. If they were found at 5.9 feet below datum or deeper they were considered "closed" because this was the elevation of the 18th century courtyard.

The artifacts from these features included all categories expected, that is, ceramics, glass, metal, stone, and bone. San Marcos series pottery was the most frequently occurring ceramic encountered. This type has been shown to

be the major utilitarian and cooking ware in use in St. Augustine during the 18th century. There were some Spanish utilitarian wares found at SA 16-23. These were: Spanish Olive Jar, Tuscan Oil Jar (also called Spanish or Iberian Storage Jar), El Morro Ware, Rey Ware, and Marine Ware.

Spanish majolica from the site comprised most of the types described by Goggin. The 168 sherds of this Spanish tableware dated from the 16th into the 19th centuries. Most were of late 17th or early 18th century types. Stanley South's Mean Ceramic Date Formula was applied to these sherds with a resulting date of 1702.82, which is probably earlier than the occupation of the houses.

English ceramics were the most common European types excavated from the closed contexts. The reason for this is seen as St. Augustinian response to living in a Spanish economic backwater. The situado, the annual supplies from Mexico, were often late and sometimes did not arrive at all. This forced the Spanish colonists to deal with English traders from Georgia and South Carolina. Throughout the history of the site, English goods were plentiful and inexpensive. It seems sure that at least in lower class mestizo households, they replaced Spanish tablewares.

The Mean Ceramic Date Formula was also applied to these English ceramics with a resultant date of 1754.07.

This date, while falling within the occupation span of the houses, was believed not to be the best representation of the mean occupation date of the site. The English and Spanish ceramics were combined and the formula applied, with the resulting date of 1747.34. This date is believed to best represent the mean occupation date of the houses. We had here a chance to include an aboriginal ceramic type in the computation of the formula because of the known dates of existence of the San Marcos series of pottery in St. Augustine (1686-1764). The date produced by this inclusion was 1727.81, which is believed to be the best date for the occupation of the lot as distinct from the houses themselves.

Most all the other classes of artifacts also seem to have been of English origin. The pipestem date obtained from the application of the Heighton-Deagan formula was 1754.15. Date ranges of the other artifacts (bottles and buttons) suggested that all classes of English trade goods were included in the cargoes of the traders. This observation is important to the archeology of St. Augustine because in the extant manifests of ship's cargo there is no reference as to what goods were brought except "dry goods" and the enumerated foodstuffs.

Metal artifacts are the only category that could have been manufactured in St. Augustine or on the site. Nails, horse shoes, and the brass buckles may have been made

there. Stone and bone artifacts were very scarce on the site. A mano fragment of probable Mexican origin was the only stone excavated other than gunflints. The three bone artifacts, the knife handle, the brush back, and the tuning peg or of unknown but of suspected English origin.

It would seem from the data contained in the preceding chapters that Fairbanks' "backyard archeology" approach is a valuable one for the historic archeology in St. Augustine. The answer to some of the questions about the lifestyles of the peoples of St. Augustine have been presented herein. Further research using theis "backyard archeology" method is needed. Once an adequate data base is established more of the questions can be answered.

FIGURES

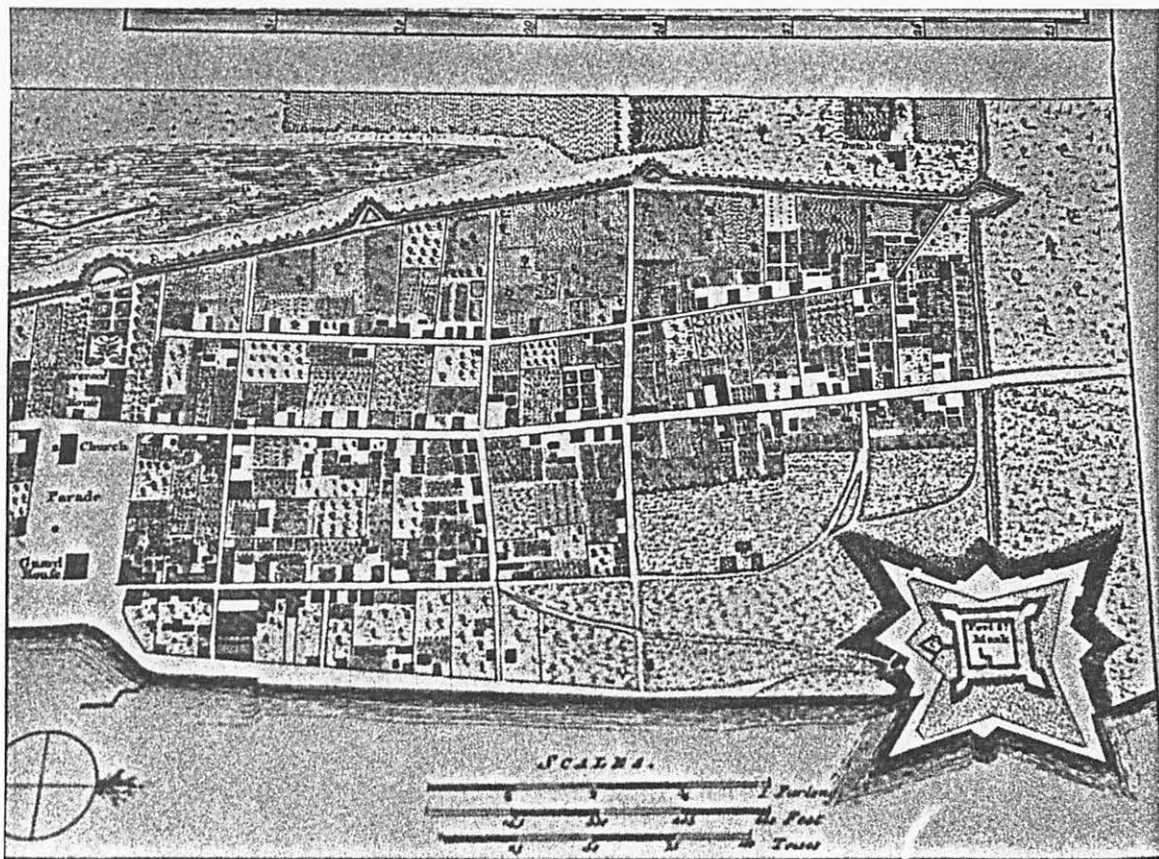


Figure 1. Detail of the de Solis Map of c. 1763, showing the location of the houses of Maria de la Cruz.

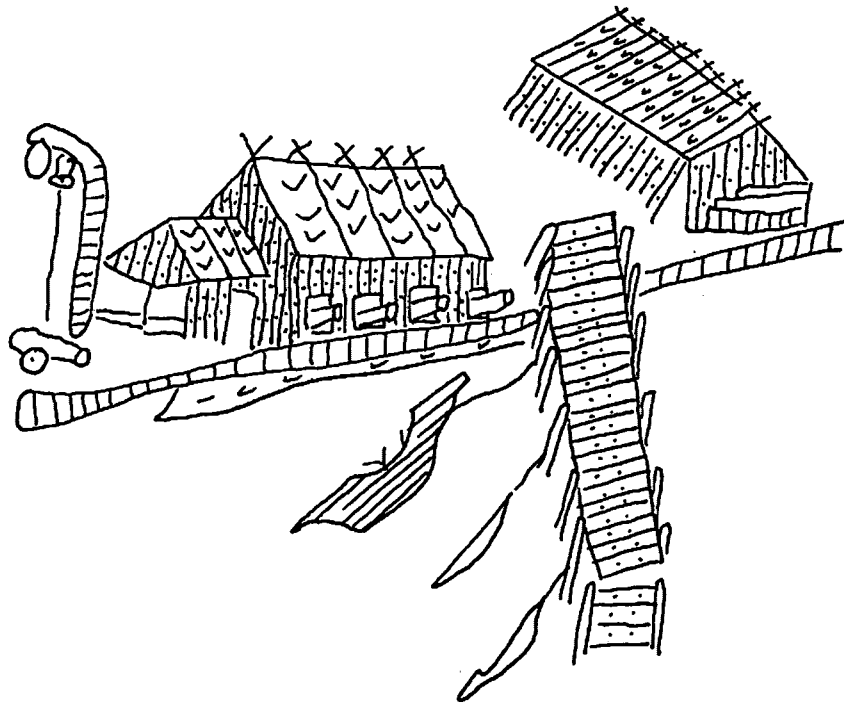
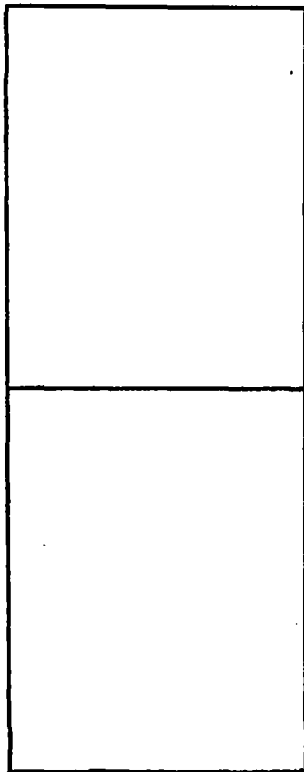
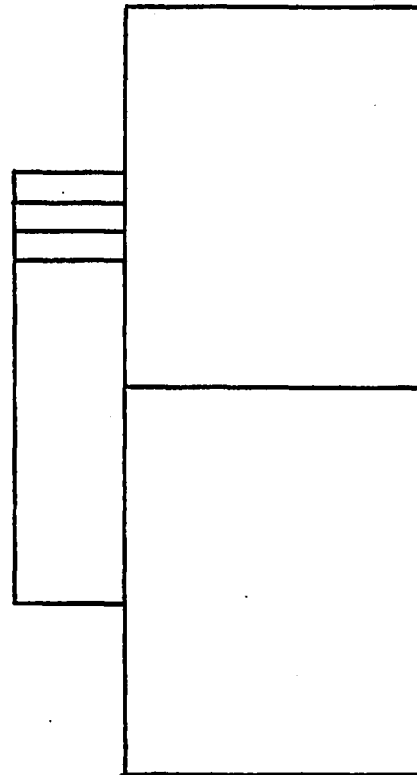


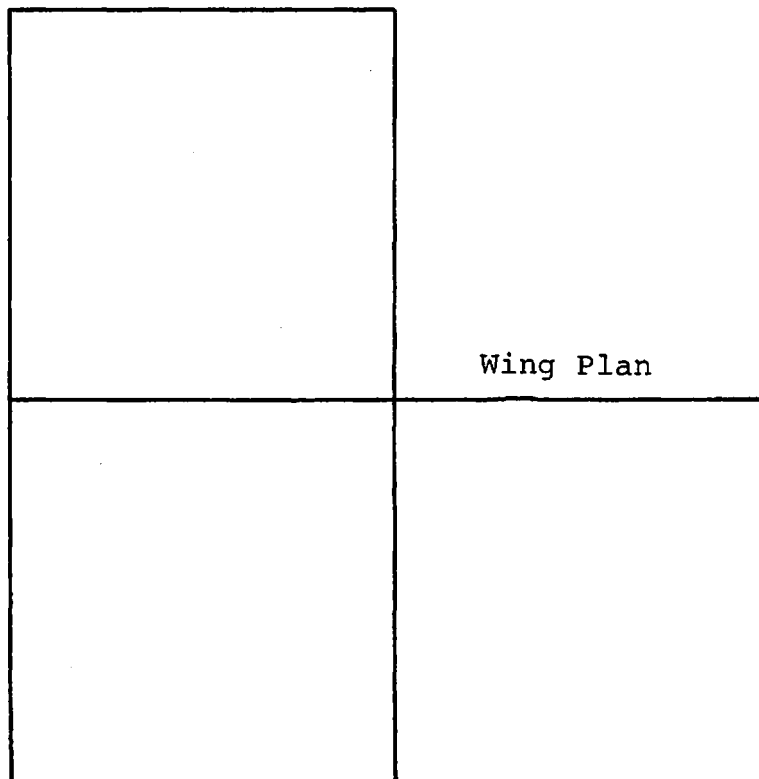
Figure 2. Detail of 1595 Map showing board construction.



Common Plan



St. Augustine Plan



Wing Plan

Figure 3. Floor Plans of St. Augustine Houses.

