

**Report on the
2018 Excavations at the
William and Anne Nickerson Homesite
Chatham, MA**

Prepared for
The Nickerson family of America
and
The Chatham Conservation Foundation

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Introduction

As part of the ongoing cooperative work between the Nickerson Family Association and the Chatham Conservation Foundation, the 2018 excavations at the Nickerson Homesite were carried out from July 30 to October 25. Originally, the dig was to run from the end of July to the end of September, funded by the Community Preservation Act, but thanks to the generosity of the Nickerson Family, additional funds were raised and we were able to extend the work for another month. And what a month it was as some of our most important discoveries were made during this period.

We had previously worked at the site since 2016 when the Nickerson Family, at the urging of Tish Noyes, invited me (Craig Chartier), and my associates Blaine Borden and Bruce Brockway to conduct some preliminary testing to try to see if there was anything present in the heavily overgrown back portion of their property. A granite marker had been placed at the location stating that this was the site of William and Anne (Busby) Nickerson's homesite, but there was no archaeological proof to back up the claim. The team of Bruce and Blaine soon found that proof in their very first test pit and that is how our story begins. Following that initial June dig, we came back for two other one day digs until the summer of 2017 when the Nickerson Family raised the funds for a week-long investigation of the property just to the north of the marker, lands that are owned by the Chatham Conservation Foundation. Thanks to the partnership of the two groups, the extremely dense underbrush of invasive plants were removed and we were able to test a fairly large area with dramatic results. We located the hearth, the figurative (and often literal) center of the house, as well as numerous soil stains that were tentatively interpreted as possible postholes associated with the actual house, and thousands of artifacts dating from the prehistoric to colonial periods.

The goal of our 2018 work was to expose as much of the house and yard as possible in order to determine the size and configuration of the house, its method of construction and ultimate fate, and to explore the yard area to find the outbuildings and fencelines that we knew made up the typical 17th century farmstead. The 2018 excavations resulted in the recovery of almost 200,000 artifacts, the identification of dozens of features, the delineation of the house and the identification of a palisade encircling it, and the discovery of at least one other substantial building in the yard south of the house.

This report presents our discoveries to date, as well as outlining what research still needs to be completed, and what is expected to be accomplished during further investigations at the site.

Property Background History

"There is no written record showing the location of his house, but a well defined tradition places it near the old burying place which crowns the hill near the head of Ryder's Cove. Mr. Josiah Paine of Harwich writes 'I have been told that his house stood near where Kimball Howes lived, but was never shown the precise spot, and that he was buried on the hill above his house.' The late Rufus Smith, Esq., a lifelong resident in the vicinity, informed me that the exact site was about half way between his residence and the head of Ryder's Cove, that spot having been pointed out to him many years ago by Christopher Rider and Kimball R. Howes, both of whom lived near the place all their lives and their fathers and grandfathers before them. Mr. Smith afterward purchased the lot of land, whereon the old house is said to have stood and, in cultivating it, ploughed up the foundation of a chimney and found relics of the past. " (Smith 1909: 78-79). Smith goes on to say that "The farm, on which Mr. Nickerson lived, is described by him in 1687 as bounded "outward from the uttermost corner of a pond called the Pasture Pond, and from thence straight outward to the head of a cove called the Muddy Cove and from thence inward to Joseph Nickerson's bounds." (Smith 1909: 79).

William and Anne (as well as Anne's parents) arrived in the New World in 1637. The couple first lived in Watertown but moved to Plymouth by 1640 and was on Cape Cod in Yarmouth by 1641. William acquired the large tract of land in what was then called Manamoiett from the local Native chief Mattaquason and John Quason, his son, in the year 1656. The family is believed to have taken up permanent residence on the land possibly as early as 1661. Anne Nickerson died in 1686 and, according to Smith's History of Chatham, William conveyed his homestead to his daughter, widow Sarah Covell (Smith 1909: 93). Sarah had her own house to the east of her father's and most probably remained there after her husband Nathaniel died sometime before 1686. William Nickerson died between 1689 and 1690, while Sarah died in 1715. The land is not believed to have been occupied after Sarah's death but does appear to have been used as farmland in the 19th and twentieth centuries before being abandoned in the 1960s.

Archaeological Investigations before 2018

No one had dug at the site prior to the start of our investigation in 2016, and our previous findings up to 2017 have been detailed in earlier reports submitted to the Nickerson Family.

The 2016 and 2017 excavations at the site succeeded in identifying the location of a 17th-century homesite that appears to have been inhabited by William and Anne Nickerson from ca. 1661-ca. 1690. We located and defined the hearth and determined its orientation, we found evidence of the probable location of a 17th-century forge, and recovered evidence of the foods eaten and the dishes used for storing, preparing, and serving by the Nickersons. The possible postholes we found were believed to have been associated with the main house as well as outbuildings or fencing south of the house. The preliminary interpretation was that the house was a hall and parlor style with a chimney and hearth located at the east gable end and a front door facing south. It appeared that after the death of William and Anne, and possibly their daughter Sarah who next owned the house, the building was removed as one unit after first removing the hearth and chimney. If this did actually occur, it was probably done by one of Sarah's children or grandchildren and was likely reused nearby.

We also located evidence of Native occupation at the site and were able to determine that the site was not a long-term base camp, but was probably used for a relatively short period of time by people collecting resources and performing the initial reduction of rocks for stone tools. This makes it less likely that any graves would be encountered on a site such as this.

The recommendations made at the end of the 2017 work were that further work would be needed in order to determine the following: the outline of the actual house; the presence of a cellar within the house; if the material recovered from south of the house does indeed represent a forge; the location of outbuildings such as stables, a barn, and animal housing; whether the shell found in the south yard is associated with the Native or colonial occupation.

2018 Field Season

Field crew for the 2018 season consisted of myself, Alden Chartier, Blaine Borden, Bruce Brockway, Greg Lott, Tish Noyes, Gary Nickerson, George Slama, Andrea and John Lee, Judy Rembisz and Judy Macioci. Excavations were carried out Monday through Friday from 8-4, weather permitting, from July 30 to October 25. An area measuring 294 square meters was selected to be investigated (67 meters in the area where the house was suspected to lay and 227 in the yard area). The grid of excavation units were laid out at an angle of 308 degrees off north, being perpendicular to the eastern property line. As a result, magnetic north and grid north were not the same, but in this report, whenever the cardinal directions are discussed they will relate to magnetic directions and not as related to the grid.

Because the area had been repeatedly plowed following the Nickerson occupation, excavation of most units began with the removal of the plowzone, which commonly measured between 20 and 40 cm in depth. Once the dark brown plowzone had been excavated, either the yellow-brown subsoil or a light brown demolition layer that was rich in brick and burned daub was commonly encountered. Exposure of the subsoil allowed us to look for subsurface features such as postholes that showed up as dark brown stains set against the yellow-brown subsoil. The demolition layer was confined to the area of the house, especially the western end of the house, and it seems that the hearths and inner walls had collapsed or been taken down while the wooden outer walls still stood, causing the demolition material

to be contained within the box of the house. A Native shell midden was also encountered west of the west wall of the house. The builders appear to have excavated through most of the midden down to the subsoil, most probably in order to create a level area on which to build, and tens of thousands of fragments of prehistoric shell were subsequently incorporated into the waste in the yard and within early features at the site. The midden is believed to have extended at least five meters (16 feet) into the area where the house was located.

At the end of the excavation, the floors of all of the units excavated in 2018 were covered with plastic and backfilled with iron nails or lengths of rebar placed at the corners of the excavation areas. The plastic and iron rods will allow us to know where we ceased the 2018 excavations and where to begin new excavations in the future.

A total of 228 1 x 1 meter units were laid out and excavated in 2018 with 88 features being identified (Figures 1 and 2) (All figures are presented in Appendix A). Each unit was separated into four quadrants, each of which measured 50 cm square (being designated NE, SE, NW, SW). Not every quadrant was excavated in every unit with some quadrants being unexcavated due to the presence of trees or a strategic decision to only excavate the sections that would expose a specific feature being investigated. Excavation revealed evidence of plowing in all units as well as what was interpreted as a redeposited Native shell midden that had been spread out across the site and a destruction layer in the western portion of the area defined as the house consistent with damage or destruction of a building on site by fire during the middle to last quarter of the 17th century.

Features

Ten features had been identified in 2017. All of those features, except for Feature 7 which lays further to the west of the excavation area, were further investigated in 2018 as they fell within our purview (Figure 3). A further 78 features were identified in 2018. Below is presented the general data on some of the more significant features and features complexes. All Feature Data is presented in Appendix B and Site Photos are presented in Appendix C.

