

Excavating Earliest Bermuda:
The Smith's Island 2014 Field Season
 A Report Prepared for the Bermuda Government
 Department of Parks
 and the Bermuda National Trust

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2014 UR field School & Volunteers (left to right): Khari Place (V), Luke Piscitelli, Andrew Lingrel, Jim Rankine, Michael Jarvis, Ashley Hunter, Miriam Beard, Samantha Oliva, Kelsey Hurley, Alice Wynd, Samantha Martinez, Judd Wendland, Leigh Koszarsky, Xander Cook (V)

Introduction and 2014 Season Goals

This report summarizes the findings of the fourth year of excavations at the Bermuda Government Amenity Park on Smith's Island, Bermuda, and a preliminary survey of Bermuda National Trust land at the island's western end. This year's work built upon discoveries in 2012 and 2013 and had five principal goals:

1. To define all dimensions of the Oven Site building and refine our understanding of its construction, occupation, and abandonment. The 2013 season established the east-west length of the house and a possible cellar; we seek to define the northern and southern walls in the eastern bay of the building and confirm or revise a hypothesized T- or cross-shaped floor plan. We also want to establish a firmer construction date consistent with the site's appearance on Richard Norwood's 1616-1617 survey. We have confirmed through ample evidence the presence of Native Americans at the site and that this is the building documented in Boaz Sharp's 1707 probate inventory, but know nothing about Oven Site's occupants between circa 1614 and the 1680s

2. Continue excavations inside and in front of the small one-room limestone ruin at Smallpox Bay to refine construction and abandonment dates and further test the building's hypothesized use as a quarantine site for inbound sick patients arriving from sea, as specified in 18th-century legislation.
3. Return to the Cotton Hole Bight site in search of firm evidence of Christopher Carter, Edward Waters and Edward Chard's 1610 homestead, which we theorize may have been removed and dumped downhill when the 18th-century house floor excavated in 2012 was constructed. We also seek stratigraphy left undisturbed by 18th-century quarrying that predates the 18th-century house floor layers.
4. Begin mapping and preliminary testing of an undocumented natural cave site located approximately 40 meters south of the 1872 farm house ruin. Found during a foot survey in 2010 and 2013, the site could potentially have been used or sequentially occupied by a wide array of residents, including Carter, Chard, and Waters, Boaz Sharp's Native American slaves, Black 18th-century whale house employees, and runaway slaves. We seek to define the cave's dimensions, depth of deposits, and datable occupation sequence.
5. Guided by aerial photographs and 1898, 1966 and 1974 Ordinance Survey maps, we will continue surveying the interior of the western third of Smith's Island (owned by the Bermuda National Trust) and further map and geo-locate a cluster of building foundations adjoining the island's unnamed western bay.

This season's research design was highly ambitious and reflects a much-expanded field school educational program that included nine undergraduate students from the University of Rochester, University of the Pacific, Rider College, Otterbein College, and Texas A & M, and two graduate student supervisors, Smith's Island veteran Leigh Koszarsky and Jim Rankine, a University of Rochester history Ph.D. student. Two visiting university professors, Heather Kopelson (University of Alabama) and Matt Lenoe (University of Rochester) also participated, as did nine regularly attending Bermudian and overseas volunteers. In addition to large-scale clearing excavations and methodical testing at multiple locations, the group was involved in extensive public outreach, hosting four public tours of our sites for school children and more than two hundred general visitors through Bermuda National Trust-sponsored expeditions.

In addition to daily fieldwork, student participants also processed all recovered artifacts in the BNT's Reeve Court Archaeology Lab and made considerable progress in digitizing site records and compiling a spatially organized artifact database for future analysis.

Acknowledgements

Archaeological excavations are highly collaborative projects that depend upon the contributions and expertise of a large number of supporters and participants. The investigations and discoveries accomplished in 2014 would not have been possible without a vital international supporting cast of generous, patient and hard-working collaborators.

This season's fieldwork was mainly funded through financial support from the University of Rochester. I am grateful to Renato Perucchio (Director of the Archaeology, Technology, and Historic Structures Program), Jacqueline Levine (Study Abroad Director), History Department administrator Jacqui Rizzo and other U of R staff who helped with the logistics of setting up the field school. I thank Lisa Johnston and the Bermuda Government's Parks Department for granting me permission to continue my archaeological investigations and Andrew Baylay, Linda Abend, and Stephen Copeland, of the Bermuda National Trust's Archaeological Research Committee for their help in securing permission to investigate Smith's Island's western lands, gathering equipment, obtaining emigration permits, collecting student participants, and making available the BNT's Reeve Court Archaeology Lab. BNT Executive Director Jennifer Gray staged a timely intervention to clear up an immigration snafu just days before the field school started and helped us secure accommodations after a last-minute cancellation occurred. In the Bermuda Archives, Andrew Baylay and Karla Ingemann helped students conduct additional research on Smith's Island's history and on other research topics.

Other people and organizations made our time in Bermuda educational, and enjoyable. Anne and Norman Brown once again made their condo at Convict Bay available and the St. George's Club generously donated the use of two luxurious units and the club's facilities – few field school students have ever enjoyed nicer digs while digging in Bermuda! Officer Tracey Burgess of the Bermuda Police Service arranged for space in its St. George's Police Barracks to house three students and allowed us to use their most excellent lounge and kitchen. Mr. Ramotar, Chef Arup and the management and staff at Somers Market in St. George's donated drinks and food from its salad bar, which made a vast difference in keeping morale up and replacing the calories we burned in the field – and it was fantastic not to have to cook after a long, exhausting day excavating! Geoffrey Redmond provided the use of his work boat for the season, which enabled us to get to and from our island worksites each day. Henry Hayward, Jacob Hocking, Paul Leseur, and Rick Spurling made generous donations that enabled us to rent this boat and pay for the petrol that kept it running. The residents of Smith's Island shared their island with us and suffered numerous invasions of public visitors who came to see our sites. I am especially grateful to Mayor Garth Rothwell for allowing us to use his dock and the modern facilities of his cottage throughout the season. The St. George's Foundation and the Spurling family have continued their year-round support and promotion of our research; new Director Charlotte Andrews allowed us use of the World Heritage Center as a classroom and organized public lectures at the beginning and end of our season in order to share our goals and findings. I thank you all for your many contributions!

Student education was also considerably enriched through field trips and visits to important Bermuda heritage sites. Dr. Edward Harris and Elena Strong kindly welcomed students into the National Museum of Bermuda to study its exhibits, collections and archaeology lab, while Outward Bound Director Mark

Norman opened up Fort Cunningham for students to explore and study. Rick Spurling again allowed us to spend the night in the Settler's House at Carter House Museum, enabling us to experience the cooking, dining, and sleeping conditions of the earliest Bermudian settlers whose lives we were investigating on Smith's Island. It was a truly memorable night.

My biggest thanks go to my field crew, led by returning veteran and recent graduate Leigh Koszarsky. This year's team was enormously productive and was a joy to work with. I am grateful to Miriam Beard, Ashley Hunter, Kelsey Hurley, Andrew Lingrel, Samantha Martinez, Samantha Oliva, Luke Piscitelli, Judd Wendland, and Alice Wynd for their dedication, diligence, professionalism, and enthusiasm. They endured my various experiments in teaching and being dragged to historical sites all over the island – and a few off island as well. I am also grateful for the hard work and commitment of numerous Bermudians who volunteers this season – Xander Cook, Jason Correia, Alaina Cubbon, Trenton Daniels, Sarah D'Alessio, Suzanne Mayall, Luisa Olander, Mark Orchard, Khari Place, Shannon Stapley, T.J. Stevens, Tawana Tannock, and Roger Trott – as well as American volunteers Peter Schaub, Ross Nedervelt, Matt Lenoe, and Heather Kopelson. Collectively, they allowed us to surpass our excavation goals and added local insights and a contemporary cultural dimension to the students' time in Bermuda. Finally, I'd like to thank Anna, Charlotte, and Katie Jarvis for putting up with Bermuda field work that takes me far from home each year.



Oven Site

Background

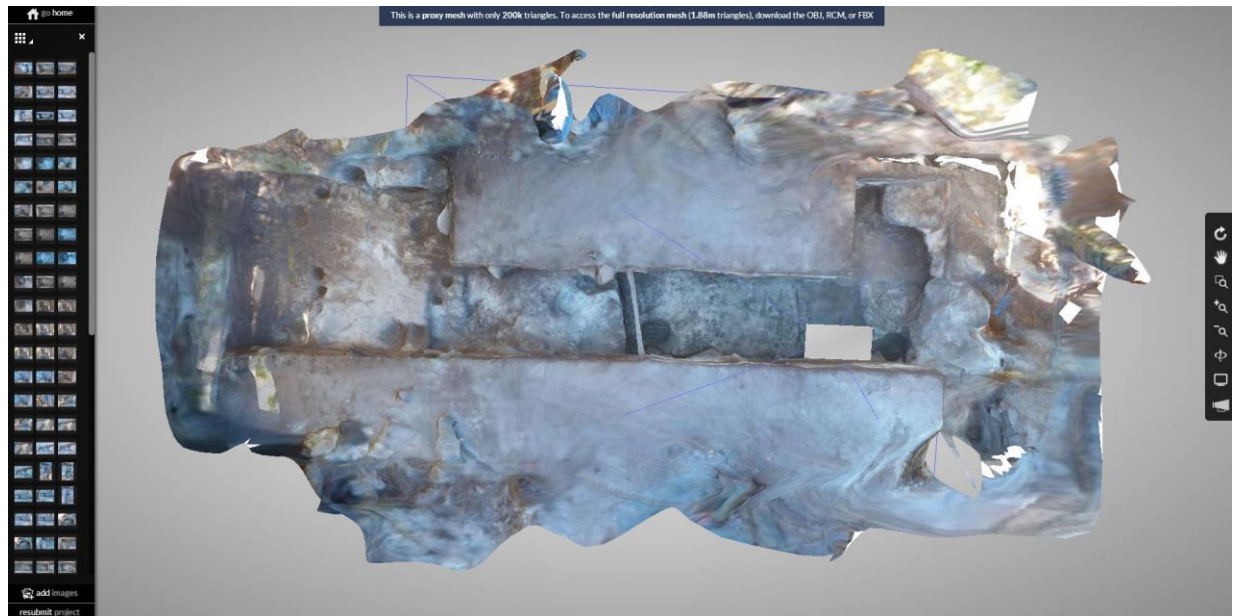
Oven Site has been our primary focus since 2010. Excavations in 2012 and 2013 focused on establishing whether this site is the one designated on the 1626 John Speed map (marking the locations of buildings in 1617, when Richard Norwood completed his survey) as well as that of Boaz Sharp's residence, documented in a 1707 probate inventory. Excavations in 2012 exposed a bedrock floor covering roughly half the ten-foot by ten-foot visible footprint of the house (as located in 2010) and the base of the hearth and two ovens for which the site was named. The 2012 stratigraphic sequence suggested a straightforward progression of bedrock excavation and structural posthole creation, a seventeenth-century occupation with at least one renovation episode (as revealed by a shift in posthole dimensions and locations), abandonment around 1715 associated with the deposit of a thick layer of stone rubble and building detritus, and casual use of the site during the nineteenth century (including reuse of the hearth), presumably by labourers working at the adjoining quarry. Interpretation in 2012 identified this part of the site as a small square detached kitchen serving a nearby dwelling house.

