PLIMOTH PLANTATION
Box 1620
PLYMOUTH, MASS.

THE JOSEPH HOWLAND SITE

PROGRESS REPORT

AUGUST 13, 1959

Active excavation has been underway at the Joseph Howland house site, Rocky Nook, Kingston, Mass., since Thursday, July 30. Since then, sufficient work has been accomplished to make possible several significant statements regarding the house and its furnishings. The following is a summary of these findings.

1. ARTIFACT CONTENT

The site is extremely rich, and compares favorably in this respect with all house sites previously excavated. The assemblage is a diversified one, and should provide a well-rounded picture of life at the time.

2. ARCHITECTURE

The general proportions of the house have been determined, and a number of structural features have been excavated. The house probably had a fireplace at one end, with a stone paved hearth and an apron and chimney of brick. The rear (?) of the house (facing Howland's Lane) is ca. twenty feet wide, and now appears as a badly tumbled stone foundation of not more than one course of mortared masonry. The hearth floor is slightly over five feet square. Twenty feet opposite the fireplace a cellar hole has been located. This hole is ca. three feet deep and of unknown horizontal dimensions. This would indicate that the house had a length in excess of twenty feet with its long axis roughly perpendicular to the road.

A second pit slightly over three feet deep has been located at the rear of the house, just outside the foundation. As yet the full horizontal extent of this pit has not been determined. This pit is extremely rich in artifacts.

3. CERAMICS

The pottery fragments from the site thus far is very diverse, including numerous examples of both domestic and imported wares. A large variety of glazes have been encountered, with a wide color range in underglaze, in glaze and post firing painting. A number of restorable vessels should be represented in the collection.

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In addition to the pottery, the yield of clay smoking pipes has been most pleasing. A high proportion of the bowls bear maker's marks, which are of the greatest value as dating tools. Several complete or near complete pipe bowls have already been recovered.

4. STONE OBJECTS

Stone artifacts include a large number of gun flints, a button mold, sharpening stones, a scatter of aboriginal artifacts, and most interesting, a stone copy of a 17th century clay pipe.

5. METAL ARTIFACTS

The soil conditions on the site are particularly good for preservation of metal objects, and many such artifacts are in reasonably good condition considering their age. Metal objects recovered are of copper, iron, brass, silver, lead, and pewter. Included in a great range of artifact types are hinges, latches, silver and brass spoons, a silver common pin, coins (4), pewter buttons, musket parts, knives (one with a beautifully decorated ivory handle), nails, shot, window quarrels, padlocks, emblems for clothing (perhaps military), a spokeshave, seals, and many other items.

6. GLASS

The most interesting and significant glass artifact thus far recovered is a completely restorable blown bottle (See photograph). Window glass is also common, as well as numerous fragments of other bottles, stoppers and knobs.

7. FAUNAL REMAINS

A great quantity of animal remains have been recovered, which when analyzed and identified will provide a wealth of information regarding diet as well as the contemporary feral fauna.

8. TENTATIVE CONCLUSIONS AND RECOMMENDATIONS

The above inventory represents but a small part of the total site assemblage. The majority of the artifacts recovered to date are from normal surface refuse scatter. The cellar hole, which has only been barely opened, should be even richer, as should the second large pit.

The dates indicated by pipes and spoons agree closely with the known date of 1676 for the construction of the house. At present, only a 30 to 40 year occupation is indicated, with a final date not long after 1700. There is evidence that the house burned and collapsed while still occupied.

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EXCAVATIONS AT THE JOSEPH HOWLAND SITE (C5), ROCKY NOOK, KINGSTON, MASSACHUSETTS, 1959: A PRELIMINARY REPORT

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INTRODUCTION

Colonial archaeology has been a subject of increasing interest during the past decade. Excavations at Jamestown, Williamsburg and Plymouth have provided valuable detailed information concerning the material culture of the colonists, as well as architectural information which would be difficult, if not impossible, to obtain in any other way. The value of such data to a reconstruction program such as that presently under way at Plimoth Plantation cannot be overestimated. There is no richer source of completely reliable information concerning the details of 17th century house furnishings than the home sites themselves. For this reason, Plimoth Plantation is currently pursuing a program of archaeological investigation at several of the known 17th century house sites in the Plymouth area. This program is a continuation of a study begun in the 1930's, when the John Howland house site was excavated by Mr. Sidney Strickland. Since then, four other sites have been excavated, resulting in a wealth of artifact material

which, when properly analyzed, should contribute considerably to our knowledge of life in Plymouth Colony during the first 80 years of its existence. The Joseph Howland house site was the last of these sites to be investigated, and the following report is a preliminary description of the results of excavations there during the summer of 1959. Since analytical work on the collection has only begun, little of an interpretive nature can be attempted at this time; thus the following report is largely descriptive. A full report of the results of both excavation and study of the collection from the Joseph Howland site and other sites in the area will appear at a later date.

THE SITE

The Joseph Howland site is located in Rocky Nook, Kingston, Massachusetts, on the West side of Howland's Lane, directly opposite the monument marking the location of the John Howland site. When visited for the first time in July, 1959, it was covered by a very dense growth of underbrush, which had to be cut back to make effective work possible. Upon clearing the immediate area of the central portion of the site, the house ruin appeared as a low mound with an approximate diameter of twenty feet. The surface of the mound and the ground in the vicinity was strewn with brick fragments, clay pipe stems, potsherds and other cultural debris. Part of this material was the result of indiscriminate excavations by people presumably searching for Indian artifacts. Two small pits had been dug into the mound, neither of which caused any appreciable disturbance.

A series of trenches was excavated across the mound and for some distance north and south of it. The amount of refuse recovered from these trenches was surprisingly large, and included several items of more than routine interest, including spoon bowls and handles, chisels, coins, and a variety of pottery fragments of both domestic and European manufacture. Since many of the objects encountered in sites of this type are quite small, all of the fill was put through a quarter inch mesh screen. Cultural material occurred to a depth of slightly over one foot, with the richest concentration appearing at the junction of the dark humus layer and the gravel charged subsoil, at a depth of ten inches. Artifacts were sorted in the field according to depth, using a six inch control, and according to horizontal location, using a five foot control.

During the trenching operation, two cellar holes were located, flanking the mound on the East and West. The mound itself was formed by a rather extensive brick fall from the hearth piers of the house, and the large hearth stones themselves. The hearth, which was centered on the mound, measured twelve feet in a north-south direction, and six feet east to west. It was composed of a number of granite slabs, the largest of which was two feet long and a foot wide. A brick apron was present around three sides; on the East side, this apron had either been removed or had never been built. Trenching beneath the hearth revealed a second stone foundation wall, which rested in turn upon a layer of beaten clay. In the area surrounding the mound was a series of foundation stones, considerably tumbled and disturbed, which probably represents the actual foundation of the house.

Further work must be carried out before any clear pattern can be established from these features. There is a suggestion that there are actually two houses represented by these remains. The architectural superimposition in the hearth area as well as the two cellars can best be explained in this fashion. Furthermore, preliminary study of the artifact content of the cellars supports such a conclusion. This will be discussed at greater length in the section on dating.