Eastern Hearth

Feature 1 was the brick and stone paved hearth identified in 2017. The 2018 excavations completely exposed the feature and investigated the area immediately around it. The hearth was found to measure ten feet north to south by over three feet east to west. The hearth was without any subsurface foundation typically found when substantial brick or stone chimney walls were present. Excavation along the edges of the visible hearth revealed a layer of clay and pockets of shell, both of which were only 10-15 cm deep. These deposits may indicate an earlier clay floored hearth that was subsequently refurbished with the brick and stone now visible. Blaine Borden conducted the excavations around the hearth. His interpretation, as recorded in the field notes, was as follows:

“An attempt was made to expose the hearth and determine its original style, separately from the systematic removal of useful items including bricks and possibly some stone as part of the house dismantlement. Ultimately it was determined that the outer edge of the hearth extended 10' N-S with ornamental cobble around the front/ North side extending around the corners. Followed by 1' 30 cm of brick post/ chimney on either side, height unknown as only the base of this brick work survives in place. The internal box would have been 6' wide with a granite center and ornamental brickwork filling

the outer edges of the firebox (about 18” on either side of granite). Surprisingly the entire base rested on natural soil or possibly on a bed of organic soil with shell fragments including whole quahog shells. No base was noted below the current level. Fire affected granite and orange stained soil indicates that the hearth was used perhaps intensively. Shell-tempered mortar implies 17th century construction and implies tiered columns rising through the roof line. Present condition of hearth base is after my removal of chimney fall/ demolition debris and out of place brick and brick fragments.”

Several large post holes (Features 1B, 8, 18, and 72/ 72a [Appendix B]) were arranged in a rectangle around the visible hearth. These post holes appear to represent the frame for the original chimney, which seems to have been constructed of wattle and daub. The construction of such a chimney would have been very similar to the chimneys replicated at Plimoth Plantation today. Four posts would have been placed at the corners of the chimney, rising up through the roofline. A latticework of interlaced sticks (wattle) would have been placed between the posts on three sides, leaving the portion of the hearth facing into the house open. The wattle would have been covered with a mixture of clay, straw, and manure (daub). The daub would have contained the heat, projecting it forward and up the chimney itself. The daub would have extended from the base to the top of the chimney with the upper portions, above the roofline, being covered with clapboards or planks to protect it from the weather.

A very worn copper coin, identified as bearing the profile of William III (1694-1701) was found within the brick work at the eastern end of the hearth. This suggests either that the brick and stone portion of the house was erected after the death of William and Anne Nickerson or that the upper portion of the brickwork was removed at sometime after 1694. The worn condition of the coin suggests that it had been in circulation for a significant period of time after it was initially issued. Based on the artifacts recovered, especially the lack of those that specifically date to the early 18th-century, the latter interpretation is favored, that the brickwork was removed in the 18th-century but that there was no 18th-century occupation at the site.

The final interpretation of the eastern hearth is that it was built as part of the original house, being constructed in wattle and daub, and that it was upgraded at some point during the occupation by William and Anne. This upgrade consisted of the addition of a brick firebox around the three sides of the hearth (north, south, and east), and a beach cobble apron extending into the room of the house on the west face. The flat granite on the floor of the hearth may have been part of the original construction or may have been added during the upgrade. The relative lack of domestic artifacts and food waste within and generally around the hearth indicate that it may have served as a parlor hearth, the hearth within William and Anne's bedroom.

Western Hearth

This feature, which was first identified in U53, became a large complex of burned timbers, clay, and artifacts, all extending from the western gable end of the house, east towards the center of the house. Feature 47 was initially identified as a concentration of clay, charcoal, and ceramics located at the western side of the excavation area. Further investigation and clearing of the area around the initial feature location showed that it was a linear concentration of clay, burned architectural timbers and daub, foodways related material (ceramics, maize and beans, glassware, spoons), and household items (cobblers knife and bed warming pan). The feature was encountered in a total of 15 one-meter-squares (U41, 42, 43, 52, 53, 54, 55, 64, 65, 66, 67, 81,82, 83, 151) and measured four meters (13 feet) east to

west by two meters (6.5 feet) north to south. The majority of the feature was found between 30-40 cmbs (cm below surface) and consisted of clay/ daub and architectural demolition debris between 25 and 30 cm. This rested on top of dense clay and burned ceramics (30-35 cm) which lay on top of charred timbers and more ceramics to 45 cmbs. A concentration of stones was located at the western end of the feature. Taken as a whole, this feature was determined to probably represent a wattle and daub hearth and chimney that had burned and collapsed into the house. The stones are believed to have made up a crude fireback against the western -back- wall of the hearth. The fire burned some of the daub to the point of making it into crudely fired ceramic. It also combusted some of the timbers that made up the framework and possibly the exterior clapboarding of the chimney. The fact that the chimney collapsed into the house may indicate that it was demolished after the roof of the house had been removed, essentially being pushed into the house. It is not known if a new building was erected after this, but the lack of any new postholes or features cutting into the demolition debris seems to indicate that at least this portion of the house was not rebuilt after the fire.

Many domestic artifacts had been destroyed in the fire, presumably where they were located at the time of the conflagration. These included North Devon gravel tempered table and storage wares (pitcher and pots), a sgraffito possible chamberpot, a bed warming pan, a wooden spoon, a latten spoon, a cordwainer's knife, a complete tobacco pipe, and maize kernels and bean seeds. The presence of many hearth and cooking related items indicates that this was probably the cooking hearth located in the hall of the house.

Four posthole features were found beneath the demolition and clay layers of Feature 47. Feature 47A consisted of three postholes in Units 83 and 67. Two were located on the western side of Feature 47 while the third was on the north side. All extended from 110 to 120 cmbs (43-47") and were spaced at one meter (39") apart. The fourth posthole was located in Unit 54. All the postholes measured between at least 40 and 60 cm in diameter while the postmolds measured approximately 30 cm in diameter. Architectural debris (brick and hand-wrought nails) was common in Feature 47A, as well as shell. Much less architecturally related material (brick) was present in Feature 47E, but abundant shell and pieces of bone were recovered.

South Wall

Eight postholes and sill lines were identified along the south wall of the house running for a distance of 15 meters (48.75 feet) with postholes being spaced between two and two and a half meters (6.5 and 8 feet). Most of the posts were connected to each other via a sill trench.

North Wall

The north wall was not as well-defined as the south wall, but several postholes that were paired with those on the south side were identified.

Palisade

Portions of what we later determined was a palisade surrounding the house on at least two sides, were first identified in 2017 as Features 2, 4, and 9. The palisade was found to measure approximately 60 cm wide on average, extending to a depth of over 100 cm in some places. The line of the palisade was traced for 24 meters (78 feet) along the south side of the house, turning a corner to the west before continuing for another 5 meters (16.25 feet) along the west side with the south line terminating in a

complex of linear and circular features on the east side (see East Yard Complex below). This complex may represent the location of a blockhouse or bastion- basically a defensible corner fortification. The depth of the feature indicates that it must have consisted of a substantial wall, one constructed of posts set up to three feet in the ground with as much as eight feet extending above ground. If this was merely a fence to keep animals away from the kitchen gardens or the house itself, it would not have needed to be set so deep. Several wooden posts, possibly of cedar, were found still standing within the trench. These may represent some of the original posts used to construct the palisade. Their relatively small size- only up to 10 cm (4 inches) in diameter- indicates that they are either the cores of larger posts or that they represent a lighter, replacement fence erected after the defensive palisade was no longer necessary. The palisade is believed to have been constructed when the house was (ca. 1661-1662) and may have been a response to either the larger events occurring at this time between the Native people in Plymouth Colony and the English colonists, or merely as a practical construction built by a family living in such relatively isolated surroundings. It is possible that all the houses built in early Chatham by the Nickerson kin may have been constructed with such defensive palisades, or this house may have served as fortified blockhouse into which anyone living in the immediate area could flee to in times of trouble.

Relatively few artifacts aside from shell, bone, and charcoal, were recovered from the palisade trench. Some architectural fragments (brick, hand-wrought nails, window glass, and daub) were recovered, but domestic artifacts were limited to one tobacco pipe bowl and a stem fragment with a 7/64" bore, and two redware, one tin-glazed, and one sgraffito sherds. The relative lack of domestic artifacts is a good indicator of the early nature of this feature which incorporated redeposited Native midden refuse (shell, flakes, and bone) and only a small amount of the limited colonial trash that was just beginning to be deposited at the site. Several fragments of slag and a fragment of what appears to be a crucible, used to melt some substance in a high heat fire, were also recovered, indicating the early date for this activity at the site.

South Yard Building

The original plan for the 2018 excavations was to fully expose the outline of the house and to fully excavate the yard area south of it. Due to the complexity of the architectural remains of the house, we had not been able to fully explore the south yard by the time our original schedule of work was up at the end of October. Thanks to the generous support of the Nickerson Family, additional funds were raised and excavations were extended to the end of November. The intent was to spend this time fully exploring the south yard, as was originally planned. Excavations were to extend to the south of the palisade line, stripping off the topsoil to expose the subsoil and the features associated with presumed fencelines and outbuildings. This strategy was soon thwarted with the discovery of Feature 75, which, after first being identified as a deep, dark soil deposit within one meter-square unit, soon expanded, and continued to expand, until it was found to need a total of 13 one-meter squares to fully expose. At 30 cmbs, the feature was observed to measure 2.4 meters (7.8 feet) east to west by 1.7 meters (5.5 feet) north to south. The feature was bisected with the eastern half being removed in 5-10 cm arbitrary layers within the natural stratigraphy. Several deposits of different colored soils were visible in profile.