Prior to the start of the 2013 field season, the principal investigator rethought the hypothesized building scenario to consider whether the visible room cut might be the rear portion of a larger T-shaped or cruciform house - a typical layout for seventeenth-century houses, as revealed by the footprints of surviving 1690s buildings in the Town of St. George's. To test this new hypothesis, we extended the 2013 trench another five meters to create a longitudinal cross-section of the house and to locate definitively the building's eastern wall (right). This revealed that the structure was a two-room rectangular building with a slightly lower portion in the eastern section. Numerous additional postholes were found running through the centerline of the twenty-four-foot east/west axis of the house. A thick earthen floor deposit turned up 23



2012 & 2013
Excavation
Trench
Photomosaic,
showing cut
floor and
postholes.

fragments of worked chert stone flakes, evidence of the activities of Native American slaves listed in Boaz Sharp's 1707 inventory and confirming that our site is indeed Sharp's household. Datable artifacts in the floor layer ranged from the 1640s to the 1710s – evidence consistent with the house's location on Norwood's 1663 survey but at odds with attribution to his earlier 1617 survey.



3D Model of Oven Site at the end of the 2013 season.

The 2014 excavation at Oven Site was focused on determining the dimensions of the original timber-frame structure; previous years' work established that the house was two rooms wide, measuring twenty-four feet from the west wall excavated into the hillside to the eastern wall, with an original floor cut approximately three feet deep into the natural bedrock surface. At the midpoint of our cross-section trench, the floor cut dropped nearly a foot in the eastern half and had been filled in with stone, mortar, and brick rubble debris mixed with ash and charcoal – deposition associated with the dismantling of a brick-lined oven situated in the middle of the eastern wall face. At the end of the 2013 season, we identified a vertical linear cut feature interpreted to be the footing of a wooden staircase descending to the south, which suggested a T-shaped house layout, with perhaps a small porch area projecting further east to form a cross-shaped structure – floor plans common in seventeenth-century English architecture and consistent with stone-rendered late 17th-century Bermudian homes that are assumed to have copied earlier timber-frame configurations.

This year we excavated a seven-meter-long trench (N5-6 E5; N1-2 & S 1-3 E 6-7) set perpendicular to the previously dug trench that had established Oven House's width in order to reveal the length and cellar depth of the Oven Site's eastern rooms and hypothesized porch. The new trench centered on the staircase footing and extended five meters south, with a corresponding two-meter extension to the north, to where the northeast corner of the house should be located based on projections from already identified walls. Originally a meter wide, the southern trench was extended to two meters in width after

we found the depth of deposits to be considerable (nearly two meters) and as the expected eastern cut into original bedrock and the horizontal earth-packed floor for this room extension failed to materialize. Instead, we revealed a complex micro-stratigraphic sequence of quarry offcuts, fine packed limestone rubble, and fine silt, with little to no artifacts – a deposition clearly associated with 19th-century quarrying activity found elsewhere to the east at Oven Site, but not nearly to this depth.



Quarry stone off-cuts within fill

After removing nearly two meters of this sort of infill, we expected to find a flat floor layer associated with a hypothesized eastern room of Oven Site. Instead, there was a series of lateral uneven cuts into natural bedrock consistent with the bottom of a quarry. The eastern expansion of the trench revealed flat vertical walls and slots also consistent with traditional Bermudian quarrying techniques. Recovery of several pipestems with bores consistent with an early 18th-century date forced a reinterpretation of this area: that the quarry now some 150 feet to the south of Oven Site actually started here, quite soon after the timber-frame house was abandoned or destroyed. The quarry very slightly overlapped with the house foundation, cutting away the original southeastern corner of the building and creating the misleading appearance of a cellar. The staircase discovered in 2013 was not part of Oven Site, but rather was created to provide workmen with access to the southward-expanding quarry excavations. As the removal of stone proceeded to the south, the already cleared areas behind it were slowly and naturally filled in with fine stone, natural silt wash, and large broken stone offcuts during the ensuing two centuries, creating the thick strata we removed. In unit N2 E6, we did identify the original southeast corner of Oven Site in a position that established that the house was actually rectangular rather than T-shaped, aligned with the southern wall cut visible above-ground. The thick pack of charcoal, ash, and brick in the lowest strata (MCxt 091) was consistent with the eastern



Microstratigraphy within quarry fill deposit



Southeast corner of Oven Site, with brick, stone, and charcoal inclusions. The original robbed-out oven is to the left

fill found in adjoining units. A bone-handled iron knife and fine curved iron artifact with a rolled edge resembling a portion of a sword hilt suggest a level of affluence for Oven Site's early residents above the Spartan material culture that the site's late-seventeenth-century layers to the west reflected.

Although the trench excavation did not reveal the T-shaped house configuration we originally hypothesized, it did establish the Oven Site's more modest actual dimensions (twelve feet by twenty-four feet) and led to the surprising discovery that the nearby quarry was actually much larger in extent than thought and that it was begun in the early 18th century, approximately seventy-five years before the earliest documented evidence of quarrying, during the Forbes family's occupation. A further implication of establishing early, extensive quarrying is that the area to the east and south of Oven Site has almost certainly been disturbed and that any layers reflecting the activities of Oven Site residents have been lost through removal – a discovery that will save us from wasting time and effort in future field seasons.



The northern extension of this year's trench proved more fruitful and yielded important new evidence for the dating and interpretation of Oven Site. The northeast corner of the house was found in unit N6 E5 - a slightly rounded corner cut similar to the southeast corner in N2 E6 at the same elevation. Two flat stones and a pronounced compactness of the earthen floor layer (MCxt 006/009) suggest that the door to the house was located at this corner and that the building faced northward toward Town Harbour. The stone steps suggest that the building foundation probably rested on a wooden sill set atop the natural bedrock and that residents stepped down onto the house interior; this lower floor built up inside the house over time, forming MCxt 006/009. The advantage of this construction technique in building a semi-subterranean house was to reduce the material needed to build vertical walls and to lower the profile of the structure and thus its vulnerability to high winds during storms and hurricanes.



The most significant finds in this area underlay the earthen floor layer and reveal a two-phase construction sequence. Surrey Borderware and Metropolitanware sherds dating to the early- to mid-17th century now provide dating evidence supporting the attribution of Oven Site as the structure marked on Norwood's 1617 survey. The first phase of site occupation consisted of a single-room square building constructed circa 1614, defined by the deeper eastern portion of the site floor plan. At some point in the 1630s or 1640s, site occupants undertook a major expansion by excavating a second room to the west

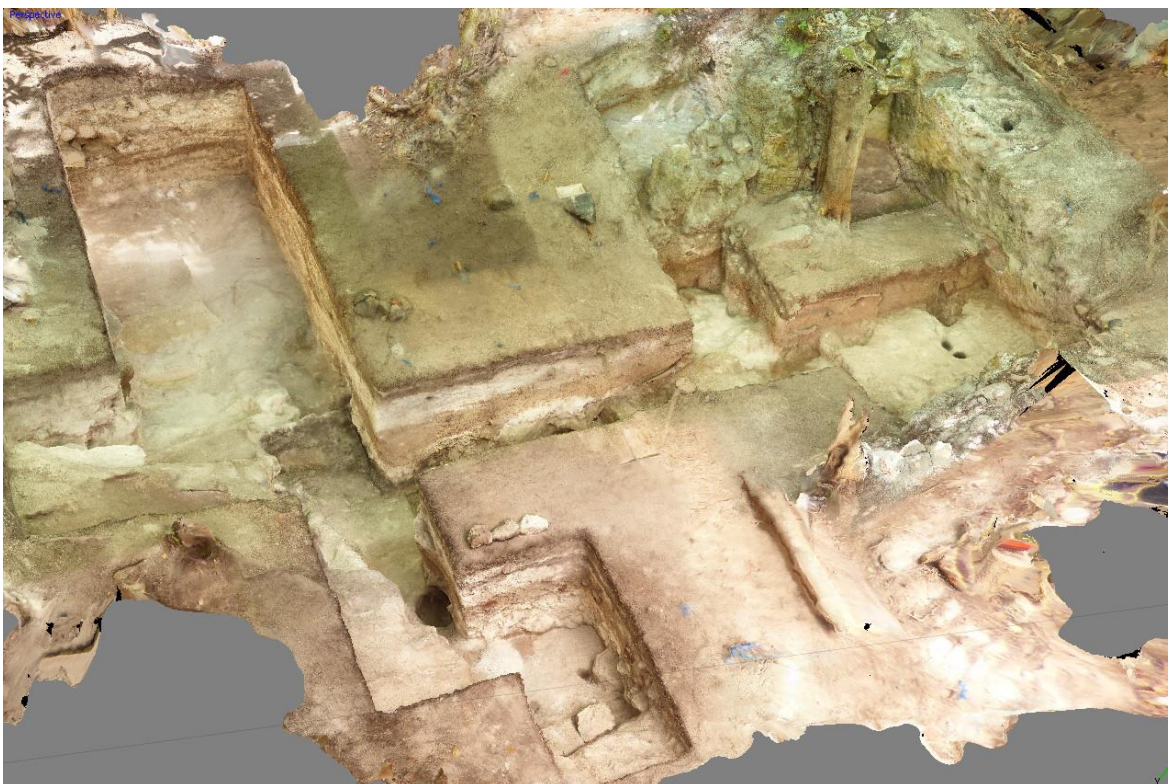
and creating the hearth, ovens and curious grotto feature that we uncovered in 2012 and 2013. At the time of the expansion, the builders dismantled the now-redundant brick-lined oven/hearth set into the eastern wall and deposited mortar, brick, and stone rubble to create a new flat floor layer level with the western extension – a scenario that accounts for the fact that no early seventeenth-century material is present in the Mcxt 006/009 earthen floor layer, which effectively seals the early-phase deposits (MCxt 112) in the eastern half of the house site. This new interpretation of Oven Site's first phase as a structure set into the ground raises new comparisons with the earliest architectural era of Virginia-Company period sites (1607-1625) in the Chesapeake, when settlers constructed a wide range of vernacular building forms, including semi-subterranean and cruck houses built at Flowerdew Hundred and Martin's Hundred. Indeed, the deep central posthole (Cxt 195) and absence of architectural features adjoining the bedrock floor cut closely matches the layout of the cruck house at Flowerdew and the barn at Martin's Hundred.¹

In the last days of excavation, we uncovered a large thin sheet of iron pressed flat onto the c. 1614 stone floor. Its full dimensions could not be revealed because it extended into an adjoining, unexcavated unit, but its shape is consistent with a flattened armor breastplate similar to those found at Martin's Hundred, James Fort, Governor's Land, and other sites in early Virginia.

