

REINTERPRETING FORT RALEIGH OUTWORK-SCIENCE CENTER Part 1 Structural Reinterpretation

A REPORT BY ERIC KLINGELHOFER, PHD

FOR FIRST COLONY FOUNDATION

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1992 Science Center excavation from west.

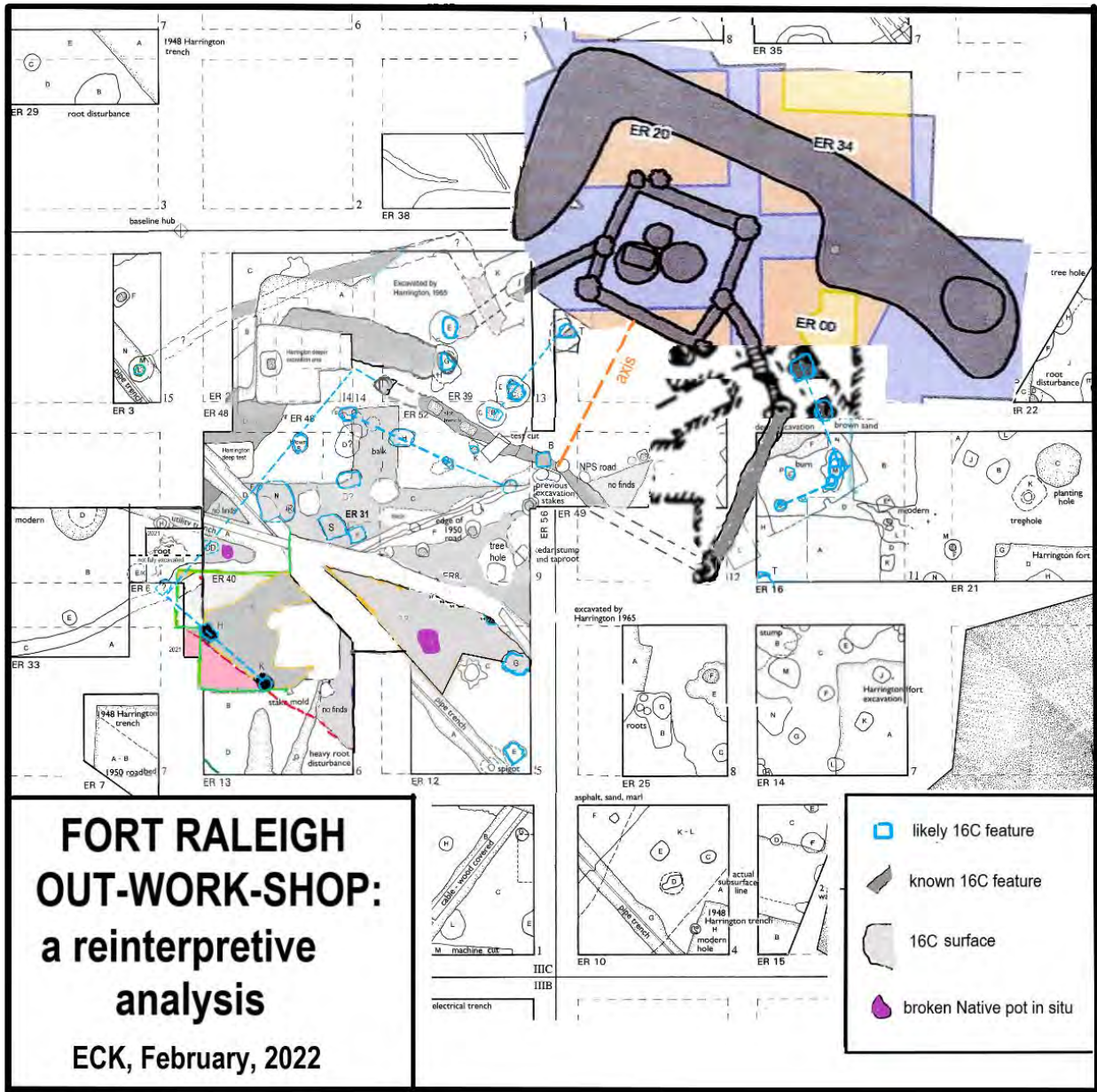
**REINTERPRETING FORT RALEIGH OUTWORK-SCIENCE CENTER
Part 1. Structural Reinterpretation**

Eric Klingelhofer, with Eric Deetz and Carter L. Hudgins, March 2024.