Upon reaching the bottom of the feature at 100 cmbs, five postholes were identified that continued further below. These postholes measured between 14 and 24 cm in diameter (35-63") and extended to between 145 and 180 cm below surface (35-65 cm below the bottom of Feature 75). These postholes

were spaced between 98 and 123 cm on the north and south sides and 60 and 68 cm (152-172") on the east side. It is believed that these posts represent support posts for a wooden wall used to keep the walls of the earth from collapsing into the feature. The posts define the sides of the features as being 142 cm (4.6 feet) north to south by approximately 230 cm (7.5 feet) east to west. The feature is oriented at the same angle as the palisade and house, indicating that it was in existence at the same time as these constructions. The feature is interpreted as a cellar for an early building. A similar cellar was found at the Stephen Wind house in Sandwich (ca. 1640-1700) and at the John Howland house in Kingston (ca. 1638-1690). The cellars at these sites measured 13 feet (4 meters) east to west by 5 feet (1.5 meters) north to south and 8 feet (2.5 meters) north to south by 22 feet (6.8 meters) east to west respectively. It is possible that this was the earliest house at the site, soon being replaced by the larger house we found to the north. Cellars are usually found at the north side of the house, meaning that if a house is present then it should extend further to the south of where we worked in 2018. Further investigation around this feature to attempt to locate post holes or structural remains of a larger building will need to be conducted in order to test this theory.

Based on the artifacts (see below under Artifacts) the building may have been removed before the main house. The tobacco pipe fragments yielded a statistical date of 1674, which compares well with the median date of occupation for the site of 1676 (ca 1662-1690), but is later than the tobacco pipe average for the entire site (which was 1666). The presence of almost the same number of 6/64" and 7/64" pipe stems (n=18 and 21 respectively) indicates that the feature was probably filled at a period of overlap between the two features, ca. 1670, which correlates well with the pipe stem date. Marked pipes included two marked with the initials LE (Llewellyn Evans 1661-1689) and two marked RT (Robert Tippett 1660-1722). Only three RT marked pipe bowls were found at the site and only two LE marked stems were recovered. The presence of these early marked stems and bowls in this feature, as well as the presence of North Italian Slipware (ca 1660-1680) only in this feature, is another indication that it represents some of the earliest occupation at the site.

East Yard Complex

This area of the site contained a series of apparently interconnected anomalies located at what is believed to be the eastern terminus of the Palisade Trench (Feature 64). At 35 cm, the anomalies looked like sill trenches, postholes, and sections of the palisade trench. Features 9, 77, 79, 80, 83, and a section of Feature 64 were excavated. Features 81 and 82 were not excavated at this time. The palisade trench (identified as Feature 79 in this section) appeared to turn to the south in this area as well, revealing itself as the familiar 60 cm wide trench with wooden posts present. The features are interpreted as representing a blockhouse, bastion, or outbuilding located at the southeastern corner of the palisade with an extension of the palisade continuing to the south towards Feature 75. Further excavation needs to be conducted in this area to determine what exactly these features represent and how they relate to the cellar hole in the south yard and the palisade.

Artifact Analysis

A total of 22,023 artifacts have been recovered to date from the 2016 and 2017 excavations at the Nickerson Homesite (Table 3). An additional 199,197 artifacts were recovered in 2018. The complete artifact catalog is presented in Appendix C.

Table 3. Comprehensive Artifact Collection 2016-2018

Artifact	2016	2017	2018	Total
Prehistoric Material	76	491	8170	8737
Fire Cracked Rock	26	15	47	
Granite	6			
Hammerstone	1		4	
Pottery- Grit-Tempered		1	71	
Pottery Shell-Tempered	1	37	144	
Chipping Debris			7825	
Late Woodland Triangle Point			24	
Susquehanna Broad			1	
Squibnocket Triangle			1	
Neville			1	
Small Stemmed			1	
Celt			1	
Fossil			1	
Biface			11	
Core			11	
Pipe Bowl			1	
Notched Pebble			1	
Perforated Slate			1	
Paint Cup			1	
Mica			1	
Projectile Point Fragment			9	
Uniface			1	
Shatter			12	
Chert Chipping Debris		2		
Quartz		60		
Chipping Debris	10	21		

Shatter		36		
Projectile Point Fragments		3		
Quartzite		107		
Chipping Debris	19	105		
Projectile Point Fragments		1		
Bifaces		1		
Rhyolite		269		
Chipping Debris	13	251		
Shatter		8		
Projectile Point Fragments		7		
Bifaces		3		
Architectural	632	2408	31, 517	34, 537
Brick	603	2092	21, 525	
Mortar- Shell Tempered	6	202	444	
Daub		1	6311	
Hand-Wrought Nails	18	83	1908	
Window Glass	1	27	392	
Lead Kame		3	6	
Wood/ Burned Wood			930	
Hinge			1	
Personal Items			19	19
Thimble			1	
Pin			1	
Coin- William			1	
Coin 1652 Oak Tree			1	
Jesuit Ring			1	
Iron Doublet Button			1	
Pewter Doublet Button			1	
Pewter Button			1	
Brass Button			1	

Silver Cufflink			1	
Brass Buckle			2	
Iron Buckle			5	
Brass Curtain Ring			1	
Iron Chest Lock			1	
Foodways	1132	15252	140, 825	157, 209
Ceramics	18	94	1667	
Bellarmino	1	2	77	
English Mottledware		3	21	
Merida?		1		
North Devon Gravel Free		5	26	
North Devon Gravel Tempered	2	5	256	
Redware	11	66	1035	
Staffordshire Slipware	2	6	57	
Stoneware- Fulham		1	2	
Stoneware- Westerwald	1	3	79	
Tin-Glazed	1	1	46	
Borderware?			4	
Buff Earthenware			16	
Dutch Earthenware			5	
Iberian Oil Jar?			3	
Italian Slipware			26	
Redware Tile		1		
Sgraffito			12	
Earthenware			2	
Kitchen Ware	0	14	298	
Brass Kettle		6	72	
Iron Kettle			1	
Hand Blown Wine Bottle		5	105	
Wine Glass		3		

Case Bottle			20	
Small Bottle			85	
Wooden Spoon			1	
Pewter Spoon			1	
Latten Spoon			4	
Brass Bed Warmer			1	
Knife			1	
Brass Skimmer			1	
Iron Handle			2	
Iron Pail			4	
Floral			631	
Maize			595	
Peppercorn?			8	
Hickory Nut			8	
Bean			20	
Bone	62	509	6056	
Beaver		1	1	
Burned Medium Mammal Flatbone		8	21	
Burned Medium Mammal Longbone		16	143	
Burned Cattle			43	
Burned Duck			1	
Burned Goose			1	
Burned Large Mammal Flatbone			1	
Burned Large Mammal Longbone			u9	
Burned Bird			6	
Burned Sheep			7	
Burned Swine			1	
Burned Turtle			1	
Calcined Chicken		1		
Calcined Large Mammal Longbone		1		
Calcined Medium Mammal Flatbone	13	57	263	
Calcined Medium Mammal Longbone		16	209	

Calcined Swine		3	1	
Calcined Bird			17	
Calcined Cattle			2	
Calcined Deer			1	
Calcined Large Mammal Flatbone			5	
Calcined Large Mammal Longbone			9	
Calcined Raccoon			1	
Calcined Sheep			19	
Calcined Small Mammal			2	
Calcined Sturgeon			8	
Cattle	9	15	181	
Caprine	5	16	181	
Swine	2	21	494	
Horse			4	
Chicken	1	8	1	
Turkey			1	
Goose		1	41	
Duck			11	
Passenger Pigeon			1	
Bird		22	331	
Medium Mammal Cranial		5		
Medium Mammal Flatbone	31	144	1783	
Medium Mammal Longbone		120	1547	
Medium Mammal Rib		1		
Large Mammal Longbone		5	80	
Large Mammal Flatbone			21	
Turtle			9	
Painted Turtle		5	15	
Box Turtle			1	
Snapping Turtle			10	
Frog			1	
Woodchuck			2	

Muskrat			1	
Fox			1	
Skunk			3	
Raccoon		1	14	
Deer			51	
Canine			2	
Fish		19	235	
Rock Bass		20		
Cod			12	
Shark			6	
Dogfish			4	
Tautog/ Drum			6	
Eel			2	
Catfish			1	
Scup			1	
Mackeral			1	
Perch			1	
Small Mammal		1	16	
Sturgeon	1	2	196	
Marine Mammal			10	
Egg			1	
Shell	1052	14, 635	132, 173	
Blue Mussel	3	2	170	
Ribbed Mussel			28	
Barnacle			7	
Boat Shell	9	51	694	
Forest Snail		1	36	
Mud Nassa		6	50	
Oyster	95	723	8891	
Quahog	629	5187	46, 865	
Scallop		20	514	
Soft Shell Clam	311	8627	74, 433	