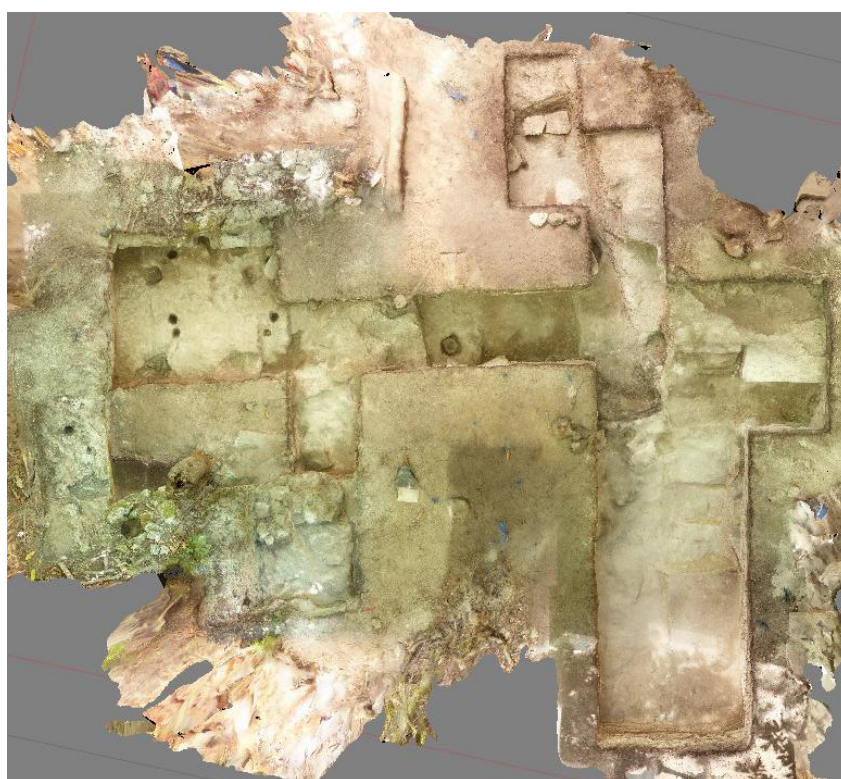


Following a conference at the University of Rochester on 3D Digital Archaeology recording and modeling techniques in December 2013, this season began and ended with an extensive image capture of Oven Site in order to create highly detailed 3D models using Agisoft Photoscan software. The closing photo series and the model derived therefrom provide a fully interactive virtual site precise to within 2 cm, allowing measurements and additional analysis of the site in the off season. I am grateful to the University of Rochester's new VISTA Collaboratory for the opportunity to study this model in its life-size dimensions through projection onto its eight-foot by twenty-foot high resolution display wall, and to the Center for Integrated Research Computing for use of its BlueHive supercomputer to create the two gigabyte point cloud and mesh model. The 3D Oven Site model opens up the opportunity to digitally reconstruct the stratigraphy removed in past and future field seasons and undertake pattern recognition within the site for different artifact types.

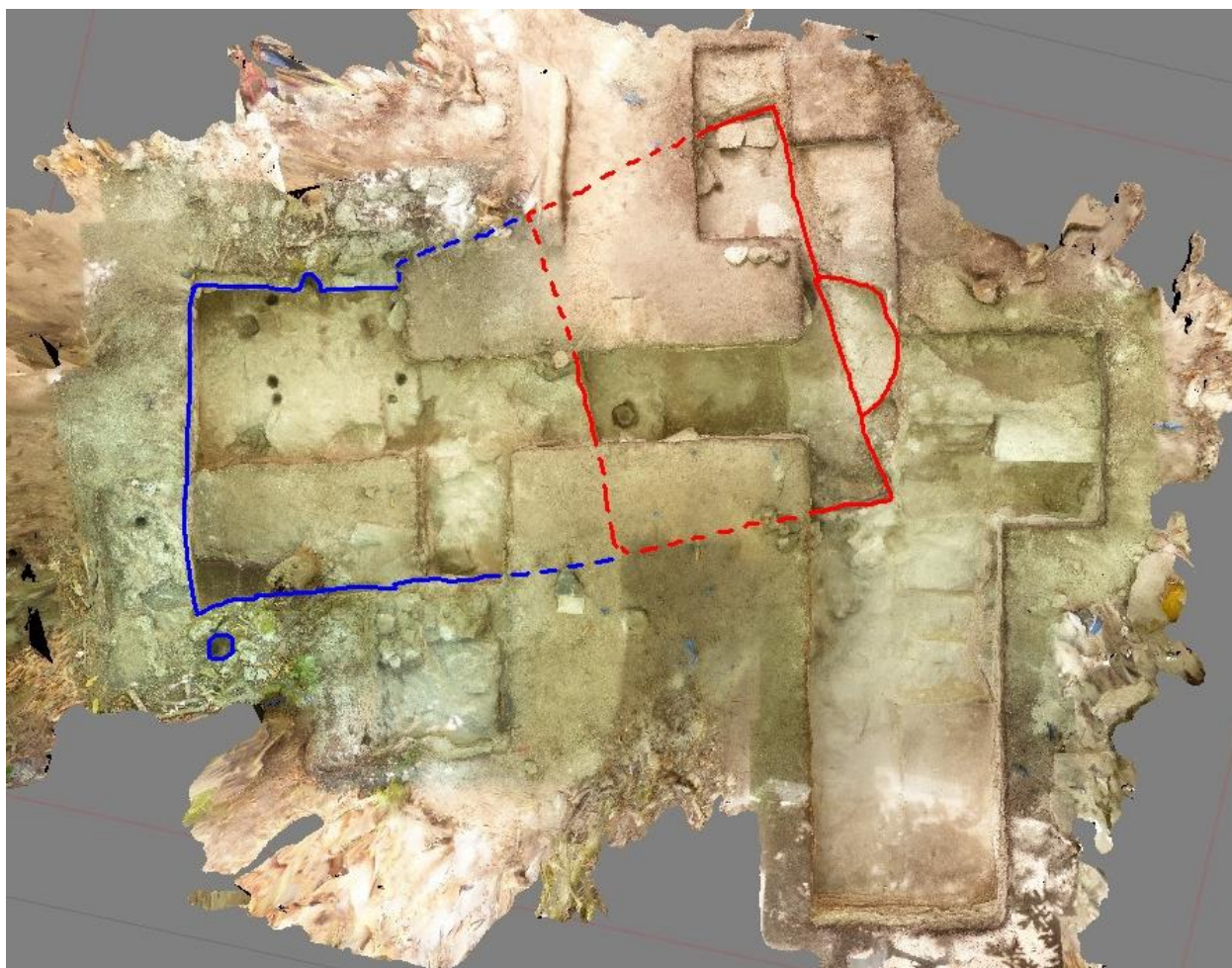
¹ Ivor Noel Hume, *Martin's Hundred* (Charlottesville, 1991), 253-256; James Deetz, *Flowerdew Hundred: The Archaeology of a Virginia Plantation, 1619-1864* (Charlottesville, 1993), 35-39.



Oblique view of Oven Site model, facing south



Overhead projection of Oven Site



Oven Site model with building phase projections: Red = original c.1614-1640 house; Blue = 1640s extension.
The 18th-century quarried-out area is in the lower right hand corner

Future Investigations

Oven Site has now been established as a site continuously occupied from c. 1614 to c. 1715 and the building denoted on both the 1617 and 1663 Norwood surveys. Its last occupants were Captain Boaz Sharp and his nine Native American slaves. Its original builder and occupants from the 1610s to the 1680s remains unknown; studying these unnamed residents will be the focus of future archaeology, achieved by excavating the full extent of the first phase (c. 1614-1640) of the site. Having defined the house's walls, we can also target the exterior yard surface to the north of the house as a fruitful site for recovering domestic rubbish; later construction of the western room extension and quarrying has destroyed First Phase yard space deposit layers to the west, south, and east of original building, but the front yard to the north is highly promising. Additional testing using infrared and multispectral optics to reveal buried features in this area may also identify middens, wells, and outbuildings associated with Oven Site's century-long occupation.

Cotton Hole Bight Site

By James S. Rankine, University of Rochester

Background

Named for the shallow bay (“bight”) located to the north and named on Thomas Savage’s 1898 survey, the Cotton Hole Bight Site was discovered in 2010. As a vertical wall cut into a hillside with a large primitive oven feature, the site closely resembled the configuration of Oven Site. Its location (near a sheltered bay that would make a good boat-building site and a fertile valley) and primitive construction features made it a likely candidate for the site of Christopher Carter, Edward Chard, and Edward Waters’ 1610-1612 home and farm. In 2012, a four-meter long trench east/west excavation tested this hypothesis but failed to find early seventeenth-century material. Stratigraphy revealed the presence of a mid-eighteenth- to early nineteenth-century site and earlier evidence of quarrying large flat stone blocks. The conclusion was that this could have been the Carter, Chard, and Waters site, but that early eighteenth-century quarrying destroyed or displaced occupation layers and features associated with it. Excavations were not carried out in 2013. In 2014, Ph.D. candidate James Rankine guided excavations that further tested whether undisturbed evidence of seventeenth-century occupation existed and conducted additional historical research on the Pitcher Family associated with the eighteenth-century deposits at this site.



The Pitcher Household

The Pitcher household was already well established in 1753 when James Pitcher, a mariner, made his will. His wife Elizabeth was the granddaughter of Boaz Sharp, whose house (Oven Site) was located 120 yards away but had been abandoned forty years earlier (circa 1715). James and Elizabeth Pitcher’s daughter, Ann, was married to Daniel Burchall of St. George’s Parish, a gunner, who may well have sailed alongside his father-in-law, given the intertwining of crew and family which typified Bermudian seafaring culture. Alternatively, Burchall might have manned Smith’s Fort or Paget Fort, located just to the east of Cotton Hole Bight. Listed in James Pitcher’s will are five slaves designated as ‘Negroes’: a man named Tom, two women (Ruth and Dinah), and children Toby and Hannah. Of these, three passed to Elizabeth, along with the house on Smith’s Island; these slaves’ labour was probably crucial to her during

her widowhood.² A 1760 parish tax assessment lists a 'Widow Pitcher', suggesting that she survived her husband by some years.³ In 1778, the St. George's Parish register recorded the burial of a 'Mrs. Pitcher', which may well refer to Elizabeth.⁴ The occupants of the site after the Pitchers are unknown, although previous excavations have turned up ample material evidence of a long period of occupation stretching into the 19th century. The house may have been leased to tenants by George Forbes and his heirs after he acquired possession of all of Smith's Island in 1758.

Theoretical Approach

Based on the excavations at Cotton Hole Bight carried out in 2012, it was clear that any floor deposits predating the eighteenth century would have been disturbed by the later quarrying activity. Artifacts recovered in 2012 suggested a long occupation beginning in the first half of the eighteenth century and extending into the nineteenth, with the quarrying of the bedrock layer occurring some time prior. In 2014, the major goal of the excavation was to determine if early seventeenth-century material had been redeposited to the east of the house by the quarry workers. The excavation also sought to uncover architectural features of the house and to more comprehensively corroborate the dating established in the 2012 excavation.