Please note that this report assumes a familiarity with the details of past research at the Fort Raleigh site and does not cite those publications and MS reports. Part 2 concerns the resource analysis and processing activities known to have taken place on site: assaying, distillation, and related industrial processes.) See Appendix for image sources. Abbreviations used here are: INH: Ivor Noël Hume; JCH: Jean C. Harrington; ECK: Eric Klingelhofer; JED: Eric Deetz; PWE: Phillip Evans.

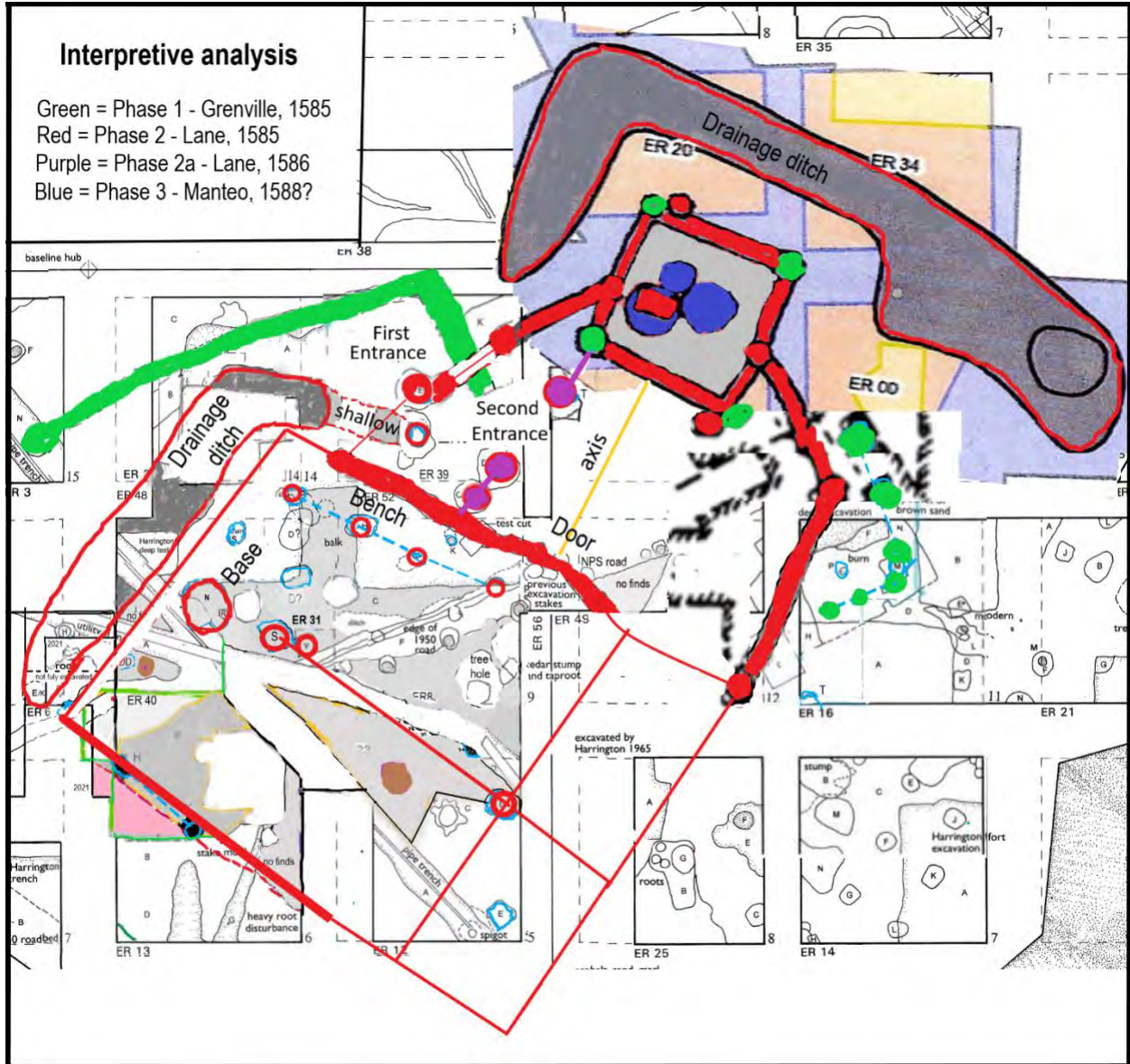
A. Summary

FCF excavations west of FORA earthwork recovered evidence of structural features exposed or missed by previous fieldwork. Using both stratigraphy and comparative alignments, these features are grouped into three phases. For convenience, they are given the names of the three successive colonial authorities on Roanoke Island: Sir Richard Grenville, Captain Lane, and Manteo, Lord of Roanoke. It should be noted that assay material from the earliest phase of activity on the site extended eastward beneath the earthwork's ramparts, which resolves the question raised by Ivor Noël Hume about the Fort Raleigh earthwork being an Elizabethan construction.



Archaeological features located by excavations west of Fort Raleigh, the ditch for which appears in the lower right. Darkened features are those recorded in 1965; lighter features were recorded in 1984 or 191-2. North is to top of map. Standard excavation units here are 8' square.

