

12. GETTING TO THE BOTTOM

Wells are among the most valuable resources used by historical archaeologists to interpret a site, but they are among the most difficult and dangerous features.

Wells are more than water sources. To archaeologists, they are natural long-term preservation systems. Organic artifacts in the bottom of a well that remains continuously wet, may be preserved by their anaerobic surroundings against deterioration.

A well is generally regarded by archaeologists as a “budget buster” discovery, because wells require special equipment and procedures to excavate, and many of the artifacts removed from them are extremely fragile and subject to deterioration. On the other hand, a well-preserved well may be a time capsule containing classes of materials that do not survive elsewhere.

Once they are exposed to the air, organic artifacts must be protected, which can be an expensive but rewarding process. Be-



Figure 65
Beating the heat

Overall view of the site during well excavations, August 1995. Record-breaking heat and drought caused the workers to erect a variety of personal shades and cañañas, inspiring the appellation of “Club Ned.”

cause they are subject to change when (and if) they dry out, wet artifacts must first be measured, drawn, and photographed to ensure that valuable data will not be lost.

Because of the logistics and expense involved in recovering data from a well, it is best to locate them as early as possible in the project, before the data recovery plan and laboratory treatment budget is written. At Bloomsbury, two of the three wells were identified in November 1994 as part of the Phase II work, and their recovery was included in the Phase III work plan.

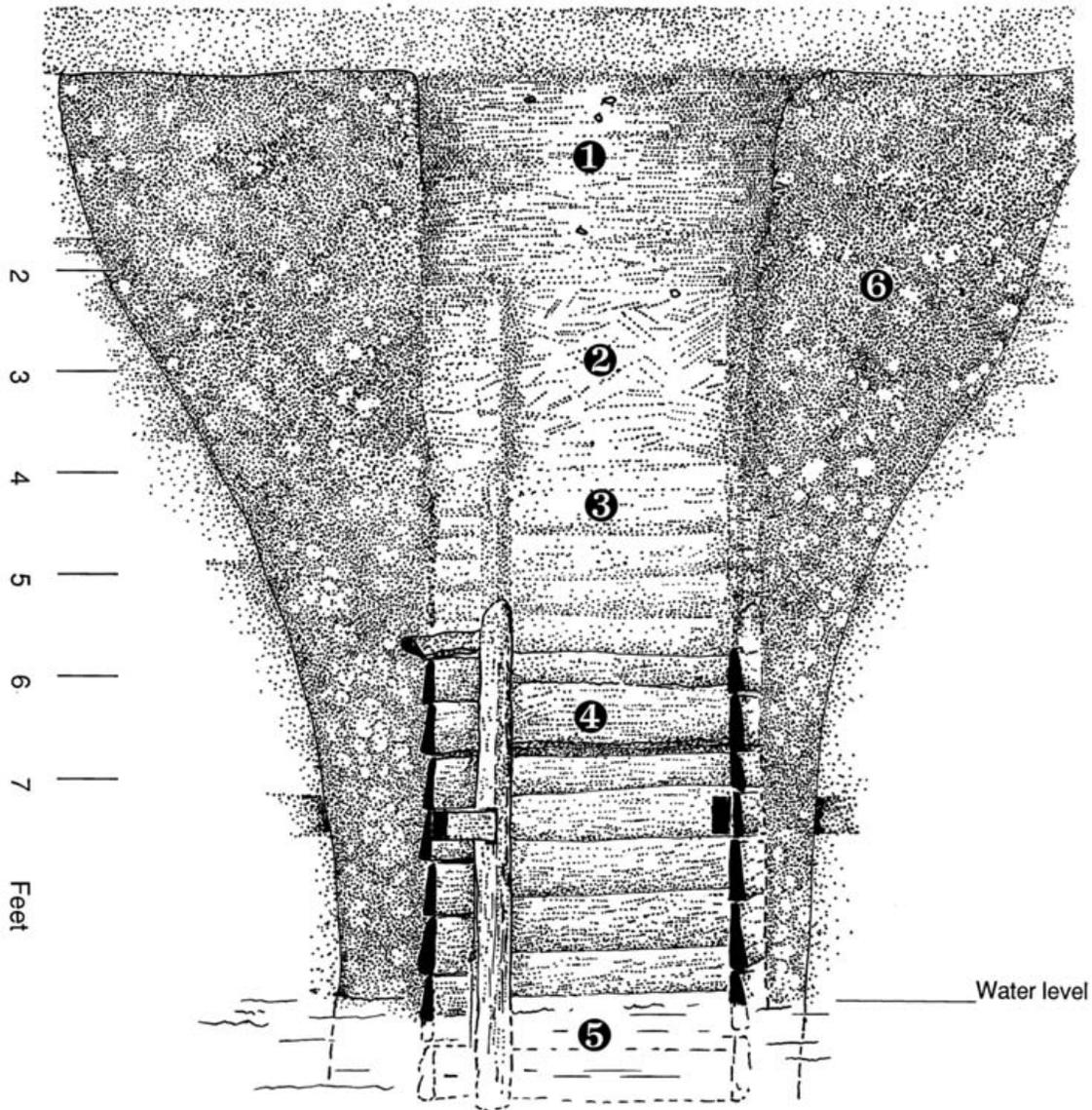
DISCOVERY OF WELLS

During the Phase II investigation, test squares were arrayed across the site, beginning in the northwest corner (Figure 42, page 118). The purpose of these wide-spaced five-foot squares was to identify artifact concentration boundaries. In early November, an apparent well location (later called the eastern well) was encountered. In order to define it, the adjacent squares were opened and the well shape was exposed (Figure 33, page 109).