Methodology

The excavation consisted of a four-meter by one-meter trench situated to expose stratigraphy inside the footprint of the house as well as further to the east, where redeposited material was most likely to be found. All excavated layers and features were hand sifted through ¼-inch mesh screen. The trench was divided into four one-meter grid squares and hand excavated by trowel in two-person teams. In total, twenty-two contexts were excavated relating to nine master contexts.

Excavation

Though contiguous, the trench units exposed two main areas of interest. The first was the inside/western area, a unit (N6, E10) lying inside the footprint of the house located two meters south of the easternmost square excavated in the main trench of the 2012 dig (N8, E10). A small portion of the western edge of the adjoining square (N6, E11) was also part of this area. The second was an outside/eastern area, consisting of the remaining three squares, extending over a slight mound and downhill towards the shore (N6, E11-13).

2. James Pitcher, April 13, 1753, Book of Wills 8:287-288.

3. St. George's Parish Assessment, 1760, p.

4. Richardson Register, p. 188.

House Interior Area

Prior to excavation, saplings and trees were removed from the area where the trench was laid out. Leaves and detritus were removed from the perimeter to ensure a clear working space and students and volunteers established the grid lines for the trench. The stratigraphy of the inside area was expected to be similar to that exposed in the 2012 trench, but as the two were not contiguous, excavation proceeded cautiously and slowly. Under the thin surface layer, a loamy brown layer clearly distinguished the inside



area from outside, where the surface layer overlay a sandy gray layer with limestone rubble inclusions. The thickness of the layer (apparently the floor of the Pitcher household) and the presence of artifacts dating to the eighteenth and nineteenth century suggested a long occupation. The discovery of a piece of slag, along with metal fragments and coal, suggests an industrial use of the site at some point in the nineteenth century. Other finds in lower layers in this area include ceramic, brick, animal bone and charcoal consistent with an eighteenth-century domestic occupation, probably that of the Pitcher household in the early to mid-eighteenth century. Most significant were some sherds of tin glazed earthenware and a fragment of a decorated copper alloy buckle found amidst the eighteenth-century artifacts in unit N6 E10. The bedrock layer was found to be at a lower elevation in N6 E10 than in the 2012 units (N8, E7-10) but exhibited the same evidence of quarrying activity. The lowest layers were coarse white sand containing almost no artifacts, consistent with the layer sealing bedrock in the 2012 trench.

One intriguing find was a clearly cut stone feature resembling a plinth at the easternmost edge of the inside area. This may represent an architectural feature serving as the footing base for a large vertical cedar post. The bedrock surface around this feature was clearly worked with tools, but, unlike the quarried bedrock, its surface was



Square block or plinth, with a weathered surface

oxidized and hardened, reflecting a long period of exposure to the elements. Given the relative softness and lack of weathering exhibited by the quarried sections of bedrock, this feature seems to predate the quarrying activity. At the southernmost edge of N6 E11, a straight vertical cut in the bedrock aligned roughly west by south may be connected to other features in the 2012 trench.

House Exterior/Eastern Area

In contrast to the compact brown loamy layer which defined the house interior, excavations in the outside area squares (N6 E11-13) revealed a sandy, grey layer with rocky inclusions a few centimeters under the surface. Slight variations in hue and texture demarcated several strata, with far fewer artifacts than the interior area. Large amounts of pebble-size inclusions and fragments of worked limestone identify these layers as consistent with quarry fill. Trace amounts of charcoal, small animal bones and marine shell were also recovered, likely cooking refuse left by workers. This fill is deposited directly atop the bedrock surface, indicating that previously deposited surface layers were removed during the quarrying period. The bedrock layer uncovered in eastern squares (N6, E11-13) is weathered in appearance and hardened, indicating long direct exposure to the elements. A large fissure was found in N6 E12 that extends at least thirty centimeters deep into the bedrock surface; we were unable to excavate further due to its depth. The absence of seventeenth-century artifacts in these refuse layers contradicts our working hypothesis that the quarrymen would have redeposited earlier floor materials as they quarried out the site – if this was in fact the site of the Carter, Chard, and Waters home. It is possible that a hypothetical seventeenth-century floor layer was removed and redeposited elsewhere further to the east, but the complete lack of any early material in this season's trench makes this scenario unlikely. In sum, this is probably not the site of the 1610 homestead despite its very primitive construction characteristics.



Deep fissures in the bedrock in unit N6 E12 . A BAMZ visitor noted that this feature is consistent with seismic activity in Bermuda.

Further Research

Although it was disappointing to discover no corroborating evidence for an early seventeenth-century occupation at the site, Cotton Hole Bight still has considerable potential for further investigation. The Pitcher House offers numerous research opportunities and poses a number of unanswered questions. The configuration is oddly atemporal: why did timber-frame construction apparently persist in use into the mid-eighteenth century here when most Bermudians had shifted to stone construction? And why did the builders frame this house despite an obvious local source of quarried stone at the site itself? Who lived at the site after Elizabeth Pitcher died in the 1770s? Was this an industrial site and, if so, what did the industrial activities here support? And what was the relationship between the site's occupants and the Forbes family, who lived at the island's west end and controlled the entire island as landlords?

The numerous natural amenities that led us to interpret the site as an ideal location for Carter, Chard, and Waters' farm remain: boatbuilding at Cotton Hole Bight, proximity to Bermuda's reefs and open ocean for fishing and travel, a sheltered valley with rich soil and good drainage immediately to the east. Future fieldwork in the area should shift to a Phase I methodical testing program to identify other possible sites in the area. A flattened area to the southeast of the Pitcher House site nestled at the top of the shallow valley adjoining the bight may be the footprint of a wooden structure that once stood there. Another area of interest is near Cotton Hole Bight itself, where we might find evidence of boat making and other industrial activities. Test pits can reveal whether either or both of these areas warrant more methodical clearing excavation. Within Pitcher House, a unit placed at the mouth of the oven should uncover a high density of artifacts, providing information about its eighteenth-century residents. Of particular interest would be artifacts that provide insight into the material culture of the enslaved Bermudians living in the Pitcher household.

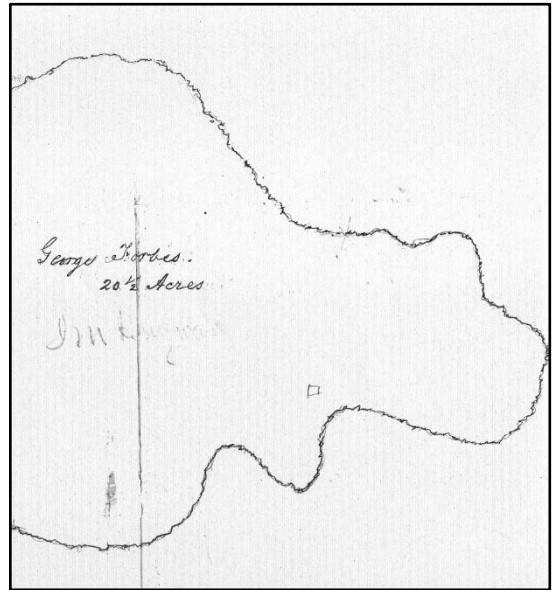


Smallpox Bay Site

By Leigh Koszarsky, Archaeology Field Technician, Christine Davis Consultants

Background

The small one-room ruin at Smallpox Bay was the first site found in 2009. It is marked on a manuscript 1814 map as the only structure on eastern Smith's Island. Excavations in 2013 cleared collapsed roof debris and tentatively dated the building's occupation from the mid-18th to the mid-19th century. Bermuda Assembly acts designating Smith's Island as one of two official quarantine sites from 1731 on, together with the name of the bay, suggest that the structure served as a quarantine site for newly arrived infected sailors and passengers, but the lack of a fireplace and chimney are at odds with this role, since ailing patients confined for weeks would need to cook meals on site.



The 2014 Season

The goal of this season's excavation was to further investigate the possible uses of the stone structure. The oldest ceramics found on the site date to the documented early 18th-century quarantine establishment, but no conclusive material evidence of the site being a "pesthouse" (infirmary) was found in 2013. In addition to the 18th and 19th century ceramics, three postholes were discovered in the 2013 season, suggesting that one or more earlier structures occupied the same location before the present stone ruin was built. This raised the additional question of what sort of structure these post holes belong to and when this earlier occupation occurred.



For the 2014 excavation, a total of seven meter-square units were excavated. Four were placed inside the house (two at the front wall by the door [N5 E6 and N5 E7], one in the middle of the house [N6 E6], and the last in the northeast corner at the back of the house [N7-8 E7]) and excavated to obtain evidence pertaining to the building's use. Three units were satiated outside and in front of the house (N2-4 E7) to determine whether occupants had prepared

and cooked food in an open hearth in the yard – a common West African practice.

Oral interviews with a man who lived on Smith's Island in the 1970s and worked on the hydroponics farm revealed that they used the structure to store irrigation and farming equipment. This was confirmed by the recovery of numerous hose nozzles and plastic planters. They also left a vehicle that was either a Bedford HA van or a Bedford Beagle, which was parked outside the structure and is now a rusty heap. Although the 1970s farmers used the site for storage, there is no evidence that anyone in recent times used it as a domestic structure.



Excavation inside the house revealed several floor joists in the east and west walls, explaining why only relatively small artifacts were found inside the building: only ones tiny enough to slip through the gaps of the floorboards were deposited. Larger artifacts such as the ones relating to the hydroponic farmers were deposited only after the floorboards had decayed or been removed.

It quickly became clear that the site was used by the British military in the 19th century. The initials "GR," standing for *Georgius Rex* (King George III or IV), were engraved on this inside of the north wall. There was also a broad arrow carved beneath the initials, a mark of the Royal Navy and British Army. Recovered artifacts also corroborate a military presence at the site. One button with the "R" of the Royal Engineers was found,



as well as another button made by Firmin of London, which produced military buttons. A third type of button with only a single hole in the middle was also characteristic of military uniforms – fabric would cover them and a thread would be pulled through it to attach it to the garment. The recovery of two buttons bearing the "XX" of the 20th British Regiment of Foot and one 56th Regiment button provide very strong evidence of the presence of soldiers living in the house and led to new avenues of historical research.

The 20th Regiment arrived in Bermuda in November 1841 and suffered a severe yellow fever epidemic in 1843. *The Royal Gazette* noted that the fever “seems to confine its ravages to St. George's only ... Almost every family in it have been laid prostrate and there are but few in the island who have not had to mourn the loss of friends and relatives.”⁵ The epidemic was so bad that the *Gazette* declared that “the island may truly be said to represent one vast sick chamber.”⁶ With Smith's Island so close to St. George's and an established use of the site for quarantine, it would not be



surprising if members of the regiment suffering from the epidemic were sent to Smith's Island to try to reduce the ravages of the disease, especially considering that the deaths were “greater amongst the troops and other Europeans.”⁷ Removing the regimental soldiers from the barracks and fortifications that were hard hit at the beginning of the epidemic and dispersing them throughout Bermuda was the eventual approach adopted in late 1843, when the *Gazette* reported “the troops are now dispersed under canvas on various Island, and the disease is abating.”⁸ Although not appreciated at the time, this strategy removed soldiers from contact with mosquitos transmitting yellow fever and saved many lives.