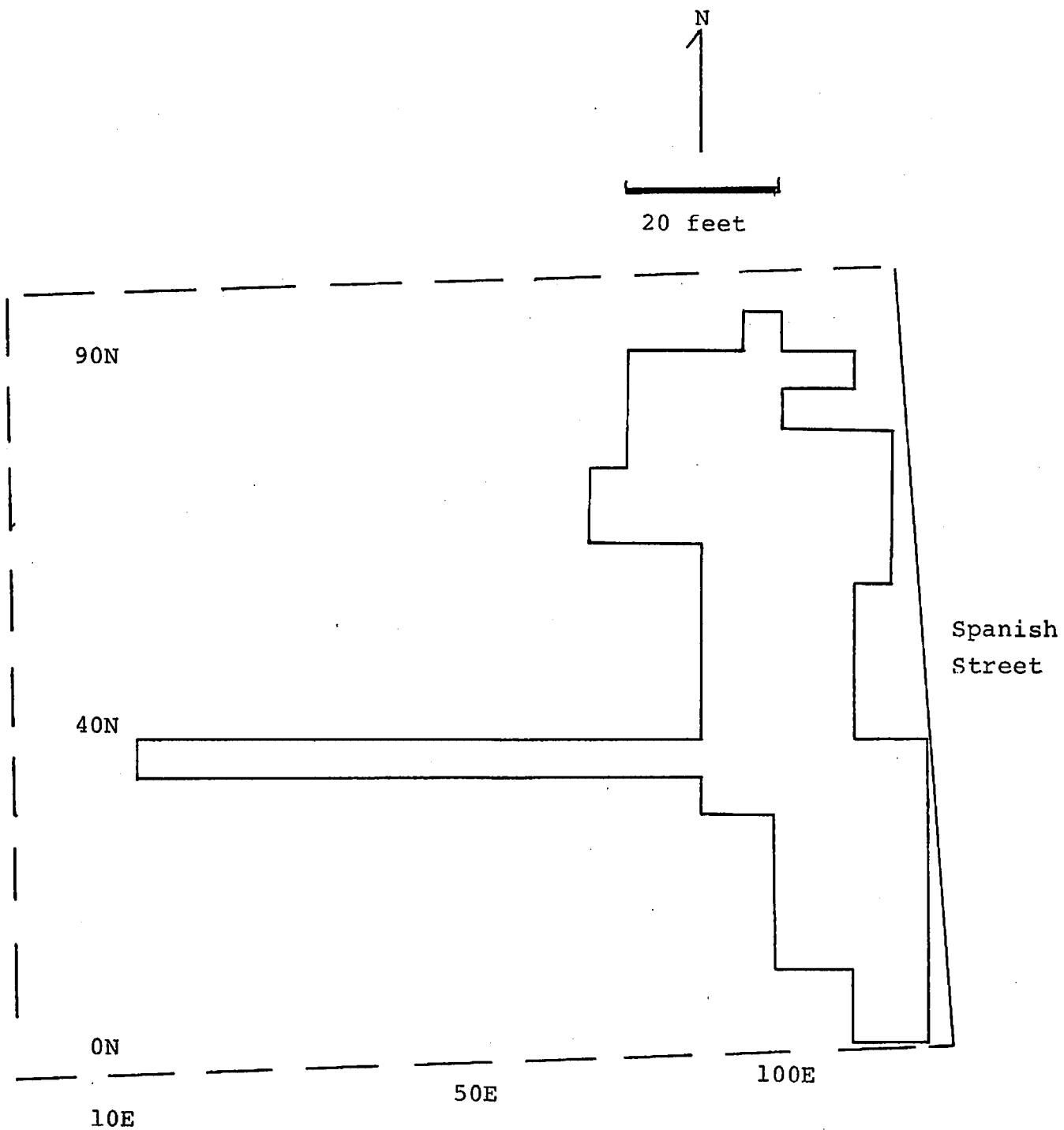
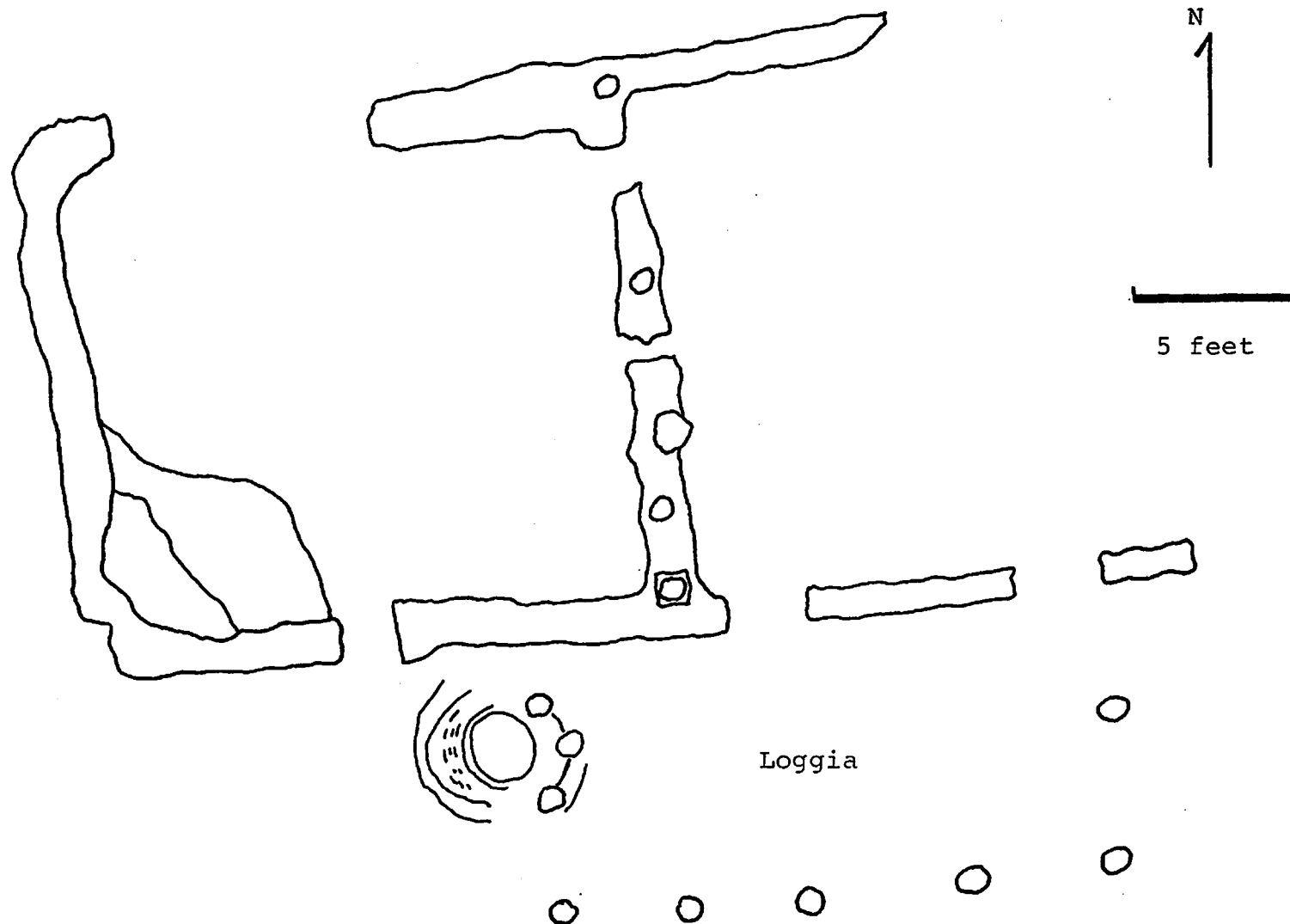


Figure 4. Extent of Excavations.

+ 90N
75E



+ 60N
75E

Figure 5. North House Feature 4 and Feature 36 Barrel Well.

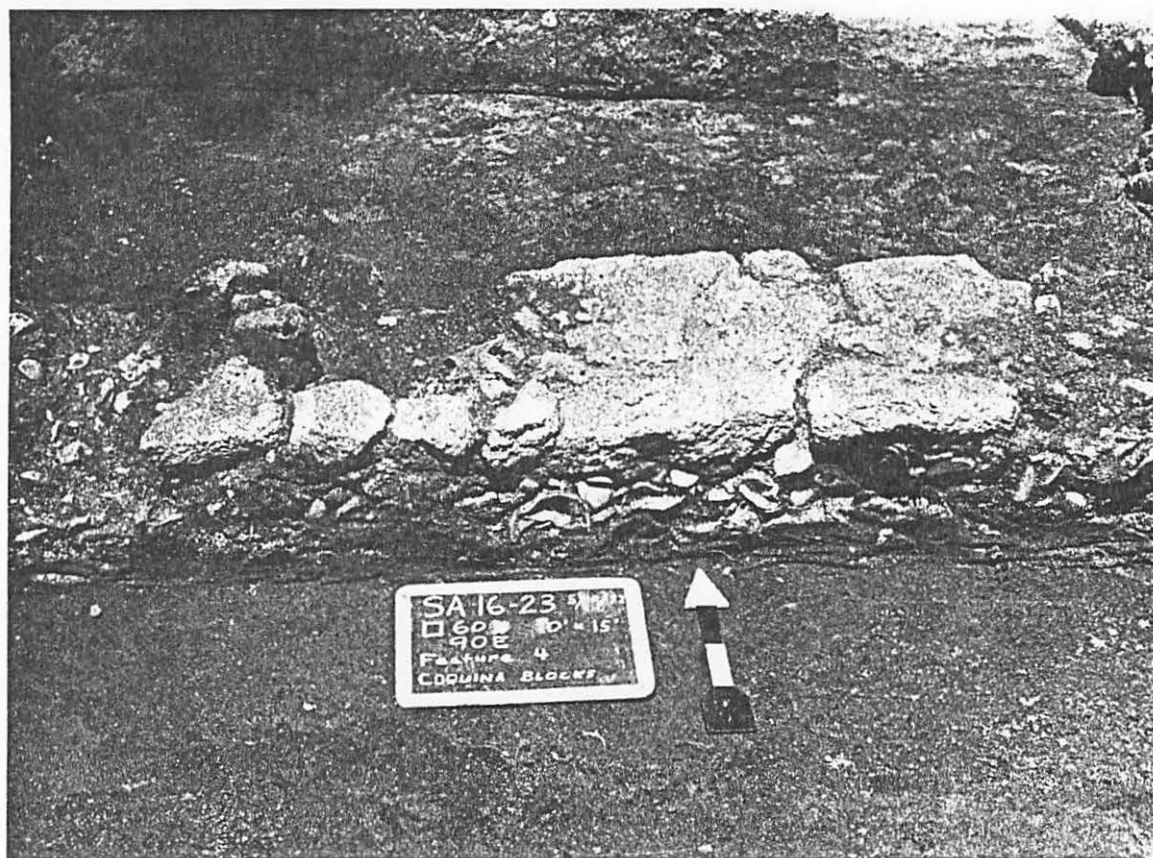


Figure 6. Feature 4, North house wall showing coquina blocks mortared in place.

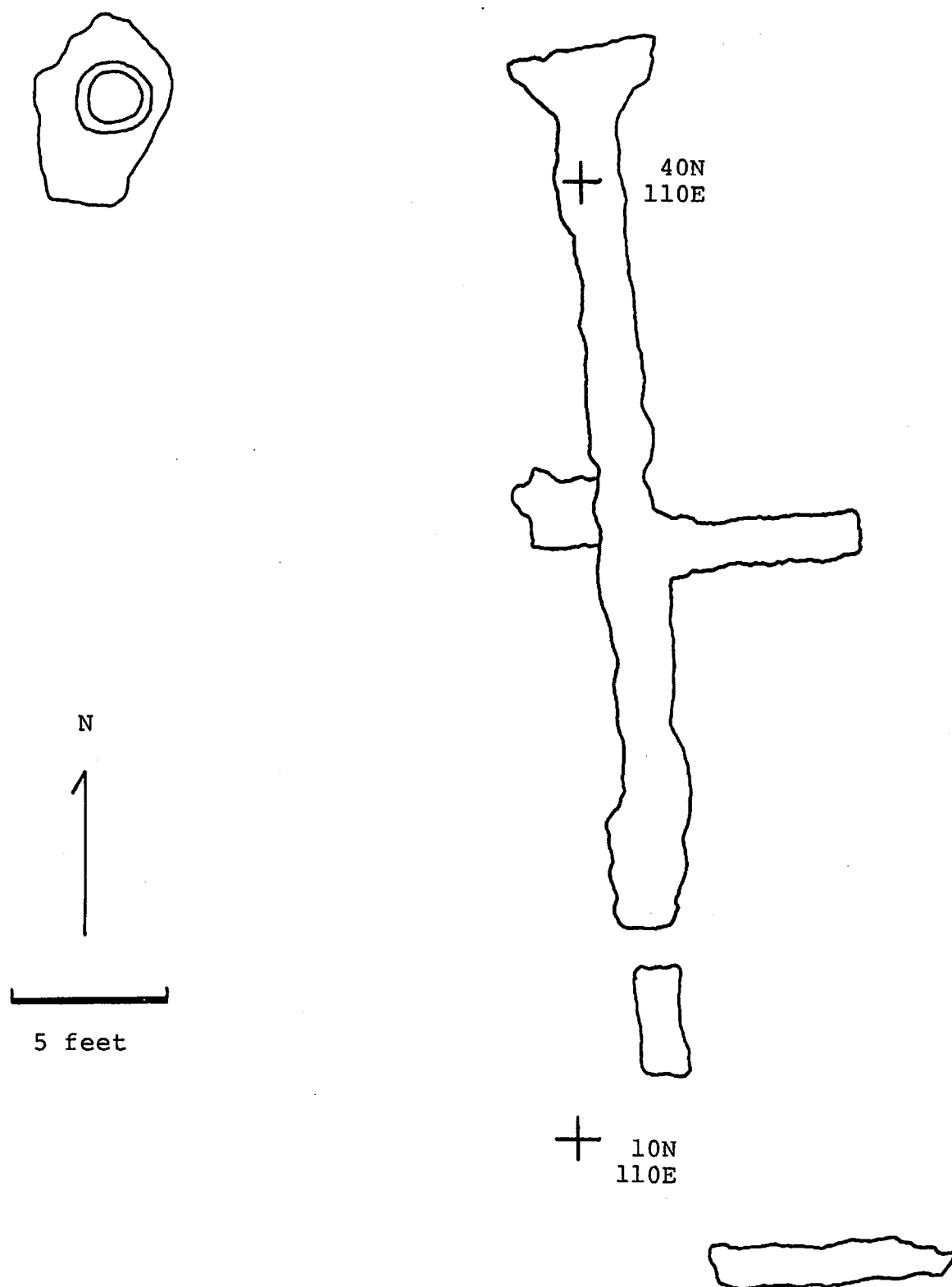
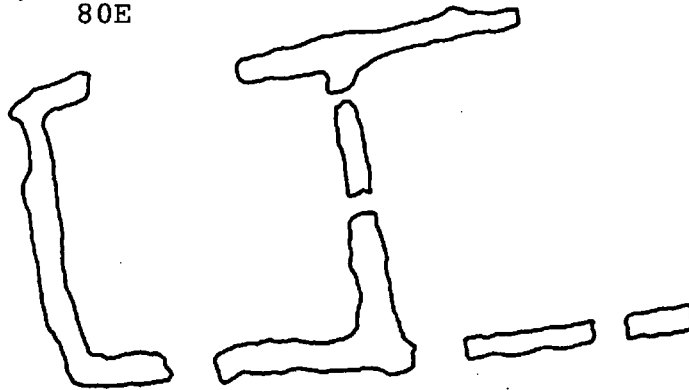


Figure 7. South House Feature 7 and Feature 37 Barrel Well.

+ 90N
80E

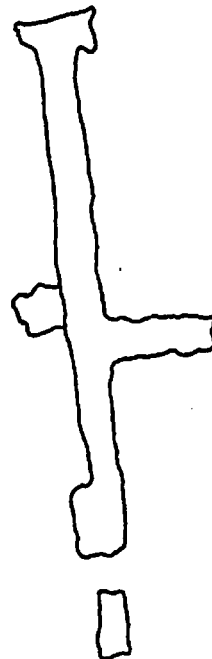


107



10 feet

+ 50N
80E



+ 20N
80E

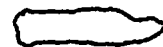


Figure 8. Relative Locations of the Two Houses.



Figure 9. Top of Feature 37, barrel well.

