YELLOW HOUSE CREEK BORROW SITE

This online exhibit presents the results of investigations conducted by Terracon Consultants, Inc. at three archaeological sites at the Yellow House Creek Borrow Site (YHC) located north of Daniel Island in Berkeley County, South Carolina. This exhibit highlights some of the artifacts collected from the site, particularly those with local significance, including Thom's Creek pottery, Santee Lanceolate points, Baked Clay Objects, Colonoware, and historic domestic ceramics.

CREDITS

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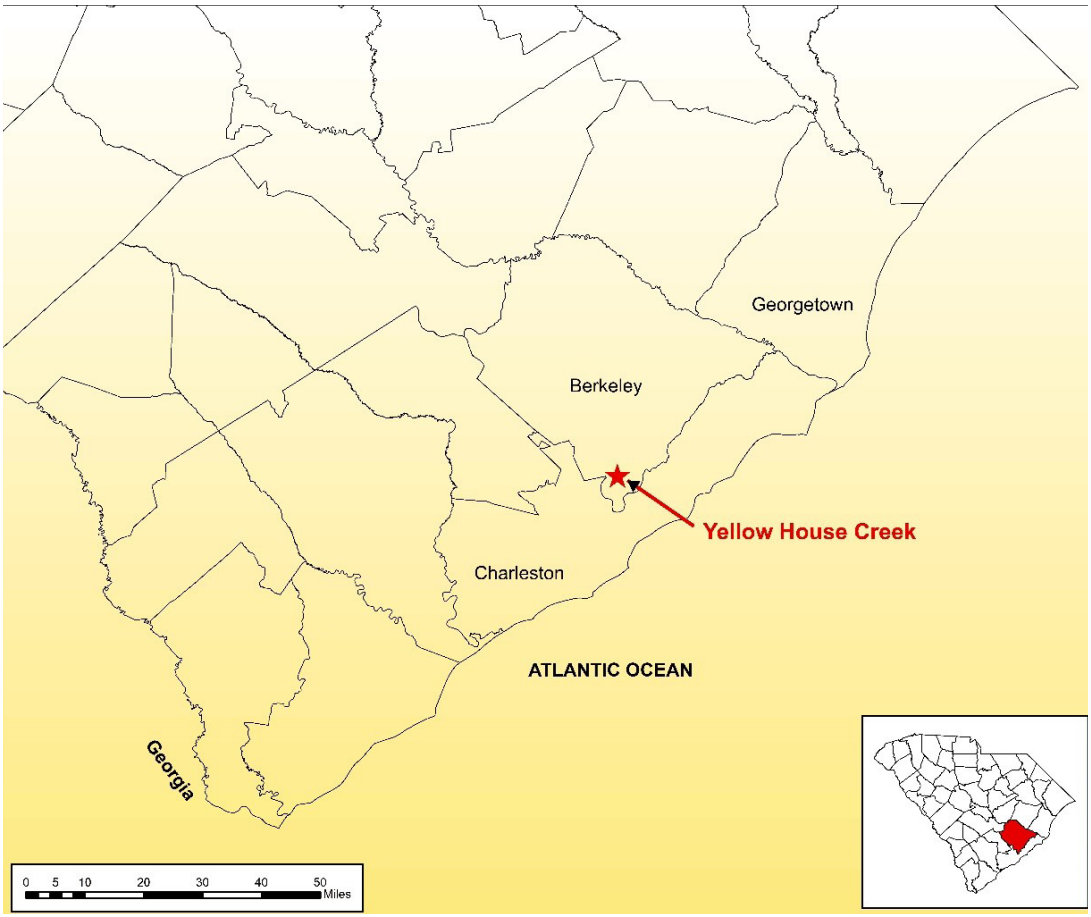
INTRODUCTION

Between March and May 2016, Terracon Consultants, Inc., on behalf of the South Carolina Ports Authority (SCPA), conducted archaeological data recovery excavations at sites 38BK1800, 38BK1801, and 38BK1803/1804 at the Yellow House Creek Borrow Site (YHC) located north of Daniel Island in Berkeley County, South Carolina. The YHC project area was to be used by the SCPA for borrow material (sand). The archaeological investigations, including this exhibit, are mitigation for the potential adverse effects to significant archaeological resources located at the site. During the investigations, over 50,000 prehistoric artifacts and 1,300 historic artifacts were recovered, and 35 features were excavated. As a result of these investigations, we obtained important new information about the Cainhoy Peninsula's prehistoric and historic period inhabitants.

YELLOW HOUSE CREEK BORROW SITE



Location of the Yellow House Creek Borrow Site, Berkeley County, South Carolina

WHAT DO ARCHAEOLOGISTS DO?

Archaeology is the study of past human cultures. By studying the artifacts and food remains that people left behind, archaeologists can piece together information about how they lived, what they ate, how they interacted with each other, and so on. Sometimes, historic records help us interpret the artifacts we collect from historic period sites. Such records can include maps, census records, property and deed records, military records, government documents, and aerial photographs.

Although the historic record can help us understand some past cultures, archaeologists get most of their information from excavating and recording the details of archaeological sites. An archaeological site can be as big as a village or plantation or as small as a temporary resting spot. It can have information about whole communities or single individuals. All that's needed to be considered a site is some physical evidence of past human activity such as an artifact. In addition to artifacts, archaeologists excavate features, which are any alterations to the land made by humans that cannot be picked up and moved, such as structural foundations, walls, hearths, pits, garbage middens, and ditches. Thirty-five features were excavated at YHC.

One important part of recording an archaeological site is knowing where every artifact is located within the site and where they are found in relation to one another. To help record this detailed information, archaeologists follow systematic methods to excavate and recover the artifacts found at a site. Archaeologists are very careful to try and find artifacts in situ (in place) because it provides much more information about the lives and activities of the people who lived there.

YELLOW HOUSE CREEK BORROW SITE

Archaeologists excavating at one of the sites at YHC.

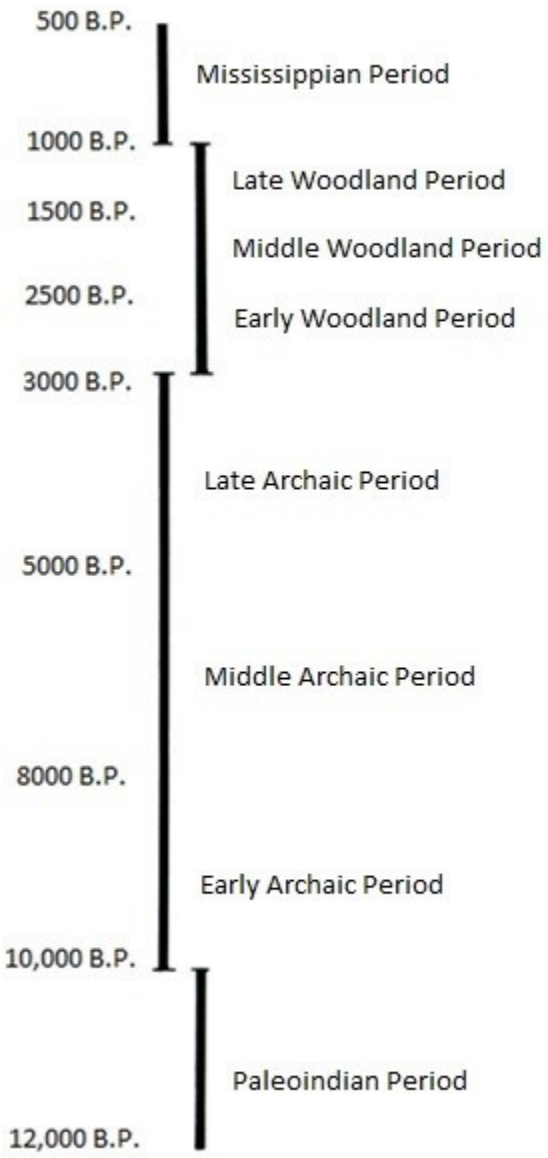
WHAT WE LEARNED FROM YELLOW HOUSE CREEK

As part of the initial research plan, a series of questions was developed to help guide field investigations and artifact analyses at YHC. General topics included:

- determining site function and subsistence practices used during different time periods;
- establishing whether sites were occupied year-round or seasonally;
- refining the local prehistoric ceramic sequence;
- identifying the type of stone tool production carried out at each site;
- determining the sources of stone used in tool manufacture; and
- and examining diachronic change throughout prehistory from about 10,000 to 500 years ago

Prehistoric Occupations - Prehistoric occupations at YHC ranges in age from the Early Archaic (ca. 10,000–8000 years before present [B.P.]) through Mississippian periods (ca. 1000–500 B.P.). During the Early and Middle Archaic periods, the sites consisted of small resource extraction camps (e.g., hunting or nut gathering stations), with artifact assemblages comprised of lithic artifacts. Noteworthy was the recovery of a number of Santee Lanceolate points, which were used by the inhabitants at YHC during the Middle Archaic Period for hunting and butchering activities. The presence of these artifacts offers new data on a point type that has not been well-defined for the region. The first appearance of pottery at the sites occurred during the Late Archaic Period. This pottery, called Thom's Creek, was found to date to around 4,200 B.P. (calibrated to between 2665 and 2915 B.C), which makes it similar in age to Stallings pottery, a ceramic type that has traditionally been considered the earliest pottery in North America. In addition to Thom's Creek pottery, a substantial number of Baked Clay Objects (BCOs) were identified from the Late Archaic deposits, examples of which could be among the oldest in the entire Southeast.

YELLOW HOUSE CREEK BORROW SITE



The Woodland Period saw the first evidence for longer-term occupations at YHC that included hamlets and villages. These site types often appear with increased population, a sedentary lifestyle, and a greater dependence on horticulture and agriculture for subsistence. Multiple types of Late Woodland pottery, including Wilmington, Wando, and Santee, were found at YHC, and appear to have been made and used at the same time, raising questions about the meaning behind the production of these co-occurring types. During the subsequent Mississippian Period, YHC was occupied by people that lived in small farmsteads that were occupied during the late summer through fall. These farmsteads most likely served as satellites to larger nearby Mississippian settlements, providing tribute in exchange for protection and participation in the larger socioeconomic, political, and religious systems.

Historic Occupation

One of the sites at YHC (38BK1801) contained the remains of a planter house occupied during the late eighteenth century. The dense assemblage of historic ceramics, tableware, faunal remains, and architectural debris provide an understanding of planter life on the Cainhoy Peninsula. The presence of luxury European ceramic types, such as porcelain, combined with a low ratio of Colonoware to European historic ceramic artifacts among the assemblage indicate at least a middle socio-economic status for the site's inhabitants. Creamware recovered on site was likely made at nearby John Bartlam's factory, the first creamware factory in America.

YELLOW HOUSE CREEK BORROW SITE

PREHISTORIC INHABITANTS

The earliest human presence at YHC began during the Archaic Period (ca. 10,000–3000 B.P.) and continued through the Woodland and Mississippian periods (ca. 3000–500 B.P.). Archaic people were hunter-gatherers who lived in small groups and moved from place to place. They lived in simple shelters that allowed for protection from the elements, and hunted, fished, and gathered wild plant foods for subsistence.

The Archaic Period is split into three sub-periods: Early Archaic, Middle Archaic, and Late Archaic. At the end of the Pleistocene, major environmental changes transformed the landscape, which resulted in adaptations in human settlement patterns, subsistence strategies, and stone tool technology. As the climate warmed, population size increased, and cultures became more complex. Technology became more diversified with the introduction of groundstone woodworking and plant processing tools, carved stone bowls, atlatl weights, and stone pipes and beads. During the latter half of the Late Archaic Period, pottery was introduced into the Southeastern United States, which changed the way in which people prepared and stored food (Anderson and Joseph 1988:102; Benson 2006:35; Goodyear 1974).

During the Late Archaic Period (ca. 5000–3000 B.P.) groups became more sedentary and people gathered in large numbers along major rivers in the spring and early summer. These large gathering areas may have been used for ritual feasting and other communal activities. From these aggregation sites, people gathered large amounts of shellfish, a food sources that had not been previously exploited. They also ate anadromous and freshwater fish, white-tailed deer, and small mammals, birds, and turtles. In the late summer and fall, people lived in smaller base camps located along large tributaries, eating white-tailed deer, turkey, and nuts. In the late fall and winter, populations dispersed into the uplands living in small, semiautonomous groups (Sassaman 1995; Sassaman et al. 1990).

The Woodland Period (ca. 3000–1000 B.P.) saw a number of important developments in the region, including a gradual increase in population and sedentism; the introduction of bow and arrow technology; the intensification of horticulture; and the establishment of long-distance trading networks. Like the Archaic Period, the Woodland Period is also split into three sub-categories: the Early Woodland, Middle Woodland, and Late Woodland periods.

Similar to the Late Archaic, Early Woodland settlements became more permanent, but they were still occupied seasonally. Groups remained relatively small during this time and people subsisted to a greater extent on native and domesticated plants. The Middle Woodland Period is defined by a time of significant social change. Groups from the Middle Woodland Period moved to the coast and lived in somewhat larger, semi-permanent villages adjacent to tidal creeks and marshes in the winter and summer. From these locations they would fish, gather shellfish, and exploit a variety of other marine and estuarine resources. In the fall, small groups moved inland to terraces adjacent to swamps to gather nuts and hunt white-tailed deer (Cantley and Cable 2002:29; Trinkley 1989:78-79). Horticulture increased in importance during this period, with wild plants such as maygrass, goosefoot, knotweed, and sunflower being harvested. Maize agriculture became more important and prevalent in the Late Woodland and Mississippian periods. Evidence of small triangular projectile points from this period suggests that people started using bow and arrow technology. Fortified settlements first appeared during this period and were likely constructed in response to warfare. Settlements were still small, and both circular and rectangular shelters were built.