B. Three Phases of the Outwork and Workshop

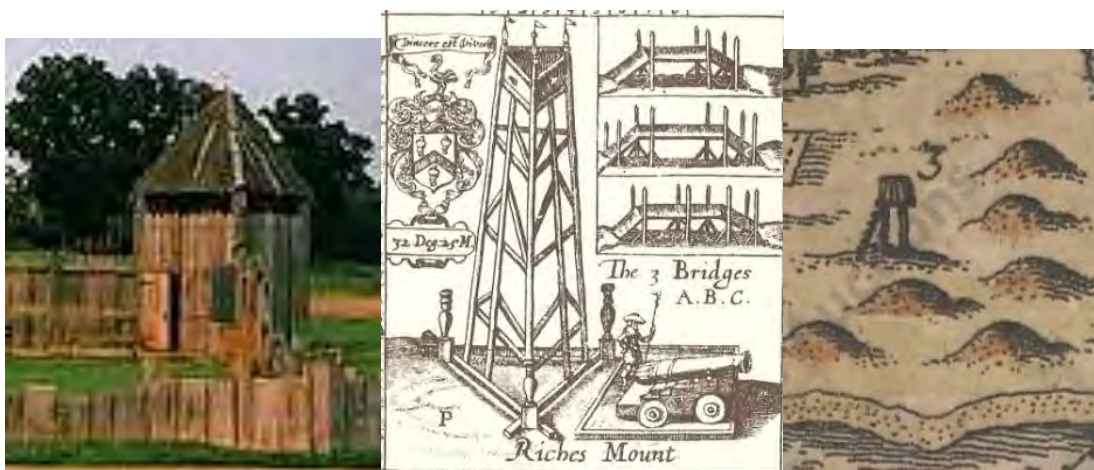


Three major phases of construction at the scientific compound

Phase 1: Upon arriving at Roanoke, the expedition built a watchtower, erected temporary shelters, and brought scientific equipment to the site.

INH noted that JCH had assigned some artifacts beneath or within the ramparts and/or firing step of the earthwork sconce. He also asserted that items at the bottom of the ditch would have been eroded from earlier strata. Within the sconce is an early linear feature that seems to be unrelated to the sconce construction or use. Some of the artifacts recovered from within the Sconce are crucible sherds, and it must be assumed that some metallurgical activities took place there, or at least equipment was dropped and broken there before the sconce was built. Interestingly, the NC History Museum catalogue listed the (since lost) “three pieces of charcoal found far below the surface near the center of Fort Raleigh, Roanoke Island, when excavating for the foundation of the monument to Virginia Dare.” Harriot and Gans brought their equipment and supplies from the ship, and it is likely that Gans would have begun his assay work as soon as possible.

