



## Defying COVID: Archaeological Excavations and Survey Work at Smith's Island, Bermuda, April-May 2021

A Report Prepared for the Bermuda National Trust Archaeology Research Committee  
and the Bermuda Government

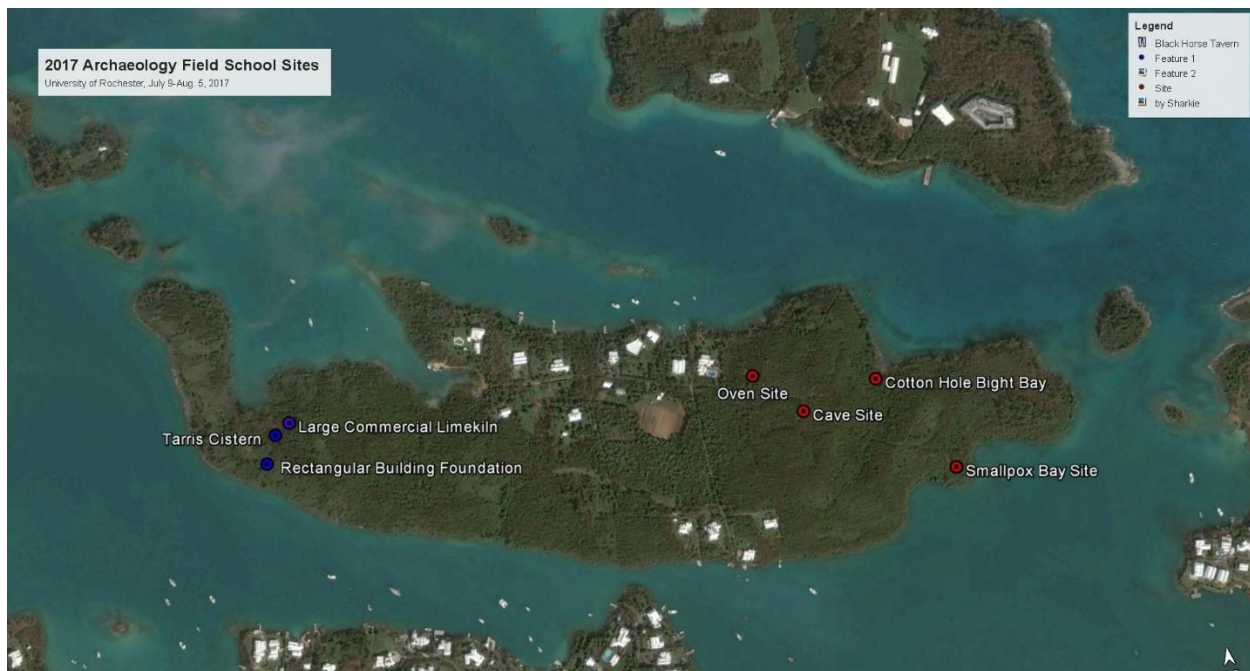
Dr. Michael Jarvis, University of Rochester  
June 24, 2021





## Introduction and Acknowledgements

The Smith's Island Archaeology Project (SIAP) was conceived in 2010 as a methodical campaign of historical research, archaeological survey and excavation, GIS site analysis, public education, and digital recording and 3D modeling that took as its unit of study the entirety of Smith's Island from earliest settlement to the present. Between 2012 and 2017, a substantial body of data was collected through running university-level academic archaeological field schools, with focused excavations at five locations within the Bermuda Government Amenity Park at Smith's Island's east end. In June 2019, a small non-field school team of Bermudian volunteers mapped and excavated several sites at the island's Western Bay. Collectively, SIAP has identified more than thirty sites of historical and archaeological significance on Smith's Island and has fully investigated two: Oven Site, a 17<sup>th</sup>-century domestic kitchen/outbuilding, and an unused lime kiln at the head of the Cottonhole Bight valley.