THE ARTIFACT ASSEMBLAGE

Structural Materials

Since the house was presumably a frame dwelling, little of the actual structural material remains save for brick and mortar. The bricks are of domestic manufacture, made from a red clay with gravel temper. This temper is very coarse in most cases, with some of the inclusions measuring over an inch in diameter. The bricks exhibit a color range from near pink through dark red, which is indicative of poor control in firing. A few have actually been glazed at one end from excessive heat. Two bricks show animal foot prints, one of a wolf, the second of an unidentified animal. These foot prints were made prior to firing, presumably while the bricks were drying. One brick bears the impression of fabric, probably clothing, since it seems to have been made by a person having rested either his knee or elbow in the soft clay. A great number of whole bricks were recovered; these are eight inches long, four inches wide and two inches thick. In the construction of the house, bricks were apparently used for the piers flanking the hearth, as well as the entire chimney, since no stone chimney fall was present, and bricks in sufficient quantity were recovered to account for this structure.

The mortar used to join the bricks is made from shells, probably clam shells, although the possibility of the use of oyster shells for a lime source cannot be discounted, since fragments of oyster shell were found in one of the cellars. Oysters were used for this purpose at Jamestown (Cotter, 1958, p. 8). This mortar was found adhering to the brick in many instances, and great quantities of it were found in the fill of the cellars, as well as in the refuse mantle of the site.

Several fragments of wood were encountered; however, none was sufficiently recognizable to make any structural identification possible.

Architectural Details

A considerable variety of objects which relate to details of house construction was recovered. Foremost from the standpoint of quantity were the hand forged nails, which were found by the thousands. These provide ample evidence of the frame construction of the house. The windows were of the familiar leaded type with diamond-shaped panes (quarrels), as evidenced by the lead cames (fig. 1, no. 14) found in the cellars and surrounding the central mound. Parts of quarrels were also excavated in quantity, and seem to represent two types of glass. One type is relatively clear and thin, the other bears a curious golden patina which makes the fragments nearly opaque. This patination occurred subsequent to the destruction of the house and the initial fracture of the glass, since it occurs on the broken surfaces. The reason for the difference in appearance of these two types of window glass is not yet apparent; it does seem to be a matter of some difference beyond a differential in preservation however, and may in some way relate to the possible twofold occupation of the site mentioned above.

Hinges, a latch and a padlock were found in close proximity to each other at the northwest corner of the mound, and undoubtedly mark the location of one of the doors. A pintel was recovered from the East cellar. The padlock (fig. 1, no. 34) is spherical in shape, with a diameter of 1¼ inches. A second padlock (fig. 1, no. 35) was discovered some distance north of the mound; this lock had broken open, but the working parts, although badly rusted, are well preserved, and can be seen in their original position. It is 1¾ inches in diameter and disc shaped.

Woodworking Tools

The only woodworking tools found were and axe head and two chisels. The axe head is of the single bit type, with a flaring blade. The socket for the insertion of the handle is formed by bending the iron on itself into a loop. The chisels are small (five inches long) and were probably not hafted in any way, since their ends are quite battered.

Ceramics

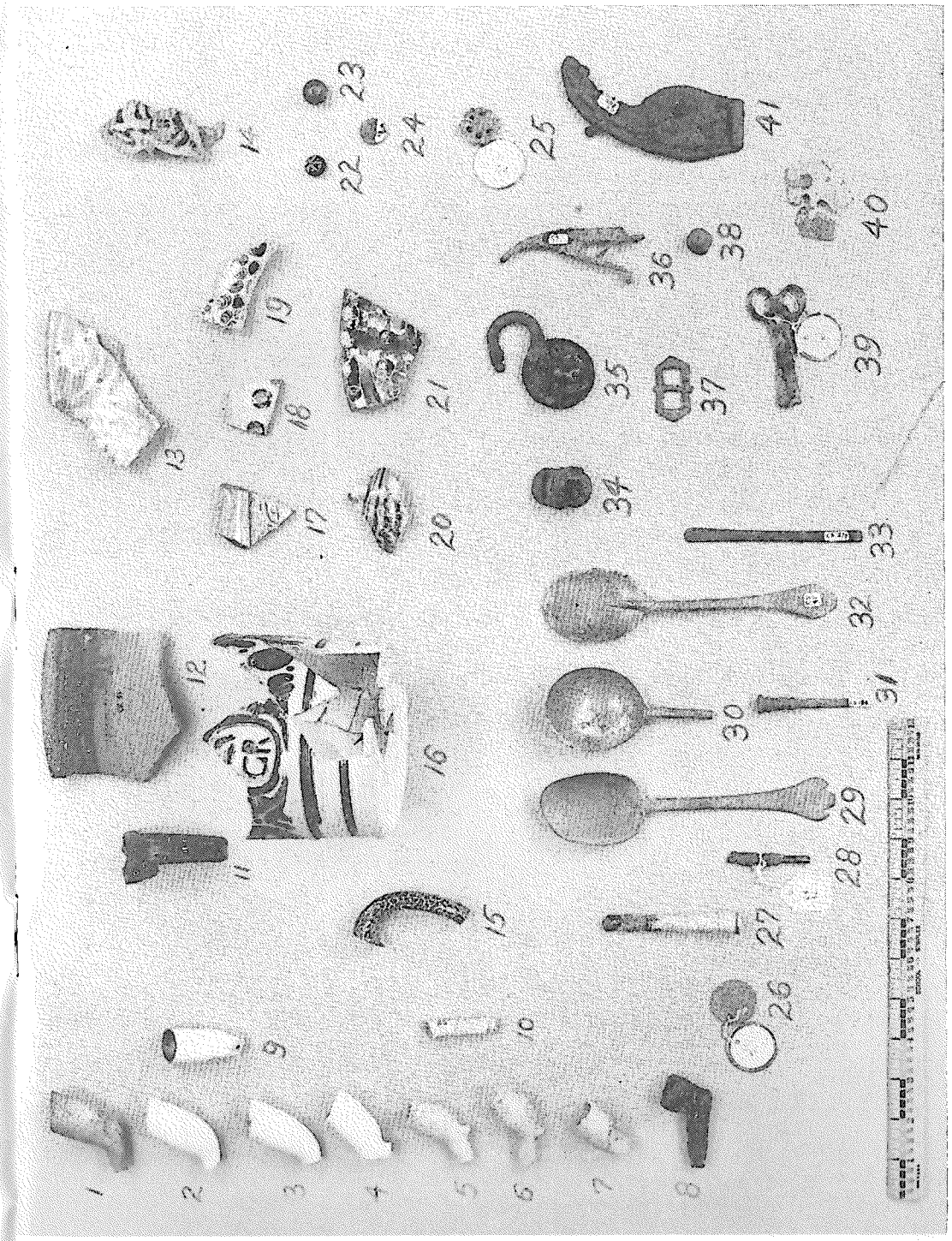
Ceramics recovered from Colonial archaeological sites may be classified in a number of ways, according to paste, place of manufacture, type of glaze, or function, depending on the purpose and needs of

the classifier. Since the present account is primarily descriptive, the Joseph Howland ceramics will be grouped into two large classes according to basic physical differences in the paste. These classes are *stoneware* and *earthenware*. Earthenware is characterized by a permeable paste, which requires a glaze to make it fully serviceable as a container for liquids; the paste of stoneware is impermeable, and while most stoneware is salt glazed, this glaze is applied only for the improvement of the container's appearance. The difference between these two types is due to the temperature attained in the firing process, which reaches 1400 degress C. in the case of stoneware but does not exceed 1000 degrees C. in the case of earthenware. Within the two classes, further subdivisions may be made on the basis of the type of glaze employed. Both classes are amply represented in the Joseph Howland ceramic assemblage. As yet, little has been accomplished toward precise identification of the various types of pottery recovered, hence the following description must be of a rather general nature.