Surf Clam	2	1	101	
Razor Clam			1	
Whelk	3	17	281	
Channeled Whelk			44	
Knobbed Whelk			43	
Moon Snail			14	
Periwinkle?			1	
Tobacco Pipes	4	56	507	567
6/64" Stem bore		9	51	
7/64" Stem Bore		2	200	
8/64" Stem Bore	1	9	36	
9/64" Stem Bore		1	1	
Bowl Fragments		28	205	
Stem Fragment	2	5		
Red Clay Pipes	1	2	14	
Flint	1	12	85	98
Chipping Debris	1	3	37	
Shatter		7	30	
Gunflint		1	15	
Strike-a-light		1	1	
Core			1	
Pebble			1	
Horse Related	2	0	15	17
Horseshoe Nail	2		11	
Horseshoe			1	
Bridle Bit			3	
Tools	0	0	12	12
Sharpening Stone			5	

Awl			1	
Punch			1	
Chisel			1	
Cordwainer's Knife			1	
Dung Fork			1	
Lunate Knife?			1	
Wedge			1	
Industrial Residue	512	801	11, 377	12, 690
Charcoal	372	754	10, 474	
Slag	135	45	852	
Melted Brass	5	2		
Worked Iron			10	
Crucible			7	
Iron Ore/ Ochre			34	
Miscellaneous	2		199	201
Flat Iron Fragment	2		181	
Lead Fragments			16	
Pewter Fragment			1	
Silver Fragment			1	
Modern/ 19th Century Material	18	192	1083	1293
Creamware	1		10	
Cement		8	35	
Pearlware		3	10	
Porcelain		2	9	
Whiteware	2	9	72	
Yellowware		1	12	
Ironstone			2	
Pipe Bowl			5	
4/64" Pipe Stem			6	

5/64" Pipe Stem			57	
Machine Made Bottle		4	9	
Mold Blown Bottle		2	33	
Hurricane Lamp Chimney?			26	
Modern Window Glass		21		
Window Glazing			3	
Coal	1	75	532	
Brass Spoon		1		
Iron Chicken Wire		26	51	
Flat Iron Fragments		18		
Fork		1	1	
Dog Hook			1	
Iron Spoon			1	
Brass Button			4	
Iron Button			1	
Bone Button			1	
Brass Hook			1	
Leather Shoe			7	
Machine-Cut Nail	2	16	148	
Rod		1		
Wire Nails		3	40	
Wood Screw			1	
U Nail			4	
D-shaped Buckle		1		
1900 Penny			1	
Wood	12			
Total	2375	19,648	199,197	221,220

Prehistoric Material

Three categories of Native artifacts were present: debitage, tools, and pottery. Debitage are the leftover pieces of stone that result from the production of tools, taking the form of shatter- random pieces created by the initial reduction of the raw material and flakes/ flake fragments- the thin pieces more carefully removed from the main body of the item being reduced. By looking at the sizes of the flakes and the angle at which the flakes were struck, one can gain an understanding of whether people were

doing all the stages of reduction at a site (which would be characteristic of a site that people spent a longer amount of time at), whether they were just doing the initial stages of reduction (characteristic of a quarry or primary reduction location which was not occupied too long), or whether they were just carrying out the final stages of reduction, the finishing of the tools or the resharpening of dull ones (characteristic of a short term hunting or processing site).

Debitage

Five categories of lithic raw materials had been identified in 2017: quartz, rhyolite, quartzite, fine-grained quartzite, and chert. Only two pieces of chert, an exotic material that comes principally from New York State, were found while all the other classes were more abundant. Previous analysis found that the quartz and quartzite cobbles that were being reduced to make the tools were probably collected close to the site while the rhyolite cobbles/ rhyolite source may have been further away. This indicates that the site represented a temporary camp and not a long term occupation site. The presence of the shell midden at the site would support the idea that the site was used for procurement and processing of resources to be brought somewhere else for storage and consumption. It is possible that while the shellfish were being collected and processed, some locally acquired cobbles (maybe from the beach or Muddy Creek) and some previously acquired materials they brought with them were reduced. Once the processing was finished they left the site to return to a more permanent base camp.

Tools

Relatively few tools were found during the excavations in 2017 (one hammerstone, four broken bifaces, and 11 projectile points and fragments) (Figure 4). An additional four hammerstones, 11 bifaces, and nine projectile point fragments were found in 2018. Also recovered this same year were a broken stone celt (ax head), 11 core fragments, a notched pebble, a perforated slate fragment, a possible paint cup, a piece of mica, and a uniface. In 2017, nine of the 11 projectile points were Late Woodland to Plantation Period (1000-400 years BP [Before Present]) triangular points of the Levanna or Madison varieties (Figure 5). An additional 24 of these points were found in 2018. The remaining two points from 2017 were a Late Archaic Orient Fishtail (300-2600 years BP) and the tip of an unidentified point made from quartz. In 2018, we found a Middle Archaic Neville point (6000-8000 years old), and several Late Archaic (3000-6000 years old) points (Squibnocket Triangle, Susquehanna Broad, and Small Stemmed). Additional research on the 7837 pieces ofdebitage (flakes and shatter) is still being conducted. The flakes still need to have the materials identified, to be measured, and have the findings quantified for the final site report after the 2019 field season.

Pottery

In 2017, 38 relatively small pieces of Native pottery were recovered from the area immediately south and west of the colonial hearth. All the pieces except one, which was tempered with grit, were shell-tempered. Most of the pieces had either smooth exteriors or were too fragmentary to have an intact surface, but one had marks on the exterior made by a cord-wrapped paddle while another bore incised linear decorations on the exterior. An additional 71 pieces of grit-tempered and 144 pieces of shell-tempered pottery were found in 2018 (Figure 6). One fragment of a Native made clay pipe was also found. The co-occurrence of the Native pottery and the colonial artifacts was tested in 2018 to determine if it indicates the Colonial use of Native pottery. Based on the presence, and subsequent destruction and spreading by the Colonials, of a Native shell-midden at the site, it seems more likely

that the pottery was not used by the Nickersons, but just accidentally co-occurred with colonial material as a result of the spreading of the midden.

Historic Artifacts

People make trash as a result of the various activities that they engage in around their homesites, and archaeologists actively seek out that trash in order to learn about the people who lived at a site. When we seek to locate a historic site we often are not looking explicitly for things such as foundations and hearths, as we know that many factors can affect if those survive intact, especially since people tended to recycle and remove such items from a site. People generally do not try to remove the yard trash that accumulates around a house, especially not at a 17th-century homesite where trash disposal essentially meant throwing it out into the yard to create a sheet midden around the house. Such middens often had their focal points at doorways with the trash spreading out away from there. There were no manicured lawns and there probably wasn't even much grass around a 17th-century house, thanks to chickens, children, and livestock. When imagining what William Nickerson's homesite would have looked like, think bare earth, chickens, piles of wood, and scattered shells, bones, and broken pottery underfoot.

Many 17th-century historic artifacts from the same period as those of the Nickerson site were also found at the Mattaquason Purchase Site. These included a silver Oak Tree shilling (1652-1682), a latten spoon, a gunflint, flint working debris, a flint Native projectile point, white clay tobacco pipes bearing the LE mark of Llewelyn Evans (1661-1688), and fragments of Bellarmine bottles, Westerwald vessels, Raeren stoneware, English Brown stoneware, wine bottle glass, redware, brick fragments, and hand wrought nails. The colonial artifacts were not reported in as great a detail as the Native material so it is difficult to evaluate them, but it appears likely that there was a colonial house, probably a Nickerson family member, at the site in the 17th-century. This may have been the homesite of Sarah Covell. This is the only comparable historic assemblage that has been recovered from Chatham.

Ceramics

The biggest clue that we were on the right spot for a ca. 1661-1690 house were the types of ceramics found. During our initial testing, five of the nine ceramic varieties found (Staffordshire Slipware [1675-1775], Bellarmine [1620-1720], Westerwald Stoneware [1630-1775], Tin-Glazed [1675-1750], and North Devon Gravel-Tempered [1675-1725]) clearly date to the William Nickerson period, two others (Redware and Slip-decorated redware) probably date to that period, and the remaining two (whiteware [1820-1900+] and creamware [1762-1820]) appear to represent miscellaneous trash spread around the site after its abandonment. The Nickerson period ceramics were produced in England (Staffordshire Slipware, Tin-Glazed, and North Devon Gravel_Tempered) and Germany (Bellarmine and Westerwald Stoneware) and represent a cup (Staffordshire Slipware), a probable plate (Tin-Glazed), a probable pan (North Devon Gravel_Tempered), a bottle (Bellarmine) and a jug (Westerwald).