PWE first noted that JCH’s ‘outwork’ structure was nearly identical to the watchtower of Wolstenholme Fort, as identified by ECK, and it is logical to assume that here, too, form followed function. A military post would quickly establish a line-of-site view of a directional threats, in this case, the channel from the eastern approach to Roanoke Sound to the north end of Roanoke Island. An uninterrupted view from the highest point of land and at an elevation above thick vegetation required a watch tower. Illustrations exist of contemporary stand-alone wooden lookout towers erected by the Spanish at St Augustine, and later by the English at Bermuda. Undoubtedly, they were commonplace in low-lying localities like Roanoke Island.



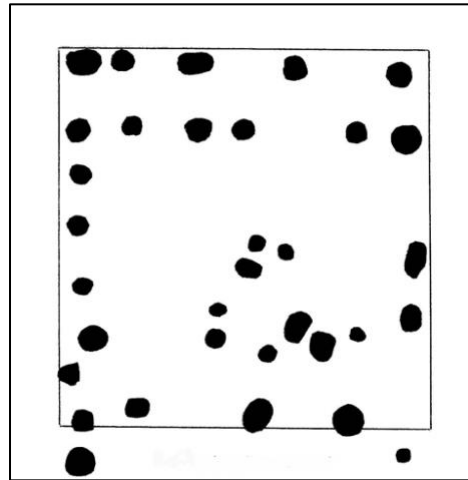
Wolstenholme Fort

Watchtower, Bermuda

Watchtower, St. Augustine

C14 dating indicates that the slot trench noted by INH and re-excavated by JED in 2021 is from the late 16C. It lies north – outside – of the two shallow ditches that define the Outwork / Science Center. Significantly, its orientation is clearly different from the other major structural features. Yet, on the east side of the complex, JCH recorded a group of several possible postholes whose orientation is similar to that of the slot trench. They resemble the c. 1614 Structure 1 at Governors Land, Virginia. Neither the slot trench nor the structural feature was aligned to the watchtower, but each could not have existed when Phase 2 structures were built. The most likely

explanation is that a military detachment was encamped to build a watch tower at the north end of the island while the main fort was constructed elsewhere. Harriot and Gans brought equipment here from the ship. Artifacts located beneath the earthwork indicate that Gans began his work east of these structural features.



Structure 1, Governor's Land, Virginia, after Alain Outlaw, *Governor's Land: Archaeology of Early Seventeenth Century Virginia Settlements*, 1989.

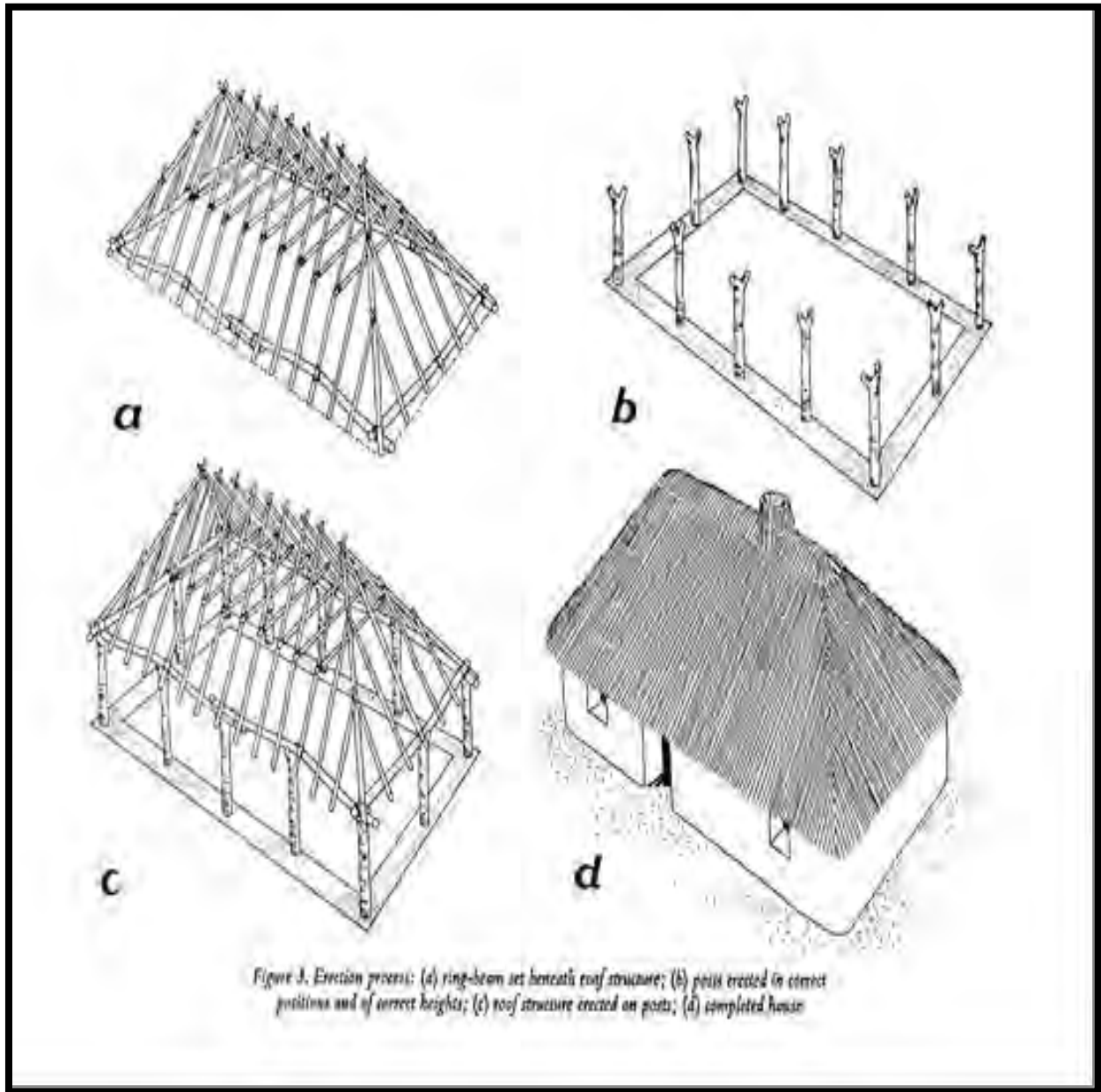
Phase 2: The expedition built a fully operational science laboratory at the watchtower and then added features to maintain a dry work area.