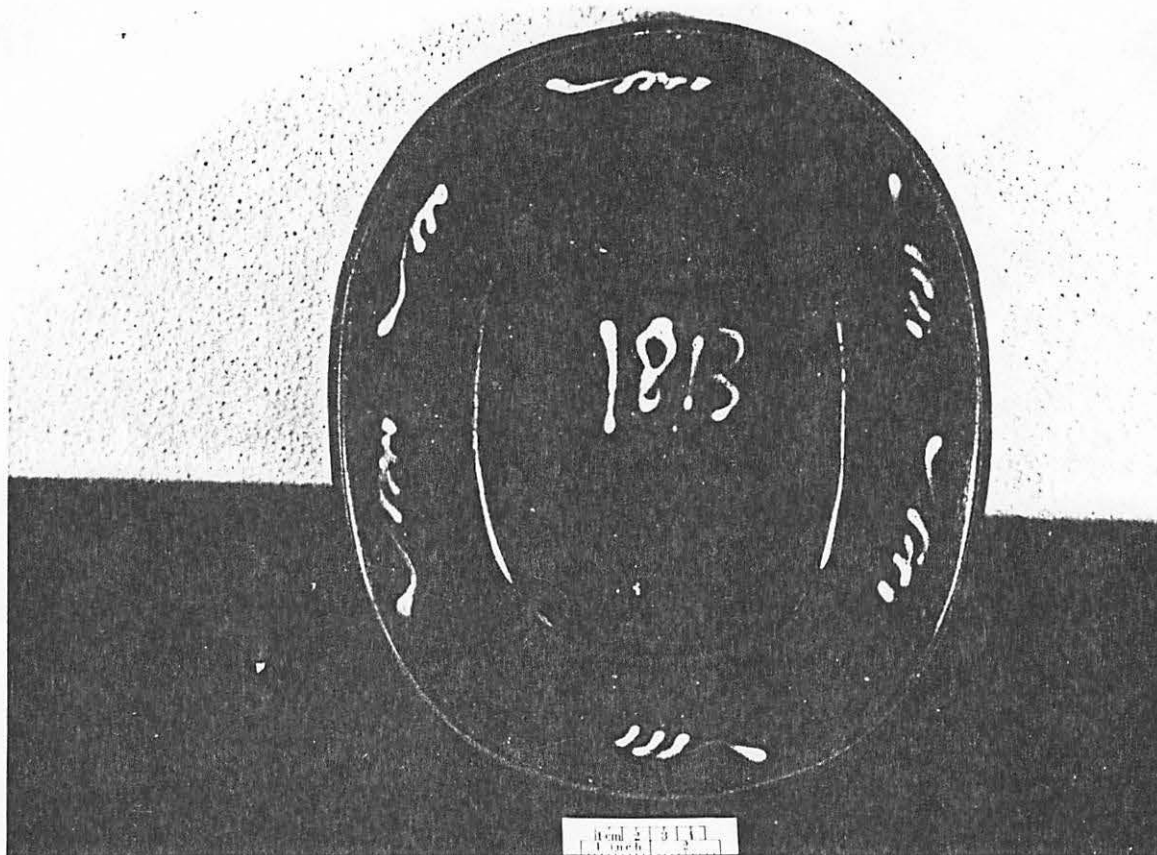


Figure 10. New Castle-on-Tyne slip-decorated dish with date in slip.

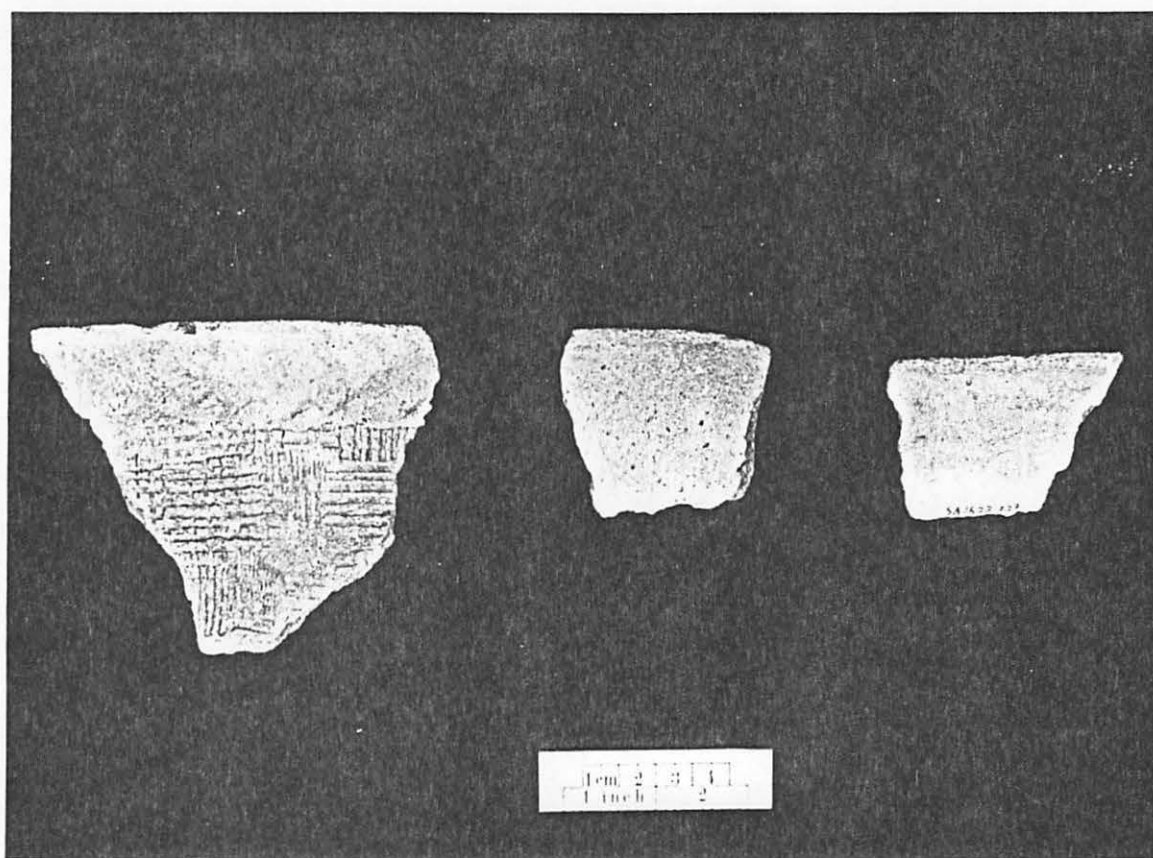


Figure 11. San Marcos rim sherds.

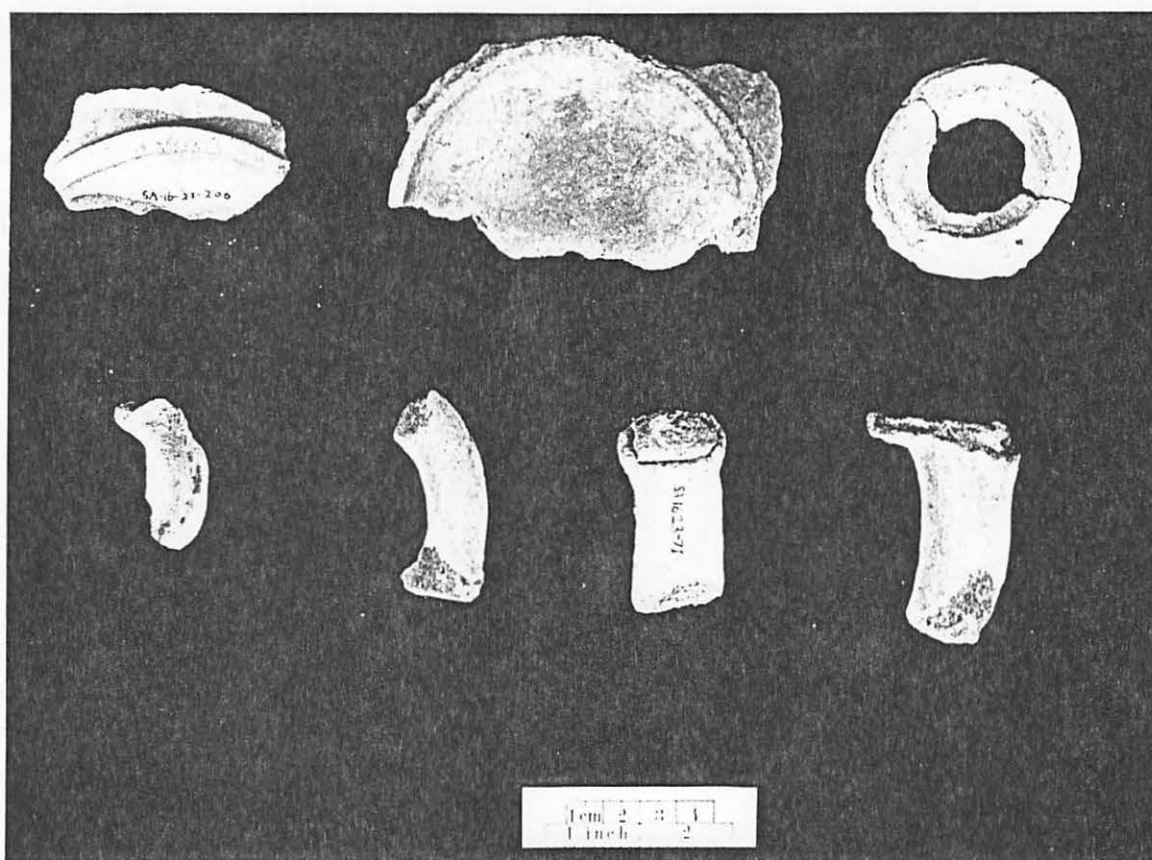


Figure 12. San Marcos footrings, strap and loop handles.

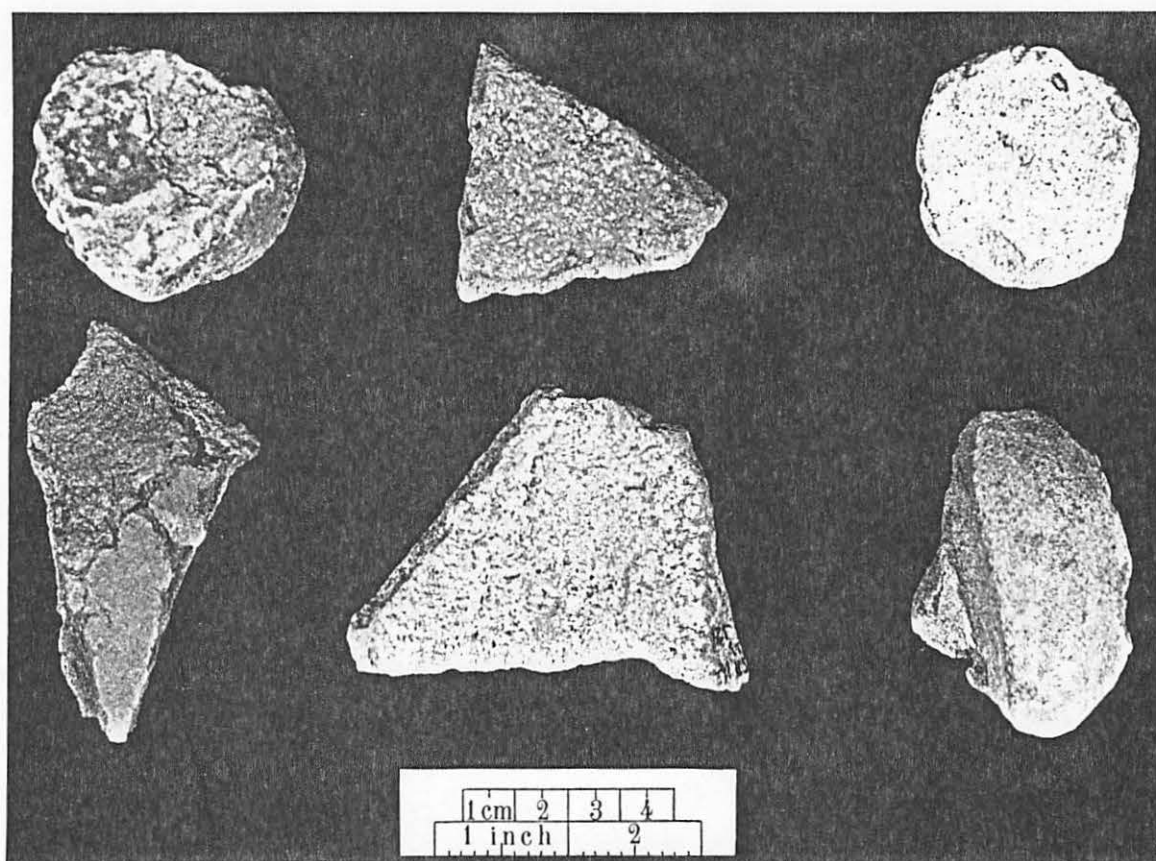


Figure 13. Spanish coarse earthenwares:
1st row (vertical)--Tuscan Oil Jar;
2nd row--Spanish roof tile; 3rd row--Spanish
Olive Jar.