Four additional ceramic types were identified in 2017: English Mottledware, North Devon Gravel Free, Fulham Stoneware, and a possible piece of Merida. Vessel forms of these ceramics consisted of a mug, a storage pot, another mug, and some type of holloware vessel like a bowl or basin. We really have not recovered a great number of ceramics, not as many as I would have expected to have found at a site such as this.

The vessels forms that have been identified to date were used on the table for eating and drinking (English Mottledware mug, Staffordshire Slipware cup and plate, Westerwald jug, Redware drinking pot, North Devon Gravel-Tempered pitcher), in the buttery for storage (Bellarmine bottle, North Devon Gravel Free baluster jar, Redware storage pot), and in the kitchen for processing (North Devon Gravel-Tempered milk pan) and baking (Redware baking pan). It is not a particularly noteworthy assemblage in terms of ceramic types, but the inclusion of the Staffordshire Slipware plate and the North Devon Gravel-Tempered pitcher, are rare on 17th century sites, so these vessels do stand out. The presence of North Devon wares is often an indication of people who were involved in trade, as these items often came from fisherman and English settlements in Newfoundland or straight from the West Country ports in Devon, England. They have been found in abundance at the John Howland site in Kingston, Massachusetts (ca. 1638-1680), and the Josias Winslow site in Marshfield (ca. 1660-1720), but are noticeably absent at the Richard Taylor site in Yarmouth (ca. 1646-1820).

Ceramics were lightly distributed across the project area but were concentrated south of the hearth. This appears to be the main midden area associated with the house.

In 2018, an additional 1674 fragments of 17th-century ceramics were recovered (Figures 7-10). This assemblage included some of the same wares found in previous years (Redware: n=1034; North Devon Gravel-Tempered: n=256; Westerwald: n=79; Bellarmine/ Rhenish: n=77; Staffordshire Slipware: n=57; Tin-Glazed: n=46; North Devon Gravel Free: n=26; and English Mottledware: n=21) but also included several new classes (North Italian Marbled Slipware: n=26; Buff-Bodied Earthenware: n=16; Crucible: n=7; Dutch Earthenware: n=5; possible English Borderware: n=4; and possible Iberian oil jar: n=3). These new wares represent finer tablewares (such as the North Italian slipware bowl or plate) cooking wares (the Dutch earthenware pipkin and the frying pan), and storage vessels (the Iberian oil jar).

Clay Tobacco Pipes

Tobacco pipes are beloved by archaeologists because of how, such a simple and readily discarded artifact, can be used to help date a site. This is because the size of the holes in the stems (the stem bore) changed at a regular rate over time. When pipes were first introduced in the 1580s, the stems were short, meaning the stem bores could be relatively large (9/64”), by 1620 the bore had shrunk to 8/64”, a size it maintained until about 1650 when they measured 7/64”. By the middle of the seventeenth century, the stems had become more fashionably longer as smoking became more commonly used as a recreational drug and people wanted a cooler smoke, thus a longer stem. The 7/64” stem bore was maintained until 1680 when it was reduced to 6/64” until 1710, and then, through the eighteenth century, was reduced further to 5/64” and finally 4/64” by 1750. Unfortunately, pipes continued to be made throughout the nineteenth century with the bore size becoming less consistent in size, generally ranging between 5 and 4/64” with some 6/64” being known to occur as well.

A total of 507 white clay tobacco pipe fragments were recovered from the site in 2018 (Figures 11 and 12). The distribution of the sizes of the bore holes in the stems shows a proliferation of stems with bore holes measuring 8-6/64” dating them broadly between 1620 and 1710:

		2017	2018
9/64" Stem Bore	1580-1620	1	1
8/64" Stem Bore	1620-1650	9	36
7/64" Stem Bore	1650-1680	2	200
6/64" Stem Bore	1680-1710	9	51

The presence of a majority measuring 7/64" shows that the main period of occupation was roughly 1650-1680. This is somewhat misleading as any bore size was not confined to the period shown above, but did have a bit of overlap into each period before and succeeding it. So, the period of maximum popularity for 8/64" stems was 1620 to 1650, but they were first used a few years before and continued a few years later. There is also the problem that Dutch pipes were not as standardized as English, and it is possible to get Dutch pipes dating from the 1630s that have 6/64" stem bores. All said, the pipe stem data has to be taken bearing the above-mentioned caveats in mind, but it shows a solid occupation in the middle 17th to the late 17th century, a finding that coincides well with the ceramic data.

A few of the pipes also bore maker's marks, and these also help to date them and secure the identification of the site as William Nickerson's homesite. One from 2017 was marked LE with a series of diamonds and lines on the stem, a mark characteristic of Bristol pipe maker Llewelyn Evans, who was producing pipes from 1661-1688. Two additional LE marked stems were recovered in 2018. Another mark from 2017 was from William Evans, a pipe maker who was producing them from 1660-1682, or perhaps a bit later as there was a William and a William II. Two more of these were found in 2018. Other maker's marks recovered in 2018 included three bowls marked RT, products of Bristol pipe maker Robert Tippett (1678-1713); one stem bearing circles and ovals characteristic of the Bristol pipe makers and also bearing the initials IS; and one pipe stem marked Thomson from an unknown maker. Nine other stem fragments bore Bristol circles and ovals; one had an incised floral decoration that may be Dutch; another had a molded decoration that may also be Dutch; one bowl had a pattern of raised dots termed Mulberry pattern by archaeologists and dating from 1660 to 1680.

Two fragments bore very interesting decoration called Walter Raleigh pipes. Walter Raleigh (also called Jonah and the Whale) pipes depicts a bearded human head being swallowed (or disgorged depending on your glass half full vs half empty mentality) by either an alligator or a whale (again, depending on your interpretation). The motif can be interpreted as representing the Biblical story of Jonah being swallowed and regurgitated by a whale. This is an allegorical tale of a man named Jonah who was commanded by God to preach repentance to the wicked city of Nineveh. Instead of following God's orders, Jonah fled on board a boat, which was soon caught in a violent storm. In order to save the crew, Jonah threw himself overboard and the seas calmed. He was swallowed by a whale and carried for three days in its belly. After being thrown up onto dry land by the whale, Jonah proclaimed "Salvation comes from the Lord" and went on to preach to, and save, the city of Nineveh. The smoking of a pipe, often even in the 17th-century seen as a bad habit, in the wilds of the New World, while looking at the face of the prophet Jonah may have led to quiet reflection of the fate of the smoker's soul.

The other story that is more often associated with this style pipe is that Sir Walter Raleigh, the man who is said to have introduced tobacco from the New World to England, smoked so much, that his body and clothing were literally soaked in the juice of the vile weed. Once when riding in a boat in Virginia, Raleigh is said to have fallen overboard and was swallowed by an alligator (as crocodiles

don't exist north of Mexico it must have been an alligator and not a crocodile as is often misreported). Being so tobacco juicy, the alligator immediately threw him up, thus saving his life and perhaps causing Raleigh to exclaim "Salvation comes from the tobacco". Thus, while smoking a pipe that had what you interpreted as the figure of the prophet Jonah on it may have caused you to reflect on your wretched tobacco soaked life, smoking one with what you saw as Walter Raleigh may have made you say "Dude, look at me, I'm drinking tobacco from the head of a dude thrown up by an alligator!"

The decoration is either molded in high or low relief on both the bowl and the stem. They were produced by the Dutch from ca. 1630s to the end of the 17th century. They are known to have been found on one other Massachusetts site, the Ezra Perry II homesite (aka the Aptucxet Trading Post) in Bourne, at the French sites of Champlain's Habitation in Nova Scotia and Pentagoet in Maine, the English site of the Clark and Lake Trading Post in Maine, and at the Dutch site of Fort Orange (Albany) in New York. These pipes appear to be associated with sites related to trading with the native people and may have been items specifically made for Native trade. The effigy nature of the pipe, with the face on the bowl facing the smoker, is placed in exactly the same way that Native made effigy pipes are, and the theme of a monster swallowing and throwing them up would have fit in well with Native beliefs. Add to this the chance one would have to preach to the Native purchaser about the Salvation through God and you have an instant hit with all parties involved. Plus, whoever buys it gets to smoke tobacco out of the head of a dude who was thrown up by either a whale or an alligator (depending on your attitude at the moment).

The other dateable feature of the tobacco pipes is the shapes of the pipes themselves. Three styles have been found to date: a heelless funnel (also called a trade pipe style) dating from 1680-1740, a small belly bowl style that dates from ca. 1640-1670, and a large belly bowl with a large heel dating from 1660-1680.

Teeth marks were visible on the mouth ends of several pipes, indicating that the user was a habitual smoker, or that he or she had a habit of keeping a pipe in their mouth for extended periods of time. One fragment had evidence that it had been initially worked into a preform for a bead.

The distribution of the tobacco pipe fragments shows a concentration to the south of the presumed location of the south side of the house, basically in front of the front door and into the south yard, especially in Feature 75 which seems to have been filled with household trash.