*Figure 1 Principal SIAP Excavated Sites, 2010-2019*

This season revived active SIAP fieldwork after a two-year hiatus sparked by global COVID-19 pandemic-related disruptions and focused on the standing stone ruin at Smallpox Bay at the island's east end. Previous research and excavations (Jarvis, 2013, 2014, 2015, 2017; Koszarsky, 2018) revealed that this structure was likely built in the 18<sup>th</sup> century as a smallpox quarantine site for infected sailors and passengers arriving by

ship and was also used by the British military during Yellow Fever epidemics in the 19<sup>th</sup> century. Excavations had also exposed numerous post holes cut into bedrock relating to a much earlier occupation of the site, dating to the first quarter of the 17<sup>th</sup> century.

The author conducted excavations between April 27 and May 15, 2021, either alone or with one or two Bermudian volunteers, and kept in compliance of all Bermuda Government COVID-19 protocols throughout his stay. During the period of fieldwork, Bermuda suffered its second substantial wave of COVID-19 infections, which prompted an island-wide shutdown, curfew, and substantial suspension of services. Thankfully, working outdoors in a well-ventilated setting and social distancing produced by excavating spatially separated units enabled fieldwork to be completed in a safe manner following public health best practices.

I am grateful to Michael Dickinson and the Dickinson family for his substantial and generous support of my ad hoc fieldwork by providing housing, equipment, use of a dock, and coordination with other Smith's Islanders throughout the season. I also thank Dr. Ian Walker, Colin Brown, and the Bermuda Aquarium, Museum and Zoo for use of a boat to get to and from Smith's Island; along with Trevor Rawson and Nigel Pollard, he also helped clear a newly discovered tank site prior to mapping (see below).



*Figure 2. Small round post holes cut into Bermuda limestone bedrock adjoining the Smallpox Bay ruin site.*





As chair of the Bermuda National Trust Archaeology Research Committee, Zoe Brady was enormously helpful in navigating the logistics of undertaking fieldwork and extending use of the BNT's archaeology lab for artifact analysis and storage. The Cook family provided invaluable support ranging from housing and transportation to and from mandatory COVID testing to equipment loans, data entry, and labour; I especially valued Annette Cook's formidable organizational skills. Finally, Xander Cook provided invaluable help in the field as a skilled volunteer archaeologist who essentially doubled my workforce and proved a companion and friend during fieldwork.



Masking in paradise and Hamilton as a ghost town, looking toward the Perot Post Office COVID testing site.

## Fieldwork

The focus of this short, intensive field season was to develop and test the hypothesis that the post hole clusters previously exposed at the Smallpox Bay ruin site relate to the construction of Governor Richard Moore's first, briefly occupied town established in July and August 1612 and built by Bermuda's first sixty colonists arriving on the *Plough*. After the *Plough's* departure (unstated but probably late August or September 1612), Moore moved his capital across the harbour to St. George's and abandoned his Smith's Island site. The presence of post holes (reflecting timber-frame construction techniques largely abandoned by the late seventeenth century I Bermuda), the linear patterning of many post holes suggesting walls, and the presence of coarse earthenware ceramics dating to the early seventeenth century found in the fill of several post holes all provided evidence to support the hypothesis that Moore's 1612 town was located on the Smallpox Bay peninsula, but the limited extent of past excavations were suggestive rather than definitive.