The final period of prehistoric occupation at YHC is the Mississippian Period (ca. 1000–500 B.P.). The Mississippian Period saw dramatic changes across most the Southeastern United States. Mississippian societies were complex sociopolitical entities that were based at mound centers, usually located in the floodplains along major river systems. Smaller hamlets and farmsteads dotted the landscape around villages and provided food, tribute, and services to the chief in return for protection and inclusion in the sociopolitical system. While Mississippian subsistence was

YELLOW HOUSE CREEK BORROW SITE

focused to a large extent on intensive maize agriculture, hunting and gathering of aquatic and terrestrial resources supplemented Mississippian diets (Anderson 1994). Mississippian shelters were usually small rectangular or circular-like structures with poles set in holes or trenches. Walls were similar to that of the wattle-and-daub method and had thatch roofs with holes to allow smoke to escape from an indoor hearth.

The Mississippian Period is most likely what comes to mind when you think of prehistoric Native Americans, as the end of this period coincides with historical accounts of the arrival of European explorers and settlers to North America (A.D. 1521–1670). Explorations of the South Carolina coast and contact between Europeans and Native Americans began in 1521 with the expedition of Spaniards Francisco Gordillo and his cousin, Pedro de Quexo. When the settlers first arrived, the area was inhabited by the Etiwan and the Wando tribes. The first documented contact between Europeans and Native Americans in this area occurred in 1566, when Juan Pardo led an expedition from Fort San Felipe at Port Royal in Beaufort County, South Carolina to Guatari (Wateree), then located in western North Carolina (Wallace 1961:21). Initially the settlers traded with the Natives for items such as food, tobacco, and ceramic vessels, but soon a trade for Native slaves was established. The slaves were mostly sent to the Caribbean, though some were sent to the northern colonies. The explorers also carried diseases such as small pox for which the Native Americans had no immunity. As a result of disease and warfare, the Native population had severely declined by the early 1700s.

PREHISTORIC ARTIFACT TYPES

Prehistoric artifact types that survive in the archaeological record are mainly limited to lithic artifacts and pieces of pottery. That's not to say prehistoric peoples did not also use organic items in their daily lives, but such organic items often decompose in the soils over time and it is only in specific soil conditions that they are preserved. At YHC, prehistoric artifacts mainly consisted of lithics and pottery, although small fragments of bone, charred wood, and seeds were also recovered.

Projectile points from Yellow House Creek: (a) Badin Pentagonal, (b) Woodland Stemmed, (c) Morrow Mountain, (d & e) Mississippian/ Woodland triangular, (f, h, & i) Santee Lanceolate, and (g & j) Small Savannah River points.

YELLOW HOUSE CREEK BORROW SITE

Top Row: Mack point (left) and Bascom point (right). Second Row: Quartzite hammerstones. Third Row: Granite winged bannerstone fragments. Bottom Row: Celt.

Lithic Artifacts

Lithic is a term meaning relating to or composed of stone. Lithic artifacts include stone tools and the waste produced during their manufacture and maintenance, referred to as lithic debitage. The most common type of lithic debitage is a flake, a thin piece of rock removed from a core or unfinished stone tool during lithic tool manufacture. Bifaces are stone tools that have opposing chipped surfaces that were used as double-edged cutting implements such as knives or projectile points. A projectile point is a type of biface that could be hafted and propelled through the air, such as a spear, dart, or arrowhead. Unifaces are stone tools that are shaped on only a single side, typically to create a steep edge often used for scraping wood or animal hide. Groundstone tools are those made through a labor-intensive process of pecking, grinding, and sometimes polishing. Celts (an ungrooved axe), like the one depicted on the lower right, are examples of groundstone tools.

The material that lithic tools were made of varied based on the stone's hardness, the availability of the material (either procured directly or through trade), and its capacity to be worked into a tool, either through knapping (the process of flaking lithic material into specific tools) or grinding. Several types of knappable raw materials that were recovered at YHC include chert, quartz, quartzite, orthoquartzite, and rhyolite. Some of these materials came from hundreds of miles away, for example rhyolite, which came from the Uwharrie Mountains of North Carolina.

Some types of lithic tools that archaeologists recover can be indicative of specific time periods, particularly projectile points whose styles tended to change through time. For example, Paleoindian spear points are distinctive due to their large size and lanceolate shape, which were designed for the hunting of large game such as mammoth and mastodon. Projectile points from the Archaic Period ranged from notched to stemmed points that were used as spear points and atlatl darts. Woodland and Mississippian points are noticeably smaller in size than early forms and are primarily triangular in shape. These mostly represent arrowheads.

Of particular interest at YHC was the discovery of three Middle Archaic Santee Lanceolate points. Points resembling Santee Lanceolates have been reported from the Mattassee Lake site in Berkeley County and as isolated finds throughout the Coastal Plain (Anderson et al. 1982:162). These points are also thought to be contemporaneous with Guilford points (ca. 5500 B.P.), although few have been recovered from intact soil deposits to definitively support this claim. Santee Lanceolate points are specific to the region and usually are made from locally available raw material sources such as orthoquartzite, and occasionally chert. Other types of lithic artifacts found at YHC include tools such as scrapers, utilized flakes, abraders, adzes, celts, drills, hammerstones, and spokeshaves, as well as debitage and fire-cracked rock. Also found were several fragments of a bannerstone made from granite whose source was likely in the Piedmont. While the function of bannerstones is debated, these items are elaborately carved and polished, and are

YELLOW HOUSE CREEK BORROW SITE

usually made from exotic, highly decorative materials that are typically found far from a site. Although their function is unknown, they almost surely had symbolic or ceremonial importance, and may have served as markers of a person's status in their society.

Santee Lanceolate Points found at YHC

Partially reconstructed corn cob impressed vessel, probably dating to the Mississippian Period.

Santee Lanceolate

Santee Lanceolate points are lanceolate-shaped points that have a slightly contracting or fishtail-like base. They are typically manufactured from orthoquartzite and have been found in the lower Santee River drainage and other parts of the Coastal Plain of South Carolina. Examples made of Coastal Plain chert have been found in the Central Savannah River Valley of Allendale and Barnwell counties. Points resembling Santee Lanceolate points were first reported from the Mattassee Lake site in Berkeley County, South Carolina (Anderson et al. 1982:162).

Although Santee Lanceolate points are believed to have been made during the Middle Archaic Period, they closely resemble Paleoindian points but are much thicker in cross section, are more crudely made, and are almost always made of orthoquartzite. The presence of orthoquartzite is variable throughout the coastal region and was not typically considered the raw material of choice. Santee Lanceolate points are thought to be contemporaneous with Middle Archaic Guilford points, although few have been recovered from intact stratified deposits (Anderson et al. 1982).

Why are Santee Lanceolate points important?

The recovery of three Santee Lanceolate points at YHC is of particular interest to archaeologists because we have so little information about them or the people who created and used them. Although many of the points have been found on the ground surface, those found in stratigraphic contexts appear to indicate that they date to the Middle and Late Archaic Period (Anderson et al. 1982). The majority of the recovered points are made of orthoquartzite. The nearest sources of this material to YHC are outcrops in the lower Santee River Basin around Francis Marion National Forest and in the Savannah River Valley (Anderson el al. 1982: 120-122; Goodyear and Charles 1984). The locations of these sources correlate with the distribution of the reported locations of these points, particularly near the lower Santee River drainage.