Like the 20th Regiment, the 56th Regiment was also decimated by yellow fever when an epidemic broke out in St. Georges in August 1853. An official quarantine location was established at Port's Island in the Great Sound, where all but sick patients and medical personnel were barred “from landing upon, or approaching the said Island with the apparent purpose or intent to land on” it while the yellow quarantine flag was flying.⁹ However, not all the infected were taken to Port's Island; many remained in the military hospital in St. George's and those stationed at the Prospect Hill encampment, who “cannot, with safety, be removed to the Hospital at Ports' Island.”¹⁰ It is possible that 56th Regiment soldiers quartered at the Smallpox Bay site were also considered too sick to be moved. It is also possible that the

5 “Fatal Epidemic in the West Indies,” *The Royal Gazette*, December 5, 1843. Bermuda National Library – Digital Collection (accessed June 22, 2014).

<http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/18483/rec/18>.

6 “Fatal Epidemic in the West Indies.” *Royal Gazette*, December 5, 1843.

7 “Bermuda – Great Mortality.” *The Royal Gazette*, December 27, 1843. Bermuda National Library – Digital Collection (accessed June 23, 2014).

<http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/18501/rec/19>

8 “Bermuda – Great Mortality.”

9 “A Proclamation.” *The Royal Gazette*, September 27, 1853. Bermuda National Library – Digital Collection (accessed September 10, 2014)

<http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/15840/rec/11>

10 “Abstract of the Proceedings of the Honorable the House House of Assembly.” *The Royal Gazette*, October 11, 1853. Bermuda National Library – Digital Collection (accessed September 10, 2014).

<http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/15850/rec/13>

Smallpox Bay outpost was not at all used as a quarantine site by the 56th regiment, but rather served to isolate healthy soldiers until the epidemic passed. Regardless of whether the Smallpox Bay structure was used as a sick house or merely an outpost, it is notable that buttons from two regiments afflicted by yellow fever were both present at the site and that no buttons of other regiments stationed in Bermuda in the 1820s-1850s were found. This correlation strongly suggests that military use of the site was related to epidemics, rather than for the regular general quartering of garrison troops.

Other notable artifacts included a small cast metal cannon barrel as well as several clay marbles and a single glass marble. These toys strongly imply that there were children present at the site. The *Royal Gazette* article announcing the arrival of the 20th Regiment on the *Cornwall* and *General Palmer* also listed forty children as passengers on the ships.¹¹ Thirty-nine women also arrived, likely wives of the soldiers, who likely had more children after they arrived in Bermuda.¹² Other regimental soldiers married Bermudian women and started families with them. These toys may have been left by children of soldiers living in the structure, or lost by children quarantined there alongside soldiers during the yellow fever epidemics.

Along with the recovery of numerous buttons, we also found a decorative thimble, which helps explain why so many buttons were found on the site: it was probably used for mending uniforms to keep up the appearance of the regimental troops. The fine attire of the soldiers in Bermuda served as a symbolic reflection of the glory of the British Empire. The band of the 20th Regiment, "which used to perform on the Hamilton Parade, every Tuesday, for the gratification of the inhabitants," was highly regarded by the inhabitants of Bermuda before the yellow fever epidemic made it impossible from them to march in the parade at their full numbers.¹³ Considering the small number of women who came with the regimental soldiers, the men themselves



11 "The Army." *The Royal Gazette*, November 11, 1841. Bermuda National Library – Digital Collection (accessed June 22, 2014).

<http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/19008/rec/10>.

12 "The Army." *Royal Gazette*, November 11, 1841.

13 "Bermuda – Great Mortality." *The Royal Gazette*, December 27, 1843.

would have likely been responsible for maintaining the condition of their uniforms. Alternatively, a soldier's wife may have lived at Smallpox Bay with her husband and child or children and been active as a seamstress.

Other possible uses of the structure could be as a sentry post to monitor potential smuggling activity on nearby St. David's Island or onto Smith's Island itself. The site could well have had multiple uses, as an outpost in normal times and as a quarantine house during epidemics. Alternatively, a non-military family could have lived in the house when it was not being used as a sick house, another way to account for the presence of the thimble and children's toys.

One unfortunate difficulty in dating the site is the overall lack of stratigraphy. Compared to other Smith's Island sites, Smallpox Bay is much closer to sea level and is poorly protected by plant life. Thus, aside from feature fill, there was only one mixed layer of soil atop bedrock (10-15 cm thick) that reflects all periods of activity on the site.

Given the military buttons and the substantial concentration of Annular Ware recovered, the site was clearly active in the early - to-mid 19th century. Examples of all four types of annular ware (banded, cabled, marbled, and mocha) were found on-site. While annular ware was produced as early as the late 18th century and throughout most of the 19th century, the site featured blue banded annular wares which only became common after 1840.¹⁴ The recovery of feather-edged Creamware (with a much earlier production range between 1765-1810) suggests that the site was also occasionally in use in the 18th century.¹⁵



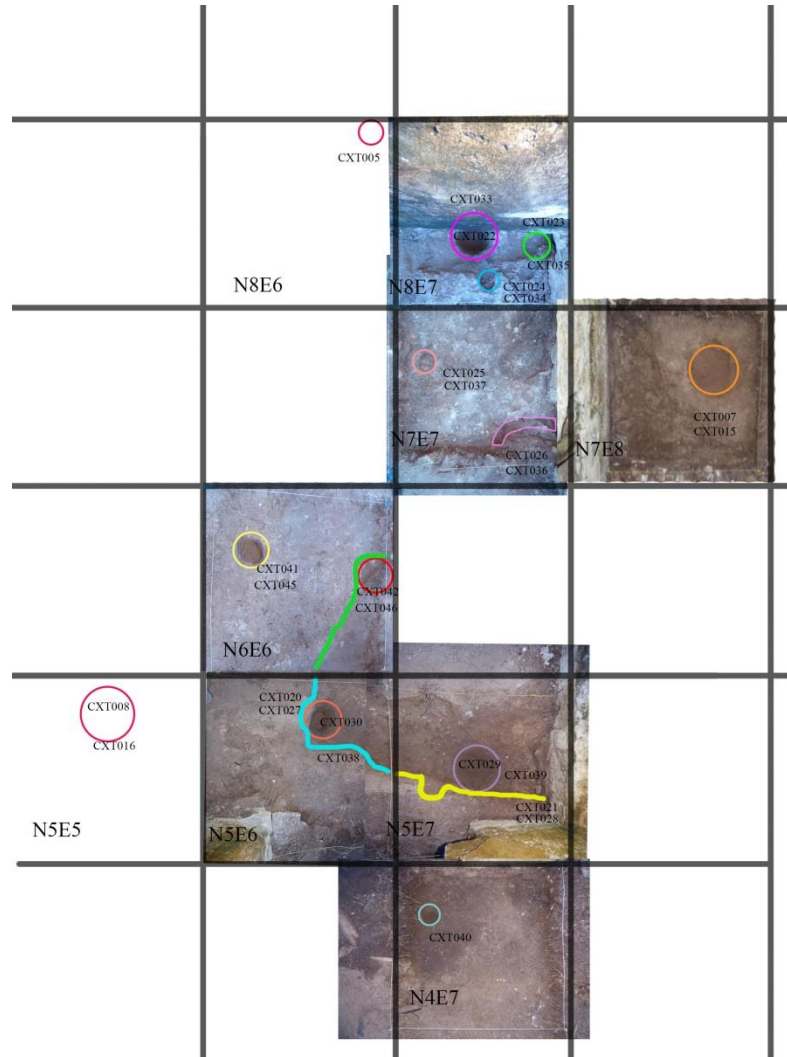
House Interior Features

During the 2013 season, a single posthole was found in each of the three interior units excavated. The postholes in N7 E8 and N5 E5 were between approximately 25 to 30 centimeters in diameter, while the one in N8E6 was considerably smaller at 12 centimeters. The postholes in N7E8 and N5E5 were both packed with rubble at the bottom, suggesting that they were filled to help support wooden posts.

14 "Annular Ware, Banded," Florida Museum of Natural History, accessed October 3, 2014.
https://www.flmnh.ufl.edu/histarch/gallery_types/type_index_display.asp?type_name=ANNULAR%20WARE,%20BANDED

15 "Creamware, Feather Edged," Florida Museum of Natural History, accessed October 3, 2014.
https://www.flmnh.ufl.edu/histarch/gallery_types/type_index_display.asp?type_name=CREAMWARE,%20FEATHER%20EDGED

The 2014 season revealed many more similar features, including nine postholes to make up a total of twelve postholes on the site. Another feature was a curved narrow line, perhaps a natural fissure in the bedrock. A large rectangular feature cut into bedrock spanned three of the excavated squares (N5 E6, N5 E7, and N6 E6) and continues into the unexcavated N6E7 and perhaps even further beyond to the east. The section of the large feature cut in N5E7 had a small notch carved out that served an unknown purpose. Each corner of this rectangular feature cut contained a posthole ranging from 15 to 22 centimeters in diameter. Due to the low artifact count, it is difficult to tell whether the postholes were formed contemporaneously with the rectangular feature cut, or whether the posthole were made first and then the rectangular cut made to lower the structure's floor.



The rectangular cut and the post holes all seem to be a part of a small, narrow, timber-framed structure that predated the stone structure. In N8E7, the posthole cut CXT033 is directly underneath and sealed by northern stone wall, indicating that it was created prior to the construction of the now-standing building. The posthole is 23 centimeters in diameter and 30 centimeters deep. This posthole is similar to two posthole cuts (CXT015 and CXT016) excavated in 2013 in diameter and depth. When the three postholes



Posthole cut and fill underlying the north wall.

are connected, CXT033 appears to form a right-angle corner of an earlier post and beam structure. To confirm the hypothesis, future excavations should look for a fourth post hole of similar dimensions in unit N4 E6. This structure would be narrow, perhaps too much so for a permanent house, but could have served as an outbuilding related to a larger structure nearby.

Including the single smaller posthole from the 2013 season, there are seven small posthole cuts ranging from 12 to 18 centimeters in diameter. All but one of the postholes (CXT034 which is ovate) are round. None of the smaller postholes are deeper than 25 centimeters and one is only 2 centimeters deep. There are no obvious correlations between those postholes, and it would take a larger clearing excavation strategy to discern the placement pattern of several wooden structures that these features may reflect.

The Midden

In addition to excavations in and around the Smallpox Bay ruin, students conducted a surface survey of the area south of the ruin, between it and the shoreline. Hypothesizing that soldiers were stationed at the site would have established a formal midden (as per military hygiene practices) rather than just scattering trash nearby on the surface, students used visual information and a metal detector to turn up numerous positive hits and a dense surface artifact scatter in area approximately 15 meters southeast of the stone structure; these included porcelain, Annular ware, and an axe head. A meter-square test pit was excavated that yielded hundreds of artifacts, supporting identification of this area for trash disposal.