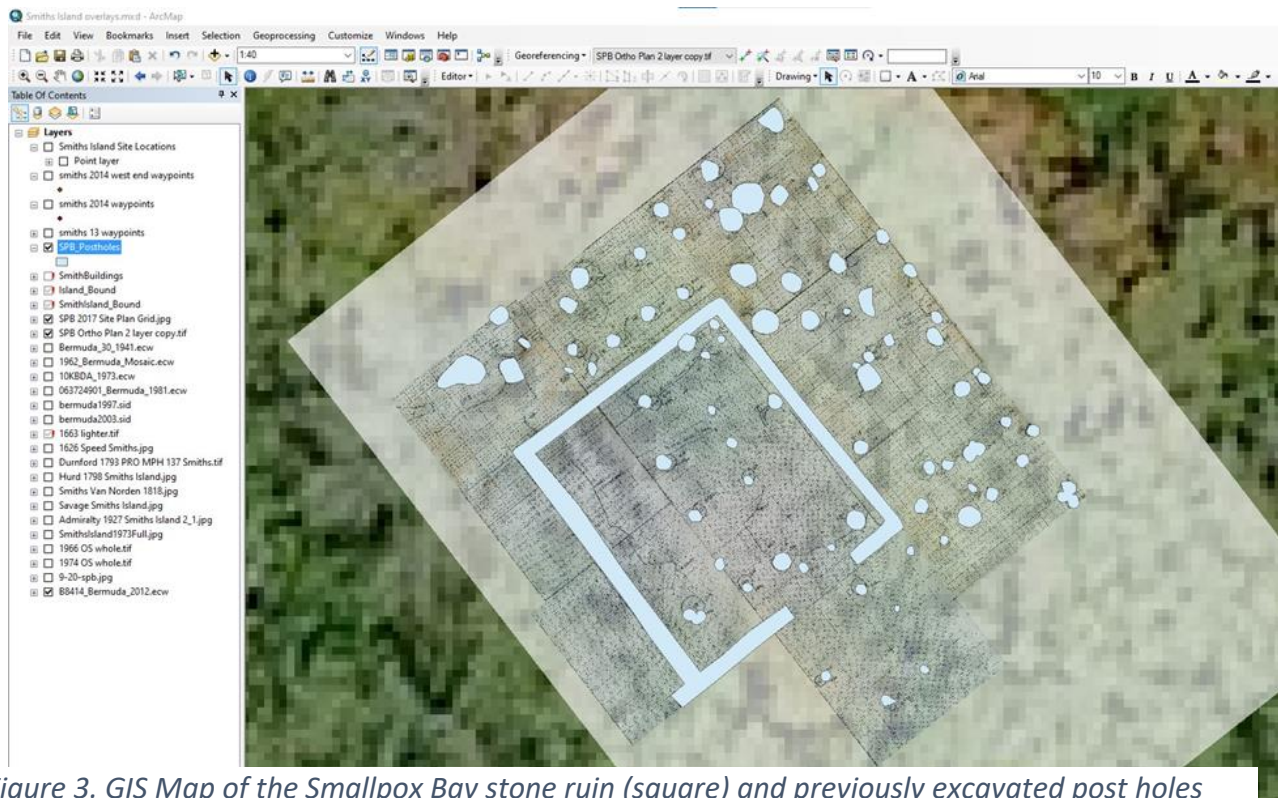


Figure 3. GIS Map of the Smallpox Bay stone ruin (square) and previously excavated post holes predating the stone structure.



This season's fieldwork sought to build a better case by following out apparent linear patterning of post holes away from the stone ruin, more closely analyzing the shape, size, and depth of the confusing array of previously exposed post holes and seeking to recover additional artifacts diagnostic of a 1610s occupation.



*Figure 4. Plan of previous and current season excavations adjoining the Smallpox Bay ruin site.*

Fieldwork largely extended previous clearing around the stone ruin by opening eight new meter-square units, but Jarvis also excavated another 3 meter-square units downhill and east of the ruin (Locus 2 and 3) adjoining an earlier test pit and probing a flat area bordering the head of Smallpox Bay. Smallpox Bay (SPB) main site excavations included 46 contexts consisting of 26 layers and 20 features. Re-examination of previously excavation areas also identified eight features that were not properly mapped and have now been added to the SIAP ArcGIS database.

All units were excavated by hand (trowel). Stratigraphic layer material was sifted through quarter-inch mesh, while feature fill was sifted through eighth-inch mesh screens. All artifacts were washed, sorted, and bagged in archival-quality storage containers and 94% of the material was counted and inventoried for entry into the SIAP master database.



*Figure 5. Excavations to the north and east of the stone ruin. Note variations in the size and shape of post holes and overlapping cuts (lower left) of a repaired or replaced post.*

In addition to excavations immediately adjoining the stone ruin, I considerably cleared a large area extending approximately eight meters to the south, which entailed removal of multiple overgrown Mexican Pepper trees as well as parts of the decayed 1960s Bedford truck left just to the southwest of the ruin. This clearing revealed a large flat area and then a semicircular rounded ridge roughly conforming in shape with the peninsula's shoreline. After extending the main site grid into the newly cleared area, I positioned a 50cm wide trench to bisect the ridge to obtain a cross-section. Excavation revealed a natural hard bedrock base (an unusual geological feature) only lightly covered with soil and a dense concentration of hydroponics farming detritus (black plastic watering nozzles, wire, deteriorating plastic planter packs), but also two large square (20cm diameter) deep post holes positioned four feet apart. An additional two





*Figures 6 & 7. Clearing the flat area to the south of the stone ruin (left) and the excavated exploratory trench bisecting a rise revealing two post holes four feet apart.*

units were excavated at a location projected to be four feet north of this line and found post holes in the predicted spots, suggesting a deliberate man-made wall or fence line. It is also noteworthy that, unlike the area around the stone ruin, the bedrock surface in this area was substantially intact, demonstrating contrast or variation in hole cuts that further supports interpretation that these are human, rather than natural, features.