YELLOW HOUSE CREEK BORROW SITE

Prehistoric Pottery

The earliest evidence for the manufacture of pottery in North America dates to the Late Archaic Period in the Southeastern U.S. Different pottery manufacture techniques were developed in three distinct regions of the Southeast — peninsular Florida, the South Atlantic Slope, and the Midsouth. The earliest known pottery has been found in South Carolina and Georgia, and dates to around 4200 B.P.; however, it wasn't until around 3000 years ago that pottery was more widely used in the region. The manufacture of pottery was a significant development in prehistoric cooking technology (Sassaman 1993:2-13). Thom's Creek and Stallings are the two earliest known pottery types in North America, dating from about 4200–3000 B.P. Over 2,000 pieces of Thom's Creek pottery were recovered at YHC; no Stallings pottery was recovered. Other prehistoric pottery types recovered at YHC include New River pottery from the Early Woodland Period; Deptford pottery from the Middle Woodland Period; Wando, Wilmington, McClellanville, and Santee pottery types from the Late Woodland Period; and Savannah, St. Catherine's, Pee Dee, and Irene pottery from the Mississippian Period.

Thom's Creek finger-pinched pottery found at Yellow House Creek.

Thom's Creek Pottery

Thom's Creek is a type of prehistoric pottery that dates from around 4200–3200 B.P. It was first identified at the Thom's Creek Site in Lexington County, South Carolina (Calmes 1968). Thom's Creek pottery is often found in association with Stallings pottery, which has long been considered to be the oldest pottery in North America. Thom's Creek pottery shares many of the same design elements found on Stallings ceramics and both types co-occur at a number of sites, particularly at shell ring sites along the South Carolina coast. Thom's Creek vessels consist of shallow bowls or deep, open jars, with flat to slightly rounded bases. These vessels were made by coiling or hand-modeling the clay. Although many vessels were undecorated, surface treatments became increasingly popular through time. Types of surface treatments include a variety of punctate designs often applied with reeds or shell, as well as finger pinched, fingernail impressed, incised, and designs stamped on the surface using sticks or dowels.

Thom's Creek pottery at Yellow House Creek

Over 2,000 pieces of Thom's Creek pottery was identified at YHC. This represents the earliest evidence of pottery production in the project area. The Thom's Creek assemblage consists of fine to medium sand-tempered sherds with surface treatments that include punctate, finger pinched, incised, and combed. The punctate designs on Thom's Creek pottery were created using a dowel, reed, or shell. The distribution of Thom's Creek sherds recovered at YHC suggests that pottery manufacture and use was more pronounced in the northern portion of the project area during the Late Archaic Period. The predominance of vessels with straight and excurvate rims with flat lips indicates that Late Archaic vessels at the site were not used primarily for storage, but rather as serving vessels.

YELLOW HOUSE CREEK BORROW SITE

Baked Clay Objects (BCOs)

Baked Clay Objects (BCOs) are pieces of hand-molded fired clay that occur in a variety of shapes. They are thought to have been produced to serve as a component of the cooking technology of Late Archaic and perhaps Early Woodland peoples. BCOs were used to cook food through a process known as indirect heating. The BCOs were first heated by a fire and once hot were either added to water in a vessel or container to boil or were used in a pit to help roast, bake, or steam food items such as venison or shellfish. Variation in the sizes and shapes of these objects affected the amount and rate of heat given off to cook different types of food. BCOs in the Southeast have been found mostly in South Carolina, but also occur in eastern Georgia and a portion of the northeast Florida coast.

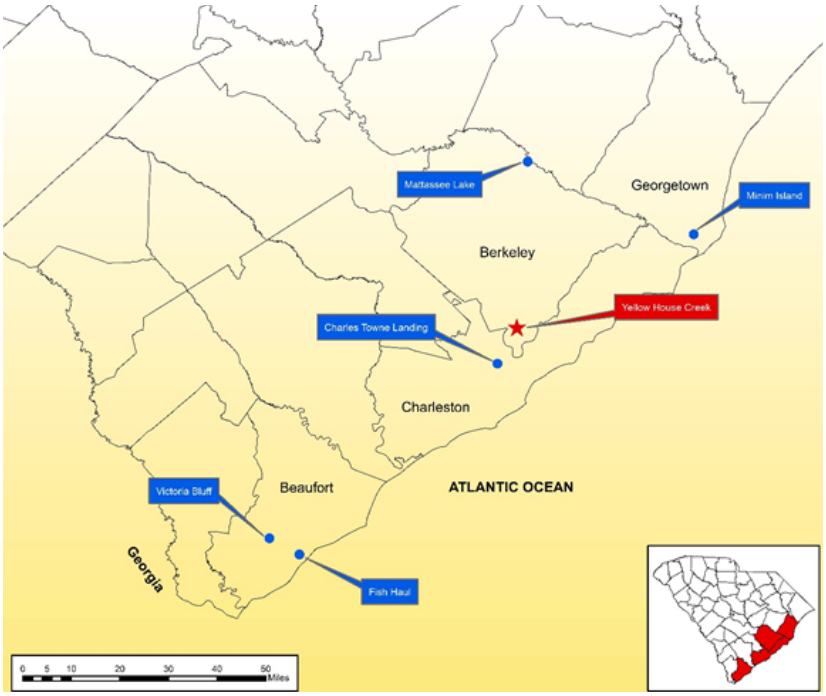
BCOs are spherical, ovoid, or amorphous-shaped golf ball to soft ball sized fired clay objects that were frequently decorated with punctations or grooves. BCOs are important because they can be used to address questions related to site function, subsistence practices, cooking technology, and the development of increased social complexity during the Late Archaic Period.

Although the precise function of baked clay objects is not known with certainty, these items have frequently been interpreted as being a part of the cooking technology of Late Archaic peoples (Sassaman 1993; Thompson and Worth 2011). One interpretation is that BCOs may have been used as a substitute for cooking/boiling stones in areas that do not contain natural sources of suitable stone. BCOs would be heated over a fire and then placed in a cooking vessel to help heat the liquid contents. Another suggestion is that they may have been used to bake or steam food in cooking pits. Steamed oysters would have made a delicious and nutritious meal, and oyster shell was found in abundance in the archaeological deposits at YHC. The different sizes and shapes of BCOs may affect the amount and rate of heat produced to help cook different types of food.

BCO fragments recovered from YHC.

Many BCOs found along the Southeastern Atlantic Coastal Plain are found in contexts that include both Stallings and Thom's Creek pottery. Thus, the use of BCOs for indirect cooking is contemporaneous with the initial appearance of pottery in the region. A traditional interpretation is that BCOs initially coincide with the introduction of Stallings plain pottery and diminish in abundance with the introduction of decorated pottery. Information from YHC contradicts this claim, with BCOs being found in association with decorated Thom's Creek pottery that dates to the beginnings of pottery production in the area (ca. 4200 B.P.). Although some BCOs are found with Stallings fiber-tempered pottery, BCOs themselves rarely have fiber tempering. The use and type of temper in the production of BCOs appears to vary by region. If BCOs were used for cooking, then sand, grit, and clay particles (grog) would have been the most effective tempering agents. Other materials such as limestone or shell would have been less effective since such tempers leave voids in the paste and decrease their viability for retaining heat.