The Kent County Archeological Society chapter of the Archeological Society of Delaware came to work on the site November 19, at which time three new five-foot squares were opened in the core. One of the squares, ER182a, revealed a feature that proved to be the second, or western, well. The brown slumped shaft was visible in the corner of the square. Within the next few days, the second well was exposed sufficiently to identify it.

In retrospect, it was not a good idea to open the tops of the wells at this point in the survey, even for verification purposes. From November until the end of the project,

the crumbling depressions required curatorial attention in order to keep them recognizable until they could be properly excavated in August 1995.



Profile of the eastern well

- | | |
|--|--|
| 1. Round upper section, surrounded by spalled brick fragments | 3. Deteriorated square casing in which uprights and casing boards can be discerned |
| 2. Deteriorated square casing imprint in the fill, but no construction details visible | 4. Intact square casing of clapboards |
| | 5. Water level |
| | 6. Construction fill |

Figure 66

Section through the eastern well, showing structure.

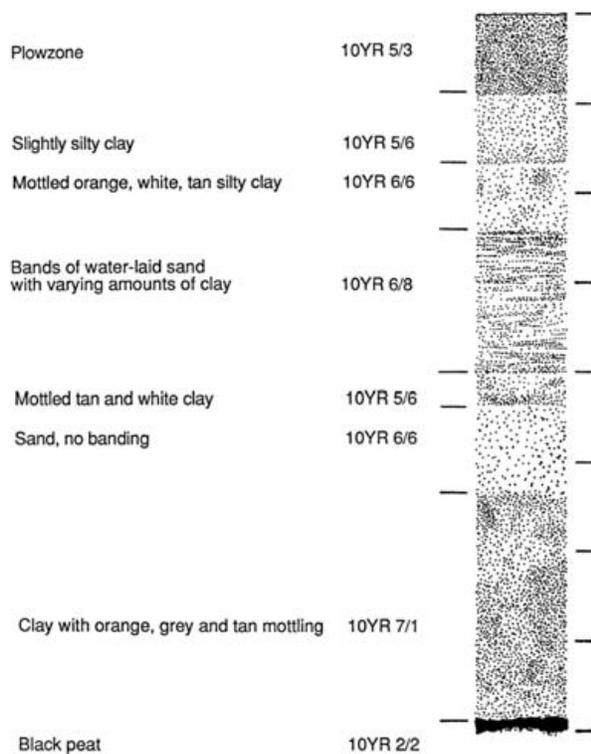


Figure 67

Profile of site soils, as recorded by Lyle Browning during the well excavations.

A third well was not so obvious. Until the last week of the dig, the large feature along the south edge of the site appeared to be yet another of the basin-shaped features.

Since it was not in the way of the Gradall work, its excavation was pushed to the back burner. Finally, at the end of the campaign, peripheral features were dug as part of the cleanup. One of these neglected units, ER137, proved to be a surprise. At the bottom of an apparently homogenous fill, nearly seven feet below grade, was a vertical hollowed log.

These three wells may or may not have been the family water source throughout the history of the house or houses. When the wood was subjected to dendrochronology analysis (next chapter), the wells were bracketed between the dates 1768 and 1806, somewhat consistent with other evidence from the site.

WELLS & HOUSE LOCATIONS

Well locations might be a clue to the house location. Structural remains of the house or houses were almost completely missing from the site. There was no foundation, and none of the lines of posts associated with earthfast houses.

But there are other clues that might be used to identify the house location, including the wells. Most householders sited their wells as near as possible to the house, and probably close to the kitchen activity area, where water was used.

However convenient a well might have been, there were other sources of water. Springs and flowing streams were among the alternate resources used by some settlers. Literature survey demonstrated that reported wells are more common in American rural sites than in European farmsteads of earlier or similar date.

WOODEN WELL CASINGS

Wood-cased wells were not unusual in early American homesteads. Generally the wooden well was a poor family's way to tap the Pleistocene "unconsolidated aquifer," essentially surface water found a few feet below the surface. This "aquifer" is readily contaminated by surface runoff or tidal salt water intrusion (State of Delaware 1960:15-10, 15-11, 15-15).

The original excavations at Jamestown, Virginia, documented twenty-four shallow wells, which the excavator blamed for the colony's well-documented fevers, agues, and fluxes. The commonest casing was a barrel or a stack of barrels, sometimes with a frame or brick cap above (Cotter 1958).

Most wells are round, whether they are cased in wood or masonry. A square framed well (number 12) was found at Jamestown. It was cased in vertical shakes with a rectangular frame at the bottom. A feature thought to be a square brick-lined well was found on the site of the Dover mu-



Figure 68

Eastern well uncovered in November, looking eastward across the backfilled construction pit. The mottled construction fill can be seen.

nicipal parking lot on Water Street in 1989 (Heite 1990:67). It had sagged severely inward on account of its long straight walls. A brick or wooden round well, on the other hand, is strengthened by inward pressure of the soil around it.

The square-framed wells at Bloomsbury employed the inward pressure of the surrounding soil to hold them together. A vertical frame was formed by inserting two ladder-like cribs on opposite sides of the hole. Spacers were inserted between the cribs to form a scaffold. Clapboards were inserted behind the crib to form the box.

This work was all performed down in the hole, in the presence of very real cave-in danger.

Such cribworks have been excavated in Kent County, notably at the early eighteenth-century John Powell plantation a few miles away (Grettlar, Miller, Doms, Seidel, Coleman and Custer 1995:107).