## **LOCUS 2**

Located approximately eleven meters southeast of the southeastern corner of the stone ruin downhill, Locus 2 was initially identified as an apparent midden found through a random test pit in 2014, which yielded a mix of 19<sup>th</sup> and early 17<sup>th</sup> c. ceramics. Two additional meter



*Figure 8. Smallpox Bay Peninsula Locus locations.*



square units adjoining the initial test pit determined that this was not a midden feature but rather a substantial sheet refuse layer containing a nearly even mix of seventeenth- and nineteenth-century artifacts that are probably related to a site occupied uphill to



*Figure 9. Locus 2 mid-excavation. Note the bedrock surface sloping from the peninsula's flat center toward the shoreline.*

the west. Stratigraphy was uniformly thick (41-45 cm) in all three units despite the slope. A single-course unmortared Bermuda stone wall corner was revealed in unit N5 E6 (designated CXT 006), with the topmost two layers west of/inside the corner saturated with burned modern trash – charcoal, ash, cans, melted glass, plastic and rubber, plastic bags, etc. This stone wall feature is almost certainly related to the 1970s hydroponics farming enterprise and perhaps served as the footing for an ephemeral building or platform for nursery stock, and then was subsequently used for trash disposal in the waning days of operation.

Two uniformly thick layers (MCXT 002 & 003) underneath remained undisturbed and yielded high concentrations of evenly mixed early seventeenth- and nineteenth-century artifacts, mostly ceramics. Curiously, Surry Green Borderware and other red coarse earthenwares were found toward the top of MCXT 002, while Annularware sherds were found resting directly on bedrock at the bottom of MCXT 003, suggesting that either the area was laid bare and dirt redeposited in the nineteenth century when British Army

soldiers and their families occupied the area during periods of Yellow Fever (unlikely), or that the early material was excavated in the nineteenth century, likely uphill to the west, and then was distributed through natural erosion across the downslope area intermingled with nineteenth-century trash, and then worm action and other natural forces resulted in the vertical migration of artifacts from both eras downward to rest on bedrock over the intervening centuries.

### LOCUS 3

This meter-square unit was placed in a flat area where the now-overgrown main east-west road terminates near the shoreline. The location was chosen for the presence of a building outline on the 1973 Bermuda OS map and also upon the assumption that past occupants would have favored flat (rather than sloping) topography for house construction. Excavation revealed only a single granular sandy loam layer 2-6 cm deep overlying a uniform unbroken hard crust bedrock and no artifacts. Either the area was never occupied or layers that had previously covered this area were removed when the modern farming road was made.



*Figure 10. Locus 3, situated to the east and downhill from the main Smallpox Bay ruin site. The unit was positioned near an old overgrown road.*

### Analysis and Interpretation

Excavation and attention to artifact distribution near the Smallpox Bay ruin (Locus 1) this season produced several new insights into our ongoing interpretation of the site and plans for future investigation. While the stratigraphic sequence was found to be uniformly consistent around the ruin's exterior yard (two distinct layers approximately 20 to 30 cm in depth atop a flat hard bedrock surface into which post hole features were cut), distinct artifact patterning sheds light particularly on the second-phase quarantine and military use of the site.



Broadly speaking, nineteenth-century military-associated artifacts concentrate near the exterior walls of the ruin and sharply taper in frequency as distance increases. Unit N6E8 (Cxt 082) near the ruin's eastern window yielded the most military-associated artifacts, including numerous transfer print ceramics, a 42<sup>nd</sup> Regiment button, a Royal Engineers button (Victoria reign, 1837-1901), a gunflint, and an 1863 Queen Victoria



Figure 11. Artifacts recovered from N6E8, Context 082.