Red clay pipes were locally produced, probably in Charlestown near Boston, in the 1670s to 1680s. They were often used for trade with the Natives and represented a low cost (although, due to the guild system in England, also probably illegal) alternative to the white pipes that were produced in England.

Three fragments had been found before the 2018 dig. An additional 14 fragments were found in 2018 including one stem bearing rouletting reminiscent of the Bristol maker's pipes. These are a relatively rare pipe type with examples having been found on Cape Cod at the Aptucxet Trading post Museum/ Ezra Perry II Site (1670s-1720s) and the Wing Fort House (1646- present), but being much more common at trading post sites in Maine.

Faunal Remains

The animal remains indicate that the people living at the site raised and ate the common domestic varieties expected to occur around the 17th-century farmyard - cattle, sheep, and chickens- and that they appear to have netted or fished for sturgeon in Ryder Cove.

Shell

Being right near the coast, shellfish was an important part of both the Native and the colonists' diets consisting of species that could have been collected locally. Shellfish fragments made up 66.4% (n=132, 173 fragments) of the total assemblage collected in 2018. This is the result of the preexisting Native shell midden being spread across the site during the construction of the Nickerson house.

All the shellfish species present could have been collected in Muddy Cove. It appears that soft shell clams were the most popular shellfish, offering the most meat for each individual collected, while quahogs were the second most common.

Unfortunately, due to the widespread distribution of the Native shell midden, it is difficult to determine which are directly associated with the Nickerson occupation versus which were collected and consumed by the Natives. Feature 75, the cellar hole in the south yard, seems to be a closed deposit created by the colonists and offers us the best opportunity to observe colonial shellfish use. Within this feature, soft shell clam formed the largest percentage of the assemblage (83.5%) followed by quahogs (11.5%) and oysters (3.1%). All other species (whelks, moon snail, mud nassa, ribbed and blue mussels, surf clam, and bay scallops) made up very small percentages of the total shell assemblage (N=11,533).

Bone

The bone fragments indicate that the people living at the site raised and ate the common domestic varieties expected to occur around the 17th-century farmyard - cattle, sheep, and to a small percent, chickens- and that they appear to have netted or fished for sturgeon and several other species in Ryder Cove, Muddy Creek, and Chatham Harbor. Sturgeon commonly are recovered from Native and colonial 17th and 18th-century sites. These prehistoric looking-fish have skeletons made of cartilage and were reported to have grown up to 17' long in the period. The only traces of these fish that are found archaeologically are fragments of the armor-like plates (called scutes) that covered their backs. Aside from using nets spread across the mouths of rivers and bays, a common Native fishing technique was to go out at night in a canoe and wave a burning torch over the water. The sturgeon, attracted to the light, will swim up to the surface and roll over on their backs to reportedly play in the light. The fisherman then would dispatch them by spearing them in the exposed and unarmored belly. Almost 200 pieces of sturgeon scute were recovered from across the site. Other fish species included those that could have been caught in both freshwater (perch, catfish, eel) and saltwater (cod, shark, tautog/ drum, mackerel) locations. They were most probably caught with nets spread across the mouth of Muddy Creek, Ryder's Cove, and even Crowe's Pond.

The species recovered included both wild and domestic species (Figure 13). It appears that the inhabitants at the site were eating painted, snapping, and box turtles (which was used medicinally as well as a food), frog, goose, duck, passenger pigeon, turkeys, beaver, muskrat, skunk, woodchuck, marine mammals, deer, raccoon, and possibly fox, as well as the usual domestic species (cattle, sheep

or goat [caprine], chicken, and swine) and horse. Some species may have been eaten by the Natives versus the Nickersons, but again, the assemblage from Feature 75 (which contained turtle, beaver, woodchuck, fox, skunk, raccoon, deer, sturgeon, cod, mackerel, eel, perch, tautog/ drum, shark, passenger pigeon, duck, goose, small bird, and horse) shows the consumption of a wide variety of wild species. Obviously, the Nickersons knew the resources of their local area and were utilizing the bounty of this land.

Other Foodways Artifacts

In 2017, only a few additional pieces were recovered that were used in the Nickerson's kitchen or on their table. These were five pieces of wine bottle glass, three pieces of wine glass, and six pieces of brass kettle. At a time when things were often thrown away only after every last bit of use had been wrung out of them, burned through brass kettles were a ready source of raw material. Kettles were cut up using shears and chisels and used for rivets, patches, funnels, and trade with the Natives. Native people loved brass and often made ornaments and even arrowheads out of it. A burned out kettle would have been an important household and trade resource for the isolated Nickerson family.

Many additional kitchen items were found in 2018 including a carbonized wooden spoon, part of a pewter spoon, three latten spoon fragments and a complete latten spoon, a fragment of an iron knife, a brass skimmer fragment, 72 brass kettle fragments, additional wine bottle fragments (n=105), small bottle fragments (n=85), square-bodied case bottle fragments (n=20), a fragment of an iron kettle, a brass bed warmer lid, and several fragments of what could either be an iron pail or the bottom pan of a bed warmer (Figures 14-21). Many of these artifacts were found around the western hearth area in that wonderful debris field associated with the fire that destroyed this portion of the house. Also found in that area were 595 pieces of carbonized corn (of a variety called 8-row Northern flint), 20 beans, and eight possible peppercorns or allspice. Hickory nut fragments were also found at the site.

Architectural Class

The architectural class provided us with the first indication that we were on a site where a structure had once stood. If we hadn't found nails and brick, we could have come to the conclusion that the site represented nothing other than a dumping area or even an area where soil from another location had been brought. While not the most exciting of artifacts, before the hearth was found, the nails, and especially the bricks gave us our best support for the notion that the house was nearby.

Brick

The first record of bricks being made in Plymouth Colony was in 1643, although it is possible that they were made earlier. Masons, the men who actually laid up the bricks to make chimneys and hearths, often produced the bricks as well. They would travel to the location where someone wanted some masonry, find a local source of clay, dig it up, form the bricks in molds, let them dry, fire them on site, make the mortar (often using burned seashells as a source of lime), and lay up the bricks in that mortar or in clay. Many small pieces of brick were found. These were too small to say for sure that they are 17th-century bricks, but given their context and co-occurrence with 17th-century material, it seems pretty definite that they are. The small size of the bricks may be the result of the demolition, salvage, and eventual decay of the chimney and hearth that they were originally part of. The 2017 work resulted in the recovery of larger brick pieces, complete enough to provide us with some dimensional measurements. The bricks were between 5 and 5.7 cm thick (5.5, and 5.7 cm [2-2.2 inches]) and the

one brick we had that was complete enough, provided a width of 8.4 cm (3.3 inches). Medieval bricks averaged 8.5 x 4 x 2” to 10 x 5 x 2” with the width being twice the thickness and length being twice the width. This would make the bricks from the Nickerson site 2” thick, 4-4.4” wide and 8-8.8” long, well within the range for early bricks.

An additional 21,525 brick fragments were found in 2018. Bricks were laid up either in clay, when what was being constructed was located under a roof (like the lower portions of a chimney or hearth), or with mortar when it was going to be exposed to the weather. Mortar (as opposed to just clay) is a mixture of sand, clay, and lime, and dries harder and is more resilient to weathering. Unfortunately for early masons, there is no readily available source of limestone in eastern Massachusetts. As a result, early masons burned seashells to create their own lime which was mixed with the clay and sand to make the mortar. Mortar was concentrated around the hearth, specifically to the immediate southeast of the hearth itself, indicating an area where it was being chipped off the bricks.

The fire that damaged at least part of the house, resulted in the firing of some of the daub that is believed to have made up the walls of the house and the chimneys. Daub is a mixture of clay, straw, and dung and is pressed into and onto a frame of sticks termed wattle. Wattle and daub construction is an ancient method for building walls and was used by the earliest settlers to New England. The use of daub at the site is further discussed below under the architectural interpretation section (Figure 22).

Hand-Wrought Nails

Only a relative few hand-wrought nails and nail fragments were found (N=101) before 2018, indicating that the house may have been removed in total without being dismantled. While nailers, people who specialized in making nails for a living, were in Plymouth Colony from the earliest days, most nails were probably imported by the barrel load from England, while larger spikes may have been made locally. Hand made nails differ from later 19th-century machine-made nails, in that they have hand struck heads and their shanks are pointed as opposed to blunt-ended. The distribution of the nails parallels that of the brick fragments.

We recovered an additional 1908 hand-wrought nails and nail fragments in 2018. A total of 224 complete nails were among this assemblage, as were 1084 nail heads. The remaining 600 pieces were shank fragments. Twelve hundred nails may seem like a lot, but when one considers the size of the Nickerson house, it is a relatively meager collection. Nails are designated by their “penny” size, which refers to how much it costs to purchase 100 of each nail size. A two penny nail would cost two pennies to purchase 100 while a 10 penny nail, due to its larger size, would cost 10 pennies to purchase 100. The abbreviation “d” is used for penny, thus a “10penny” nail is abbreviated “10d”. The “d” used in the abbreviation comes from the Roman word for a coin, denarius, thus the “d”.