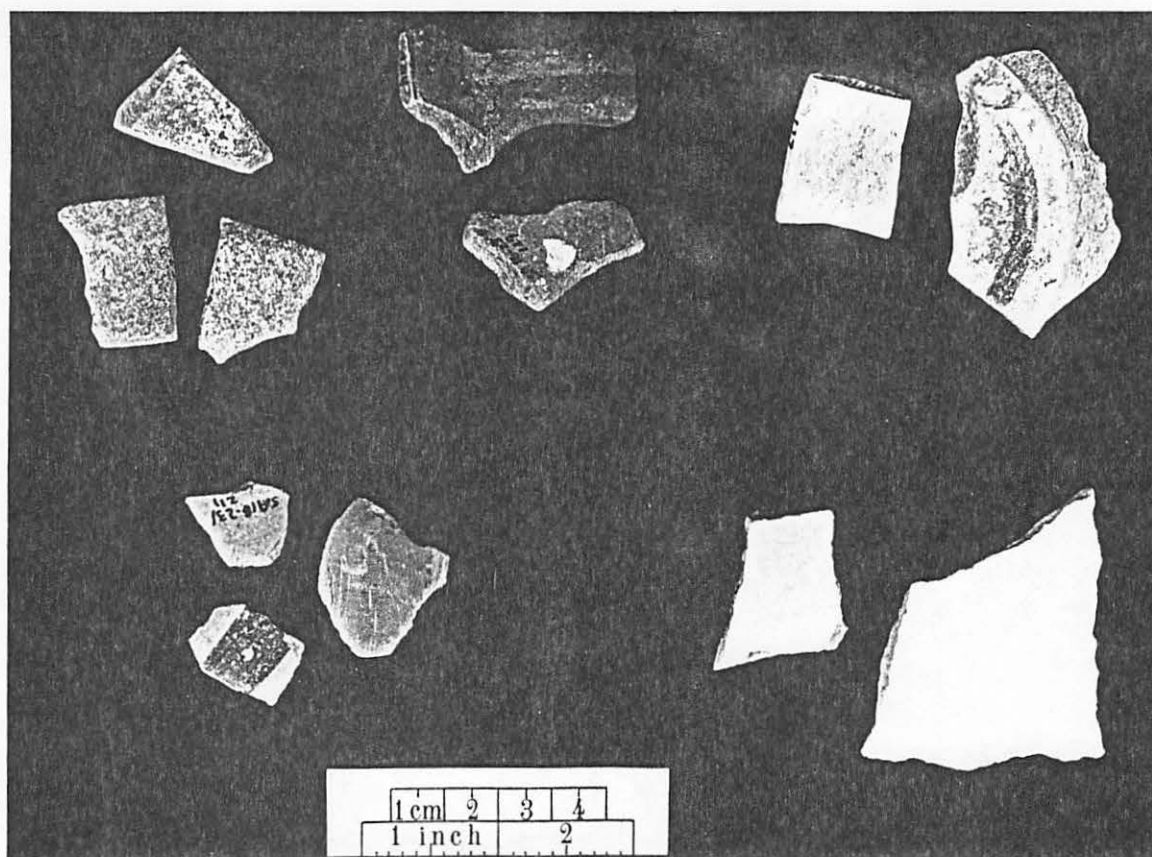


Figure 14. Spanish earthenwares:
 Top row (left to right) 1st group--Rey Ware;
 2nd group--El Morro Ware; 3rd group--Marine Ware;
 Bottom row, left--Tonala Polychrome; right--
 plain white majolica.

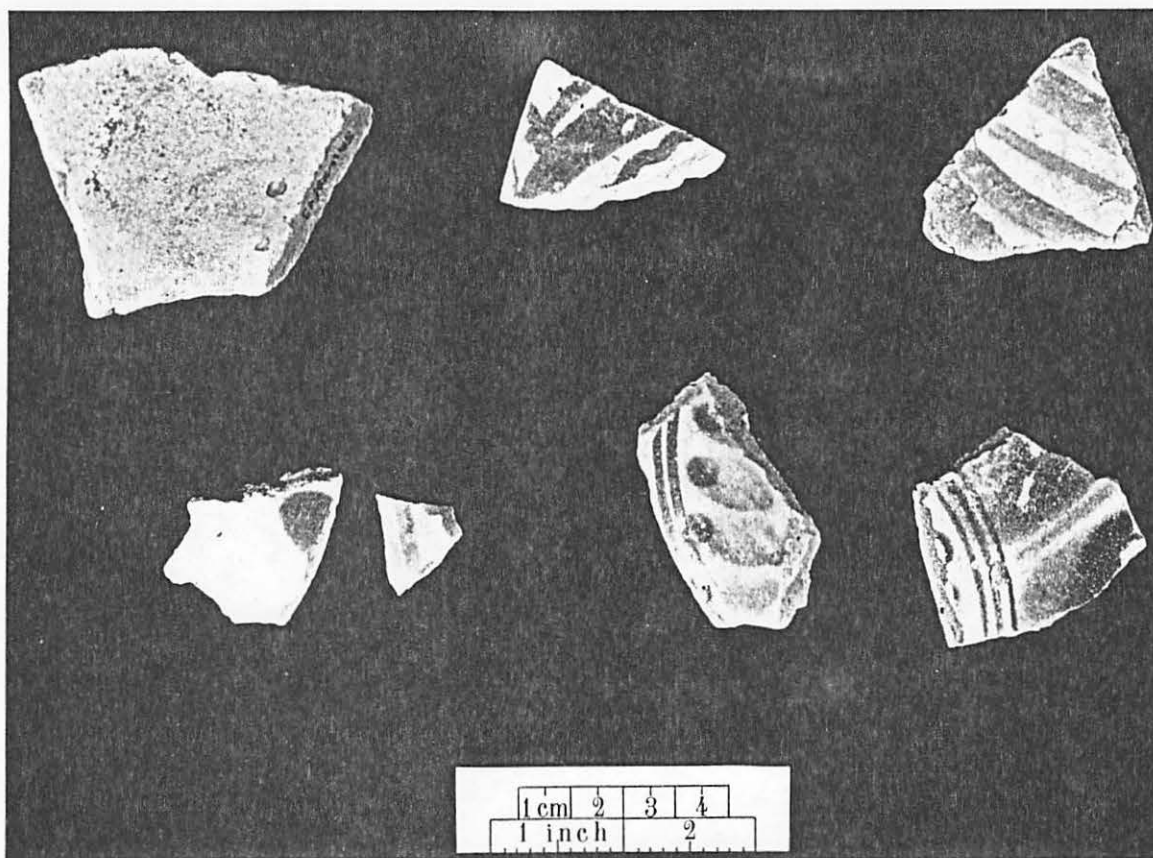


Figure 15. Spanish Majolica:
Top row (left to right)--Columbia Plain, Yayal
Blue on White, Fig Springs Polychrome;
Bottom row--San Luis Blue on White (2 pieces),
San Luis Polychrome (2 pieces).

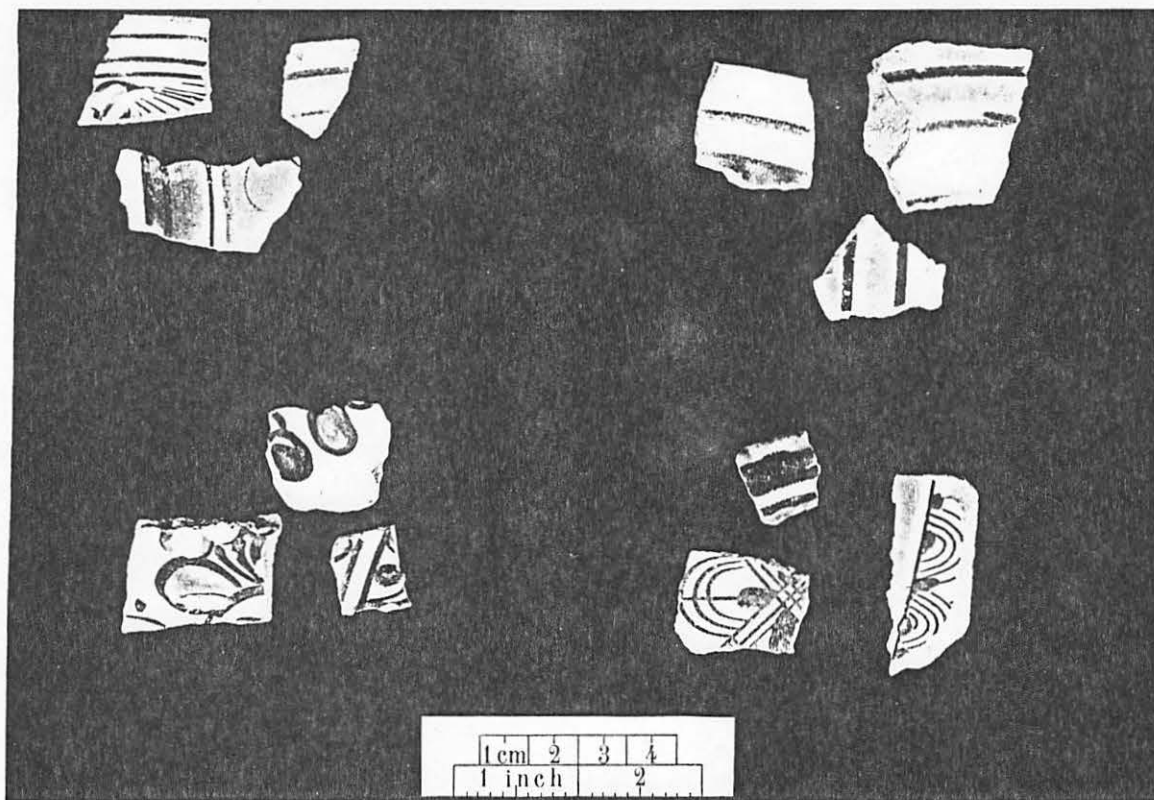


Figure 16. Spanish Majolica:
 Top row (left to right) 1st group--Mt. Royal
 polychrome; 2nd group--Aucilla Polychrome; Bottom
 row, 1st group--Abo Polychrome; 2nd group--Puebla
 Polychrome.

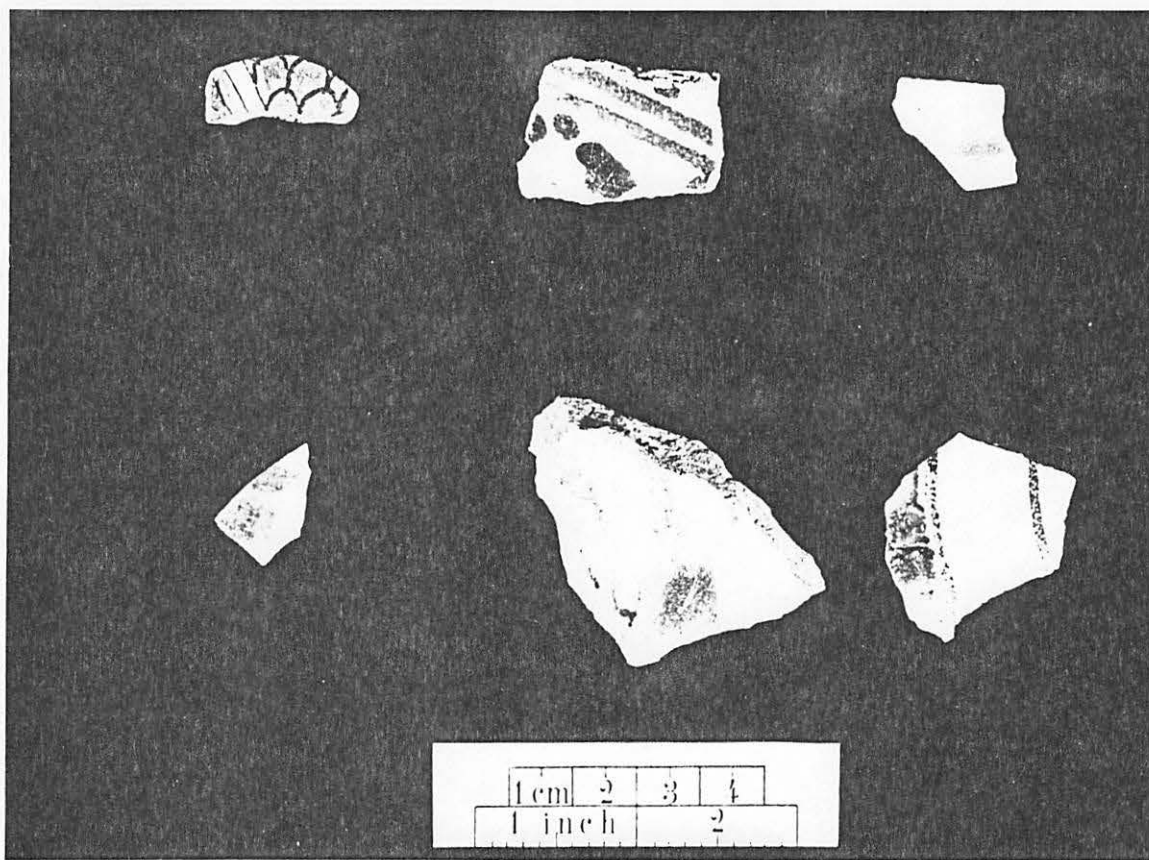


Figure 17. Spanish Majolica:
Top row (left to right)--Castillo Polychrome,
San Augustin Blue on White, Puebla Blue on White;
Bottom row--Huejotzingo Blue on White, Aranama
Polychrome.

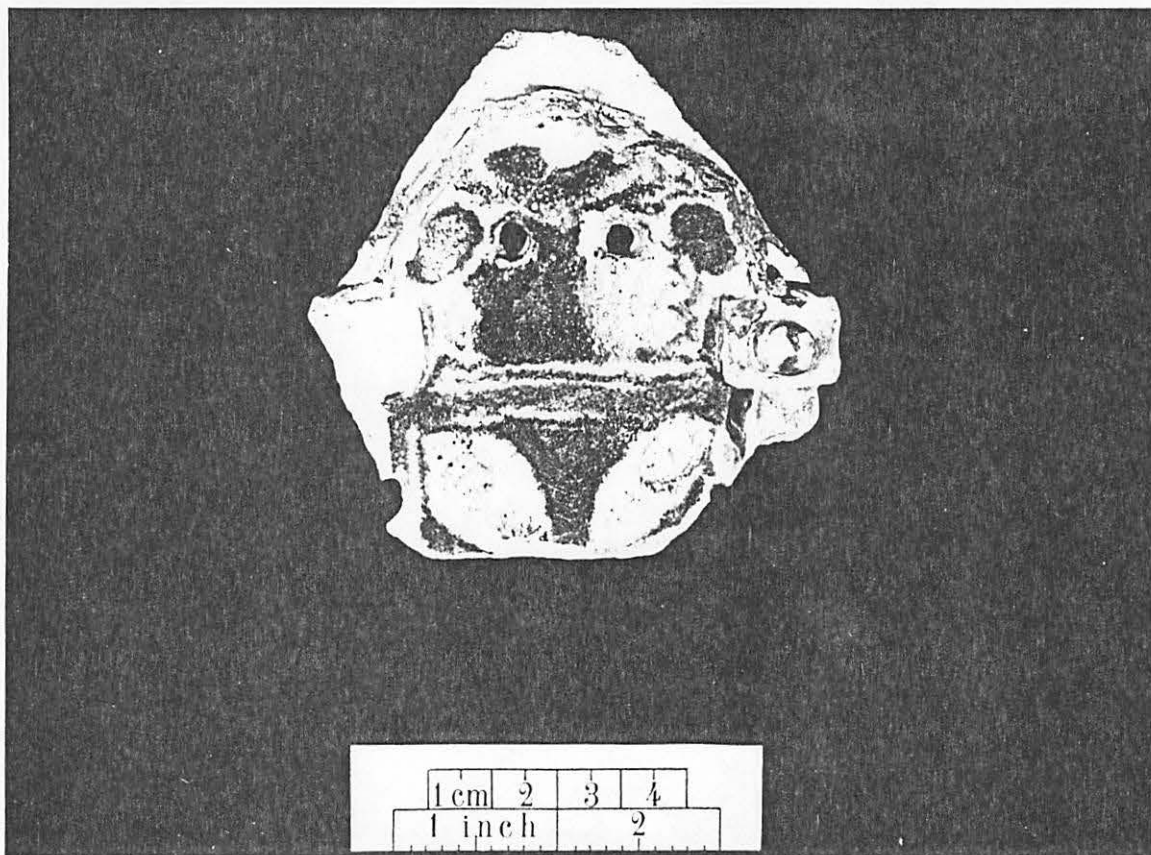


Figure 18. Spanish Majolica Benitier (holy water stoup-- see Barber 1908:79).