British penny. The 42<sup>nd</sup> Regiment was stationed in Bermuda between 1847 and 1851, a period that was free of yellow fever locally; it is the first regimental button found not directly associated with an epidemic-induced troop relocation:

Yellow Fever Epidemic	Bermuda Garrison
1796	47th Regt.
1812	13 <sup>th</sup> Regt.
1818-19	27 <sup>th</sup> Regt.
1837	30 <sup>th</sup> Regt.
1843	20 <sup>th</sup> Regt.
1853	56 <sup>th</sup> Regt.
1856	26 <sup>th</sup> Regt.
1864	39 <sup>th</sup> Regt.



Figure 12. 1863 English penny (SPB21-CXT.082)

The 1863 Victoria penny, however, closely associates with the 1864 Yellow Fever epidemic that ravaged St. George's and forced the 39<sup>th</sup> Regiment to relocate troops and their families from Barracks Hill. This was the last major disruptive yellow fever outbreak to hit Bermuda. Taken together, this dated penny and the fact that no later coins, regimental buttons or late nineteenth/early twentieth-century artifacts have been found at Locus 1 strongly suggest that the stone

ruin was not occupied after the 1864 epidemic and fell into disuse thereafter until it was refurbished for 1960s-70s hydroponics operations.

Artifacts recovered in units to the north (effectively behind) the stone ruin exhibit a different distribution pattern from the extensively excavated areas to the east and south. Northern units yielded relatively few nineteenth-century ceramics and little faunal material but did contain large concentrations of broken green bottle glass – a distribution pattern that suggests it was a place favored by soldiers and other occupants for alcohol consumption - or at least disposal of liquor bottles. Given that the entire peninsula was likely cleared of trees in much of the 19<sup>th</sup> century and the house visible from the water by passing boats, drinking in this area made common sense since participants would have been shielded from view.

The northern unit assemblage (especially N8-9 E5) is also noteworthy for its unusual concentration of deteriorated eighteenth-century ceramics. While associations between the stone ruin and nineteenth-century military occupation are strong (most notably for the “GR” [*Georgius Rex*] and broad arrow carved into the building’s northern interior wall), its construction date and association with earlier eighteenth-century maritime quarantine regulations still remains unclear. Previous years’ excavations recovered mostly nineteenth-century ceramics, but numerous sherds of deteriorated black-glaze redware, tin-glazed earthenware, and Staffordshire combed and mottled slipware in a stratigraphic layer abutting the stone ruin’s foundation point to an earlier mid-eighteenth-century construction date and quarantine usage.



*Figure 13. Location of SPB Locus 1 units N8-9, E5. Yellow flagging tape denotes unexcavated features.*