A regimental button from the 42nd Regiment was found in this test pit. This regiment arrived in 1847 from Malta and relieved fever-ravaged 20th Regiment so that the surviving members could relocate to Halifax.¹⁶ The 42nd Regiment did not suffer from yellow fever but probably made use of the same outposts as the 20th Regiment. That the button was not found close the stone structure (as was the case with the 20th and 56th Regimental buttons) may indicate that members of the 42nd Regiment did not live in the building, but only used it intermittently.

Along with ceramic sherds contemporary with the stone military structure, the test pit also contained ceramics dating to the very beginnings of Bermuda's colonial history, including Surrey Borderware. The extremely early dating of these pottery sherds and the numerous postholes found beneath and near the Smallpox Bay stone structure raise a wholly new interpretation of the site area: as the location of Bermuda's short-lived first capital in July 1612.

Interpretation

Bermuda governor and historian Nathaniel Butler chronicles the earliest deliberate attempt to colonize the island with the arrival of the *Plough* in July 1612 with fifty settlers in his *Historye of the Bermudaes*.

16 "Custom House Hamilton," *The Royal Gazette*, February 9, 1847. *The Royal Gazette*, October 11, 1853. Bermuda National Library – Digital Collection (accessed September 10, 2014). <http://cdm15212.contentdm.oclc.org/cdm/compoundobject/collection/BermudaNP02/id/18121/rec/9>

Although the settlers moved to St. George's as a more suitable location within a month, Butler reports that Governor Richard Moore's first town-building effort took place on Smith's Island. The *Plough* settlers chose Smith's Island because Chard, Carter, and Waters had great success on the island growing crops, building up a supply of food, and clearing land.¹⁷

Butler specifies the location of the settlement when he writes that the settlers chose "in a smale iland upon the south side of the harbors chanell, the which at this time carryth the name of Smithes iland."¹⁸ The three sailors, being well-supplied with "an acre of good corne...numbers of pompions, Indian Beanes, many tortoises ready taken; and good store of hogge-flesh," would have lobbied Moore to build his town near the farm they had already established, lest they lose the fruit of their labours.¹⁹

Although Smith's Island was good for farming, its small size and limited resources would have quickly become apparent to Moore. Within a month Moore "remoued his seate from Smith's Iland to St. Georges, for the commoditie and nerenesse of the fresh water...in that valley wher nowe standes the prime towne of the ilands."²⁰ At his new town, he and his settlers built "palmetto cabins" that would have used post holes for the structural beams of the buildings and palmetto thatched roofs. Presumably, Moore's short-lived Smith's Island town would also have had similar impermanent cabins.

The discovery of such a high concentration of postholes on the Smallpox Bay site coupled with a dearth of early seventeenth-century artifacts strongly suggests that we may have discovered the site of Bermuda's first capital. This settlement was only occupied for a month before being abandoned and its residents would not have left much more than the postholes. The site's proximity to two nearby sheltered bays adjoining Smith's Sound where the *Plough* could have anchored or been secured to the shore with mooring lines also fits Nathaniel Butler's description of Moore's first settlement.



17 Butler, Nathaniel. J. Henry Lefroy Ed. *The Historie of the Bermudaes or Summer Islands* (London: Hakluyt Society, 1882), 19.

18 Butler, Nathaniel, *The Historie of the Bermudaes*, 20.

19 Butler, Nathaniel, *The Historie of the Bermudaes*, 20.

20 Butler, Nathaniel, *The Historie of the Bermudaes*, 23.

Further Investigations

Due to time constraints, the midden test pit was not completely excavated. A crucial part of the 2015 season will be to complete excavation of this test pit in order to provide a more precise dating sequence for this area. The few extremely early ceramic sherds that suggest this location may be the site of Bermuda's earliest town warrant further excavation. Given the shallow depth of soil (5-10 cm) in much of this area, a large-scale clearing approach to reveal patterning among a large array of postholes would be the most effective means of establishing whether Moore's Town was located here while also providing additional information about the use of the standing stone quarantine/sentry structure and its uses between circa 1730 and 1850. Such work will involve preliminary clearing of very densely concentrated Mexican pepper and other trees but promises significant informational rewards.

Cave Site

Cave Site was discovered in November 2010 during an informal pedestrian survey conducted by Rick Spurling and Michael Jarvis. Its discovery was surprising, since there was no previous map, documentary or oral evidence of caves being on Smith's Island. The location was unfortunately lost, however, until the site was rediscovered in 2013 during a more methodical survey and its location fixed with a GPS. The cave has two



openings – one flat, wide, and shallow and the other narrow and square, suggesting an entryway. The cave interior was nearly filled with leaves and recently deposited two-by-four timber off-cuts and crate fragments, with about three feet of head clearance at its center. The infill sloped down toward the rear of the cave, which was approximately nine feet deep.

2014 Season

A small three-person crew spent the last week of the field school mapping and conducting limited testing of Cave Site. A metal detector sweep identified numerous modern nails on the surface but also a number of more deeply deposited hits adjoining the walls in the back of the cave, as well as a very large, deep iron object seven feet to the north of the narrower cave entrance abutting the same rock cleft – perhaps indicating another cave that has been completely buried. Preliminary testing centered on the wide and flat cave entrance in order to determine the extent of deposition: is this a deep cave that has been considerably buried or a shallow deposit? The test unit revealed a clear linear cut parallel to the cave entrance, as well as a round posthole centered on the cave mouth, suggesting a wall or other covering may have been placed here at an earlier time. An adjoining unit was opened extending into the cave itself to follow bedrock topography and determine the cave's depth. Excavating inside the cave revealed that the cave roof surface had been methodically worked with chisels to create a smooth surface, and that the floor had also been quarried and similarly smoothed. The flat floor slopes down toward the back of the cave, whose depth remains to be determined in subsequent years' excavations.



Given the undocumented nature of the cave, artifacts provide the sole indicators of usage and dating. Relatively few artifacts were found inside the cave - mostly faunal remains, but two sherds of Astbury ware provide a second-quarter 18th-century date. The presence of a fairly high-status refined earthenware in this cave raises several possible use scenarios. Caves were commonly used by runaway African slaves in Barbados and other West Indian islands, suggesting the site may have served as a clandestine meeting place for Black Bermudians living on Smith's Island – perhaps one or more of the Pitcher Family's five slaves - or others from nearby St. David's. Alternatively, the cave could have been used to hold stolen or smuggled goods – another common 18th century Bermudian activity. The presence of faunal material suggests food consumption occurred here as well. Strikingly, no 19th-century material was recovered, indicating that the cave was not used by the 1872 farmhouse forty yards to the north.



Chisel marks on the cave ceiling

Future Research

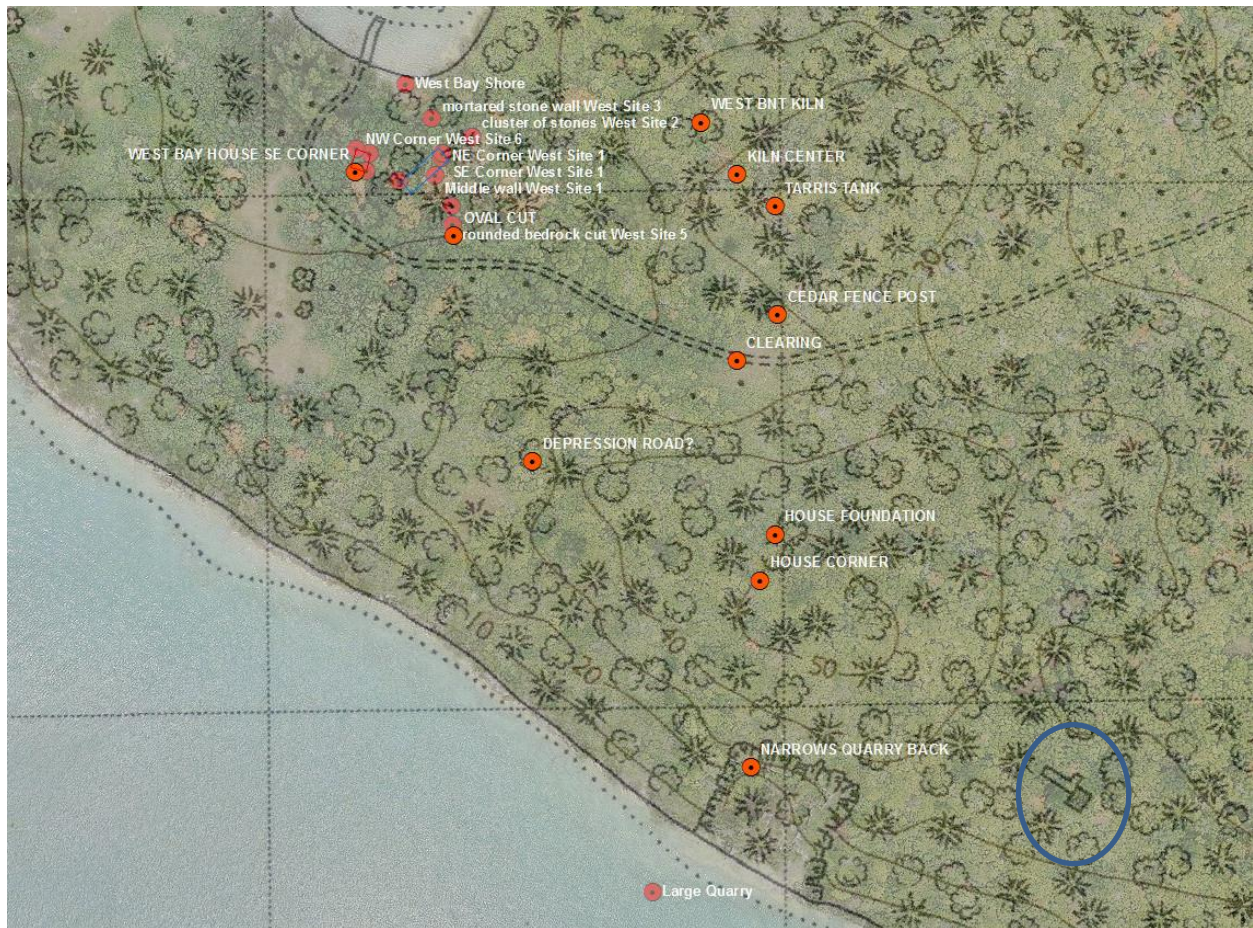
Investigation of Cave Site has just begun. Next year's excavations will likely extend the cross-section trench already begun to determine the cave's depths and dimensions. Testing elsewhere in the cave may reveal whether cooking occurred here, as well as determine if a set of stairs aligns with the narrow cave opening. A test unit centered on the metal anomaly nearby will reveal the nature of this object and whether the cave complex is more extensive than the single site we've identified. Additional datable and diagnostic artifacts found inside and in front of the cave may also reveal other periods of site usage.

Western Smith's Island Site Reconnaissance

In 2013, the SIAP team conducted its first limited pedestrian survey of the Bermuda National Trust's Western third of Smith's Island and identified a cluster of stone house foundations south of the western bay not marked on any maps. We undertook a second, wider-ranging survey this year armed with more precise Garmin GPS units with the intent of firmly locating a deep hole sighted the previous year, thought to be a quarry. Additionally, we sought to investigate a rectangular anomaly visible on the 1962 aerial photo and 1966 ordnance survey map of the island.