Twelve sizes of hand-wrought nails were identified at the site. These range in size from 2d to 20d nails. The majority of the nails were of the 6d to 7d size (Table 2). Nail sizes correspond to their uses,

Table 2. Comparison of nail sizes

Size	Nickerson (1661-1700)	Tobey Site (1650-1700)	Wing Site (1640-1700)
2d (2.5 cm)	2	7	2
3d (3-3.5 cm)	25	42	53
4d (4 cm)	13	3	7
5d (4.5 cm)	27	2	10
6d (5 cm)	60	10	10
7d (5.5-6 cm)	64	11	20
8d (6.5 cm)	10	2	17
9d (7 cm)	13	2	23
10d (7.5 cm)	7	1	4
12d (8 cm)	2	1	1
16d (9 cm)		1	1
17d (9.5 cm)	1		
20d (10 cm)	1		1
30d (11 cm)			1

with smaller nails used for fastening thinner wood and larger nails used for fastening thicker wood. A modern-day rule of thumb is that in fastening sheathing, shingles, clapboard, etc., the nail should be at least three times longer than the thickness of the sheet or board being fastened. This means that the 2d to 6d nails, the majority of those recovered at the Tobey and Wing sites, were being used for fastening wood that was .3 to .6” thick, which would be appropriate for clapboards or shingles. The larger nails would have been used for larger pieces of wood. It is generally recommended that 8d nails should be used to nail 1” stock, sheathing, rough flooring, and window and door trim. The use of 10d nails is limited to toe nailing frames, and framing in general. Other sizes used in framing are 16d, 20d and 60d. Small nails like 3d to 8d are used for nailing clapboards and wood shingles with the smallest size used on lathe as well. Larger stock, such as 2-3” thick pieces, are nailed with 16-60d nails. The paucity of hand wrought nails of 10-30d size may be related to the use of treenails/ trunnels and the vertical plank construction used for the earliest phases of the house.

Very few clapboard or shingle nails were found in 2018 while those more appropriate for use with larger framing timbers were much more common. This may indicate that the sides of the house was not covered with clapboards or shingles and the roof may have been either thatched or covered with boards. This can be explained if the exterior walls of the house were covered with vertical planks, a technique commonly used in Plymouth Colony, if they were left exposed in the medieval, half-timber, fashion, if the majority of the building was removed from the site following William's death ca. 1690, or from a combination of any of the above. The roof may have been thatched or covered with boards as well. I personally think that someone who built such a large house would have had it built in a style

that they were familiar with and which expressed their status. Thus, I think that the building would have looked more like a traditional English half-timber house with exposed exterior timbers.

Window Glass and Lead Kames

Twenty-eight pieces of 17th-century window glass were recovered from the site in 2017, most coming from the south yard, but generally being scattered across the site. The windows in the house would have been of the casement type with diamond-shaped quarrels of glass. The quarrels would have been held in place by means of lead strips called kames, three fragments of which we found at the site in 2017. The kames sometimes contain the initials and year of manufacturer on the interior. Unfortunately, none of the pieces from the site bore dates or initials. In 2018 we recovered an additional 392 pieces of window glass (47 of which were burned or melted) and six additional lead kames. Most of the kames had been purposefully twisted, indicating they had been removed and possibly were being melted down and recycled. Twelve fragments of melted lead were also recovered. These may have been window leads that had been melted down, or they may have been stock lead being melted for making shot. The relative lack of window glass and leads supports the idea that the house was removed as a unit from the site. The melted glass indicates that a fire occurred at the site, one which was intense enough to melt glass (around 2000° F). Melted glass was concentrated at Feature 47 (the west hearth) and south of Feature 1 (the east hearth). Two pieces were found in and near Feature 75 (the south yard cellar hole).

Wood

The majority of the structures built by early settlers were primarily built of hewn wood. Wood was common in New England and led to a building tradition where it was used for everything- the frame, the floor, the walls, the roof, and sometimes even the chimney. The fragments of wood that were found at the Nickerson Site in 2016 are believed to have come from a post (as they were found standing upright inside a soil stain we call a posthole) but what that post was was not yet known. It appeared too small to be a house post, but it may have been from a fence or a smaller outbuilding. In 2018 we discovered that this was a palisade post. Many other fragments of wood were found within the palisade line, representing individual posts. Other fragments of wood were found in post holes and burned timbers or planks were found in Feature 47 (the western hearth) that may represent floorboards or framing associated with the chimney.

Industrial Residue

One of the most interesting findings was the recovery of many fragments of iron slag of the kind that commonly is found at the bottom of a blacksmith's forge. As a smith works raw iron, bits of the metal sift down through the charcoal used to power the forge to accumulate in the base. When the forge is dismantled or destroyed, the accumulated slag is then exposed and disposed of. This slag, along with the large pieces of dense hardwood charcoal and the pieces of brass scrap, all point to someone operating a forge in the area in the 17th century. As this was the eastern frontier of Plymouth Colony at the time, and a trip to a blacksmith to replace or have a broken tool repaired would have been a multi-day journey, a resourceful man like William Nickerson may have felt it necessary to have his own on-site forge to fix and create his own tools, and probably, as a side business, repair the metal items that were becoming increasing a part of the local Native American household. Brick fragments, nails, and even some of the postholes may have all been parts of the same blacksmith forge and shop as well. In 2018 we found even more evidence of blacksmithing at the site, taking the form of more slag (both

of a sandy variety that may have been created in the hearth and a denser variety more commonly associated with blacksmithing), twisted and unfinished blacksmithed iron pieces, and bricks with slag and highly burned slag attached (Figure 22 and 23). One iron punch was found, which may be a smithing tool. Several fragments of crucibles were also found, possibly indicating that William Nickerson was processing local ores in an attempt to smelt iron or look for precious metals. Sandy slag was associated with the western hearth (Feature 47) while the dense slag was associated with the southern yard and especially with the southeastern corner of the site. This may indicate that this is the location of the forge. This hypothesis will need to be further investigated in 2019.

Charcoal

Charcoal was very abundant and there is evidence of burning. It appears that we had a house or building that burned at that location. Charcoal was concentrated in features around the hearths and in the cellar hole in the south yard (Feature 75). Several carbonized timbers were found at the area of the western hearth (Feature 47), indicating that this portion of the house was the focus of the fire at the site. The general distribution of the charcoal does appear to show that evidence of the fire was widespread across the site.

Horse Equipment

In the seventeenth century, you could travel by foot, by boat, by canoe, or by horse, and if you used the latter option, one thing you would sometimes need were shoes. Horseshoe nails are used to affix the shoe to a horse's hoof. This was work that was often done by blacksmiths as well. Two horseshoe nails were recovered in 2016 from Units 1 and 2, in the general area of the possible forge location. In 2018 we found half of a horseshoe, 11 horseshoe nails, and three bridle or bit fragments (Figure 24). These items were found concentrated around the western hearth (Feature 47) in the palisade trench (Feature 64) and in the cellar hole in the south yard (Feature 75). Five iron buckles averaging 3.5 cm (1.4") in width were recovered in 2018 (Figure 25). These would have been used on harnesses and tack. We also found evidence that people were eating horse or were processing horse skins. We found two teeth and two toes, which may be the result of someone skinning a horse, as the head and feet were often left on animal skins when they arrived at a tannery. There should be some evidence of a stable for the horses at the site, as these animals were quartered separately from other domestic species.

Flint

Thirteen pieces of gray English flint were found. Flint was imported from England as ship's ballast, commonly dredged up in the harbor of whatever port the ship was leaving from and then dumped in the New World as products were loaded to be shipped back to England. It was used for gunflints as well as for strike-a-lights- the flint in a flint and steel fire starting kits used to light the home fires. Most of the pieces were flakes and pieces of shatter, but one strike-a-light and one spall type gunflint were found. Flint from 2017 was distributed around the hearth, west, and south yards. The gunflint and strike-a-light were found in the west yard.

A total of 85 additional fragments of flint were recovered in 2018. This included a flint pebble, a strike-a-light, fifteen gunflints, and many pieces of shatter and flakes (Figure 26). Gunflints were concentrated in the palisade trench (Feature 64), the southeast yard and in the south yard cellar hole (Feature 75). Flint shatter and flakes were concentrated around the western hearth (Feature 47), in the palisade trench

(Feature 64), and in the south yard, especially in the southeast corner and in the cellar hole (Feature 75).