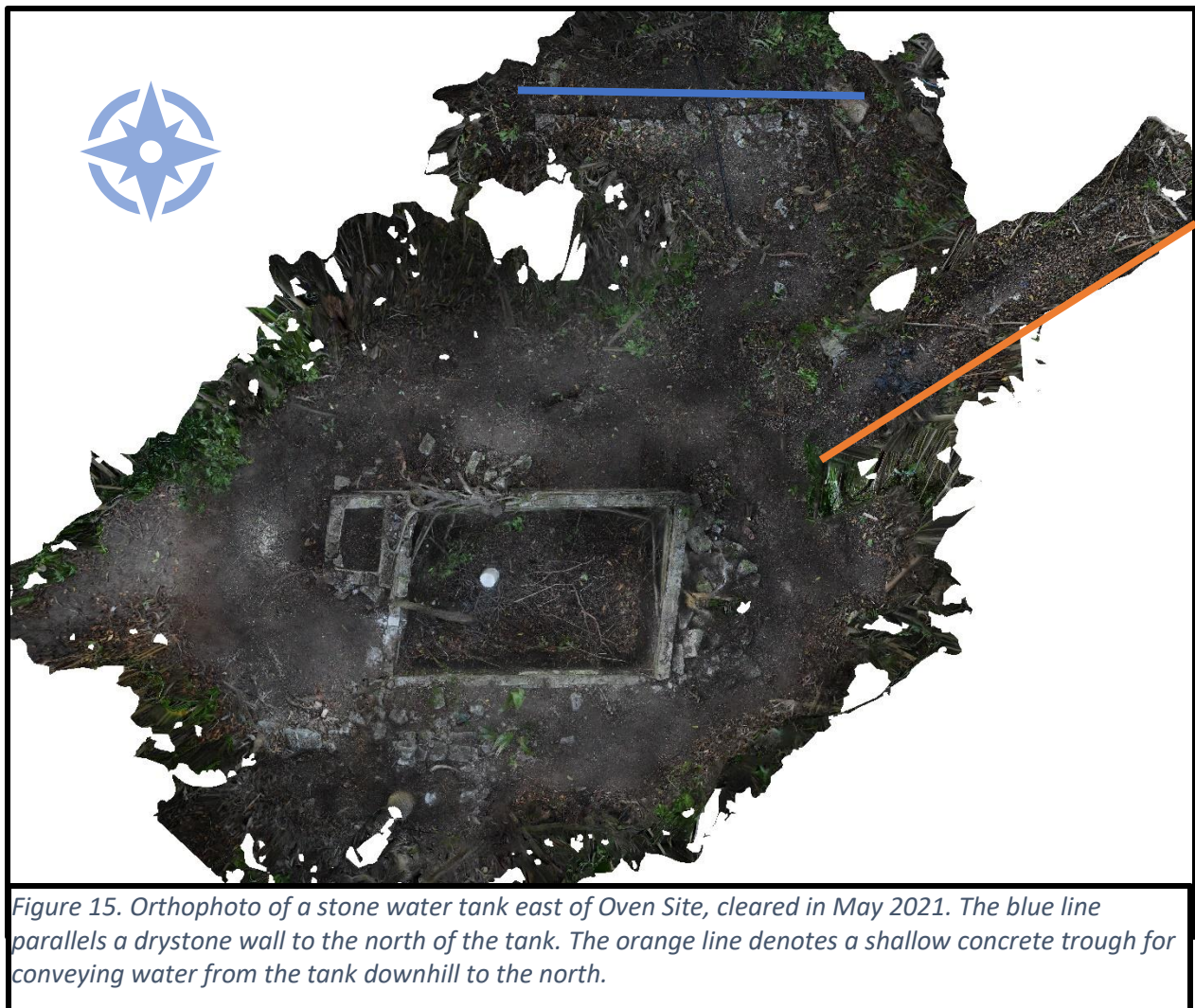
Figure 14. Coarse earthenwares recovered from Locus 2 contexts.

Locus 2's excavation provides the strongest evidence for the association of the Smallpox Bay peninsula with Moore's 1612 town. Of 494 ceramics recovered in the sealed lower two stratigraphic layers (MCxt 002 & 003) in the two meter-square units excavated this season, half (246 sherds, 49.8%) were coarse earthen wares consistent with early 17<sup>th</sup>-century manufacture. Most represent poorly dated and documented vernacular English industries but the green-glazed Surrey borderware, London/Essex ware, and imported German Werra ware sherds recovered were all common ceramics in the 16<sup>th</sup> century and rarely appear on Anglo-American sites after 1620 (see Appendix).

Taken together, the dense concentration of early ceramics at Locus 2 and the presence of numerous post holes at SPB Locus 1 (where Surrey borderware sherds were found in situ in post hole fill) reveal a intense or dense occupation of this particular area of Smith's Island in the first decade of Bermudian colonization.

## Ongoing Survey and Mapping

In addition to excavation work at Smallpox Bay, two days were spent clearing and mapping a stone water tank located approximately twenty meters east of Oven Site. The large roofless tarris-lined tank appears on the 1898 Savage survey and appears to have been connected with the Richardson family farming operations postdating 1874. Clearing involved tree, brush, and downed timber removal around the exterior of the tank, which revealed an open-air irrigation system of troughs located to the east and an apparent livestock watering trough on the tank's northwest corner (wherein water was conveyed from the tank in a now-missing pump). A single-course wall of unmortared cut Bermuda limestone was also revealed to the north, paralleling the tank's northern wall. At present, a large West Indian laurel tree has extended its roots into the tank and its northern wall and is doing considerable damage to the structure.