YELLOW HOUSE CREEK BORROW SITE



Other major archaeological sites in SC where BCOs were found.

BCOs recovered from YHC. Left and right: BCOs with punctations on the surface; Center: grooved BCO.

Where else have BCOs been found?

BCOs have been found at a number of sites across the Southeastern United States, most frequently occurring in the Mississippi River Valley, the Gulf Coast, and the Atlantic Coastal Plain regions. Along the Atlantic Coast, BCOs have been found from northern Florida to the northern coast of South Carolina in Georgetown County (Espenshade and Brockington 1989:267). In South Carolina, BCOs have been found in Allendale, Beaufort, Berkeley, Charleston, Clarendon, Dorchester, and Georgetown counties. The vast majority of BCOs are fragmentary and complete examples are rare. Most sites on the Lower Coastal Plain that contain BCOs have a comparatively small number of them, usually less than 10. Sites with more than 100 BCOs are rare. YHC contained more than 520 BCO and BCO fragments, putting it second only to site 38BU2 located on Spring Island in Beaufort County. The BCOs found at YHC share similar characteristics with those from the nearby Mattassee Lake, Minim Island, and Charles Towne Landing sites.

Baked Clay Objects at Yellow House Creek

A total of 485 BCOs and BCO fragments were found at YHC. Examination of the type, surface treatment, and distribution of BCOs shows that there is very little variation in design and form in the assemblage. The majority of BCOs in the project area were discoidal and amorphous in shape, with biscuit-shaped, melon-shaped, and spherical forms being less common. BCOs most often had reed or solid punctations on their surface, with other treatments such as grooved, incised, or simple stamped being less common.

The majority of BCOs were found in the northern portion of the project area and the frequency of BCO distribution tends to the south. This pattern follows other evidence from the artifact data that indicate more intensive use of the northern portion of the site during the Late Archaic Period than the southern portion. Moreover, the average depth at which BCOs were found is lower in the stratigraphic profile than that of pottery, indicating that some BCOs could possibly predate the use of ceramic technology. The BCOs at YHC appear to have been used as one component of the cooking technology, specifically as a means of indirect cooking

YELLOW HOUSE CREEK BORROW SITE

Cenex, Price, and Maxwell 1710 Map of North America with Charleston and Barbados outlined in red.

HISTORIC PERIOD INHABITANTS

English interest in settling the Carolinas was first proposed to the Lords Proprietors of Carolina in 1663 by Barbadian planters. After some initial unsuccessful settlement attempts, the first permanent settlement in South Carolina was established in 1670. Located at the confluence of the Ashley and Cooper rivers, the town was called Charles Town. Charles Town became the seat of the colonial government by 1680. By the late 1600s, Europeans had settled along the Cooper and Ashley rivers (Duff 2016).

Charleston quickly became the commercial center of the colony, delaying development in other regions of South Carolina. Charleston was the center of trade for the British Empire, with the "golden years" of commerce lasting from the 1730s to the 1820s, allowing for quick profits for those that planted crops such as rice. Much of the success of the cash crop economies relied upon slave labor. Europeans comprised the majority of the colony's population during early settlement; however, by the early 1700s, the number of Africans surpassed that of European colonists. European colonists largely consisted of British, French Huguenots, and Scots-Irish settlers. In 1708, approximately 3,900 white freemen, women, and children, 120 white servants, 4,100 African slaves, and 1,400 Indian slaves lived in South Carolina. During this time, more African slaves came through the port of Charleston than any other place on the continent (Fick 1992:10).

During the colony's early years, South Carolina was comprised of three counties — Craven, Berkeley, and Colleton. The settlement of Berkeley County occurred soon after the founding of Charleston. A large majority of settlements were placed along the rivers and early communities developed near Goose Creek, Orange Quarter, and Jamestown, immediately upriver from the Charleston Peninsula. The area was framed by tidally-influenced rivers that provided the means for growing crops and facilitated their transport to Charleston. In 1706, the Church Act was established due to influence of the English Barbadians and the region was divided into parishes. The YHC project area was located in the St. Thomas and St. Denis parishes, which was formerly the Orange Quarter. St. Thomas Parish was created for English speaking Anglican worshipers, while St. Denis was created for the French speaking community.

The economy in Berkeley County was typical of the lowcountry, which mainly revolved around agricultural ventures. Rice and indigo were two of the staple crops of early settlers that stimulated the export economy through the Charleston markets. South Carolina became the British Empire's major producer of indigo dye despite its poor quality due to improper processing (Edgar 1998:146-149; Fick 1992:14). Indigo crops became a supplemental crop

YELLOW HOUSE CREEK BORROW SITE

to rice during the latter portion of the seventeenth century. Seventeenth century rice farms in South Carolina relied on a fresh water irrigation system. After 1750, however, an irrigation system known as the tidal culture method was developed, which resulted in farmers abandoning inland swamp plantations for tidal cultivation that contained dikes and dams (Fick 1992:13). By the late 1700s, rice exports from South Carolina exceeded 70 million pounds annually. However, the economy of the Charleston area began to shift from rice to cotton production in the late 1700s with the invention of the cotton gin. Production of indigo also slowed during this period and was primarily only grown for personal use. Timber, cattle, and naval stores also contributed to the Berkeley County economy in the late eighteenth and early nineteenth centuries.

Many plantation owners lived in both a plantation house in the country and a townhome located in the City of Charleston. The influential Beresford and Moore families likely lived within the YHC project area. Richard Beresford, an English-Barbadian, acquired almost 5,000 acres in the St. Thomas and Christ Church parishes. During the proprietary period, he served in influential positions and was made the Lords Proprietors Deputy for Carolina in 1708. His plantation, located on Daniel Island, was known as Beresford Hall. As early as 1711, the Beresford family lived northeast of the site on what is now Beresford Creek and continued to live there until 1775 (Crisp et al. 1711; Mouzon 1775). A 1735 plat shows that they expanded their holdings to the banks of Cooper River, just north of "Mr. Moore's Land" (SCDAH 1735). After Richard Beresford's death in 1722, one-third of his estate was put aside to establish a free school located near Cainhoy, which became known as the Beresford Bounty.

The Moore family, the closest recorded landowner to the project area, was an influential part of South Carolina from the beginning. Originally from Ireland, James Moore, Sr. settled in Charleston in 1665 and was President of the Executive Council and acting governor from 1700 to 1703. He married Lady Margaret Yeamans, which made him the owner of Yeamans Hall in 1677. Yeamans Hall, also known as Old Goose Creek and Westockan, was located on Goose Creek, across the Cooper River from the site (Heitzler 2005). Their son, Colonel James Moore, Jr. (b.1682, d.1723) became the first elected governor from 1719 to 1721 and, along with his brothers, played a significant role in establishing the Cape Fear colony near Wilmington, North Carolina.

An Accurate Map of North and South Carolina by Henry Mouzon, 1776. The approximate location of the project area is indicated by the red box. The property is labeled as "Moor" on the map.