Under Ralph Lane's direction, the watchtower served as the core for new construction. The tower was walled in, two corners reinforced with posts, its floor lowered, and palisade slots dug paralleling its axis to form an open yard to the south. The long southern fence line curved slightly at midpoint, most likely indicating an entrance. Another entrance seems likely on the west wall, as the fort and settlement lay in that direction. It is indicated by the gap in the shallow ditch that encloses the building complex on the north and west sides. Rather than having a defensive purpose, the location and proportions of the ditch indicate that it drained a low area of the site and was probably dug in the wet winter of 1585-6. The eastern ditch respected the

entrance, but the western ditch cut across the wall line, suggesting that it was dug later, and that drainage had a higher priority than maintaining the original plan. Post holes in the west side of the yard could then indicate a replacement for the original western gate.

Little structural evidence survives for the west side of the work area, but it is defined by the drainage ditch to maintain a dry work floor. The east side also defies definition. As it lacks a drainage ditch, it would have stood on somewhat higher ground. The south side both confirms the original sloping topography and provides a clear edge to the work area. First noted by SEAC in 1983, and confirmed by JED in 2021, a NW-SE line exposed reddish subsoil contrasted with the grey, charcoal-flecked sandy loam of the working floor. In 1991, INH located two small

postholes on that same line, with part of a third drawn but not identified. We may assume that the natural reddish clay was cut down to create a more level working surface.



Cratchets in mud-and-stud building with hipped roof, by FWB Charles, "Post Construction and the Rafter Roof," *The Vernacular Architecture Group*, 13 (1981).

The workshop indeed functioned as a laboratory, though the term would not appear in English until the next century. Its north wall was the south palisade line, its west side somewhat east of the drainage ditch, its south side on the posts along the line cutting the red clay. The posts may have been forked timber *cratchets*. John Smith described the first structure at Jamestown as “A homely thing like a barn, set upon cratchets, covered with rafts, sedge and earth, so also was the walls...” Based on standing buildings of mud-and-stud construction in England, Eric Deetz believes that the workshop had a hipped roof and there are indeed two substantial postholes on the midpoint axis. The ridgepole ran 16’ with an additional 6’ slope to the structure’s west end. If the building was symmetrical, its east end would also lie 6’ beyond the east post, which places it right on the line of the eastern palisade. It was likely 28’ by 20-22’ (the east wall larger than the west) and fully roofed but open on three sides. The palisade-based northeast side would have protected the work area from the strong northeastern winds. The other sides may have used the local Algonquian house technology of woven mats that were rolled up when not in use. It is probable that the roof was probably made of thatch, as Lane refers to “reeds, that the [house] was covered with.” Examples of thatched-roof smithies survive in Britain – and even at a 19th-century president’s house in South Africa.