*Figure 15. Orthophoto of a stone water tank east of Oven Site, cleared in May 2021. The blue line parallels a drystone wall to the north of the tank. The orange line denotes a shallow concrete trough for conveying water from the tank downhill to the north.*





*Figures 16 & 17. Oblique photos of the cleared tank from the northeast (left) and southwest (right). Note the sloped angle of the roof (now missing) and the livestock watering trough on the left side of the right photo.*

The tank is composed of eight-inch-wide cut limestone blocks and measures 4.85 m by 3.2 m (15 ft. 10 in. by 10 ft. 8 in.). Its top has a pronounced slope, downward from north to south. The southeastern corner, for instance, is nearly at ground level (15 cm high), whereas the northeastern corner is 1.18 meters (3 ft. 10 in.) in height. The livestock watering trough on the tank's western side measures 3 ft. by 5 ft. and is plastered on the interior to render it watertight.

No excavations were carried out near the tank, the cement trough to the east, or the drystone wall line to the north. Artifacts observed on the surface date to the late 19<sup>th</sup> and 20<sup>th</sup> centuries, including bottles, cans, and a plastic baby doll's head.

## Public Archaeology and Community Outreach

The current COVID pandemic poses enormous challenges for continuing or expanding public archaeology efforts worldwide. In Bermuda, government-mandated island-wide lockdowns and limitations to prevent the spread of COVID in the midst of the island's third wave of COVID spread precluded the use of volunteers and hosting public tours of the excavations. Coordinated by Michael Dickinson, residents of Smith's Island were able to safely observe fieldwork with social distancing and were informed of the season's preliminary results at an outdoor gathering as part of the project's ongoing community engagement.

In lieu of SIAP's usual public tours and excavations open house, I provided an overview of the SIAP and its 2021 findings at Smallpox Bay in a Bermuda National Trust lecture given remotely via Zoom on May 20, 2021, entitled "Archaeology in the Time of COVID: Searching for 17<sup>th</sup>-century Bermudian sites at Smith's and Trunk Islands."