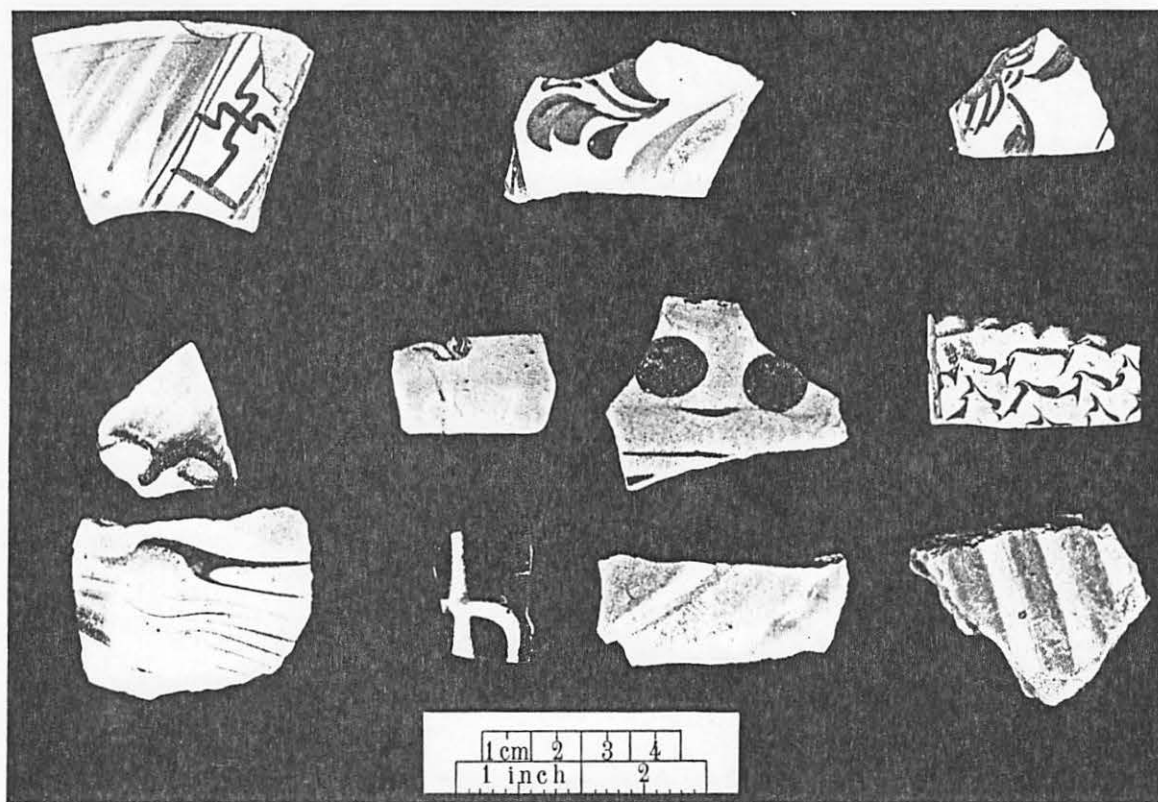


Figure 19. English earthenwares: Top row--Delftware; Bottom row--various styles of slip-decorated wares.

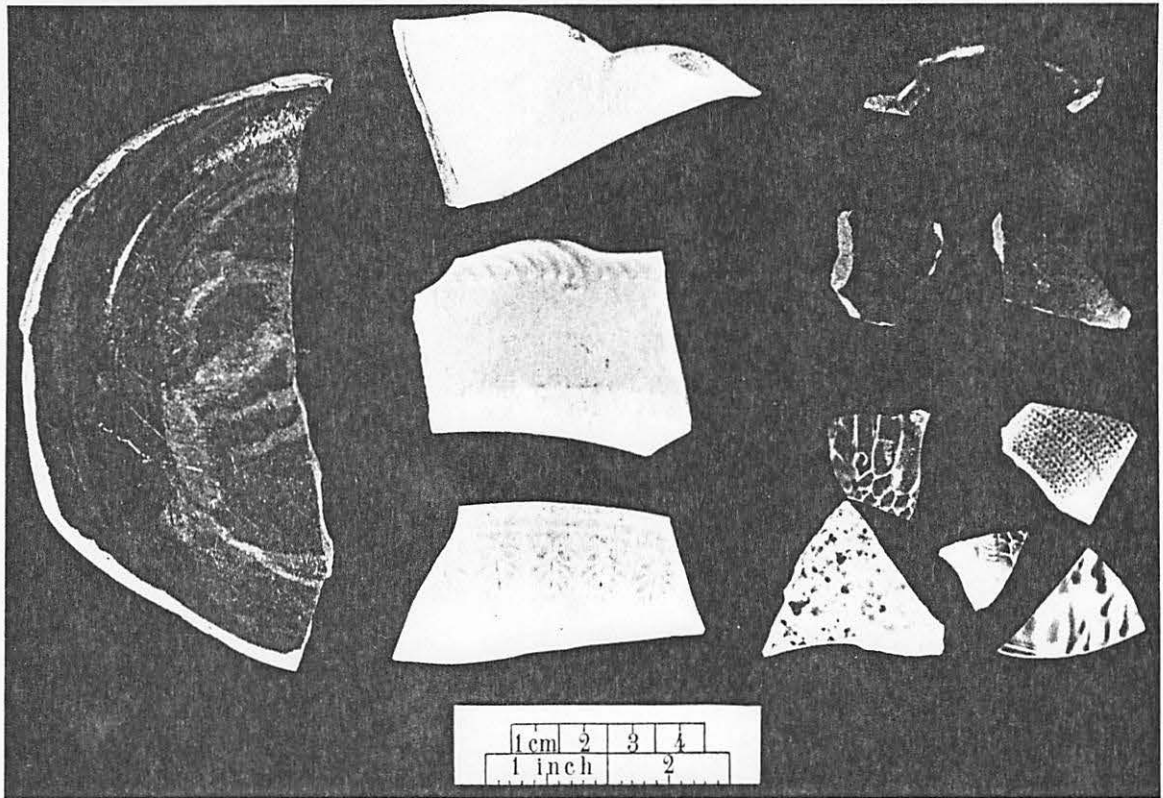


Figure 20. English refined earthenwares:
 1st row (vertical)--agateware bowl fragment;
 2nd row--Creamware; 3rd row top--Jackfield from
 the Jackfield pottery; middle--Jackfield from
 Stafforshire pottery; bottom--various forms of
 "Clouded wares."

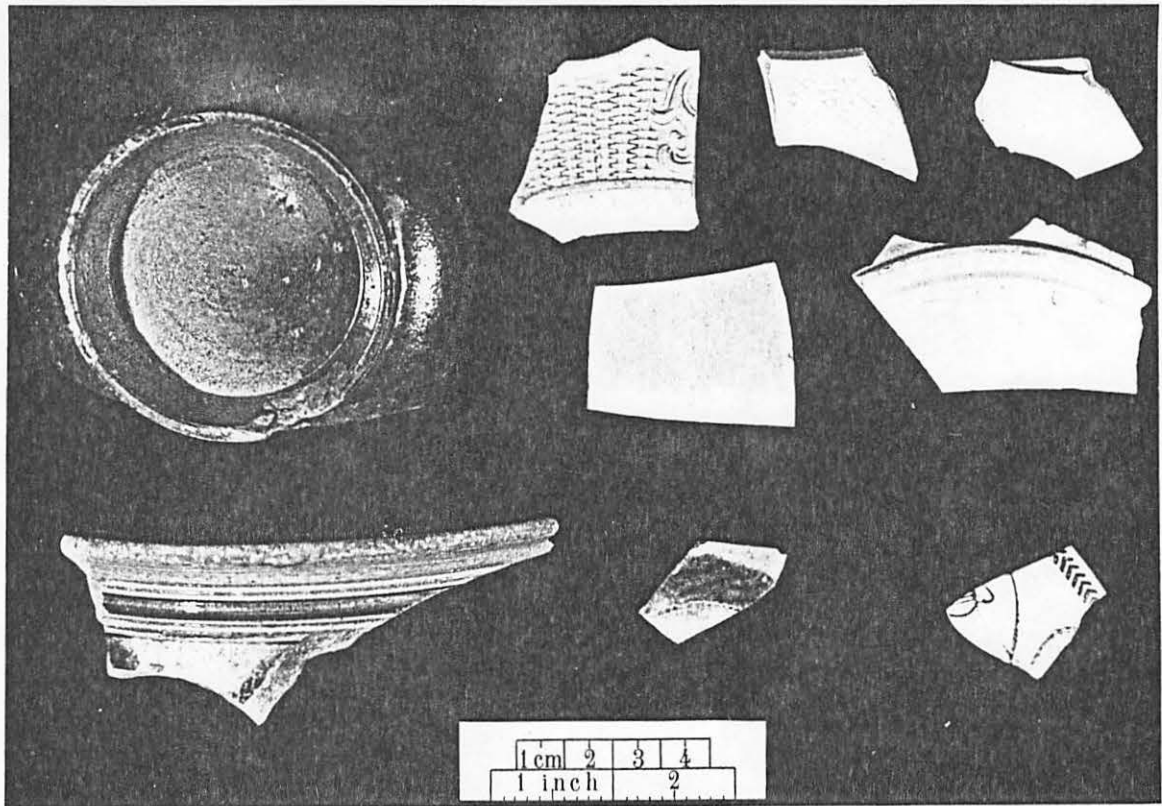


Figure 21. Stonewares: 1st row (vertical) top--base of Nottingham bowl; bottom--rim of Westervald chamberpot; 2nd row top--white salt-glazed (5 pieces); bottom left--Westervald Blue on Grey; right--scratch blue salt-glazed.

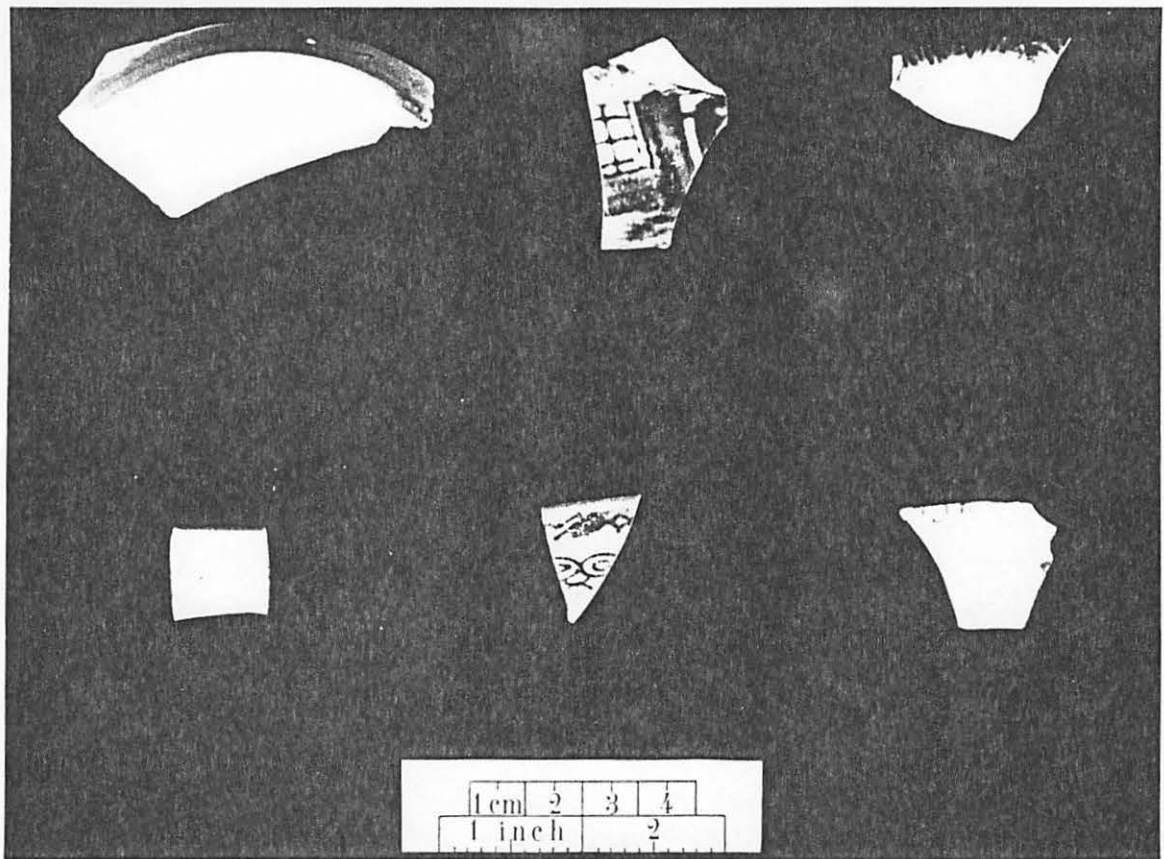


Figure 22. English Pearlware and Chinese Export Porcelain:
Top row--Pearlware; bottom row--porcelain.