Thatched roof of former smithy in Dorset



Pretorius Museum smithy roof

The workshop was not the only structure in the Phase 2 ‘military-industrial’ complex of workshop and sconce. The open base of the watch tower was enclosed and its floor lowered, presumably to provide head room for its use and/or remove humus for a cooler, dryer floor for storage. As the workshop was open sided, one can assume that the lower level of the watchtower at Fort Raleigh was converted into a private office or storeroom for valuable equipment, supplies, or assayed samples, probably secured by a lock. Similar offices or ‘closets’ in Tudor buildings were not necessarily larger than this 8’ by 8’ floorspace.

Phase 3: The watchtower was reoccupied on the abandoned site.

In 1587, the new civilian colonists saw the baptized Algonquian noble Manteo created Lord of Roanoke and soon left the island to settle farmland along the Chowan River. A small group single men would have stayed with Manteo on Roanoke to meet the return of Governor White and new supplies. The science laboratory was then of no use and was as ruinous as the dwellings in the town, but the watchtower retained its importance. In 1965, JCH found three firepits cut into its floor, one of which contained broken bricks from the furnace. This material filled the empty hole perhaps left by the removal in 1586 of what was likely Harriot's strongbox, and its subsequent use as a firepit may well have removed any possible board lining. JCH thought that Indians visiting the site made these firepits, as others were found by him in the sconce's silted ditch. The watchtower's small space precludes it from being the location of the furnace, and it is highly unlikely that local tribesmen would have gone to the effort to carry such material across the yard. Colonists manning the watchtower in the winter of 1587-88 or later would have much appreciated a warm fire. One may even speculate that the three firepits mark three winter seasons before the watchtower and Roanoke Island was permanently abandoned in the spring of 1590.

C. Conclusions:

The reinterpretation presented here may at first appear to discount previous efforts to explain the archaeology of the area immediately west of the traditional 'Old Fort Raleigh' earthwork. It has no such intention. It, in fact, presents a new explanation that sorts through old research and interpretations that often contradicted one another. The site was first an outwork of a sort, at a specific location and for a military function that JCH recognized. But it was not an outwork to the nearby earthwork sconce, but an observation post serving Governor Lane's yet-to be located fort, likely within hearing of a drum, horn, or gunshot. It was indeed the watchtower that PWE recognized, but it was not a corner tower of a larger fort. And INH was correct in identifying the assaying taking place, but not in questioning the earthwork's Elizabethan construction.

Previous interpretations, then, could not recognize that the site underwent significant changes, despite its overall brief period of occupation. This is because, first, this area of the Fort Raleigh National Historic Site has been significantly damaged, not by early farming or logging practices, nor by visitors searching for relics, but by well-intended efforts to celebrate the site that unwittingly did great damage to this important historic place. From the erection of the commemorative monument within and later beside the earthwork, to road improvements that sheared off some of the surviving rampart, to the State Park's construction of colonial cabins and the National Park's repeated trenching for utility lines, as well as excavations by those lacking expertise in proto-colonial archaeology, each in turn destroyed valuable, irreplaceable archaeological information that have made interpretation more difficult. The second reason is that all earlier archaeological efforts were piecemeal; each campaign was at most several weeks for a few seasons. From its inception, First Colony Foundation recognized this problem and has labored to maintain a long-term research program at Fort Raleigh, both archival and

archaeological. The 2021 excavations yielded enough corroborating evidence to permit a solid reinterpretation of the Science Workshop/Laboratory and to set it within the chronology of Raleigh's colonies. While this aspect of FCF's research is now concluded, many other questions remain to be answered about the Roanoke Colony, both within the Fort Raleigh Historic Site and beyond.