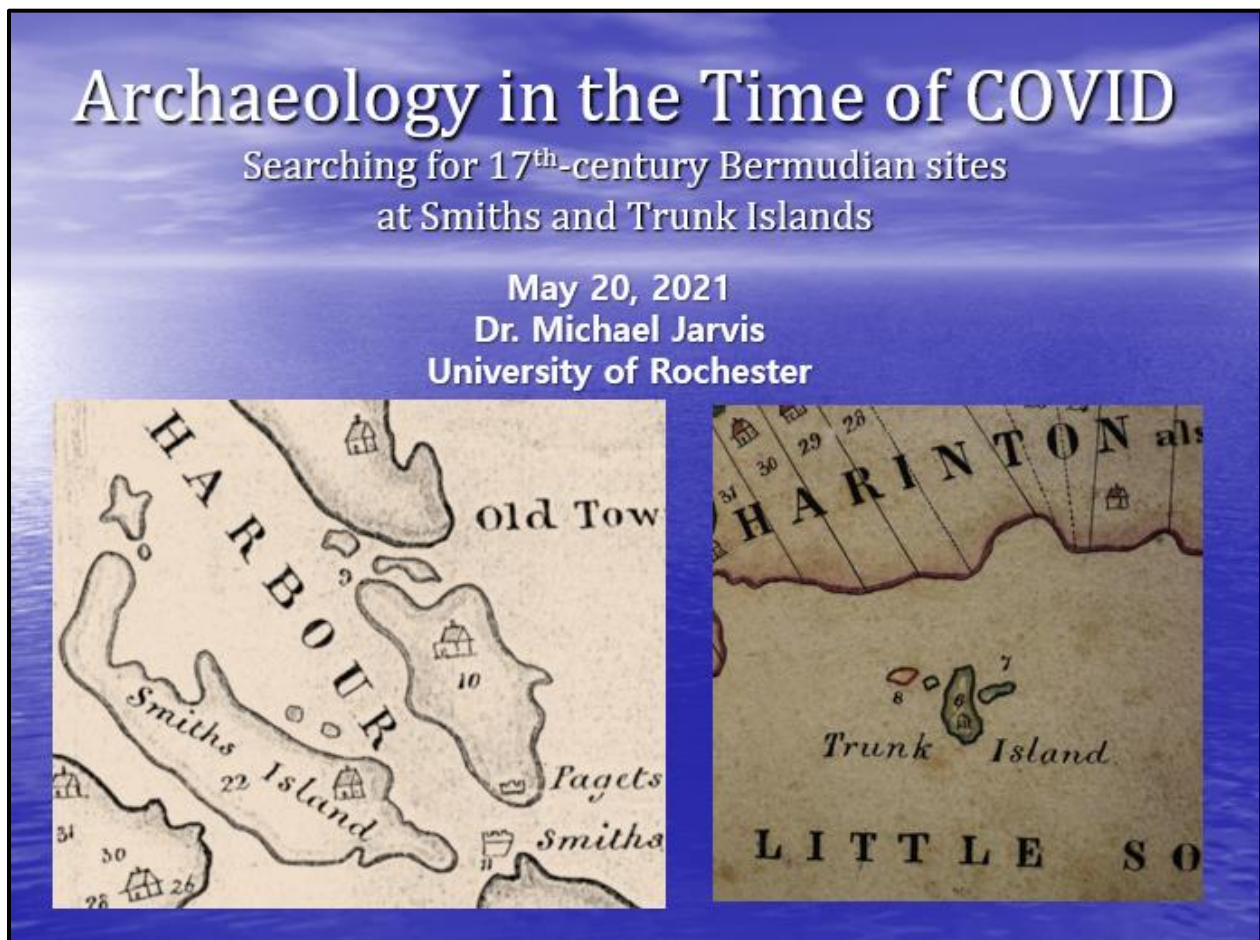


Figure 18. Screen shot of the title page of the Bermuda National Trust virtual public lecture to report on the season's findings.



## CONCLUSION

This limited season's principal goal was to assess the extent of a hypothesized early seventeenth-century occupation at Smallpox Bay and accumulate evidence necessary to apply for external grant funding to undertake a substantial clearing excavation at Smallpox Bay peninsula like those conducted at Jamestown, Martin's Hundred, Flowerdieu Hundred, and Colonial Williamsburg in Virginia, and at other early American sites in the United States which would fully expose the footprint of one or more earth-fast early settler houses. Excavations revealed additional post holes and artifacts consistent with the interpretation that the area may be the Governor Richard Moore's short-lived 1612 town and did not yield evidence to the contrary (for instance, eighteenth-century material found in post hole fill). High concentrations of early coarse earthenware ceramics in Locus 2 suggests a much wider area of occupation than had been previously suspected and led to expanded clearing and mapping activities. In conclusion, the season's findings achieved stated goals and have strengthened the case that the Smallpox Bay area was among Bermuda's earliest sites of human occupation.

## Appendix – Selective Statistical Summary of 2021 Artifacts

### Locus 1

36 excavated contexts, composed of 16 layer and 20 feature fill contexts.  
Of the 20 post hole features, 13 (65%) had artifacts in their associated fill.

**Locus 2** – Ceramic, Bone, Glass, and Tobacco Pipe Fragment totals in Master Context layers 002 & 003 (sealed early layers). **BOLD** figures represent 2021 excavation totals.

Context	Master Context	Coarse Earthenware	All Ceramics	Bone	Glass	Pipe frags	Total
002	002	26	70	94	34	4	202
003	003	76	159	116	18	30	323
<b>007</b>	<b>002</b>	<b>68</b>	<b>119</b>	<b>377</b>	<b>38</b>	<b>0</b>	<b>534</b>
<b>008</b>	<b>003</b>	<b>53</b>	<b>132</b>	<b>329</b>	<b>17</b>	<b>0</b>	<b>478</b>
<b>010</b>	<b>002</b>	<b>49</b>	<b>103</b>	<b>385</b>	<b>59</b>	<b>0</b>	<b>547</b>
<b>011</b>	<b>003</b>	<b>76</b>	<b>140</b>	<b>586</b>	<b>37</b>	<b>19</b>	<b>782</b>
Total	002	153 (52.4%)	292	856	131	4	1283
Total	003	205 (38.6%)	531	1031	72	49	1683

Grand Total		358 (43.5%)	823	1887	203	53	2966
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