The stoneware is probably predominantly of German origin. Two types are represented, one with blue and occasionally purple decoration on a gray to white ground, and another with a brown mottled glaze. The blue and purple colors are derived from cobalt and manganese respectively, while the brown results from the application of a ferruginous wash prior to firing. Both types have a salt glaze, achieved by introducing common salt into the kiln when the vessel being fired is white hot. This glaze can best be described as resembling the surface of an orange, with characteristic surface irregularities. The blue and white, salt glazed stoneware is most characteristic of the last half of the seventeenth century. One fragment, however, has the date 1630 impressed on a decorative seal. Another partially restored jar bears the initials *GR* (fig. 1, no. 16). These initials probably stand for Gulielmus Rex, William III, whose name and likeness also appears on four of the coins from the site. All of this evidence supports the late 17th century date accorded Joseph Howland's occupancy of the site. The brown stoneware (fig.

KEY TO FIGURE 1

1 - 7, 9	English clay pipe bowls
8	stone pipe
10	decorated clay pipe stem
11	lead glazed strap handle from earthenware jar
12	rim section of domestic ware
13	English Delftware
14	Lead window came
15	handle of brown stoneware
16	Partially restored blue and gray stoneware jar
17	English Sgraffito ware
18	slipware
19	Delft plate fragment
20	combed slipware
21	green on black slipware
22	painted button
23	ceramic marble
24	pewter button
25	bridle boss
26	coin (William III, 1700 date)
27	Ivory handled knife
28	Apostle spoon handle
29	Trifid spoon
30	Tinned spoon bowl
31	seal knop spoon handle
32	pewter rat tail spoon
33	slip-in-stalk spoon handle
34	padlock
35	padlock
36	clamp
37	buckle
38	thimble
39	scissors
40	glass "jig-saw puzzle" pieces
41	Ox shoe



1, no. 15) has a longer chronological range and is not of great value for dating purposes. It is of the same type as represented by the so-called Bartman, Bellarmine or graybeard jugs, which have bearded faces modeled on their necks, although such a face was not encountered at the Joseph Howland site.

The earthenware can conveniently be further divided into two sub-groups, a rather coarse, lead-glazed utility ware (fig. 1, nos. 11, 12) and a finer type with lead or tin glaze. Much of the utility ware is of domestic manufacture. The paste is red and rather soft, and the glaze is usually applied to the vessel's interior only. This glaze is transparent and varies from yellow to greens and browns. It is applied by dusting the area to be glazed with lead sulfide, which fuses with the silica in the paste upon firing to form an impermeable, waterproof surface. The shapes represented by this utility ware seem to be largely deep bowls and open jars, such as those used to store milk, cream and water. Decoration, when present, is in the form of simple incising and modeling. The fluted effect which results from the vessel having been turned on a wheel is not obliterated by smoothing on these vessels, and produces a rather pleasant surface finish. One completely restorable bowl was recovered from the West cellar.

A clear lead glaze was also used on some of the finer imported English slip ware. This pottery is thin, well made, and decorated by the application of a white or light colored slip, known as an *engobe,* to the red paste of the vessel's body. Subsequent application of a lead glaze, usually yellow in color, produces a yellow ground color. At times this engobe is trailed on in various designs, producing a yellow on red decoration. One piece from the Joseph Howland collection has been glazed in green, resulting in a green on black effect (fig. 1, no. 21). It was also the practice to incise a design through the slip into the red paste beneath, the result being termed *Sgraffito-ware* (fig. 1, no. 17). One fragment of this ware was found, and is probably of English manufacture. Yet another variation of the same basic technique is seen in the so-called combed ware, a late 17th century type in which a darker (red) slip is combed through the engobe, producing a brown and yellow, finely marbled, feathery effect when glazed (fig. 1, no. 20). Other slip ware types from the Joseph Howland site include those with yellow dots on a black ground, and with black dots on a yellow ground (fig. 1, no. 18). In these cases, the engobe forms the design color in the former and the ground color in the latter.

The addition of tin oxide to a lead sulfide glaze produces an opaque white glaze, properly termed an enamel. Pottery glazed in this manner, and frequently painted with blue and violet enamels prior to firing is commonly referred to as *Delft Ware.* Delft ware, which takes its name from the most famous location of its manufacture in Holland, was made also in England, and the term Delft is usually applied to wares from both countries. Very similar tin enameled types were also manufactured in Southern Europe, and are termed *Faience* when produced in France, and *Majolica* when originating on the Iberian Peninsula or in Italy. For a good discussion of this terminology, which is beyond the scope of this paper, the reader is referred to Jelkes, 1958, p. 209.

Delft ware was found at the Joseph Howland site in blue on white, blue and violet on white (fig. 1, no. 13), and plain white varieties. Much of it is probably of English manufacture, although the possibility exists of some of it being of Dutch origin. The paste is pinkish yellow in most cases. One very striking fragment of a plate has blue and white decoration, with a yellow and black overglaze addition, producing a pleasing polychrome effect (fig. 1, no. 19). One small fragment of a plate may be Majolica; no positive identification has been achieved as yet.

Clay Pipes

The clay pipes commonly encountered in colonial sites provide the archaeologist with one of his most effective dating techniques. Pipe fragments from the Joseph Howland site number in the hundreds, and from them excellent chronological data have been obtained. These pipes were