Brick-cased wells, on the other hand, often were dug from within their casings, which were allowed to drop down the shaft as soil was removed below them. When voussoir, or tapered, well bricks were employed, a brick casing was a relatively safe working environment. If the surrounding soil pressed against the bricks, they could be relied upon to lock themselves more tightly.

A “dirt” well that was dug first and cased afterward was therefore more than merely a poor man’s water source; it was a positive hazard. At Bloomsbury, the water source was a somewhat sandier layer of soil below a layer of black peaty material. Clay-laden materials above the peat would have afforded fair cave-in protection for the well diggers

A wood-cased well was found at Thompson’s Loss and Gain (7S-G-60) in Sussex County, excavated by Alice Guerrant for the Division of Historical and Cultural Affairs. The well consisted of two stacked barrels, topped by a wooden frame. The site dated from about 1720 until about 1770 or 1780 (Guerrant 1988).

Kent County farmers experimented with a number of different well linings over the years. Stacked barrels lined a well (feature 273) at the Moore-Taylor farm site on Dyke Branch, south of the project area,



Figure 69

View of the hollow log at the bottom of the pit, just before its removal. The black peaty soil was found at the same level.

which was used during the first half of the nineteenth century. Vertical oak planks were used to line a slightly newer well at Moore-Taylor (feature 274). Another well (feature 2) was lined with nested barrels (Grettler, Miller, Catts, Doms, Guttman, Iplenski, Hoseth, Hodny and Custer 1994).

The nearby Wynn Tenancy site yielded two shallow wells. The earlier well (feature 80) was lined with horizontal cribbing behind four corner posts, with a barrel in the middle. This well probably was dug in the 1770s and filled sometime before 1790. The second well (feature 94) was built in the same way, probably to replace the first well, and filled around 1820 when the property was abandoned (Grettler, Miller, Catts, Doms, Guttman, Iplenski, Hoseth, Hodny and Custer 1994).

The Wilson-Lewis farmstead, built between 1852 and 1859, had two shallow wells, both barrel lined. The newer well was closed around 1889, when the site was vacated (Grettler, Miller, Catts, Doms, Guttman, Iplenski, Hoseth, Hodny and Custer 1994).

At Carter's Grove, a great house in Virginia, Ivor Noël Hume found a well cased in horizontal boards of red oak and poplar that apparently was used by brickmakers as a temporary water source (Noël Hume 1974).

HOLLOWED LOG SHAFTS

At the roughly contemporary Whitten Road site in New Castle County, a bored wooden pump stock was found inside a wood-cased well. The casing consisted of two wooden planked casings, the one within the other. Casing boards were laid behind four corner posts that were braced by mortised stretchers, in the same way as two of the wells at Bloomsbury. Inside the Whitten Road well the excavators found substantial remains of a wooden pump stock (Shaffer, Custer, Grettler, Watson and De Santis 1988:125).

The hollowed log shaft at Bloomsbury differed from the Whitten Road pump in several respects. First, of course, was the lack of any casing or well shaft above the short tubular section. This tubular section lacked the plug and the side holes that would have been needed to admit water and keep a pump clean, both of which occurred at Whitten Road.

On a subsistence farmstead, the possible presence of a pump raises many questions, especially in view of its apparent ephemeral existence. The putative pump is even more puzzling because it appears to have been inserted in an especially excavated shaft. Where open cased wells already

existed, it was common practice to insert a pump stock into the existing shaft. The practice continues today with motor-driven pumps inserted into open wells.

A hollowed log used as a well shaft supposedly from the “lost colony” was found at Roanoke Island North Carolina in 1982 (Noël Hume 1994:88).

The chemical map of the site suggests that the supposed third well or pump was not used in the normal food preparation activities on the site because the potassium and calcium concentration is found near the two open wells and is away from the third shaft.



Figure 70

The eastern well after the Gradall cut and the falling away of the north wall casing boards, showing the crossbrace that was mortised into the corner post.

PUMP TECHNOLOGY

A pump was an expensive way to raise domestic water, considering the alternative, relatively cheap and easy task of raising a bucket from a shallow well. The presence of an apparent pump stock here therefore remains a mystery for technical, economic, and social reasons.

Piston-driven suction pumps had been known for centuries in the mining industry before they became common household implements. Agricola’s metallurgical manual in 1556 illustrated and described the making and operation of seven varieties of piston pumps with hollow wooden stocks (Hoover and Hoover 1950:176-189).

Domestic water pumps are a more recent development that during the eighteenth century was almost exclusively the property of the wealthy. Even in the latter years of the nineteenth century, pumps were uncommon in rural areas.

WELL EXCAVATIONS

The first Phase III task was to hand-strip and sift the topsoil over the entire site core, exposing and mapping the features. Then the features were cleared, beginning at the north end of the site.

After most of the features north of the wells had been cleared, a Gradall was used to expose the sides of the well shafts and to provide a drainage sump. In spite of a major drought, and the longest rain-free summer in history, the site’s water table remained high.

In June, two more senior archaeologists were engaged to dig the wells. The eastern well was dug by William Sandy as Lyle Browning opened the western well, while the Principal Investigator concentrated on finishing the rest of the site.

EASTERN WELL

Sandy's first task was to open the eastern well shaft that had been sounded in November. During the November work, a round shaft had been detected, with tiny spalls of brick embedded in the surrounding dirt wall. Based on this finding, the natural assumption was that the well had been brick lined all the way down.