The one-day survey revealed three entirely new sites not marked on either the 1898 Savage survey or the 20th-century Bermuda Ordnance Survey series: a very large limekiln, a Tarris-lined cistern presumably associated with a nearby structure, and the foundations of a large stone house. Other features such as an abandoned road bed, a flat clearing that may have once been a field, and an unusual oval cut in a bedrock outcrop also will help us analyze land-use patterns and activities over time.





New 2014 sites projected onto the 1966 Ordnance Survey Map. Note the building anomaly on this map (lower right corner) does not correspond with the identified house foundation.

The limekiln is a huge complex carved into a hillside and consistent in construction techniques with industrial-scale 18th and 19th- century kilns observed in Warwick (on Sanders Frith Brown's property) and at Ferry Reach in St. George's. It consists of a cylindrical shaft eighteen feet in diameter and twenty feet deep, with a stone wall chimney extending another twelve feet, accessed through a trench also carved into the hillside aligned with the kiln's floor. It is highly surprising that surveyor Thomas Savage missed such a large feature, an omission providing further evidence (along with missing east-end features predating 1898 like the Oven Site quarry) that Savage perhaps didn't fully survey Smith's Island. The access trench also had the same raised alcove-like features carved into the wall adjoining the entrance as has been observed in the Oven

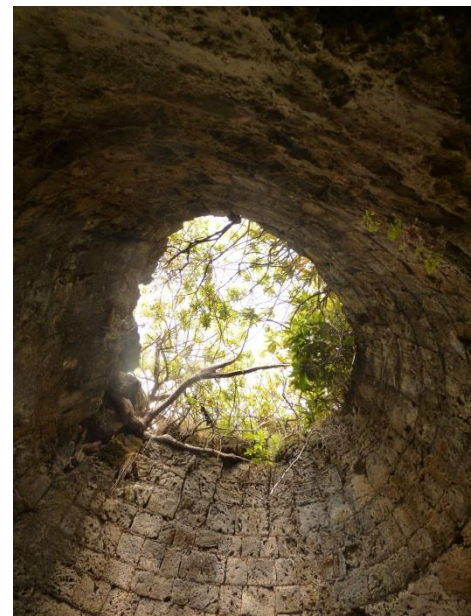


Access trench to Limekiln

Site quarry wall and a small east-end lime kiln, whose purpose is currently unknown. The interior surface of the lime kiln is flat and free of debris and vegetation, suggesting that, unlike many lime kilns elsewhere in Bermuda that became dumping grounds, no one lived close to this site after its last firing.



Alcove feature next to kiln entrance



Approximately thirty yards to the south we located a partly filled tarris-lined water tank without a roof, which logically would be located near a house, whose roof would channel rain water into it. The absence of visible foundation stones raises the possibility of a wooden building, perhaps a timber-framed one. The curved bottom of this tank is highly unusual, also suggesting an early construction date.



The foundation of a much larger L-shaped stone structure occupies the hilltop above the large stone quarry on Smith's Island's southern shore. Measuring at least forty feet long, the building is approximately the size of Stewart Hall in St. George's. Visible surface artifacts include Creamware and tobacco pipe stems. The area has a lot of poison ivy ground cover, however, which will make surveying and excavations complicated.



Southwest corner of the Hilltop House

The survey ended at the area above the large shoreside quarry, which was unreachable due to the steep cliff face; the quarry floor and its environs will be investigated in 2015, particularly since a visitor from St. David's remembers a large natural cave in the area.

A final revelation of the partial foot survey is that there are unknown active contemporary users of the Bermuda National Trust land engaging in illicit marijuana cultivation. We encountered several home-made water cisterns fashioned from



rubbish bins and outfitted with watering hoses, as well as numerous plastic planter bases. Although we did not visit it, aerial photos from 2012 reveal a major clearing at the westernmost point of Smith's Island hidden amidst a grove of trees, with visible planter pots and tarp for rainwater collection. No actual marijuana plants were observed, however, indicating a hiatus in illegal cultivation.



Conclusions

2014 was a breakthrough year for the Smith's Island Archaeology project. With eleven student and seventeen volunteer participants, we were able to investigate four sites simultaneously and discover additional sites at the island's largely unexplored western end. This year's findings establish Smith's Island as the most important single location for studying colonial processes in early seventeenth-century Bermuda. New discoveries and interpretations of Oven Site make it the oldest domestic structure excavated to date – and its circa 1614 construction date make it among the earliest in all Bermuda. With additional excavation, its two-phase construction sequence will enable us to study changes in timber-frame architectural building techniques across the seventeenth century. Artifacts related to its earliest occupation recovered from the front yard should also help us understand the early colony's relationship with its London backers and material suppliers, as well as the broadening of Bermudian trade to other Atlantic sites during the Bermuda Company Period.

A new interpretation of the Smallpox Bay site area in light of the numerous postholes and early ceramics discovered that predate the standing stone ruin also promise to shed light on Bermuda's earliest history. If the area was the site of Governor Moore's Town, the site would mark the location of Bermuda's first capital, predated only by the *Sea Venture* castaway camps and Carter, Chard, and Waters' farm. Given its brief occupation, one would expect a very sparse material assemblage but the enduring array of postholes would shed light on the first Bermudians' building techniques and vernacular floor plan traditions.

Although the Cotton Hole Bight site did not prove to be the homestead of Carter, Chard, and Waters, the adjoining valley and shore may yield evidence of their farm and boatbuilding activities. Future excavations at the Pitcher House (as we now know it to be) can inform us of a struggling mid-eighteenth-century family and its slaves that mixed subsistence agriculture with local maritime activities, as well as subsequent but unknown occupants who apparently engaged in metalworking activities at the site.

Cave Site's initial testing definitively proved human occupation and modification of the site, in the form of constructing a covering of the cave mouth and smoothing out its interior ceiling to render it more comfortable. Artifacts recovered provide evidence of food consumption and suggest a mid-eighteenth-century occupancy, but considerably more investigation is necessary before this site can be fully assessed.

Finally, reconnaissance of Smith's Island's western third in 2013 and 2014 revealed a complex array of sites likely dating from the seventeenth through nineteenth centuries that are entirely undocumented. These include three domestic sites (two by the western bay that were probably wooden structures set on stone footings, and one large stone hilltop house near the western quarry), a water tank that may reveal a fourth, and an extremely well-preserved commercial limekiln. Once we gain a full assessment of Smith's Island's eastern sites, it will take several additional seasons of fieldwork to investigate and understand the wealth of well-preserved sites on the Bermuda National Trust's land.

Addendum to "Excavating Earliest Bermuda: The Smith's Island 2014 Field Season", April 2015

The archaeological field methods, management plan, and dynamic progressive assessment of sites and research designs have annually followed those laid out in the first 2010 season site report, but I am reiterating them here to establish the Smith's Island Archaeology Project's conformity with the Department of Planning's 2008 GN119 Policy Statement. As an ambitious, multi-year research project with a broad temporal horizon, SIAP's Archaeological Management Plan is best comparable with the work of Dr. Norman Barka and Dr. Edward Harris in the 1990s, which undertook the sequential investigation of all of Bermuda's earliest fortifications. This addendum outlines the long-term planning for site analysis and publication, which is different and more complicated than the single-site, single season work (ex. Whitehall, Southampton Cottage) conducted in recent years.

Archaeological Assessment, Recommendations, and Further Research

When the Bermuda Government purchased the eastern third of Smith's Island in 1987, it became the caretaker of a unique collection of archaeological sites spanning four centuries. Public acquisition has preserved these sites more or less intact, although slight deterioration due to invasive vegetation, storms, and other natural forces has occurred. The overgrown nature of most of the park has serendipitously discouraged most members of the public from visiting the island, which has helped minimize site disturbance. Any plans to promote greater visitation (such as was done at Hog Bay Park in the mid-1990s) should strive to carefully balance preservation of known (and yet to be found) archaeological sites with the development of public access infrastructure. Our investigations over the past three summers have struck a balance between minimal disturbance of identified sites, engaging Smith's Island residents as caretakers of otherwise unmonitored cultural resources (since the Bermuda Parks maintains no regular inspections of this property), and (in partnership with the Bermuda National Trust and St. George's Foundation) making important archaeological sites safely accessible to the Bermuda public through guided tours during field seasons.

As reflected in the annual reports (publicly published and available at Academia.edu: <http://rochester.academia.edu/MichaelJarvis>) and reported on the SIAP's blog, smithsislandarchaeology.blogspot.edu, the past four field seasons have been successful in a succession of specific research design questions relevant to each of the four sites thus far investigated. Ongoing documentary research has revealed most of the known owners and occupants of Smith's Island over the past 400 years, as well as some of agricultural, industrial, and maritime activities in which they engaged. More recently, we have identified several oral history informants who have shared with us information about the workings and the locations of various agricultural activities and buildings dating to the 1790s hydroponic farming operations. Through maps and foot survey, we have now identified twenty-three sites and/or activity areas across the length of Smith's Island.

Archaeological Assessment

As outlined in Department of Planning Archaeological Assessment Document GN119, an archaeological assessment explicitly considers six specific criteria or sets of questions:

1. **Impact on resources:** will any proposed work disturb the ground in any way and therefore alter or destroy potential archaeological resources?
2. **Site integrity:** has the area where proposed work is planned already been excavated in a manner that reduces the research or public value of any archaeological resources?
3. **Presence of materials:** Is there evidence of archaeological resources or historic structures on the property?
4. **Research value:** how important would be the potential archaeological resources?
5. **Rarity:** How unique is the site in question, in relation to the island's cultural heritage?
6. **Public Value:** How important is the site in question, in relation to the island's cultural heritage?

Fortunately in the context of the Parks Department's portion of Smith's Island, no work that would impact archaeological remains is currently being contemplated, so criteria #1 does not apply. Aerial photographs from 1973 and 1981 and preliminary foot survey revelations make it clear that farming and mechanical earthmoving equipment have already substantially compromised the archaeological integrity and likely survival of sites in the eastern portion of the island (criteria #2). Quarrying in the 19th and 18th centuries have destroyed at least portions of Oven Site and Cotton Hole Bight Site dating to earlier periods and it is not possible to assess what may have been lost as a result. Much of the rest of the area is well preserved. The historic overview section of the 2010, 2012, and 2013 reports and results from the foot survey and test excavations reveal an abundance of evidence of historic structures and activities (criteria #3), underscoring the high value of Smith's Island generally (and the park area specifically) to future archaeological research. Smith's Island boasts several rare or unique types of sites, including the Oven Site (now established as the structure denoted on Norwood's 1617 survey and possessing distinctive insights into early architectural construction techniques), the whale house and related try works and whale processing features, and the as-yet-undiscovered farmstead of Christopher Carter, Edward Chard, and Edward Waters – a site of national significance as Bermuda's earliest farm and of international significance as the place where tobacco was first commercially cultivated within English America. The Smallpox Bay ruin is only one of a handful of designated quarantine sites established under 18th- and 19th-century Bermuda laws and offers scholars a rare opportunity to consider and study medical practices and the relationship between maritime commerce and public health policies in the early modern Atlantic World. The discovery of numerous postholes underlying the ruin reveals a much earlier occupation of the same location; geography and historic evidence strongly suggest the site as the location of Governor Richard Moore's brief first town, built on Smith's Island in July and August 1612. Smith's Island's many sites, in summation, are highly significant to Bermuda's cultural heritage, individually and more importantly successively as a collected, integrated assemblage that reflects critical settlement, agricultural, maritime, and military periods of history across four centuries.