John Moore, son of James Moore, Jr. and Elizabeth Beresford, gifted his "Clowter's" plantation and a house in Charleston to his wife, Rachel Villepontoux (South Carolina Probate Court 1783-1786:155). The brick structure found at YHC could be associated with this plantation. A Gazette advertisement published November 20, 1760, boasts "6,000 to several hundred thousand bricks to be sold by John Moore" (Miles 2004:80). In 1770, he was identified as a brickmaker in St. Thomas and St. Denis Parish and advertised for an overseer who understood brickmaking. A skilled brickmaker along with four helpers could make as many as 5,000 bricks a day (Wayne 1997: 101-104).

Brick was produced along both the Cooper and Wando rivers. Brick was an important building material in the eighteenth and nineteenth centuries, and the Cooper and Wando rivers were known for their Carolina gray brick (Stoney 1938: 47). In the years right before the Civil War, the Daniel Island-Cainhoy brickyards produced over four million bricks a year, however, this would come to an end during Reconstruction.

YELLOW HOUSE CREEK BORROW SITE

Historic artifacts found at YHC. Top image: Miscellaneous pieces of pottery. Middle image: Piece of costume jewelry, lead calibration weights, navy button, buckle, and a large key. Bottom image: Olive green bottle top and case bottle base.

An archaeologist uncovers the edge of a brick wall at YHC

Historic Artifacts

During the excavations, a variety of historic artifacts was recovered at YHC, particularly at site 38BK1801. These included a variety of ceramics, glass, metal objects, brick, mortar, and tobacco pipe fragments. Based on the historic artifact assemblage, 38BK1801 dates from the mid to late eighteenth-century to the early nineteenth-century. Archaeologists can determine the approximate occupation ranges of historic sites based on historical research and the physical and stylistic attributes of the artifacts recovered.

The 1,522 pieces of historic ceramics found at YHC included various types of earthenwares, porcelains, and stonewares. There were also 3,901 pieces of metal recovered that included items such as nails, buttons, drawer handles, iron brackets, kettle fragments, buckles, a razor blade, etc. In addition, there were 1,861 pieces of glass found that included container glass, window glass, tableware, mirrors, and glass beads. A large amount of brick was found, which was used as building material for a house that was at the site in the eighteenth and nineteenth centuries.

One of the more interesting finds at YHC was a type of handmade, low-fired pottery known as Colonoware. Over 500 pieces of Colonoware were found at YHC. Colonoware is linked to West African pottery-making traditions, and it is possible to trace the arrival of this pottery along the routes used during the transatlantic slave trade from West Africa to the Caribbean and on to the colonies in Virginia and the Carolinas (Chodoronek 2013).

Colonoware is typically found in the coastal regions of Virginia and South Carolina, and was produced inexpensively with materials that could be easily maintained. Some Colonoware was made by Native Americans to sell to Europeans, while other types were developed through interactions between enslaved Native American and African peoples. Enslaved potters made Colonoware for domestic use and for sale in the market economy (Chodoronek 2013). Slaves used Colonoware primarily for culinary use, but it also may have been used to prepare and administer medicines (Ferguson 2007).

YELLOW HOUSE CREEK BORROW SITE

The remains of a brick wall at YHC.

Historic Ceramics

The historic ceramic assemblage recovered from YHC consists of over 1,500 pieces of earthenware, porcelain, and stoneware. In general, the types of historic ceramics recovered from the site are predominantly inexpensive and readily available ceramics. The presence of at least a small number of luxury ceramic types such as porcelain indicate at least a middle socio-economic status.

Most of the historic ceramics found at the site were creamware. Creamware is a cream-colored ceramic with a clear lead glaze. Decorations included a wide range of techniques such as molded rim motifs, sprig molding, overglaze enamels, underglaze painting, overglaze printing, and dipped wares. It was commonly used for tea sets and tablewares. Between the 1780s and the early 1800s, plain creamware was the most widely used ceramic on the market (MACL 2002a). At YHC, most of the creamware recovered was plain; however, dipped, engine turned, and press molded creamware was also common.

Plain creamware recovered from YHC.

In 1765, an English immigrant from Staffordshire named John Bartlam established the earliest creamware pottery factory in America. His factory was first located on the Cainhoy Peninsula where he produced creamware, salt-glazed wares, and bone china until 1773. After the Cainhoy factory failed, Bartlam moved his factory to Camden, South Carolina, but his wares continued to be sold in Charleston. Bartlam's factory finally closed in 1788 (South 1993). The close proximity of Bartlam's Cainhoy factory to YHC strongly suggests that most of the creamware in the ceramic assemblage probably originated from his factory.

Originally imported from England, Redware was one of the first locally produced ceramics in colonial America. Redware vessels were made for practical use

YELLOW HOUSE CREEK BORROW SITE

Staffordshire slipware from YHC.

and were affordable to all economics classes. Similar to other earthenware ceramics, Redware cannot hold liquids well without a glaze on at least one surface. Redware was made quickly and affordably, so most pieces were only glazed instead of decorated. Lead-glaze colors included black, glossy brown, reddish brown, or dark brown. Slipware was one type of decoration used on Redware. It involved dipping the vessel in a watered-down clay called slip.

Staffordshire Slipware is a type of yellow earthenware named for the city of its origin in England. Staffordshire was a major center of ceramic manufacture that shipped ceramics all over the world. Staffordshire Slipware is the oldest and most recognizable style, which stands out with its brown slip with combed and dot designs and yellow background. The yellow color results from a discoloration of the clear lead glaze (MACL 2002b).

Example of a complete polychrome pearlware mug. Pieces of this exact type of mug were found at YHC.

Porcelain first came from China in the mid-1600s and it was so popular with Europeans that they produced their own versions. English hard and soft paste porcelain was made in England in the 1700s, but it wasn't sent to the American Colonies until the late 1700s. Most porcelain was decorated with blue designs, but red with gold was also popular. The blue designs seen on earthenwares such as pearlware and creamware are imitations of English porcelain that were produced at a lower cost and became more widely available to the less wealthy classes. Blue China-glazed pearlware is one such replica.

Examples of interesting historic ceramics in the assemblage include shell-edged creamware, polychrome painted pearlware, and Saintonge slipware, an earthenware with an "apple green" glaze that was made in southwest France.

Examples of green and blue shell-edged pottery from YHC.

Shell-edge creamware with green Rococo and blue even scallop designs were the most popular tableware in North America between the late eighteenth and early nineteenth centuries. At that time, edge wares were the most inexpensive color decoration available on tableware. The green Rococo design was more popular prior to 1800, while the blue scallop design was more popular after 1800. The use of multiple colors to paint designs on polychrome painted pearlware

YELLOW HOUSE CREEK BORROW SITE

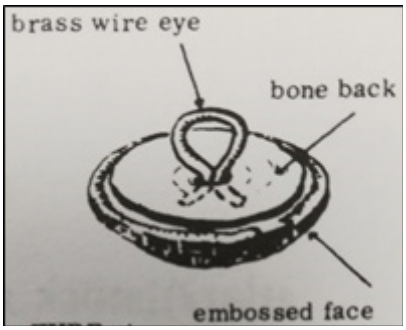
(1795–1830) resulted from the short supply of cobalt blue in England during the Napoleonic Wars. Blue was still used in decorations, but very rarely and usually only as an accent in the pattern design (MACL 2002e). Very little Saintonge Slipware (1700–1800) was found on site; however, it is interesting to note its presence in the assemblage as it is typically associated with French colonial occupations. The fact that there was a French presence in St. Denis parish where YHC is located is noteworthy (Richardson n.d.).