However, as Sandy cleared away the upper fill, the shaft appeared square, about three feet on a side, inside a filled larger hole.

The upright piece of oak timber (Figure 71) last grew in 1806, according to dendrochronology (see the next chapter). It showed no signs of having been used, and the cuts on the end appeared to be fresh. Its bark was intact. Therefore, the post is assumed to have been fresh when it was cast into the well, during a cleanup event on the house site.

Even though the waterlogged lower casing appeared firm, prudence dictated that it be excavated from outside. Accordingly, a Gradall was used to dig away the remaining soil from around the wells.

Some of the casing was saved for analysis, and the muck was water-screened through quarter-inch hardware cloth. Some muck specimens were saved for flotation, which produced some small artifacts. The dendrochronological date for the well would be derived from materials that were taken from the structure during excavation.

EAST WELL INTERPRETATION

Deposits in the eastern well were lumped into three periods: construction, active use of the well, and demolition fill. To enhance clarity of analysis, a few deposits were excluded if they seemed ambiguous or if they could have been contaminated.

Refined ceramics are the most readily dated materials on any historic site. Using the formulas published by Stanley South thirty years ago, archaeologists calculate a "mean" ceramic date that is a comparative measure of relative date, if not an exact date.



Figure 71

Eastern well, opened to the water level, with preserved upright log exposed.

Ceramic dates for eastern well deposits revealed few surprises, since the mean ceramic dates were comparable to dates derived from dendrochronology. In order to maintain consistency, the 1971 South table was used to create mean ceramic dates, even though some dates have been revised. Since that time, pearlware dates generally have been pushed backward, alleviating any distress concerning the anomalous date for polychrome pearlware.

From this evidence, it appears that the well was dug and used near the end of Thomas Cutler's tenure on the property. It stands to reason that Cutler's new house of *circa* 1775 stood within a few feet of this well, and that he had been using another water source for about fifteen years before the eastern well was dug. That other source may have been the west well, or it may not.

Mean ceramic dates are consistent with the dendrochronology, if not too consistent. The mean ceramic date for the construction deposit (1791.54) is earlier than the date (1798) of the wooden parts. These numbers probably speak to the market distance of Bloomsbury from the style-setting centers. The well profile (Figure 66) may be compared to the ceramic chart (Figures 72-73) and the tabulation of materials below.

ARTIFACTS FROM CONSTRUCTION FILL OF THE EASTERN WELL,
FEATURE 21, COORDINATES 1130M

Deposited about 1798 (Excavation Register numbers 180c, d, i, l, m, s, t, x, y, aa; 181b) Mean ceramic date 1791.54

| | | |
|--------------------------|-----------------------------------|------------------------------|
| <i>Faunal material:</i> | <i>Red earthenware:</i> | <i>Stonewares:</i> |
| oyster shells | slip-decorated with green | buff exterior, grey interior |
| clam shells | black glazed | scratch blue (1744-1775) |
| food bones | brown glazed | white (1720-1805) |
| <i>Structural:</i> | green interior from a cup | <i>Apparel:</i> |
| nails | <i>Refined earthenwares:</i> | Type 10 brass button |
| wrought | lighter yellow creamware | <i>Implements:</i> |
| cut | (1775-1820) | English flint core |
| daub | polychrome pearlware | white clay pipe |
| brick | (1795-1815) | battered cobbles |
| fire cracked rocks | blue painted pearlware | iron pot fragments |
| <i>Glass:</i> | (1780-1820) | chipped glass |
| aqua glass bottle | polychrome tin-enamelled | halfpenny coin |
| wheel-engraved tumbler | earthenware (1580-1640) | |
| olive green glass bottle | creamware (1762-1820) | |
| case bottle with bubbles | undecorated pearlware (1780-1830) | |

ARTIFACTS PROBABLY DEPOSITED DURING USEFUL PERIOD OF THE EASTERN WELL, FEATURE
21, COORDINATES 1130M

Deposited about 1798-1806 (Excavation Register numbers 180z, ab) Mean ceramic date 1794.93

| | | |
|--------------------------------|-------------------------------|----------------------------|
| <i>Food remains</i> | <i>Glass:</i> | <i>Stonewares:</i> |
| peach pits | olive green wine bottle glass | scratch blue (1744-1775) |
| black walnut shells | case bottle with bubbles | brown glazed buff body |
| plum (?) pit | <i>Red earthenware:</i> | <i>Implements:</i> |
| cherry pit | black glazed | white clay pipe |
| <i>Faunal material:</i> | lead glazed | tinware |
| bones | slip decorated with green | iron bucket bail |
| oyster shell | <i>Refined earthenwares:</i> | curved needles with thread |
| turtle carapace | polychrome pearlware | scissors |
| <i>Structural:</i> | (1795-1815) | S-hook |
| daub | blue painted pearlware | 2-tined fork |
| square nail | (1780-1820) | lock plate from cabinetry |
| fire cracked rock | creamware (1762-1820) | iron pot fragments |
| brick | plain pearlware (1780-1830) | <i>Apparel</i> |
| clapboard and other wood scrap | lighter yellow creamware | shoe parts |
| oak post | (1795-1820) | |