manufactured in England, and exported in quantity to the colonies. While some pipes were made at Jamestown, there is no positive evidence for the domestic manufacture of them in the Plymouth area during the 17th century. These pipes were made in metal molds, and the boring of the stem was accomplished by the insertion of a wire rod while the unfired pipe was still in the mold. The bowl was hollowed by a separate tool from the top. Pipe shapes and sizes show a rapid change during the course of the 17th century. In general, the earlier pipes were smaller, with bowls which leaned further foreward. The angle of the stem relative to the plane formed by the rim of the bowl became increasingly acute with the passage of time, and at the beginning of the 18th century, stem and bowl rim became parallel, and have remained so since. Thus, all pre-1700 pipes can easily be recognized from those which follow. Within the 17th century, other changes in form occurred which makes chronological placement relatively easy (Oswald, 1955). In very general terms, the pipes from the first half of this century tend to be smaller, more bulbous, and show a less acute stem-bowl rim angle. The pipes in figure 1 are arranged in an approximate chronological seriation, with the earlier forms at the bottom. No. 7 is of particular interest, since it has been tentatively identified as a pipe made in Broseley, Shropshire, and bears the initial IC on the base, possibly those of John Clarke, who worked until 1663 (Oswald and James, 1955). A number of other initials have been found on the pipe bowls from the Joseph Howland site; the majority of these have not yet been identified with the maker. However, by far the most common maker's mark is that of Robert Tippet, whose initials are stamped into the clay on the back of the bowl, and whose full name appears frequently in a seal on the side of the bowl. According to a study of these pipes made by Adrian Oswald (1959), Tippet was working at the end of the 17th century. This dating is in close agreement with the date assigned Joseph Howland's occupancy of the site. As Oswald points out, there seems to have been two varieties of clay pipes manufactured by Tippet and other manufacturers of the period. One type, made for export, lacks the spur or foot at the base of the bowl. The other spurred form was manufactured primarily for domestic consumption. The material excavated at the Joseph Howland site supports this conclusion in a general way, although examples with spurs or feet were recovered. The reasons for this difference are unknown. Two theories have been offered in explanation, one that the spurs broke easily, and thus were omitted on the export items, and another suggestion that the unspurred type more closely approximated the form of aboriginal pipes, and were therefore more attractive trade items to the Indians. Since one seldom if ever finds a bowl which has had the spur broken, even after three centuries in the earth, the former explanation lacks complete credibility, although the latter suggestion seems little better suited to the facts. A very interesting pipe was excavated from the hearth area by a local collector, who later brought it to the Plantation. This pipe is made of stone, but quite clearly from a clay prototype (fig. 1, no. 8). Whether it was made by the Indians or Pilgrims is unknown, as are the reasons for its manufacture. Two similar pipes were excavated by Mr. Henry Hornblower II at the RM site on the Eel River.

While the bowls of clay pipes are not extremely common, fragments of the stems are among the most frequently encountered artifacts in colonial sites. Studies carried out on pipe stem forms by Harrington (1954) have demonstrated that these fragments can provide extremely valuable dating evidence. Since there was a general trend toward the lengthening and accompanying reduction of the diameter of pipe stems throughout the 17th century, it became necessary to reduce the diameter of the bore, by using wire of a finer gauge to bore the stem. Using examples with dated bowls, Harrington established a five-fold division of pipes based on bore diameters, each class varying from that immediately above or below it by a difference of 1/64 inch. Thus, in practice, a sample of stems from a given site is measured, using a set of drills as a gauge, and a curve of diameters is established. This curve is then checked against the master curves established by Harrington, and a date is obtained. Stems dated in this manner are thought to be approximately accurate within the very fine limits of a thirty year period. The application of this technique to the stems from the Joseph Howland site has produced some rather significant, although startling and somewhat contradictory results. The breakdown of a large sample of stems from this site, with approximate dates, is as follows:

DIAMETER OF BORE	DATE	NUMBER OF STEMS
9/64	———	7
8/64	1620 - 1650	14
7/64	1650 - 1680	89
6/64	1680 - 1710	79
5/64	1710 - 1750	133
4/64	1750 - 1800	7

The dates refer to the date of a sample which peaks at that diameter. Since there will always be some variation in diameter, certain stems made during a given period will have a bore diameter more characteristic of an earlier or later period. The most obvious and logical interpretation of the above data is that of two cycles of occupation, one from 1650 - 1680, and the other from 1710-1750. The relatively high number of stems from the 1680 - 1710 period can be interpreted as an overlap of the two most numerous classes. Unfortunately, this interpretation excludes Joseph Howland completely, since he supposedly built the house in 1676 and died in 1703. However, in view of the preponderance of evidence which dates the site to the last quarter of the 17th century, this evidence cannot be accorded full reliability. Furthermore, it is based on a random sample of stems from all parts of the site; further control by location may well change the results greatly. It is interesting to note that an identical set of dates were obtained from a random sample of stems excavated by Mr. Strickland at the John Howland site. These stems yield the following breakdown:

DIAMETER OF BORE	DATE	NUMBER OF STEMS
9/64	———	25
8/64	1620 - 1650	45
7/64	1650 - 1680	112
6/64	1680 - 1710	42
5/64	1710 - 1750	224
4/64	1750 - 1780	79

As at the Joseph Howland site, a series of occupancies is suggested by these measurements.

While the majority of pipe stems are undecorated, a few bear rouletted designs impressed into the stem (fig. 1, no. 10). These decorated stems are almost exclusively in the 7/64 class, dating to the third quarter of the century.

Coins

Several copper coins were found at the Joseph Howland site. Those which bear legible markings are inscribed Gulielmus Rex, William III, and one has a readable date of 1700 (fig. 1, no. 26). A 1724 coin was recovered from the east cellar. Two small silver discs, presumably coins, were also recovered, but as yet, have not been identified or dated. A single brass counter, used in Europe for making calculations, was found; these have been identified at Jamestown as objects intended for Indian trade (Cotter, 1958).

Household Furnishings

A great variety of objects which relate directly to the interior furnishing of the house were excavated, including knives, spoons, wine glasses, bottles, hardware, and the ceramics described above. The spoons are of particular interest. All but one are of latten (sheet brass), and exhibit a number of types of handles. A number of seal top handles were recovered (fig. 1, no. 31); this type has a long duration in time, and as a result, provides little of value toward dating the house. Slipped-in-stalk handles (fig. 1, no. 33), another long lived type, were also found. A complete Pied-de-biche, or trifid spoon was found in the West cellar (fig. 1, no. 29). This type has been dated to the period from 1663 to 1700 (Raymond, 1949), and the spoon from the Joseph Howland site can be placed somewhere in the middle of this period according to the treatment of the trifid terminals. A complete rat tail spoon of pewter was also found in the West cellar, and also has a post 1650 date (fig. 1, no. 32). The most interesting spoon handle is from an Apostle spoon, and has the figure of St. Philip cast on the end. Two of the spoon bowls are tin-plated, a technique which, according to Raymond, is supposed to have been begun about the middle of the 17th century. These bowls, like all separate bowls from the site, are fig-shaped, while the bowls of the two complete spoons are more ovate (fig. 1, no. 30).

Knives are exclusively of iron. One knife is hafted in an attractive ivory handle, all others were found without hafting. No forks were found.

Miscellaneous hardware includes drapery rings, upholstery tacks, staples, and two silver common pins. A complete iron candlestick was taken from the East cellar. Parts of wine glasses were abundant. One piece of optical glass was found. Its use is unknown; it is half of a double convex, single element lens. It may have been a part of a telescope, or perhaps a hand lens. A complete wine bottle was found on the floor of the West celler. This is a late 17th century type according to the typology established for such bottles at Jamestown (Cotter, 1958). The most puzzling glass object is what to all appearances seems to be a glass jig-saw puzzle (Fig. 1, No. 40). The pieces have been intentionally cut in interlocking fashion, and when completely assembled, this object would probably be in the form of a bottle, since the component parts have a curved surface, and one part is clearly from the shoulder of a bottle.

An object resembling a clamp was found which has been identified in the Jamestown collections as a surgical instrument (fig. 1, no. 36). What such an instrument would be used for in a domestic situation is unclear.