Tobacco pipe heel marked with a "W." The reverse side is marked with a "G."

White Clay Tobacco Pipes

White clay tobacco pipes were very common in the eighteenth and nineteenth centuries and the size, shape, and style changed often. Based on the shape of the bowl and the size of the stem holes, archaeologists can narrow down the age of pipes to help date the sites where they are found. Early pipes had larger stem holes, while later pipes had smaller stem holes. Makers marks are also very helpful in identifying specific manufacturers and the dates of manufacture.

A total of 19 bowl and 30 stem fragments were recovered at YHC. Three pipe bowls have marks present on the heel. One is marked with the letters "T.D.", another is marked with the letters "G/W", and the final is indecipherable. Interestingly, the initials T.D. were found on two pipes found in a midden at George Washington's home at Mount Vernon, while another one, also from Mount Vernon, had Graham White Chappel imprinted on the stem (possibly our G/W) (http://mountvernonmidden.org/data/content.html?pS=Pipe). Based on the sizes of the pipe stem diameters and the makers marks, the tobacco pipes date to between 1720 and 1825.



Fastener parts of a decorative button.

U.S Navy button dating to the early nineteenth century.

Clothing Related Artifacts

It's rare in South Carolina to find remains of fabric or clothing at archaeological sites. More commonly, metal, bone, glass, or wood fasteners and decorative elements are recovered such as buttons, buckles, beads, etc. At YHC, two iron buckles and one brass buckle were found. One of the iron buckles is a belt buckle and the other is most likely a shoe buckle. A single blue glass bead fragment was also found on site. Buttons were used on most clothing, sleeves, and even shoes. Buttons were made of wood, bone, metal (silver, brass, copper, etc.), enamel, glass, shell, pearl, and cloth. Some were very simple and plain, while others were very detailed. Ten buttons were recovered from YHC: three copper, three brass, two bone, one pewter, and one iron. One of the copper buttons is a decorated civilian button. The other is a U.S. Navy button depicting an eagle with a shield on its crest, an oval shield with an anchor is under its left wing, and 16 six-pointed stars encircling the edge of the button. These details and an extensive historic record allowed archaeologists to date this button to the early 1800s during the Jefferson or Monroe administration.

Colonoware

Colonoware was initially described in 1962 by Archaeologist Ivor Noel Hume and was called "Colono-Indian ware" because he believed the pottery was made by Native Americans during the Colonial Period. Today, Colonoware is defined as a broad category of handmade, low-fired pottery found in the

YELLOW HOUSE CREEK BORROW SITE

southeastern United States, principally in the coastal regions of Virginia and South Carolina. It was prevalent in the seventeenth to nineteenth centuries, with the highest frequency occurring from 1750 to 1800. Although this tradition of pottery continued to be made into the 1860s in some parts of the lowcountry, the frequency diminishes as ceramics from European and American makers became more obtainable. Archaeologists initially speculated that Colonoware was manufactured by Native populations for sale to Europeans during the colonial period; however, today it is believed that most Colonoware was produced by African-American slaves as it is found on plantation sites that were occupied well after Indian slavery ended in the 1730s.

The extensive trade routes and the ease in which Colonoware was produced meant that it could be easily obtained and could replace the more expensive wares from Europe. In South Carolina, there is historical documentation of the Catawba making and selling their wares at market. However, the prevalence of Colonoware on plantations far from Native settlements, the occurrence of European vessel shapes with which native populations would have minimal contact, and the flat bottom of most Colonoware vessels suggests Colonoware was more likely produced by enslaved Africans (Chodoronek 2013).

Some archaeologists have suggested that Colonoware developed out of the interactions between Native American slaves and enslaved African Americans and that it was often produced and used by African Americans on plantations as household cooking wares. Archaeologists have also hypothesized that as the plantation economy increased in prevalence, skilled slave potters may have made Colonoware vessels for sale to southern planters and for sale or trade in the market economy.

In addition, the ratio of Colonoware to other types of historic ceramics can be an indicator of the socioeconomic status of the individuals living at plantation sites. Accordingly, lower percentages of Colonoware on sites with historic assemblages can indicate higher status individuals. Following this idea, only 25 percent (n=517) of the historic ceramics at 38BK1801 consisted of Colonoware, while 75 percent (n=1,522) consisted of European and American made wares. This could indicate the presence of higher status individuals. However, comparing the percentages of lower status earthenwares such as creamware and slipware to higher status porcelains indicates that 94 percent (n=1,122) were lower status wares. Thus, the cumulative evidence indicates that the individuals living at YHC were of a moderate socioeconomic status.

Portion of a Colonoware vessel rim from Yellow House Creek

Colonoware at Yellow House Creek

Colonoware primarily consists of unglazed and undecorated small bowls, however, the classification of Colonoware types is a debated topic among archaeologists. One common classification method identifies four types of Colonoware. These types include two types that are believed to have been made by African-American slaves —Yaughan and Lesesne Lustered — and two types — River Burnished and Historic Aboriginal — that are thought to be associated with historic period Native Americans (Anthony 2002). At YHC, only Lesesne Lustered and Yaughan Colonoware were found. Of the 517 pieces of Colonoware that were found, 379 were classified as Lesesne Lustered and 61 were classified as Yaughan (the remainder could not be identified by type).

YELLOW HOUSE CREEK BORROW SITE

Colonoware vessel rim from YHC

Lesesne Lustered Colonoware

Lesesne Lustered Colonoware dates from the early eighteenth century to the early nineteenth century and is frequently found in association with planter occupations (Anthony 2002:55). Vessel forms include jars, bottles, cups, and straight or convex-sided bowls with slightly rounded bottoms, (Anthony 2002:55). The Lesesne Lustered Colonoware from YHC had a fine sand-tempered paste, relatively thin walls, and smoothed to lightly burnished exterior and interior surfaces. There were 61 Lesesne Lustered rim sherds; most were flat (n=55) and some had notched decorations. Rims were straight in profile. The Lesesne Lustered Colonoware from YHC likely represents items bought at the market in Charleston and used by the planter and his family.

Yaughan Colonoware

Yaughan Colonoware dates from the early eighteenth century to the mid-nineteenth century and is thought to have been made by slaves for their own use (Anthony 2002:54). The Yaughan Colonoware recovered from YHC had plain or incised exterior surfaces, with thick, crudely smoothed to scraped vessel walls. Vessels likely consisted of flat-bottomed bowls or globular jars. The Yaughan Colonoware from YHC likely represents items that were being used by slaves at the site for cooking and serving.