ARTIFACTS FROM BACKFILLING THE EASTERN WELL,
IN THE DEMOLITION FILL OF FEATURE 21, COORDINATES 1130M

Deposited about 1806 and thereafter (Excavation Register numbers 180n, o, q, r, u, v, w) Mean ceramic date 1797.37

| | | |
|------------------------------------|------------------------------|-----------------------------------|
| <i>Faunal material:</i> | aqua window glass | blue painted pearlware |
| oyster shells | <i>Red earthenware:</i> | (1780-1820) |
| turtle carapace | black glazed | creamware (1762-1820) |
| <i>Structural:</i> | clear lead glazed | annular pearlware (1790-1820) |
| fire-cracked rocks | brown glazed | edged pearlware (1780-1830) |
| brick | slip decorated | undecorated pearlware (1780-1830) |
| daub | <i>Porcelain:</i> | <i>Stonewares:</i> |
| wrought nails | Chinese porcelain | scratch blue (1744-1775) |
| cut nails | (1660-1800) | <i>Apparel:</i> |
| clapboard and carpentry scrap wood | <i>Refined earthenwares:</i> | button |
| <i>Glass:</i> | lighter yellow creamware | <i>Implements:</i> |
| clear vessel | (1775-1820) | white clay pipe |
| olive green bottle | polychrome pearlware | iron pot fragment |
| pale green vessel | (1795-1815) | flint core |
| case bottle with bubbles | | |

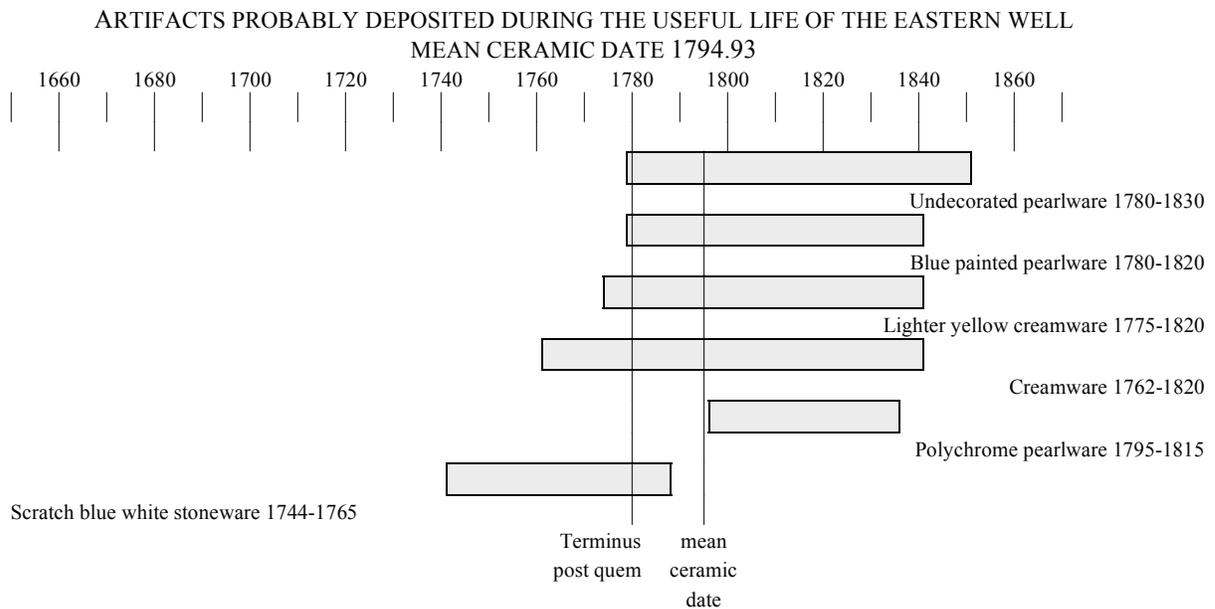
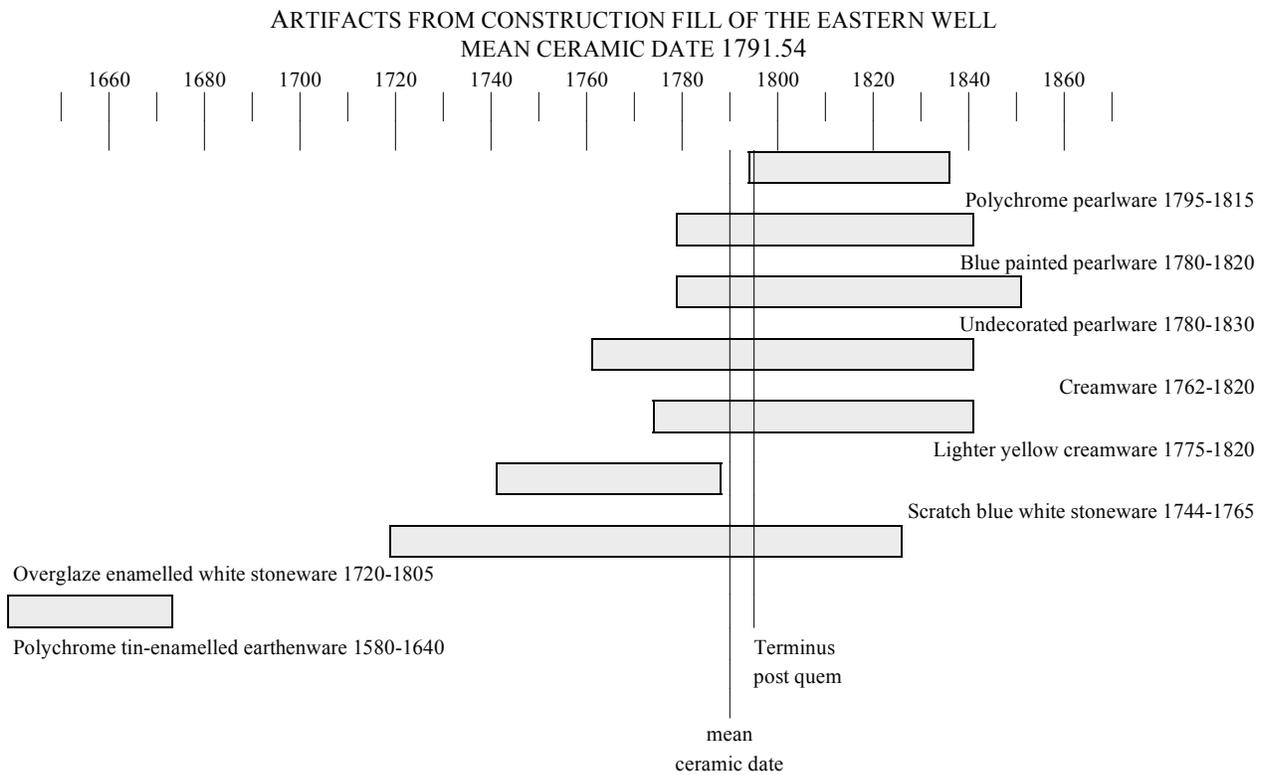