Data relevant to personal dress are rather scanty. Buttons were the most frequently encountered objects. These are almost exclusively of pewter, although one painted button is made from some other type of metal. A single stone button mold was found in the West cellar, and would produce buttons of the type excavated at the site. Both brass and iron buckles were found, some undoubtedly for shoes, and other larger types probably from belts and even harnesses. A fragment of gold braid was found in the mortar which was applied to the foundation stones in the West cellar, and probably came from a military uniform.

Miscellaneous

A number of other objects were excavated which do not fit into distinct categories. Horse equipment includes spurs, bridle bosses and horseshoes. A number of oxen shoes were encountered in the area surrounding the house mound. An ivory comb was found in the area of the hearth; it is two sided, with two sizes of teeth. No parts of guns were found, although gun flints were numerous. These flints are made from gray English flint, and were probably struck in this country, since a quantity of waste flakes of this material was found, as well as an exhausted core from which as many flints as possible had been removed. A roughly spherical glazed ceramic object may well be a marble.

Great quantities of waste flakes of aboriginal origin are found on all parts of the site. The significance of this is unclear, although there is an excellent possibility that the house was built on an earlier Indian camp site. A series of Indian artifacts was recovered, including projectile points, hammerstones, and a bone awl. The awl and a hammerstone were found beneath colonial material in the West cellar, and could only have been introduced into such a situation through the owner of the house having had prior possession of them. It is therefore possible that Joseph Howland had collected some if not all of the aboriginal artifacts found on the site. The only alternative to this is the extremely unlikely one of an Indian having had access to the house.

DATING

The majority of the evidence recovered and thus far studied supports a late seventeenth century date for the Joseph Howland site. The spoons, blue on gray stoneware, coins and pipe bowls are all of the type encountered in sites of this period and manufactured at this time. At Jamestown, brown and yellow combed ware is considered to be of very early eighteenth century provenience; this type is amply represented in the Joseph Howland ceramic assemblage, and probably represents the latest occupation of the site. The complete wine bottle, as well as fragments of several others are of a type usually dated from 1680 to 1690 (Cotter, 1958).

The somewhat contradictory evidence offered by the pipe stem measurements may be altered when further study of this problem has been completed. An uncontrolled factor in dating by this method is the amount of smoking which was done per person in any given period. If Joseph Howland had been a non-smoker, one would expect a gap in the stem curve covering his occupancy of the site. While this is an important aspect of this problem, it must not be forgotten that this technique has been applied with great success at Jamestown and elsewhere, and must be accorded the proper emphasis in the present study. The most complex problem relative to dating is the likelihood of two occupations at the Joseph Howland site. The following summary of evidence which suggests this makes any other conclusion rather difficult to justify.

1. There is actual architectural superimposition. The hearth of the later house rests upon a wall, but is separated from this wall by four inches of disturbed soil. This is indicative of reconstruction upon an earlier foundation.

2. Beneath the hearth was discovered a pipe bowl, which by shape and maker's mark, must pre-date 1676, the year in which the Joseph Howland site was constructed. Other pre-1676 pipe bowls have been excavated at the site. Furthermore, the pipestem measurements, whether they represent the 1680 - 1710 period or not, certainly indicate an occupation as early as 1650.

3. There are two cellars. The fill of one of these was compacted trash, as though it had been used as a trash pit. The other cellar contained several complete or near complete objects, and seems to have been filled primarily as a result of the destruction of the last house on the site.

4. Two types of window glass are present. These could differ due to their having been used at different times in different structures, and thus have been the product of two manufacturers.

When all of the above evidence is considered, the conclusion that there were two houses at the site seems almost inescapable.

CONCLUSIONS

As mentioned in the introduction, little of an interpretive nature can be offered at this time. However, certain statements can be made regarding the site and its occupant. The main occupation of the Joseph Howland site seems to have occurred during the late 17th and very early 18th centuries. This is completely in agree-

ment with what is known regarding Joseph Howland's home in Rocky Nook. The house was a frame structure, with a large, stone-floored hearth and brick chimney. A cellar for storage purposes abutted the house on the West side. The windows were glass with diamond leaded panes. The furniture was quite fine in all probabilities, judging from the variety of European ceramics, spoons, and other objects such as ivory combs, wine glasses, and ivory handled knife. When the assemblage is completely evaluated and identified, this very sketchy outline should take on depth and color, and a fuller knowledge of not only Joseph Howland, but of late 17th century life will inevitably result.

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THE HOWLANDS AT ROCKY NOOK

An Archaeological and Historical Study

by James Deetz
Archaeologist, Plimoth Plantation

FOREWORD

The Pilgrim John Howland Society has been fortunate indeed to have been able to participate in this overall program of archaeological excavations and architectural historical study of Plymouth Colony. The importance of this cooperation shows up in the cross-dating made possible by comparative artifactual studies. In this article, the archaeologist and the historian together reveal a story of Plymouth Colony land occupation by a Pilgrim and his descendants for almost a century.

Those interested primarily in the results of this study will find a resumé in the final section, SUMMARY AND CONCLUSIONS.

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Custodian, Howland Society

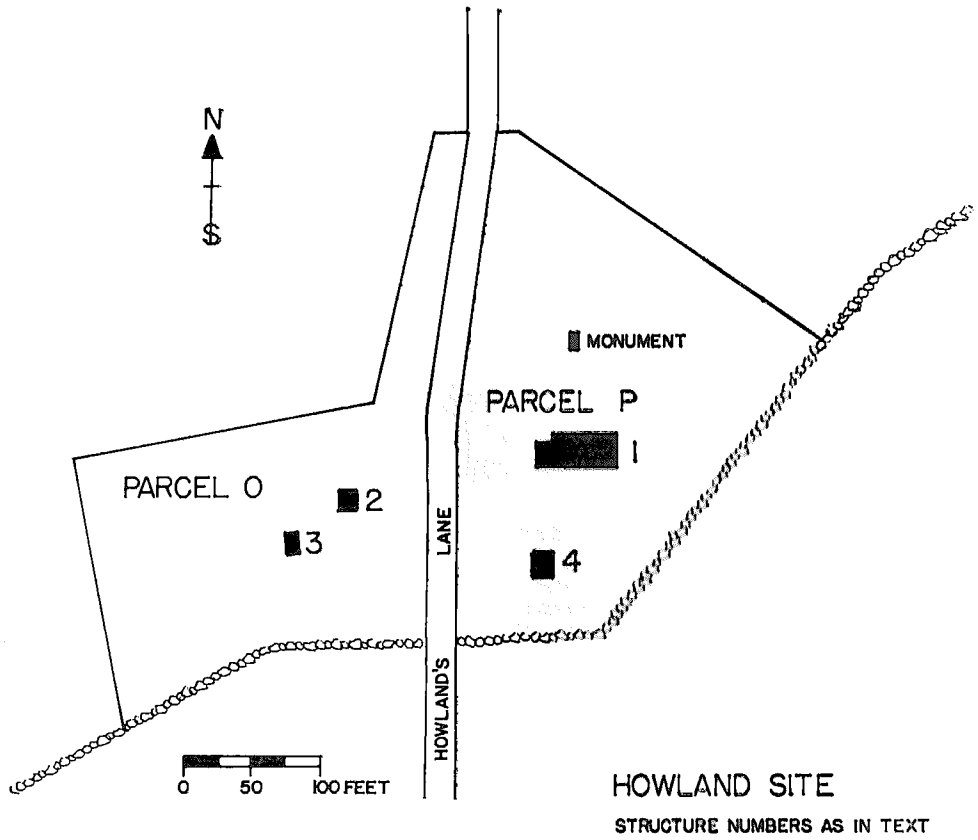
INTRODUCTION

The excavation of the John Howland home site in Rocky Nook, Kingston, Massachusetts (S.T. Strickland, 1939) was the first of a series of archaeological studies which have shown that the area was occupied by three generations of the Howland family for nearly a century ending in 1735. The remains of at least four structures in the vicinity of the John Howland monument can be identified with these occupations (Map 1). These structures are as follows:

Structure 1	John Howland
Structure 2	Probably John Howland
Structure 3	Joseph Howland, James Howland
Structure 4	James Howland

In view of physical and chronological relationships between these buildings, it would seem advisable to designate the entire hillslope area as the *Howland site,* and refer to the structures thereon as constituent features of that site. This is in keeping with standard archaeological method, whereby one designates any continuous spatial unit of occupation as a site (Willey and Phillips, 1958).

Interpretation of the archaeological evidence found here is contingent upon the absolute identification of the land in question as that which was owned and utilized by John Howland and his descendants during the seventeenth and early eighteenth centuries. This must be considered prior to a discussion of the structures, their contents and their occupants.



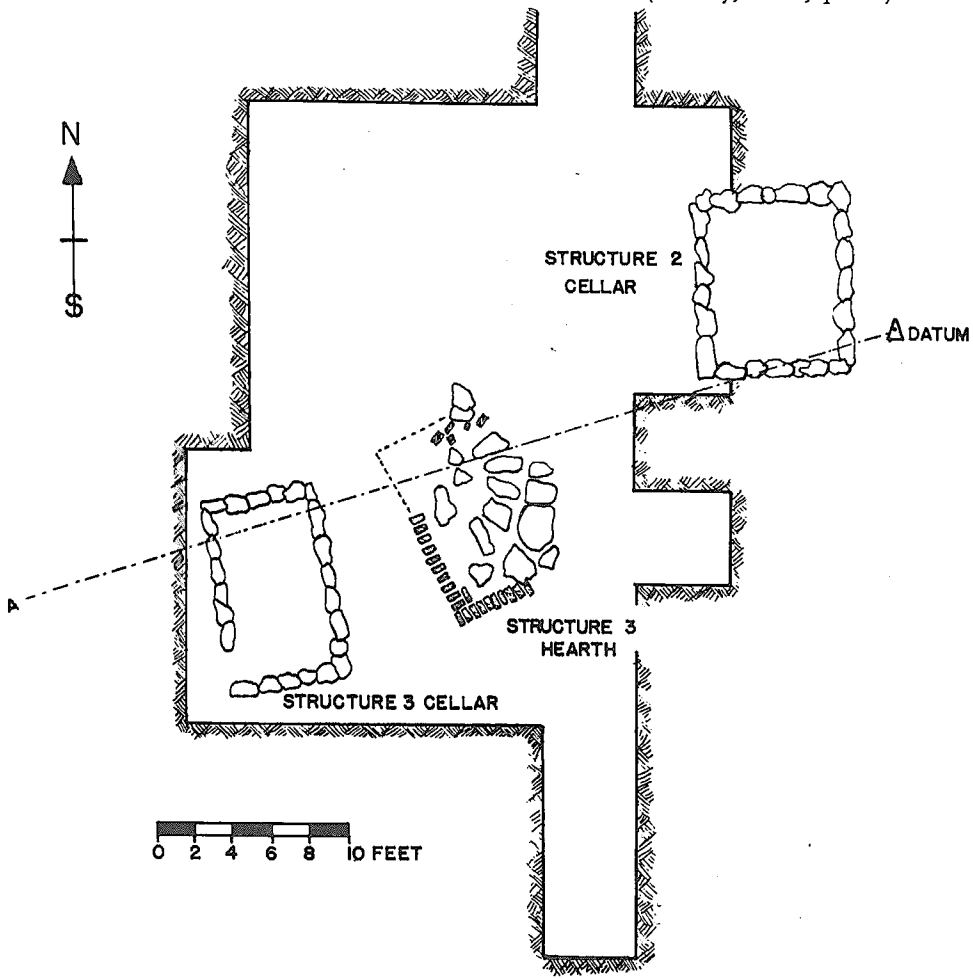
MAP 1.

TITLE RESEARCH

Thorough research carried out by A. R. Hussey, Jr. in 1938 has demonstrated that the land on which the Howland site is located was a part of the Howland holdings in Rocky Nook until the last parcels were conveyed to Benjamin Lothrop in 1735 (Hussey, 1938, p. 12). These last parcels are those designated as parcels P and O in the Hussey report and on the accompanying map (Map 1), and are the loci of structures 1 and 4 (P) and 2 and 3 (O). Of equal importance is the fact that, as Hussey points out, no record exists of the conveyance of land *to* any of the Howlands prior to 1755 except that by John Jenney. Consequently this land was not only owned by the Howlands at that time, but is also a portion of that land sold to John Howland by John Jenney in 1638. While parcels O and P can be shown to have been a part of John Howland's holdings this of course does not resolve the problem of associating the various structures on the site with specific individuals. However, certain parts of the title research are helpful in making this identification, and when combined with the archaeological evidence, provide positive identification of the structures with their owners and tenants.

Structure 1, located on parcel P, has been identified as the remains of the house John Howland occupied until his death in 1672. Since it has been possible to identify certain landmarks used in laying out property boundaries in the seventeenth century (Hussey, 1938, p. 3), these same landmarks can be used with equal effect in locating John Howland's house. A quotation from the Hussey report is quite clear in this respect:

> "In the deed from John Jenney to John Howland in 1638 a house is referred to. In the agreement fixing the boundary between John Howland and John Cooke in 1661 the house is not only referred to but located as lying west southwest of a great white oak tree marking the first corner in the dividing line and north northeast from the red oak tree marking the second corner in the dividing line. While no distances are given, it is clear that if lines were drawn from these two corners, which are to be fixed on the ground today, the exact location of the house can be found at the intersection of those lines with considerable accuracy. Making allowances for the fact that the statements in the agreement of 1661 were probably not meant to be exact it is quite clear that we have a most reliable method of proving that the foundations uncovered in the recent excavations (1937; structure 1) are those of the house which stood there in 1661" (Hussey, 1938, p. 11).



MAP 2. Detail of Structures 2 and 3.

The house ruin on parcel O (Structure 3) has been identified with Joseph Howland. The problem of dating this structure and structure 2 have been discussed in the Supplement to the Howland Quarterly, Vol. XXIV January-April 1960, Nos. 2 and 3. Documentary evidence obtained as a part of the title research provides some clarification of these problems, as well as additional support to the identification of Structure 3 with Joseph Howland. It is known that Joseph willed his house to his son James in 1703, and when James Howland conveyed parcel O to Benjamin Lothrop in September 1735, he mentions the "House thereon". Hussey correctly concluded that this house is both that house represented by the ruin on parcel O and Joseph Howland's house. Upon the conveyance of parcel P to Lothrop earlier in the same year, no mention is made of any structure on that piece of land.