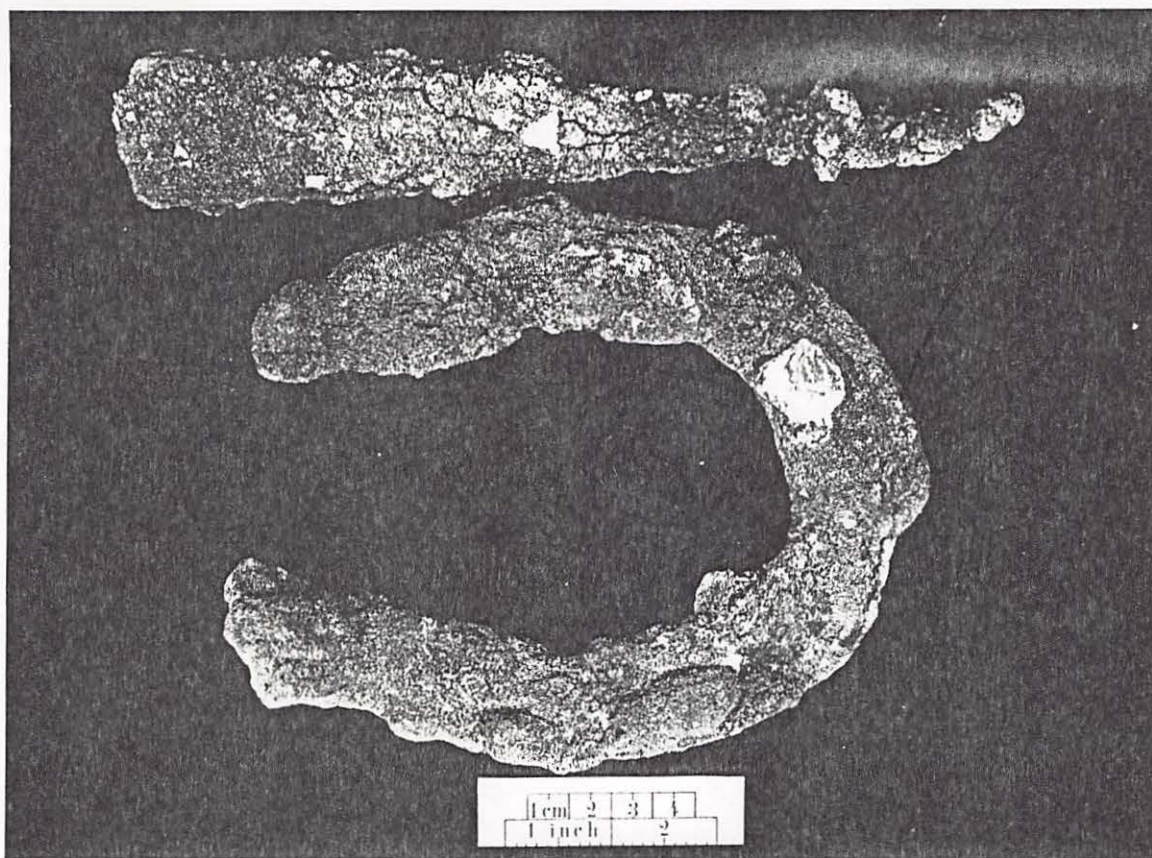


Figure 23. Iron artifacts from SA 16-23: gouge and horseshoe.

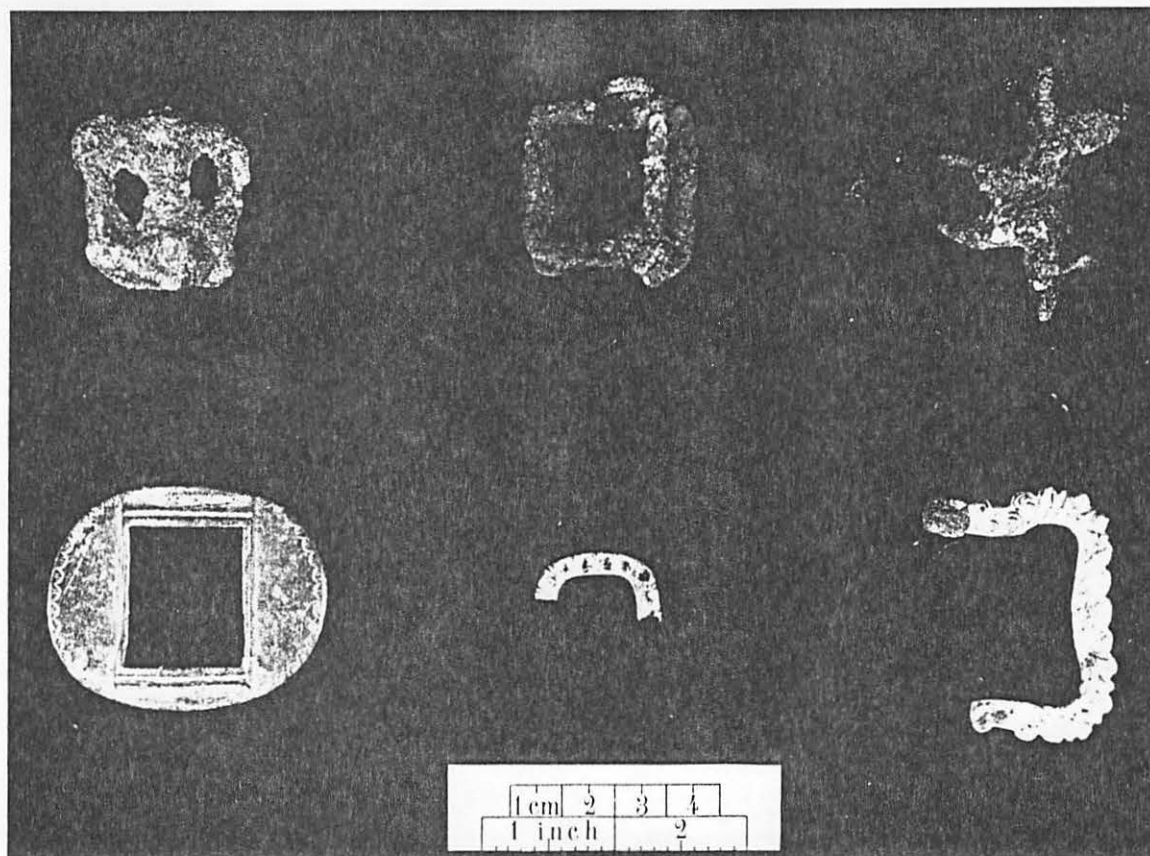


Figure 24. Miscellaneous buckles from SA 16-23:
Top row (left to right)--two iron strap-ends,
one iron shoe buckle part; bottom row--oval
brass with square cut-out, brass with glass
stones, brass shoe buckle.

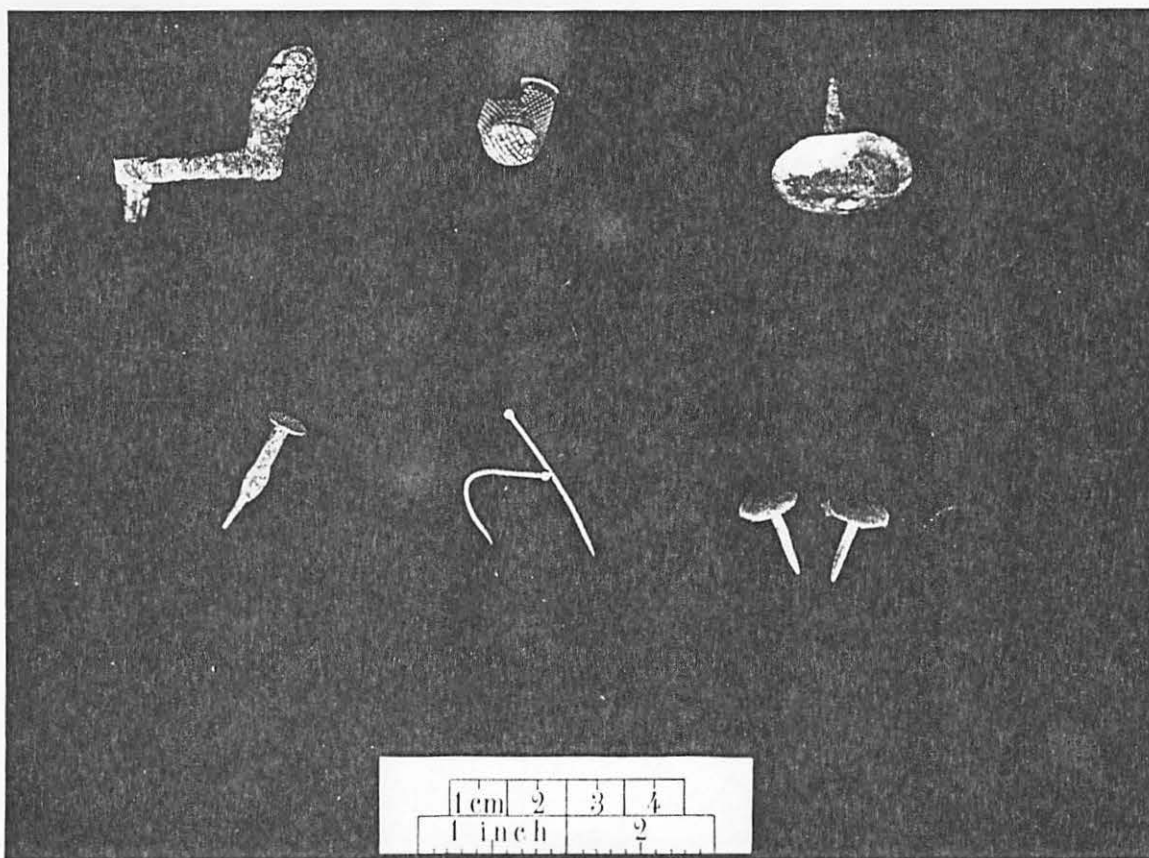


Figure 25. Miscellaneous brass artifacts:
Top row (left to right)--clock part, thimble,
large head tack; bottom row--tack, two common
pins, two small tacks.

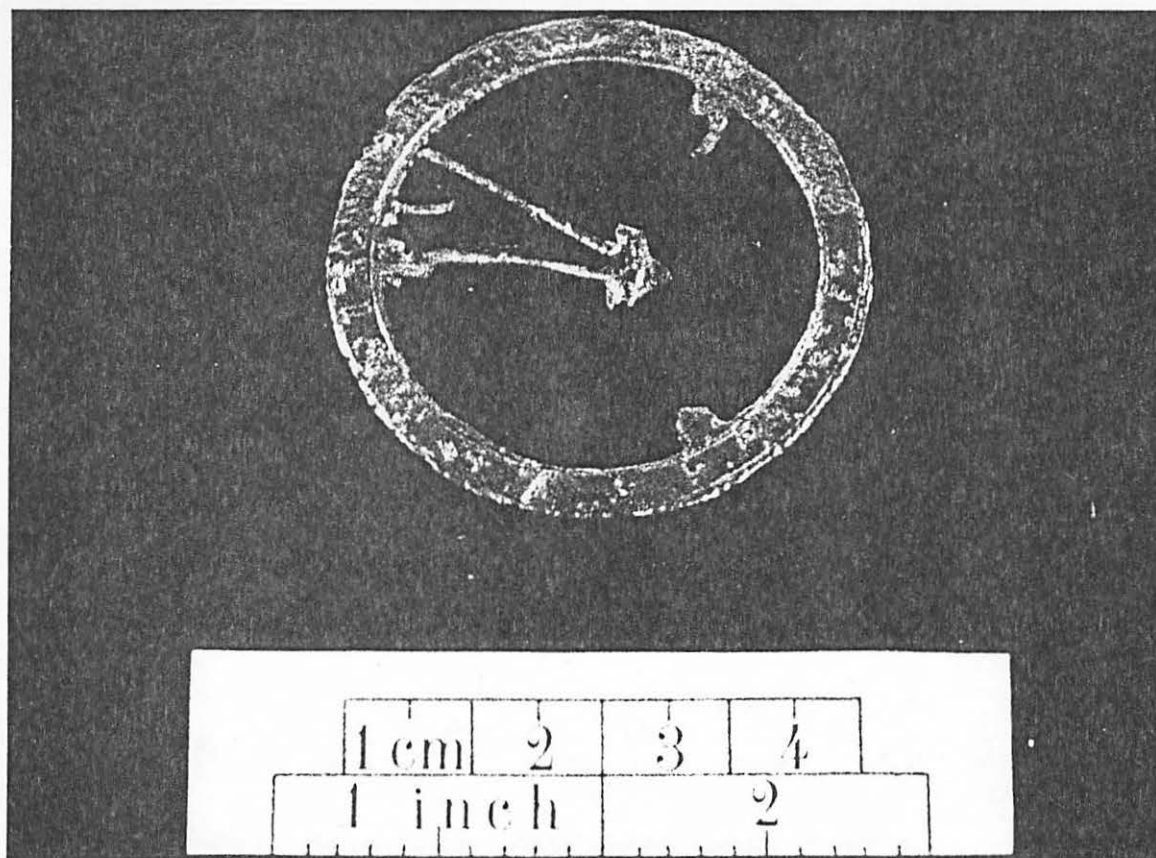


Figure 26. Brass pocket sundial from 1973 excavation.

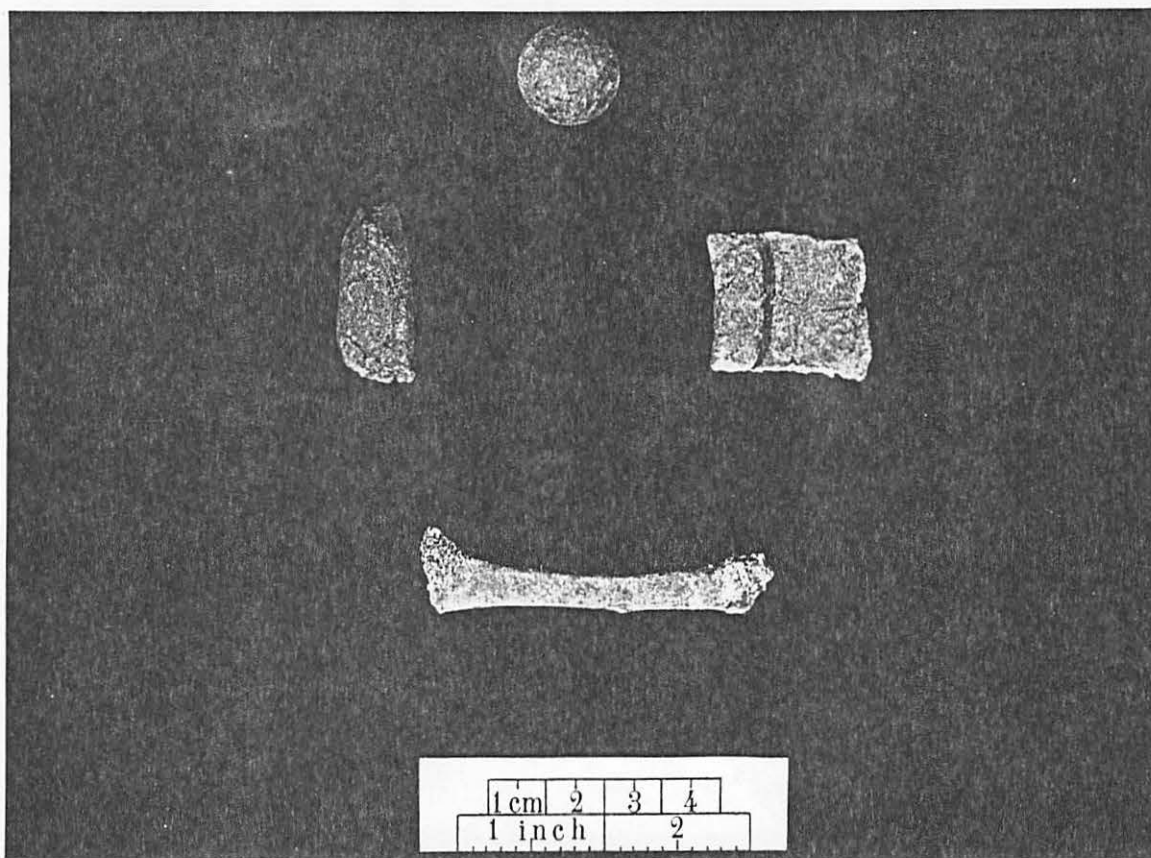


Figure 27. Lead artifacts: Top--musket ball; middle--line or net sinker (left), flint holder; bottom--miscellaneous bar.