Figure 72
Graphic representation of the ceramic dates from the eastern well construction fill and useful life deposits

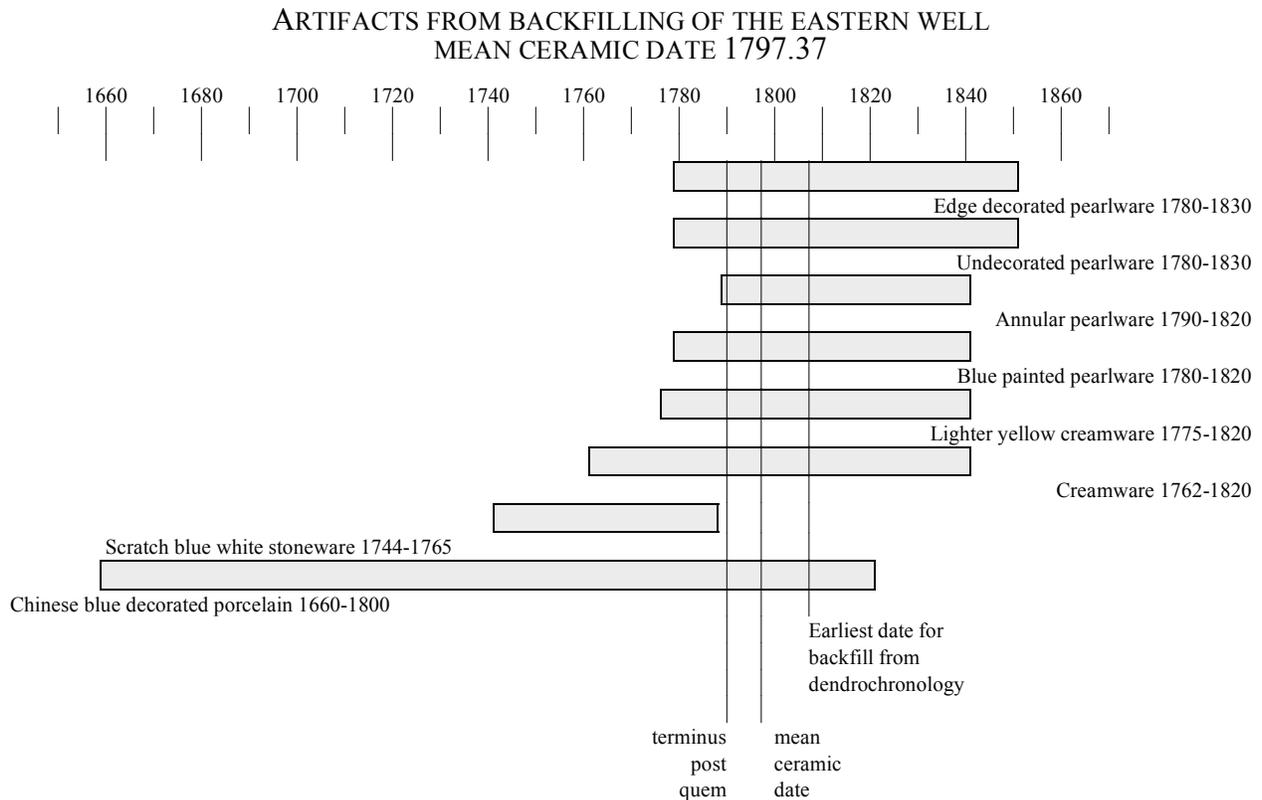


Figure 73

Graphic representation of ceramic dates from the eastern well backfill

The terminus post quem, the “date after which” the feature was filled, was calculated by determining the earliest manufacture date of the newest artifact in the deposit.

It stood open until at least five years after John Sisco arrived on the site. It was filled with household goods, trash, and a log. Among the discards were items that clearly were not trash. Scissors, upholstery needles, a pot hook, and a stout post are in good condition today. Perhaps Sisco or Consealor was clearing away an abandoned house, and a few useful items were accidentally discarded with the trash.

The mean ceramic date of the well’s active period, 1795, is only slightly earlier than the mean ceramic date of the fill, 1797. One may conclude from this slight difference that the site could have been occupied for a short time after the well was abandoned. At the time the post was thrown in, 1806 or later, the well was open and water

was still available to be drawn. The slumped plug of topsoil yielded a mean ceramic date of 1798.31, which may be taken to suggest that the site was occupied, and new articles were being introduced, after the well was abandoned and backfilled.