This leaves structures 2 and 4 unaccounted for by the research on the transmission of the land involved. A study of the artifact content of these structures as well as that of structures 1 and 3 provides further clarification in each instance, resulting in the assignment of structures to tenants as listed above.

STRUCTURES 1 and 4

Structure 1 can be identified with considerable certainty as John Howland's house on the basis of the documentary data cited above. Archaeological evidence supports this identification in all of its aspects. The assemblage recovered from this structure in 1937 contains a series of artifacts most characteristic of the first half of the seventeenth century. These include small bulbous clay pipe bowls, square gin bottles, marbled slipware, gravel-tempered utility ware, and a large quantity of German brown stoneware, with an accompanying small amount of German blue on grey and plain grey stoneware. The pipe stem bore measurements cited in the previous report (Deetz, 1960) also substantiates this dating in a general way. While there are two maxima in the pipe stem curve, the first of these relates to structure 1, and the second represents a stem sample recovered for the most part from structure 4.

Structure 1 lacked a cellar, and the chimney was of stone, unlike the brick chimneys encountered in the remains of houses of the second half of the seventeenth century. Thus both artifactual and architectural evidence supports a date for structure 1 in the vicinity of 1640 - 1680.

The date of the destruction of structure 1 can be placed at circa. 1680. The gap in the pipe stem curve in the 1680 - 1710 range is indicative of this, as well as all that is known regarding the destruction of John Howland's house from documentary sources. That the house was still standing in 1672 is shown by the will of John to his wife Elizabeth which mentions the house. As noted above, however, no house is mentioned on parcel P in the conveyance of this tract of land to Benjamin Lothrop by James Howland. Failure to mention a structure in such a connection does not provide absolute proof that it was not present. However, historical evidence supports the archaeological findings as to the building's destruction. According to a biography of Joseph Howland (Howland Quarterly, vol. XIII, no. 4, April, 1949) John Howland's house was burned by the Indians during King Philip's war in 1675, and Joseph built a new house in Rocky Nook in 1676. Structure 1 had burned in place, as evidenced by the charcoal, glass, nails and window cames recovered. This evidence, coupled with the data from family history and legal documents adds further support to the sequence of events as they have been traditionally accepted, and to the positive identification of structure 1 with John Howland.

Structure 4, located south of Structure 1, is a small building which can be identified with James Howland as well as later tenants of the site until ca. 1800. The artifacts recovered from this feature are all of eighteenth century provenience, and include pipes of the T.D. type, transfer printed earthenware, combed slipware, and American slipped redware. The large number of pipe stems with a diameter of

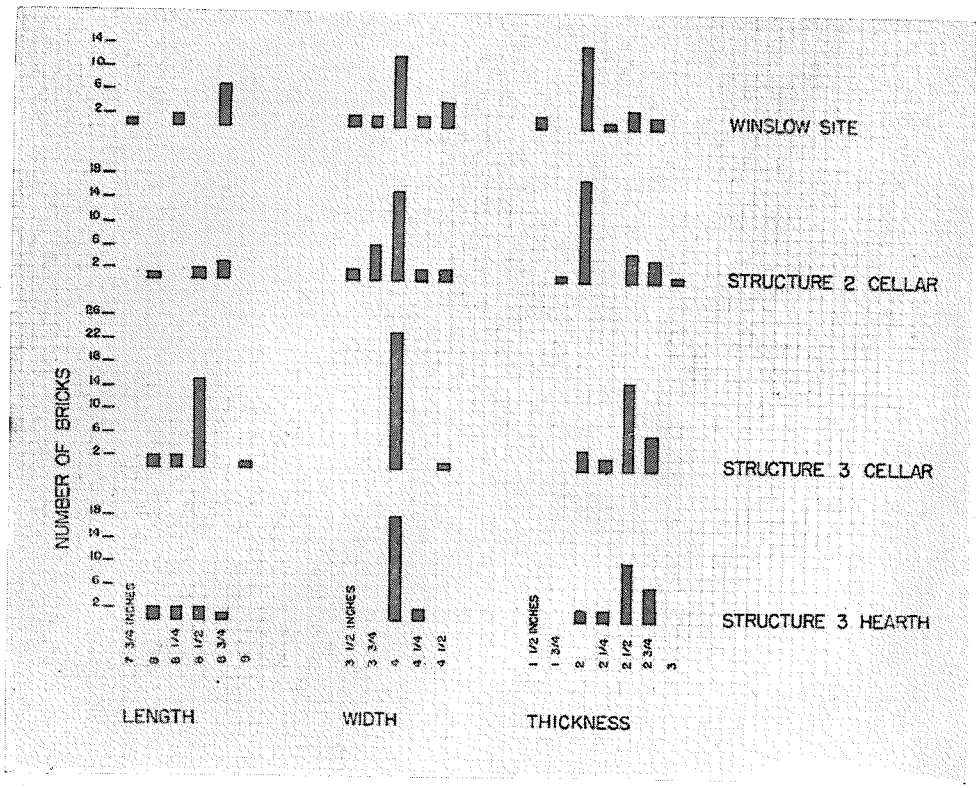


FIG. 1. Brick Dimensions: Howland and Winslow Sites.

5/64 inch (1710 - 1750) is in perfect agreement with the date suggested by the artifacts. The function of structure 4 is unclear. Its small size (9 x 14 ft.) and close proximity to structure 3, a contemporary dwelling, strongly suggests that it was not a house, but probably one of the outbuildings which were a part of the James Howland farmstead. While it will be shown that structure 3 was constructed by Joseph Howland and subsequently willed to his son James, the evidence cited above in connection with the dating of structure 4 indicates a date of construction sometime after 1700, and probably as late as 1710. Thus it probably represents a building erected on parcel P by James Howland after he had taken possession of the farm. Structure 4 also resembles the outbuilding excavated at the Bartlett site (C4) on the Plymouth golf course. This foundation has been tentatively identified as a smokehouse or a spring house; in either case the building would have been utilized in processing or storing food. The Bartlett structure is very well preserved, and quite clearly represents a small building, with an outside entrance directly down to a dirt floor via a small stairway of dressed stone. Structure 4 of the Howland site probably represents a similar building.

While all evidence suggests an eighteenth century date for structure 4, it undoubtedly was still standing at the time of the conveyance of parcel P to Benjamin Lothrop. Thus, in addition to being identified with James Howland, there is an identification with Lothrop as well. Structure 3 was also sold, with parcel O, to Lothrop. Thus the archaeological features on parcel P represent the occupation of

the Howland site by James and John Howland, but not by Joseph. The pipe stem curve for parcel P (Deetz, 1960, p. 8, right hand column) indicates this sequence quite clearly, with only 42 stems from the period of Joseph Howland's occupancy of parcel O.