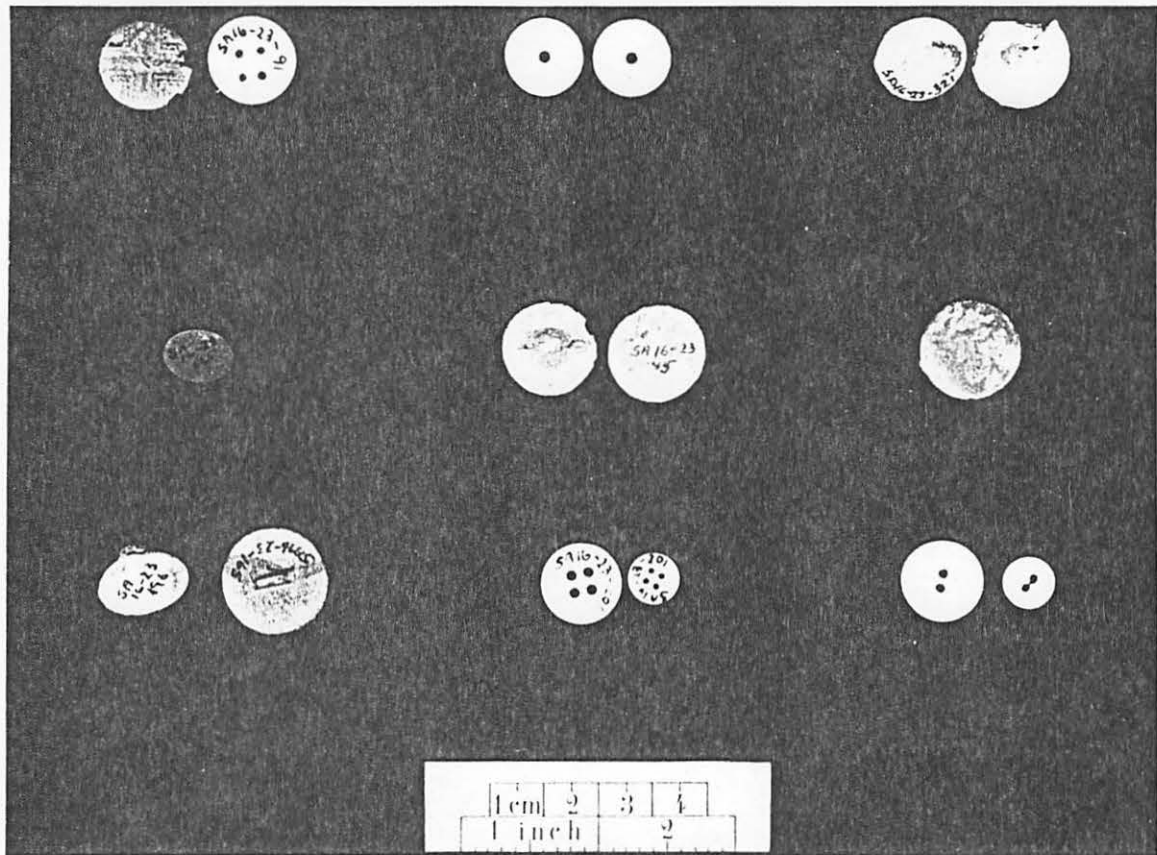


Figure 28. Buttons from SA 16-23:
 Top row (left to right by two's) brass with bone back Type 3 (B),* one-hole bone, white metal Type 8 (C); middle row (L to R) brass Type 9 (G), white metal Type 11 (E), brass Type 7; bottom row (L to R) brass Type 31, 4-hole porcelain, 2-hole shell.

*Letters in parentheses are Olsen typology; numbers are South's types.

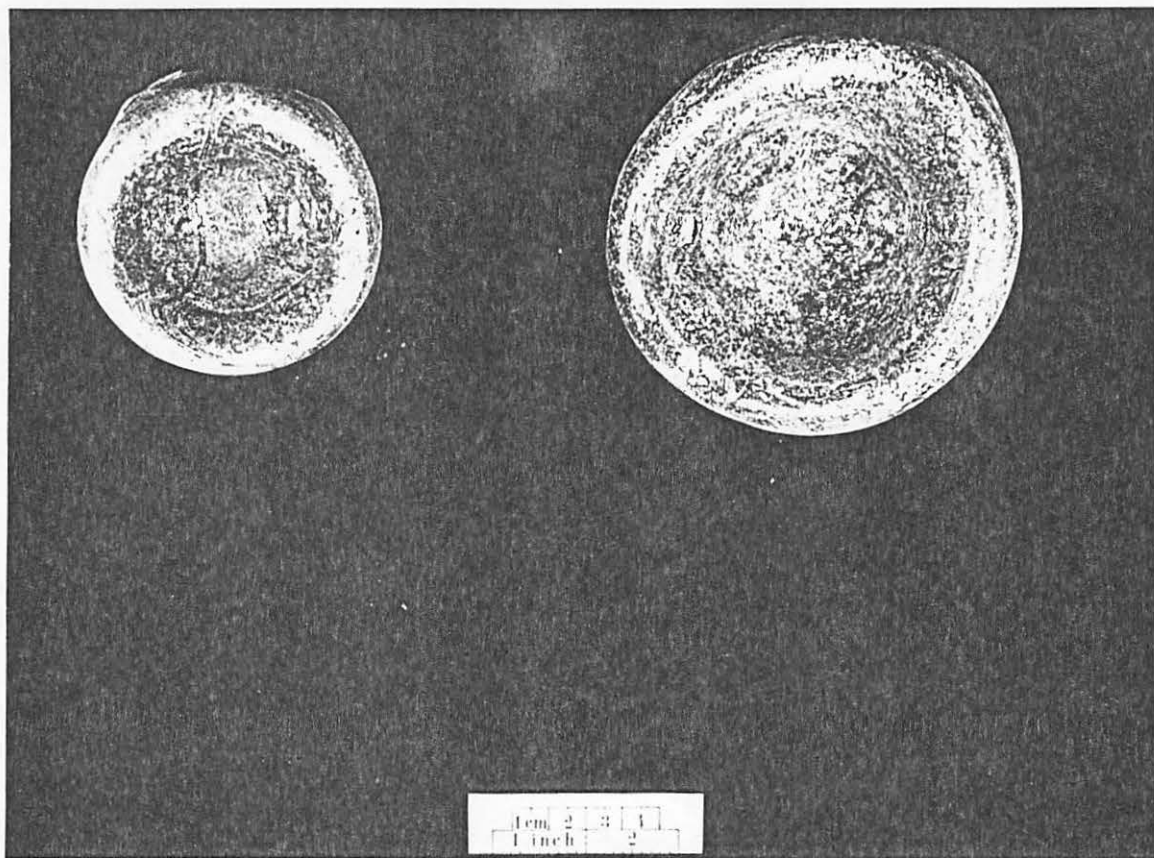


Figure 29. English olive-green bottle bases.

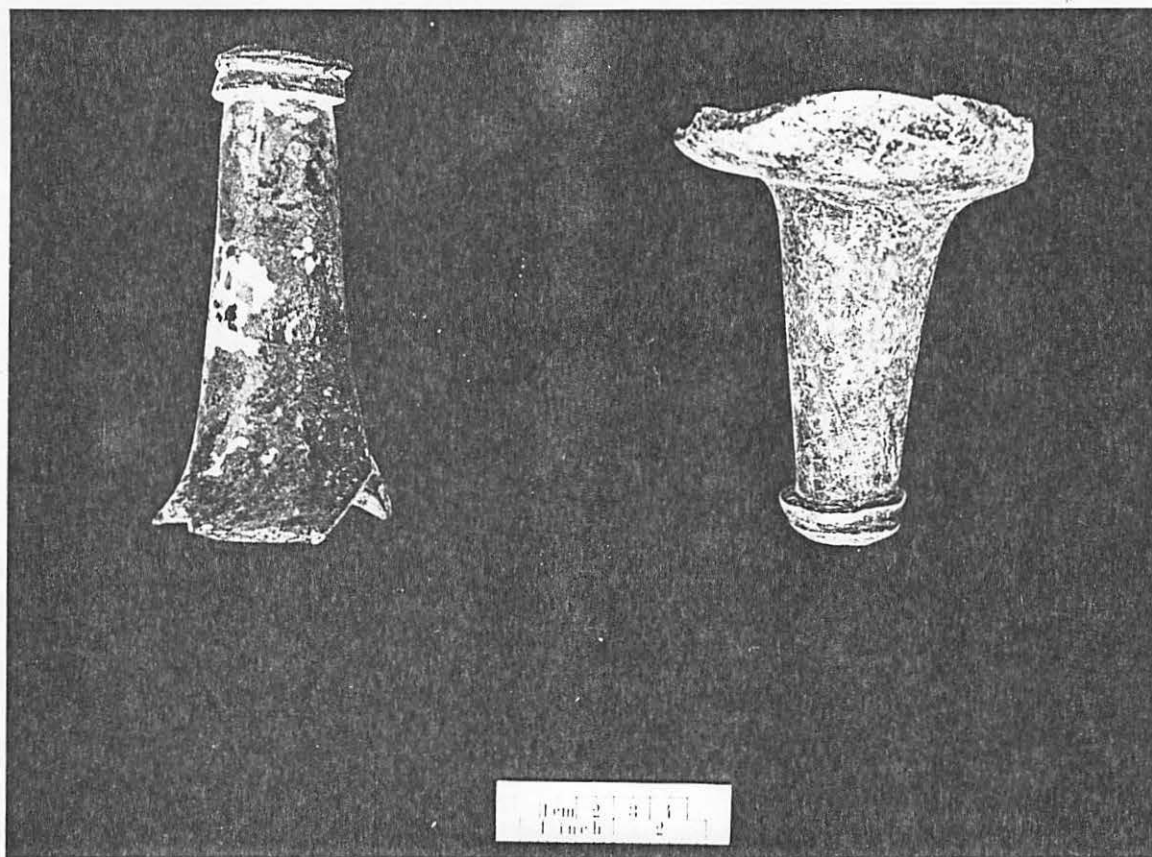


Figure 30. English olive-green bottle necks.

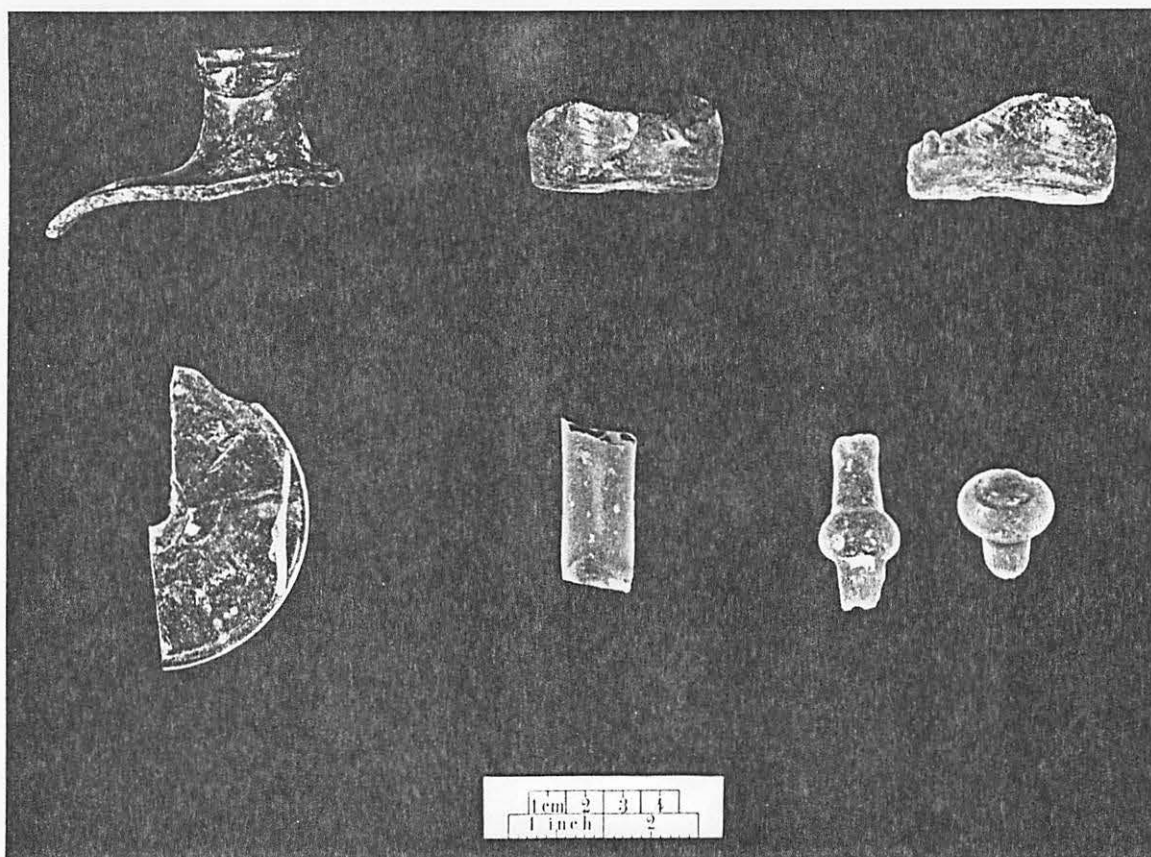


Figure 31. English bottle and tableware glass:
1st row (vertical) top--case bottle neck,
bottom--goblet base; 2nd row top left and
right--tumbler bases; bottom left--thick goblet
stems, right--two goblet stems with knops.