Since we “know,” or may reliably assume, that the well was shut after 1806, it is possible that the dwelling was occupied after that date. On the other hand, the slightly later date for the plug may be an artifact of the statistics, since no wares appear in the topsoil plug that are absent from well deposits.

The well was sealed, at latest, by the time Thomas Consealor is known to have left the property, in 1814.

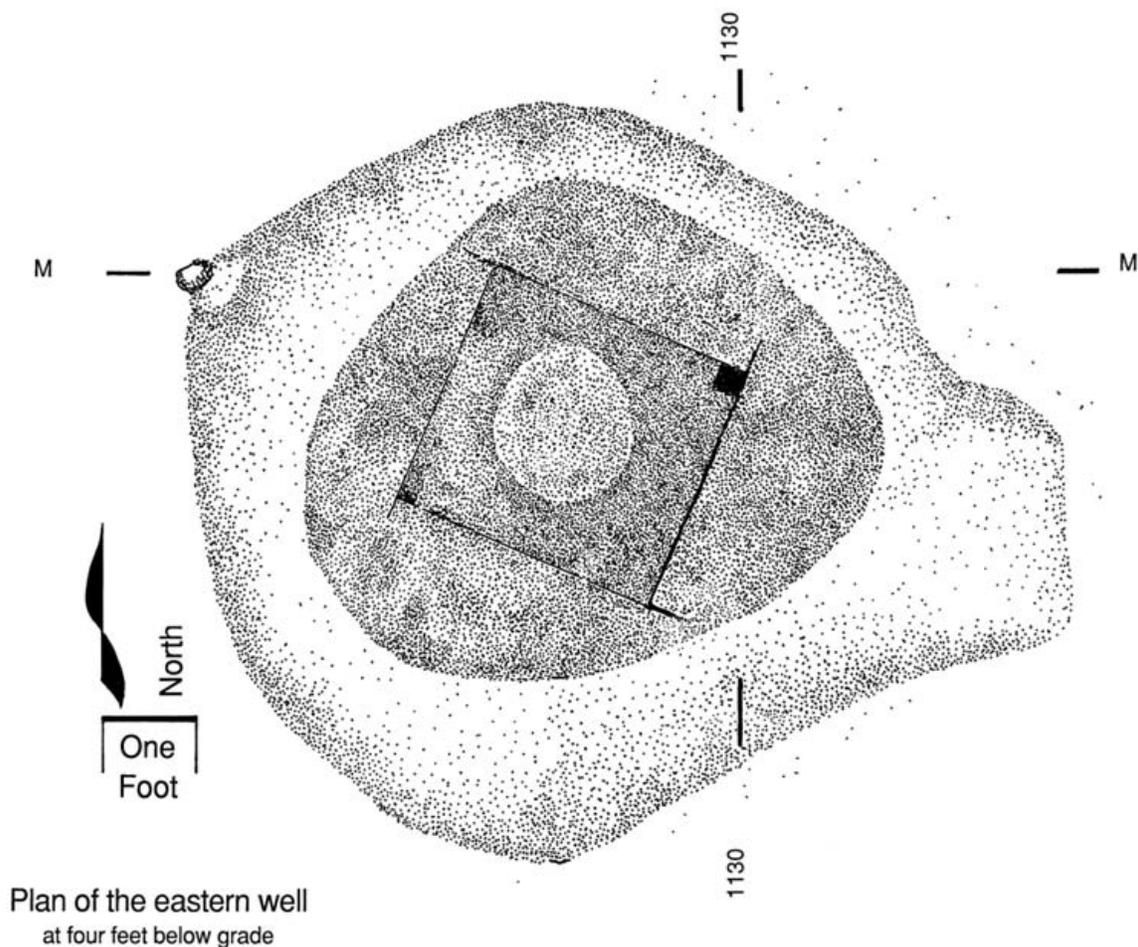


Figure 74

Eastern well, opened to the point where the stains of the rotten casing boards were visible, about four feet below the plowzone.

WESTERN WELL

The western well, feature 18, was discovered during the Kent County Archaeological Society visit in November 1994. The original unit included part of the brown slump over the shaft and some of the clay in the original construction fill. Excavation was stopped as soon as it was obvious that the feature was a well. Over the ensuing months, the well and its surrounding features were uncovered. Excavation register number 182 was assigned to the deposits in the shaft, even though the feature overlapped several different ten-foot squares.

Lyle Browning opened this well during July and August 1995. Because the first test had been cut across the east side of the well, it was necessary to bisect the feature along a north-south line.

The east well had demonstrated that imprints of rotten wood structure might be seen quite far up in the shaft, well above the waterlogged casing. To interpret the casing, it was decided to section this feature all the way across, and maintain a profile, instead of removing the fills in reverse chronological order, as more commonly accepted protocols require. The result was a nearly com-

plete profile that provided insights into the construction and decay processes.

The casing of this well was generally the same as the wooden part of the first well's casing. In this case, however, there was an indication of an outer, upper case, which overlapped the lower case. In the western well it was possible to define the well digger's working platform area, at about the level where the two casings overlapped.

The well apparently was dug to its full depth, and the lower casing was inserted. Then, standing at the platform level, the builders erected the upper casing, back-filling as they added planks.