CONCLUSION

The investigations at YHC have revealed evidence of prehistoric occupations that range from the Early Archaic through Mississippian periods. These occupations include Early Archaic hunting camps, Middle and Late Archaic seasonal base camps, Early and Middle Woodland intermittently occupied base camps, Late Woodland hamlets or villages, and small Mississippian farmsteads. As a result of the investigations, a large amount of important information about the prehistoric and historic inhabitants of the Cainhoy peninsula was obtained. Some highlights of the archaeological investigations include:

- The three oldest radiocarbon dates for Thom's Creek pottery in South Carolina, with consistent dates across the three sites ranging from 4110 to 4280 B.P. This firmly places Thom's Creek pottery coeval with Stallings pottery and could represent some of the earliest pottery production in North America.
- A substantial assemblage of BCOs at sites 38BK1800 and 38BK1801 found in association with Late Archaic deposits. These artifacts are substantially older than the ones at Poverty Point and could be among the oldest sites with BCOs in the state and potentially the lower Southeast.
- The concurrence of multiple types of Late Woodland pottery, including Wilmington, Wando, and Santee. These types all appear to have been made and used at the same time, raising questions about the meaning behind the production of these multiple types.
- The presence of a Middle Archaic Santee Lanceolate assemblage at site 38BK1800, a point type that has not been well-defined for the region and has rarely been recovered from buried contexts.
- The presence of a late eighteenth-century house site with a dense assemblage of historic ceramics, tableware, and faunal remains that provide an understanding of planter lifeways in a remote area on the Cainhoy Peninsula.
- The recovery of creamware that was likely made at nearby John Bartlam's factory, the first creamware factory in America.

YELLOW HOUSE CREEK BORROW SITE

GLOSSARY

Abrader – A stone tool used for smoothing a rough surface. Typically made of sandstone or a similar abrasive material.

Adze – A chipped or ground stone tool used for shaping wood.

Anadromous – Fish that migrate from the ocean upstream in order to spawn. Examples include striped bass, herring, shad, and sturgeon.

Assemblage – A group or collection of related artifacts.

Atlatl – A wooden device used to propel a spear or dart.

B.P. – A convention used by archaeologists to denote a time represented as years before present. Present is defined as year A.D. 1950 when radiocarbon analysis was invented.

Baked Clay Objects (BCOs) – Pieces of hand molded fired clay objects.

Bannerstone – Bannerstones are carved and polished stone tools that may have been used as atlatl weights, although their function is still debated. These items are often elaborate in shape and are made from exotic materials such as banded slate or other decorative stone. They likely had some sort of ceremonial and symbolic significance.

Biface – A stone tool having opposed chipped surfaces that converge to form a sharp edge. A projectile point is a specific type of biface.

Calibration – Radiocarbon dating measures the age of carbon in radiocarbon years, which can be translated to calendar years using a process called calibration. This is necessary because the ratio of atmospheric 14C/12C has not been constant through time.

Celt – A prehistoric stone or metal implement with a sloped or beveled cutting edge, probably used as a tool or weapon.

Ceramic Sequence – A method of placing a group of ceramic objects into chronological order, considering stylistic changes that occurred over time.

Chert – A cryptocrystalline or microcrystalline sedimentary rock that is the preferred material for making chipped stone tools in the eastern United States. Flint and chalcedony are high quality types of chert. Chert can be found in several areas of South Carolina including Allendale and Clarendon counties, and in the Blue Ridge Mountains of Georgia, North Carolina, and Tennessee.

Colonoware – A type of handmade, low-fired pottery found in coastal regions of Virginia and South Carolina.

Core – A piece of rock that exhibits evidence of intentional flake removal. Used as the basis for making chipped stone and flake tools.

Diachronic – Concerned with the way in which something has developed or evolved through time. In archaeology, diachronic change refers to the study of how cultures change over time.

YELLOW HOUSE CREEK BORROW SITE

Diagnostic Artifact – An item that is indicative of a particular time period and/or cultural group.

Earthenware – A porous ceramic made of low-fired clay that is typically glazed to allow a vessel to hold liquids. Some types of earthenware ceramics include whiteware, pearlware, creamware, redware, and Staffordshire slipware.

Feature – Any non-portable archaeological remain. Examples include storage pits, hearths, burials, and structural remains (e.g. post molds). Features can be contrasted with artifacts, which are portable.

Fire Cracked Rock – Rock that has been altered and split as the result of deliberate heating.

Flake – A thin piece of lithic material removed from a core or biface.

Groundstone Tools – Tools made by pecking, grinding, or polishing the working material.

Hammerstone – a hard cobble used to strike off flakes from a lump of stone during the process of stone tool manufacture.

Horticulture – The practice of cultivating and managing plants.

Hunter-gatherer – People who lived primarily by hunting, fishing, and gathering wild plant foods.

In situ – The condition of an object of being in its original place. In archaeology, the occurrence of an artifact found in its original location of deposition.

Knapping – The process of removing flakes to make stone tools.

Lanceolate – shaped like the head of a lance or spear; tapering to a point.

Lithic – Materials pertaining to or consisting of stone.

Lithic Debitage – Stone tool chipping debris (e.g. flakes and shatter). This is the byproduct of making stone tools.

Midden – A midden is a dump for domestic waste that may contain animal bone, botanical material, shells, pottery, lithics, and other artifacts associated with past human occupations. These features provide a useful resource for archaeologists to study the diet and habits of past societies.

Orthoquartzite – A sedimentary rock composed almost entirely of cemented quartz grains. High quality orthoquartzite can be used to make chipped stone tools.

Pleistocene – The Pleistocene is the geological epoch which lasted from about 2.6 million years ago to 11,700 years ago, spanning the world's recent period of repeated glaciations.

Porcelain – A kaolinite or bone ash clay ceramic fired at extremely high temperatures. The final product is a strong, translucent, high quality ceramic.

YELLOW HOUSE CREEK BORROW SITE

Projectile Point – Typically a bifacial stone tool that was used as a projectile. Examples include arrowheads, darts, and spear points.

Rhyolite – A fine grained igneous rock that is the volcanic equivalent of granite. Rhyolite can be used for making chipped or ground stone tools.

Scraper – A chipped stone tool used for scraping hides or shaping wood. The working edge is steep, usually with an angle between 60 and 90 degrees. Common forms include end scrapers and side scrapers.

Sedentary – The process of settling down to live in a particular area for an extended period of time.

Shell Ring – Shell rings are large, complex constructions made of oyster shell that are usually found in tidal areas along the coast from South Carolina to Florida. They range from a few feet high to nearly 40 feet high, with some being almost as wide as a football field. The function of shell ring sites is debated by archaeologist, but most likely they served as ceremonial gathering places.

Spokeshave – A stone tool with a semicircular concavity used for smoothing spears or arrow shafts.

Stoneware – A vitreous clay ceramic fired at high temperatures. Glazes were usually just decoration, the most common being salt-glaze. Stoneware was mainly used for drinking mugs, storage jars, and bottles.

Temper – Material such as sand or crushed quartz that is intentionally added to pottery before it is fired. The tempering agent makes the pot more resistant to cracking, which can be caused by expansion of the clay during heating.

Uniface – A chipped stone tool modified on only one surface. A scraper is a type of uniface.

Utilized Flake – A flake that has been used as an expedient tool without intentional modification. Utilized flakes typically exhibit usewear in the form of micro-flake scars.

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YELLOW HOUSE CREEK BORROW SITE

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