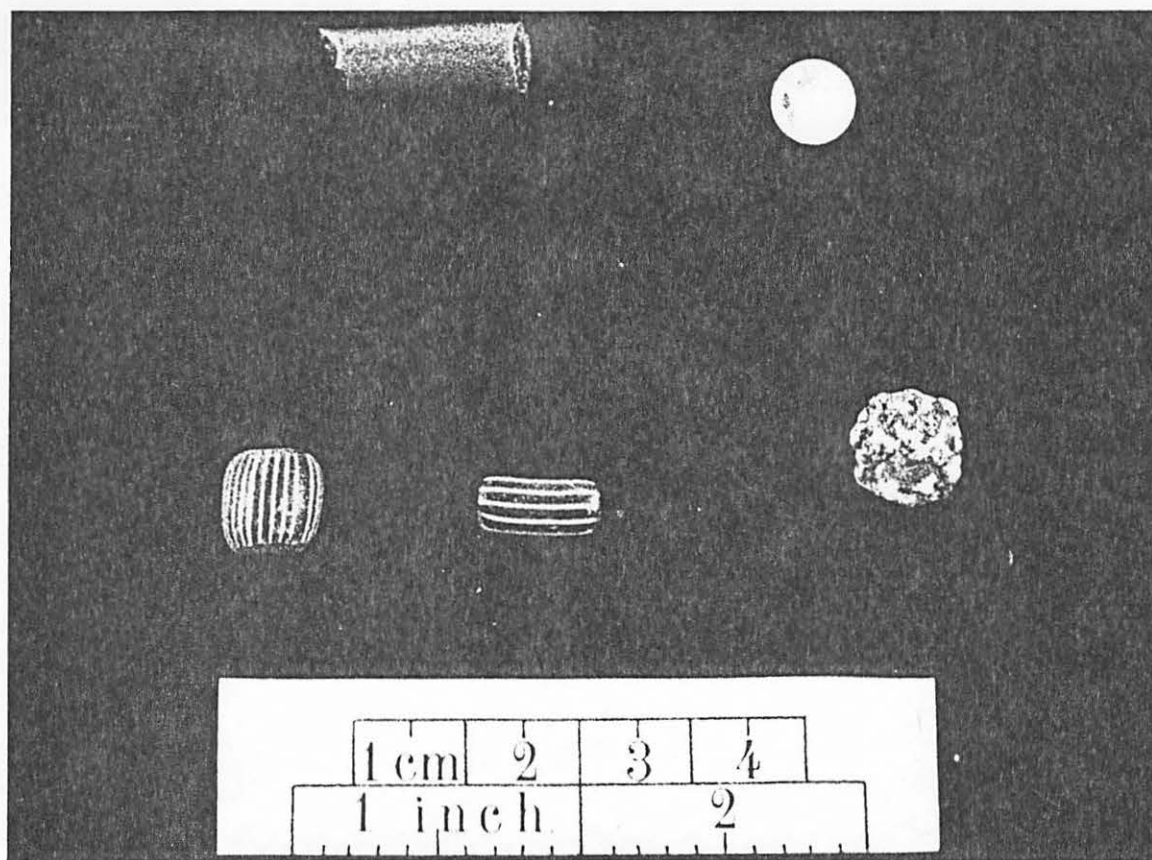


Figure 32. Glass beads from SA 16-23: Top row (left to right)--Cornaline D'Aleppo, clear spherical; bottom row--two striped "cane beads, "raspberry" bead.

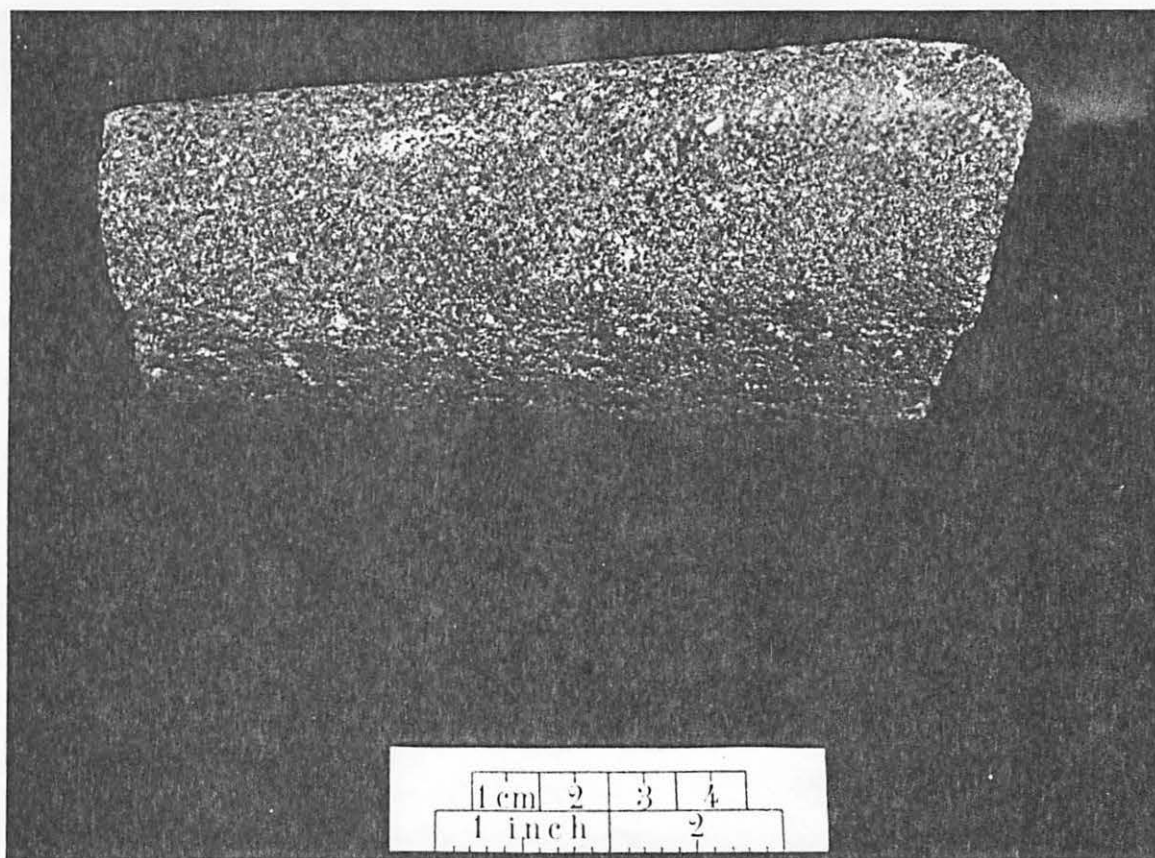


Figure 33. Mano fragment.

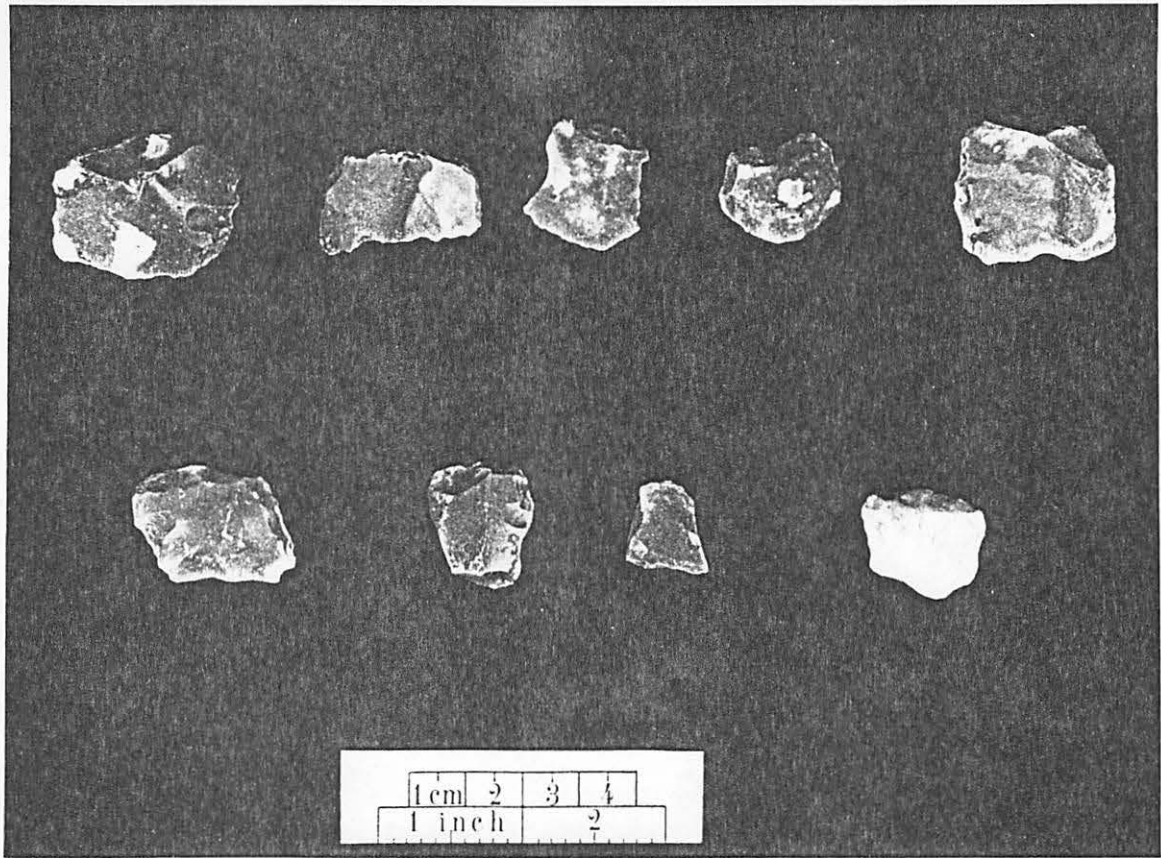


Figure 34. Gunflints from SA 16-23.

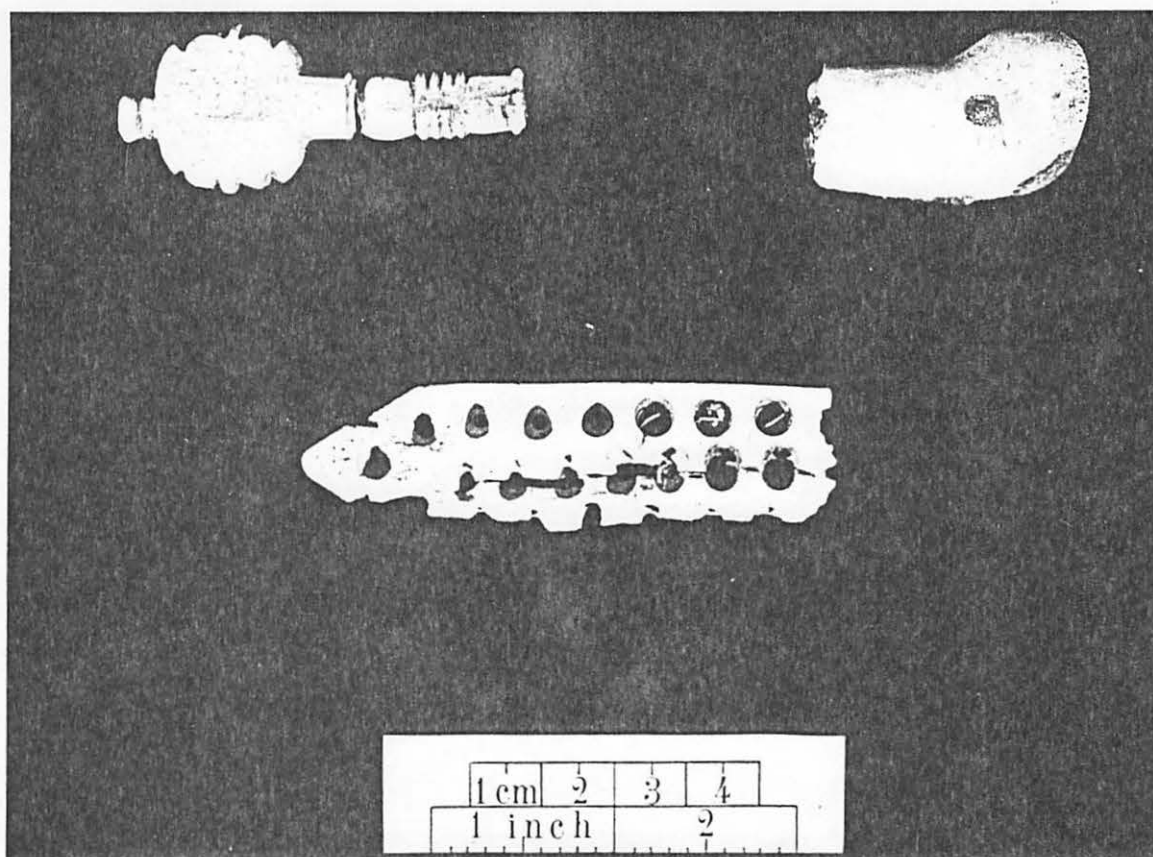


Figure 35. Bone artifacts.

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BIOGRAPHICAL SKETCH

Carl Dempsey McMurray, Jr. was born October 2, 1944 at Ft. Bragg, North Carolina. In 1962 he was graduated from Maynard Evans High School in Orlando, Florida. After a four year tour of duty with the United States Air Force he attended the University of Florida and received a Bachelor of Arts degree in Anthropology in March 1970. He has worked as a field archeologist for national and state agencies in New York, Georgia and Florida. He received a Master of Arts degree in Anthropology from the University of Florida in August 1975. He is married to Judith Angley McMurray, who is also an archeologist. They are the parents of two children: Cristin Angley McMurray and Justin Scutt Warren McMurray.