STRUCTURES 2 and 3

Structure 3 has been identified as the remains of the house built by Joseph Howland in 1676. This identification was one of the guiding premises of the archaeological work carried out on this structure during the summer of 1959. However, not long after beginning work on structure 3, it became clear that a complex of two buildings, one superimposed on the other, was involved, one of which clearly predated the construction of structure 3 and therefore represented a building which was contemporary with structure 1. This earlier foundation and cellar was discussed as it relates to structure 3 in the Supplement to the January-April 1960 Howland Quarterly where the problems of dating raised by the relationship between structures 2 and 3 were discussed at some length. A study of the dimensions of the hand made brick use in these two structures provides additional evidence of two occupations of the area beyond all reasonable doubt. Bricks were sorted into three lots during the course of excavation. These lots (East cellar, West cellar and hearth) were then measured and their dimensions compared by means of histograms. The West cellar has been associated with structure 3 on the basis of other evidence, including the nature of the fill and the physical relationship of this cellar to the remains of the structure 3 foundation. Bricks from the West cellar are identical in dimensions to those of the hearth of structure 3. On the other hand, bricks from the East cellar have slightly different modal dimensions and show greater variation in size. Since structure 2 is presumed to have been occupied or utilized prior to 1676, it would be contemporary, at least in part, with the Winslow site in Marshfield, Mass., excavated by Henry Hornblower II and the Peabody Museum, Harvard University, in 1940 - 41. Pipe stem dates and the evidence provided by the remainder of the archaeological assemblage from the latter site place the occupation of this site in the 1650 - 1680 range. Bricks from the Winslow site have been measured as a control on the dimensions of the bricks from the East cellar. That these two lots of brick compare very closely in range of dimensions is shown by Figure 1. From this it can be seen that the difference in brick dimensions observed in the three lots from structures 2 and 3 at the Howland site demonstrates the chronological difference between these structures, as well as cross-dating structure 2 with the Winslow site. Thus, by extension, structure 2 is contemporary with structure 1.

The dates of the Joseph Howland house (structure 3) can be established with a degree of accuracy equal to that obtained for his father's house to the east. The relationship between the hearth of this house and the underlying structure 2 foundation wall has been described (Deetz, 1960). Since the East cellar was filled with debris, which suggests the use of the open cellar hole as a dump, it is highly probable that the area occupied by structure 2 was leveled preparatory to the erection of structure 3 by Joseph Howland, and the refuse placed in the East cellar. The destruction of structure 2 may well have occurred at the same time as that of structure 1, in 1675. Joseph Howland's house, built in 1676, is supposed to have been constructed within one year following the burning of the Howland farmstead in Rocky Nook, and as a result, some cleaning and clearing of the area would probably have been necessary. The dates of structure 3 derived from standard archaeological techniques are exactly in accord with the known dates of Joseph Howland's dwelling. The dating evidence cited in the previous paper places a date range between 1680 and 1750. The somewhat contradictory evidence offered by the pipe stems has been changed and the problems involved solved, since the total sample of stems from the site indicates a continuous occupation from 1650 to 1750. The first part of this period is accounted by structure 2, and the period

from 1630 on by structure 3. Additional support of a late seventeenth century date for structure 3 is provided by ceramic seriation as applied to German stoneware. Two main types are represented, blue and gray, and brown. The brown variety is known to be the earlier (Honey, n.d.) and the trends exhibited by these two types in Plymouth sites indicate a relatively late date for structure 3. These trends are as follows, as they are seen to occur in three closely dated sites in the Plymouth area.

	Stoneware		
Site	*Brown*	*Grey*	*Pipe Date*
R.M.	60%	40%	1630-1680
Winslow	32%	68%	1650-1700
Howland, Structures 2 and 3	18%	82%	1680-1750

The virtual absence of pipe stems in the 1750 - 1800 class in the structure 2-3 assemblage indicates an end date of 1750 for structure 3. It is known to have been extant in 1735, when it was mentioned in the transfer of title from James Howland to Benjamin Lothrop. That James Howland occupied his father's house from the time of his acquisition of it through his father's will until it was sold is known from documentary sources. Thus structure 3 can be identified with Joseph and James Howland.

This leaves structure 2 without a definite tenant. However, since it can be shown to have been a contemporary structure with the John Howland house, and was located on Howland land, the likelihood of it having been anything but one of the buildings mentioned as outbuildings in John Howland's will is extremely slight. Unfortunately, the condition of preservation of structure 2 makes any statements regarding its dimensions and probable function quite impossible. All that can be said is that there was a building on parcel O prior to the time of the construction of a house on that parcel by Joseph Howland in 1676. It may well have been one of John Howland's outbuildings, although the chance of it having been a dwelling, while slight, must not be ruled out. The evidence cited above for a coincidence of destruction of both structures 1 and 2 also buttresses the arguments in favor of these structures having been part of the same building complex.

SUMMARY AND CONCLUSIONS

The evidence outlined above provides a well integrated series of events in the occupancy of Rocky Nook by the Howlands from 1638 until 1735. The evidence from historical and archaeological sources clearly demonstrates who lived where and in what period. This sequence can be summarized as follows:

1. Both parcels O and P were portions of that land conveyed to John Howland by John Jenney in 1638. John Howland lived in the house represented by structure 1 until his death in 1672.

2. In 1676, Joseph Howland returned to Rocky Nook following King Philip's War, and built a house (Structure 3) atop the ruins of the outbuilding to the West of his father's house site. This house was owned and occupied by Joseph Howland until his death in 1703, at which time it was devised to and occupied by his son, James Howland. During the period from 1676 until about 1710 little or no activity or construction occurred on the eastern half of the site (the area now to the east of Howland's Lane).

3. Between 1700 and 1710, James Howland constructed an outbuilding, probably a smoke house or spring house, near the site of his grandfather's house. This is the building represented by structure 4.

4. In 1735, both structures 3 and 4 were conveyed to Benjamin Lothrop by James Howland as a part of the property represented by parcels P and O. On the basis of a comparison of the artifact content of structures 3 and 4, structure 4 seems to have stood for a somewhat longer period. The date of the destruction of both structures 3 and 4 cannot be accurately fixed, although an end date of 1750 seems the latest which can be assigned to structure 3 and an end date of ca. 1800 a similarly maximum date for structure 4.

Thus the structural remains in Rocky Nook which have been assigned to the Howlands consist of two sets of house and outbuilding, one the property of John Howland, the other of Joseph and James. In each case, the two contemporary structures are on opposite sides of what is now Howland's Lane, contributing considerably to the initial complexity involved in identifying these structures with their tenants.

These identifications are the result of excavations in two areas of the site as well as a considerable amount of historic documentation. It is doubted that further work at the Howland site can contribute much toward additional confirmation of these identifications, although information of value in other respects might be obtained by such work. Additional excavation is planned for the 1960 field season in the area surrounding the hearth of Structure 3, in an attempt to clarify further details of the relationship between structures 3 and 2. Other projects which might be initiated at some future date should include a search for additional structures. There is evidence of other remains of buildings on the site, and the investigation of these would probably reward the worker with a knowledge of the site in greater detail than is now available. There is also, of course, always the possibility of discovering some new and particularly interesting or significant artifacts. For the time being, however, upon completion of the investigations in the Structure 3 hearth area, a logical stopping point will have been reached, and any future resumption of work will, in a sense, begin a new phase of the study of the Howland Site.

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