Archaeological Summary of Work To Date and Management Plan

Document GN119 specifies consideration of five potential components of an Archaeological Management Plan used to guide researchers and Bermudian home owners:

1. Field Evaluation: a limited programme of non-intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or eco-facts within a specified site and, if they are present, defines their character, extent and relative quality.
2. Watching Brief: a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons in an area where there is a possibility where archaeological deposits may be disturbed or destroyed.
3. Building Investigation and Recording: a programme of work intended to establish the character, history, dating, form and archaeological development of a specified building, structure or complex and its setting.
4. Excavation: a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological features and structures and, as appropriate, retrieves artefacts, eco-facts and other remains within a specified site.
5. Collection, Documentation, Conservation and Research of Archaeological Materials: the process of retrieving, sorting, cleaning, marking, conserving, recording, analysing, interpreting and preparing for permanent storage all materials retained as a result of archaeological fieldwork and disseminating the results.

As applied to an academic archaeological research project like SIAP, Items 1 and 2 were effectively addressed in the 2010 and subsequent field season reports via intensive historical research, pedestrian surveys, and other forms of non-invasive remote sensing.

Item 3 relates principally to the ruin at Smallpox Bay, since it is the only site under consideration with tangible above-ground remains, but the discussion that follows addresses archaeological methods as well.

Recording at all sites under investigation has been done as a matter of course in fieldwork. The Smith's Island Archaeological Project has always followed the single-context metric-based excavation system pioneered by Dr. Marley R. Brown III at Colonial Williamsburg in the 1980s. It has more recently been slightly modified specifically for Bermuda by Dr. Brent Fortenberry for use in the St. George's Archaeological Research Project (SGARP). We use Fortenberry's SGARP forms and system to maintain comparability with his work and all other BNT-sponsored archaeological excavations in St. George's since 1989. The system records standing buildings and excavated layers and features in precise dimensions within a local meter-square grid established locally for each site with an ordinal north orientation. Standing ruins and excavated units each have plan drawings made, and profile drawings

for squares and trenches upon completion of excavation by hitting bedrock. Every unit surface is also photographed prior to excavation, with an identification board and with and without flash. Diagnostically significant unit plans are also digitized for eventual integration into a GIS. In addition, SIAP has incorporated new methods of digital archaeology recording through photogrammetry to create precise 3D models of Oven Site for more sophisticated study and digital reconstruction. We plan in 2015 to also experiment with a field laser scanner unit to obtain even more precise data models. If successful, these new techniques will provide a fieldwork equivalent of the standing architectural recording that Dr. Edward Harris and the National Museum of Bermuda has done for Casemates and other significant structures at HM Dockyard.

SIAP has partnered with the University of Rochester's Information Technology and Data Librarians to establish a secure digital storage backup of all recorded data for all SIAP sites, including photographs, PDF scans of all context, master context, and other site forms, scans of all historic research notes, and 3D models. This information has also been provided to the Bermuda National Trust's Archaeological Research Committee for other interested researchers to reference in the interests of open collaboration and professional transparency. Multiple secure locations of digital-format field information safeguards against catastrophic data loss.

The other elements of Item 3 (identifying the character/uses, dates, form, and evolutionary developments of a structure or site) have been addressed as a fundamental element of archaeological field work and have been reported on in each annual fieldwork summary report.

SIAP follows Colonial Williamsburg and SGARP practices, which are among the best currently practiced. Excavations have and will continue to be guided by specific research questions, previously stated in past fieldwork reports. The degree to which these research questions have been answered has been regularly addressed in the summary and future research sections on an annual basis.

All excavations are carried out within the single context system, with the standard unit being one meter square. Contexts are almost always defined following natural stratigraphy, but in cases of a very thick layer deposit arbitrary level contexts have been incorporated to more precisely analyze potential differences in upper and lower portions of a natural stratigraphic layer. Individual contexts are linked to Master Contexts following the Harris Matrix recording system.

To date, the distribution of excavated contexts per site is:

	2010	2012	2013	2014	Total
Oven Site	14	113			
Cotton Hole Bight					
Smallpox Bay					
Cave Site					
Test Pits (Dickinson House Construction site)			15		

All excavated units were sifted at least through 1/4 inch screen; feature deposits were screened using 1/8 inch mesh. With the exception of undifferentiated quarry fill deposits (removed with shovels), all units were excavated using hand trowels, with important artifacts recorded in situ.

Features were recorded in plan and photography and given their own Master Context feature and cut designations. Significant diagnostic features and their interpretations are well covered in previous field season reports for each of the above sites.

Artifacts recovered from each unit are appropriately bagged. At the BNT-ARC Reeve Court Lab, each context's artifacts are washed, dried, sorted into artifact type classes (glass, faunal, ceramic, ferrous and non-ferrous metals, organic, etc.) and individually bagged. Standard archaeological conservation practices are followed for the long-term storage of recovered material, following David Leigh and David Watkinson, *First Aid For Finds* (UK, 1998). To date, the total collective assemblage of all sites is quite modest, filling only five banker boxes. This itself provides an important insight into the sparse material culture of early 17th-century life in Bermuda as an island frontier outpost and an impoverished tobacco colony (1620s-1690s).

Due to the long term, multi-year investigation plan for the sites, cataloging artifacts by context was deferred to 2014 due to the tiny, statistically unsound sample (i.e., we could have generated counts but the data set would be too small to render any meaningful inferences). Also, there was no working computer in the Reeve Court lab to use. As part of the 2014 field school, students were trained to catalog and enter into an Excel database artifact counts for Oven Site contexts 001 (2010) through 200 (2013). The work was done on a computer specifically brought down for use in the Reeve Court lab. Work was scheduled to complete the cataloging of all contexts of all sites but the lab monitor proved defective and we lost a week's work before obtaining a replacement.

The 2015 field season will begin with three trained returning field school veterans (Miriam Beard, Alice Wynd, Samantha Martinez) arriving several days early and cataloging all remaining contexts before any new field work commences, so this aspect of recording will be up to date.

Fieldwork in 2015 will follow the same established and professionally standard protocols. At the end of the season, all recovered material will be sorted and housed in a stable environment and cataloged for further study. In preparation for a synthetic site report and

publication (see below), we will photograph significant and diagnostic artifacts individually and by context association for later reference and display.

5. Collection, Documentation, Conservation and Research of Archaeological Materials

The Smith's Island Archaeological Project has always been conceived as a multi-year investigation program that takes the entire island's history and succession of human activities as its unit of study. The 2015 season will finalize investigation and active excavation of the Oven House Site and, likely, Cave Site and the quarantine house ruin at Smallpox Bay. There will be no field school in 2016. Instead, the Principal Investigator will work with the Bermuda National Trust to obtain an export license for the Smith's Island assemblage and bring it to lab space in Rush Rhees Library of the University of Rochester for analysis and study during the summer and fall of 2016. This will allow him to analyze artifact patterns at sites by type, refine the interpretation of the Harris Matrix, and complete cross-mending associations where appropriate. If funding permits, he will also engage Marie-Lorraine Pipes, a consultant zooarchaeologist, to analyze the faunal assemblage. Moving the SIAP material to the University of Rochester will also facilitate potential complex investigations through collaboration with the university's Earth and Environmental Study and Chemistry Departments, which has access to spectrometers and scanning electron microscopes (any extraordinary analysis of this sort will be pre-cleared with the Bermuda National Trust and/or the Bermuda Parks Department).

SIAP collection methods has already been addressed. Between seasons, the assemblage is stored in a climate-controlled annex to the BNT's Reeve Court Lab in St. George's. It occupies a very small fraction of the total storage space, in which currently all previous excavated material from St. George's sites reside. If physical space for storing artifacts becomes a crisis for the BNT-ARC, perhaps it could come to an arrangement with the St. George's Foundation, which currently has a very large climate-controlled storeroom that is mostly empty in the World Heritage Center.

Documentation and Conservation issues have been previously addressed; all field excavation documentation and artifact catalogues have been digitized and stored in multiple locations to ensure their survival. Basic conservation of artifacts following current archaeological field practices is done as a matter of course. In the event of an extraordinary find that warrants an intensive conservation intervention, SIAP would work closely with the BNT and professionals at the NMB to formulate a specific plan, most likely resulting in the artifact's removal to the Corange Laboratory for treatment. To date, no finds have warranted this expedient.

Ownership of the artifacts recovered by the SIAP, as I understand it, resides in the Bermuda Government, specifically the Parks Department. The Bermuda National Trust, however, is the custodian of the artifacts and has the rights to exhibit artifacts or otherwise use them for educational purposes. Any further arrangements regarding artifact ownership may be determined by the Directors of the Bermuda National Trust and Parks Department, independent of SIAP.

Dissemination and Publication

The SIAP blog disseminates current field work to a general international public, including Bermudians who cannot physically get to the sites. Its unique visitor count has recently surpassed 33,000, showing strong local and global interest in Bermuda and its history.

Professional reporting of the SIAP has taken the form of a paper presentation, "**Bermuda in Microcosm: The Smith's Island Archaeology Project, 1610-2014**", at the Society for Historical Archaeology's annual national conference in Seattle in January 2015.

In lieu of excavation in 2016, Jarvis will study the SIAP assemblage and author a major report synthesizing all the historical research to date from the 2010 and 2012-2015 summary reports, as well as full scientific studies of Oven Site, Cotton Hole Bight, Smallpox Bay, and Cave Site. The site will include tables of all recovered artifacts and analysis of site patterns and discernible human activities. Funding to produce this final report will be sought through the Archaeological Institute of America's Publication Subvention fund and possible Bermuda sources. An article version of the final report will be prepared and submitted to the *Bermuda Journal of Archaeology and Maritime History*, modeled on John Triggs' study of the Warwick Parish Cocoon Site but emphasizing new insights into the "lost first century" of early Bermuda timber-frame house construction.

After study, the SIAP assemblage will be returned to Bermuda and the custody of the BNT-ARC for permanent storage in the Reeve Court Lab annex or other appropriate sites of the BNT's choosing.

After completion of the "East End Assessment" of Smith's Island in 2016, it is hoped that the SIAP can shift its focus to the numerous and virtually undocumented domestic and industrial sites recently identified at Smith's Island's West End, owned by the Bermuda National Trust. These sites nicely complement the East End sites, in that they principally date to the early 18th through mid-19th centuries and reflect the continuation of vernacular cultural development as seen at the East End's 17th-century sites. We would develop a new Archaeological Management Plan around this new area focus as another multi-year project spanning 2017-2020 should the BNT endorse and support it.