Personal Items

Fourteen personal items were recovered in 2018: two sewing related (thimble and common pin); a ring; two coins; five buttons; a cufflink; two buckles; a bed curtain ring; an iron chest lock (Figure 16). The thimble was relatively small, being only 1.5 cm (.6") in diameter and only fitting on the smallest finger of the most petite member of the field crew. The pin was a standard brass common pin with a wound head. Jesuit rings were common trade items in the 17th century. Their name comes from the fact that they were originally traded by the French Jesuits to Natives. The name eventually came to cover all cheap brass rings with a round to oval plate on the top. These plates were sometimes decorated with religious motifs. The one from the Nickerson site has either been cut and flattened or it may have been in production. The plate bears some decoration (maybe a heart?) but it is crudely done and may indicate that the piece was abandoned in production as a failed attempt at making a trade ring by William Nickerson. The two coins were a very worn possible William III half penny (ca. 1694-1701) that was found among the brick work of the east hearth and a silver Oak Tree six pence (Figure 27). It may indicate occupation of the site after William Nickerson's death or may have been lost when the chimney was taken down. The second coin is a silver Oak Tree six pence bearing the date of 1652. These coins were one of the first coinage produced in the New World, being made in Boston by John Hull from 1660-1667 (although still bearing the 1652 date). This coin was unworn and must have been lost soon after it was made. It was found in the southeastern portion of the south yard in Feature 64. Of the four buttons found, two were hemispherical doublet buttons (1 pewter and one iron) characteristic of the early to middle 17th-century, while the other two were brass discs more typical of the later 17th-century. One silver cufflink bearing a stylized R was found. This may relate to the Ryder family, a prominent local family that moved to what is now Chatham in the late 17th-century. The brass buckles were typical of the 17th-century and may have been stirrup or belt buckles. The curtain ring would have been used to suspend a curtain around the Nickerson's bed while the chest lock would have been used on a wooden chest that may have contained the family's valuables such as silver or fine linens.

19th Century Material

While occupation of the site appears to have ceased in the late 17th to possibly the early 18th-century, use of the site seems to have continued in the 19th and 20th-centuries, as evidenced by the scattered pieces of more recent material recovered. This material presumably ended up at the site as a result of its known use as a garden, with the 19th-century refuse being deposited at the site as part of compost/household trash used to manure the site. The material was scattered across the site and ranged from coal to ceramics to 19th century cutlery. Twentieth century material was most probably deposited by the neighbors and included chicken wire fragments that once encircled plantings which were represented at the site by scattered holes in the western portion of the project area. The former owner of the property also told us that it was used as a chicken farm until the 1960s. Bruce Brockway, the retired forester who helped find the site, counted the rings on some of the cedar trees that had been felled to help prepare the site for the 2018 fieldwork. He found that they had between 40 and 47 rings, showing that they had started growing around the 1970s. This coincides well with Mr. Young's recollection of when his family ceased using the site as a place to raise chickens.

Conclusion

PARP has conducted seven investigations at the homesite location of William and Anne Nickerson. A total of 10 50-cm square test pits were initially excavated in 2016 and 2017 at the site. We then excavated a further 48 test pits in the fall of 2017. In 2018 we conducted a three-month long excavation that resulted in the identification of the extent of the original homesite (50 x 18'), the tracing of a previously unknown palisade around portions of the house, and evidence of possible outbuildings (Figure 28). The large house appears to have been of a style rarely seen in 17th-century New England with chimneys located at each of the two gable ends, making it Cape Cod's first mansion or manor house. Excavation also found that the chimneys were most probably of wattle and daub construction (a wooden frame with clay, straw, manure mixture covering it) with decorative brick work being added to the eastern parlor hearth. The entrance into the house was located in the center of the south wall, outside of which was found an extensive area of yard rubbish. Within the house, we found traces that the building may have started as a smaller structure with additions being made to it. We also found that at least part of it had burned, leaving behind an extensive area of charred ceramics, corn kernels, beans, and other household items such as a spoon, part of a warming pan, a shoemaker's knife (the only one ever found archaeologically in New England), and part of a sharpening wheel stone. The architectural traces of the house took the form of soil stains that represented sill trenches and postholes, some of which extended over two feet into the soil. Excavation of the dozens of soil stains associated with the house allows us to determine (based on the sizes, depths, and styles of the stains as well as the artifacts within them) if they all were constructed at the same time or if they represent an evolution of the house over time. At present, approximately half of the stains have been investigated. The research background for the type of architecture represented at the site (earthfast/ post-in-ground) is more fully explained in Appendix D.

The interpretation is that the house evolved over time (Figure 28). I came to this conclusion by looking at the outline of the house as defined by what we uncovered archaeologically in 2018. I believe that the original part of the houses was the western section up to Feature 43 (the sill trench with the stones in it). Based on Blaine's excavation of the feature complex in this area, I believe that there was a hearth located at the gable end of the house at this point. This would have made the original house approximately 26 feet long (8 meters) by approximately 18 feet (5.5 meters) wide. based on the clay spread east of the hearth, which may represent the collapse of the chimney, the building was probably a story and a half high (the clay spread measured 16 feet east to west). The front door may have been located in the southwest corner of the south wall where the postholes are spaced closer together than they are further along the wall. The hearth at the eastern gable was probably located within the parlor of the house. Another hearth (Feature 47, the eastern hearth) must have been located along the north wall facing south into the house. This hearth would have been built onto the north wall of the house. Both of these hearths were of wattle and daub construction. The house would have been divided into a hall on the western side, measuring 5 meters east to west (16 feet) by 5.5 meters (18 feet) north to south, while the parlor would have measured 3 meters (10 feet) east to west by 5.5 meters (18 feet) north to south. It is believed that this house burned, resulting in the burned debris located at Feature 47 and the burned clay concentrated in many of the postholes in the western half of the house.

Following the fire, I believe that the house was rebuilt, reusing structural elements that were not destroyed and replacing some in-ground posts with a continuous sill across the south side of the house. Two possible additions were added onto the east side over time, neither of which matched the original

south wall line of the house and both of which wavered as represented in ground. These were individually set posts that were then connected with sills. While the plan as represented in the ground looked wavy, the actual walls may not have looked as haphazard as framing may have eliminated some of that waviness. The door into the house, or a second door, may have been located just east of the old parlor hearth in the 2-meter strip between the old and new parlors, creating a cross passage house.

Due to the relative paucity of nails that were recovered, especially the smaller nails typically used for clapboards and shingles, it is possible that the house was half-timbered and thatched (Figure 29). Alternately, as I have proposed before, the building may have been removed after William's death.

The second addition was 4.5 m long (14 feet) long, extending the original east wall further east. The eastern hearth was added at this time at the northeast corner of the addition's east wall. It was also wattle and daub but had brick walls within the hearth box itself. The lack of refuse in this area implies that it was probably a parlor hearth, indicating that this addition was the Nickerson's new parlor and the eastern hearth may have continued to be used as the cooking/ hall hearth. The second possible addition measured 2.5 meters (8 feet) wide east to west and maybe 5.5 meters (18 feet) north to south. This addition was added after the new parlor. Further investigation needs to happen in this area to better define the eastern end of the house.

Outside of the house, we found the remains of a wooden palisade trench (over 3 feet deep in places) within which some of the actual palisade pales remained. This palisade was a defensive wall built to protect the house and portions of the yard from attack. The type of palisade represented at this site is what is called a private fortification. Research regarding private fortifications in New England and Virginia is presented in Appendix D. I believe that it was built around the time of King Philip's War (1675-1677), or when the house was initially built. It was found to at least partially encircle the house, although we were unable to determine the full extent in 2018. Tracing of as much of the course of the palisade as possible in the future will allow us to better understand 17th-century fortifications and desires for protection that the Nickersons had.

Remains of at least two outbuildings of unknown purpose were found at one end of the palisade. One building was represented by a series of large postholes into which the framing post of the structure would have been set, while the other was found to be represented by a filled-in cellar measuring four feet wide by over five feet long, that we only partially explored. As we were not able to fully explore these features, their purposes remain a mystery. We also were not able to fully explore the area further to the west of the house due to the extensive, and unexpected, archaeological evidence we found of the house and the area immediately surrounding it.

Future Work

Research will continue even as this report is submitted. The numerous flotation (soil) samples collected from the features need to be floated and scanned and the remains found within them needs to be analyzed. The extensive Native lithic collection we recovered was determined to not be a priority for analysis over the winter as we cataloged and prepared the final report. Now that this is done, I will go back and more carefully analyze the lithics and put that information into a supplemental report. The same is true for the faunal remains. I would also like to start gluing together some of the ceramics, but

that needed to wait until the catalog was completed and catalog numbers could be assigned to, and written on the pieces so that their provenience would not be lost.

If we continue work at the site in 2019, the following goals have been developed:

- further investigation of the south yard around Feature 75, the cellar hole, needs to be conducted in order to determine its nature and chronological position within the occupation of the site
- further tracing of the western portion of the palisade trench to determine its course
- further investigation of the southeast yard to determine what the numerous features found here represent- a building, a fortification, a continuation of the palisade
- selective excavation of some of the larger features associated with the house to determine if they are postholes as suspected or if they represent some other type of feature
- excavation of units at specific predicted locations for posts that had not been located in 2018, in order to test my theories about the house layout.