As the abandoned well mouldered away, someone may have used it as a privy,

or less likely, as a repository for noxious trash. A layer from this event (182ac) was labelled "*cess?*" by the excavator. After it had served this purpose, the well was intentionally filled with soil. The organic material later rotted away, causing the shaft's contents to compact and slump. Surrounding topsoil gradually drifted into the settling well fill as rotting casing boards slumped and twisted inward.

Intact framing survived at the bottom, so that a definite construction date for the well could be derived from dendrochronology. The wood frame of the casing provided a construction date of 1767, exactly when the widow Sappington relinquished her claim and vacated her roofless house somewhere nearby, possibly on this site.



Figure 75

As the wells were being opened, earthmovers began reshaping other parts of the property in preparation for a wetland replacement project. This picture was taken from atop an earth pile next to the site.

So if the well was dug in 1767, for whom was it dug? The Pearsons, Mrs. Axell's tenants about this time, lived farther inland, at a site their son later identified near the present highway.

John MacFarland, Mrs. Axell's son-in-law, evicted Mrs. Sappington. He probably did not live on this part of the farm, since his widow eventually claimed a different tract. It is unlikely that she would have built a new house and then claimed another parcel in the division. David Griffin is the person most likely to have dug the well if we accept a construction date of 1767. He married the Axells' daughter Mary, and died in 1770. Shortly after his death, his widow and her new husband, Patrick Conner, claimed this part of the tract and soon sold it to James McMullen, whose tenant would be Thomas Cutler.

Thomas Cutler's house was built, according to Joseph Thompson's 1795 recollection, in about 1775 or 1776. If that new house stood on this site, which is likely, it might have been sited to take advantage of an existing well that had been dug for Griffin. Or, more plausibly, Cutler may have dug the well when he built his new house around 1775.

We cannot know where the Cutlers at first got their water, but poorly drained soils nearby could have contributed springs.

The final deposit in the western well demonstrates that the site was occupied for many years after it was abandoned. This final deposit, that effectively plugged the well, raised questions about the histories of both wells.

THE WEST WELL PLUG

Drifted-in topsoil, and the plowzone above it, was catalogued as a single deposit marked ER182i. Since it was impossible to visually distinguish between the topsoil and the drifted-in topsoil plug, they were treated as a single entity.

The plug probably resulted from subsidence of organic well deposits, particularly

the "cess" layer, 182ac. It may have formed gradually over many years, long after the site was abandoned, or have been dragged in during site clearance. In either case, the plug is the terminal occupation deposit on the site.

The mean ceramic date of this deposit was calculated at 1799.25, almost contemporary with the mean ceramic dates of the east well. This difference hints, but cannot prove, an abandonment date shortly after 1800, about when Francis Denney bought the property. Because he already owned the adjacent portion, his tenant, Sisco, might have been living there, making the Cutler house redundant. A tabulation of the west well contents, beginning on page 163, can be compared to the profile (Figure 76) and graphic representation of the ceramic data on figures 79 and 80.

COMPARISON OF THE WELLS

The two wells were physically similar, but the discards in them reflect very different levels of material affluence. The people who backfilled the western well were less well endowed with material goods, particularly imported luxury items.

By the time the west well was dug, people had been living on this site long enough to leave some broken ceramics lying on the ground. The Sappingtons, whose house was unroofed in 1767, are most likely to have broken the ceramics that found their way into the construction fill of the western well.

The presence of burned daub in the western well construction layers is probable evidence for a wooden chimney in use some time before this earlier well was dug. Wooden stacks were plastered with clay that would shrink and fall off under firing. Wooden chimneys were constantly in need of repair, lest they become a fire hazard. Virginia outlawed wooden chimneys in towns during the seventeenth century, and Delaware orphans court inspectors regularly ordered the construction of brick chimneys, as they did when Abraham Allee inherited the eastern third of Bloomsbury. Few wood-

en chimneys have survived from the colonial period. The most famous surviving example from the period is the five-story German pietist monastery at Ephrata, Pennsylvania, which still has daubed wooden flues.

While the western well was in use, the principal utilitarian wares were slip decorated red earthenware and several varieties of brown glazed red earthenware. A complete overglaze painted pearlware saucer and a nearly complete royal pattern creamware plate were originally broken in the immediate vicinity of the well, for most of their parts were found together. A red earthenware chamberpot was mostly present.

The eastern well was dug after the western well was abandoned, and probably represents a different family's occupation. Time elapsed between the demolition of the first well and construction of the second one. By the time the second well was constructed, different trash was lying about.

The demolition layers of the western well (182 o, u, and ab) contained two varieties of pearlware (plain and overglaze enameled) and a considerable amount of coarse red earthenwares.

The construction fill of the eastern well (ER 180 c, d, i, l, m, s, t, x, y, aa, and 181b) contained more varieties of pearlware, later creamwares, and several items that were much earlier. The older items included scratch-blue and plain white stoneware and polychrome delft. If these older materials had been broken earlier, before or during the western well's active life, they should be represented in the use or demolition period of the well. Instead, it appears that these artifacts were discarded after the first well was backfilled and before the second well was built. The scratch blue, in particular, would have been very old in 1798, when it found its way into the construction fill.

Both framed wells contained a wealth of organic materials, which are discussed elsewhere. The assemblages included whole artifacts and materials that clearly were trash, including broken items and manufacturing waste. Among the latter category were many tiny twigs that had been cut to length about two or three inches long. These twigs retain their bark, and clearly were meant to serve some purpose. It has been suggested that they may have been intended for dyeing or tanning. Without further analysis, they remain one of the site's mysteries.

CONSTRUCTION FILL OF THE WESTERN WELL, FEATURE 18

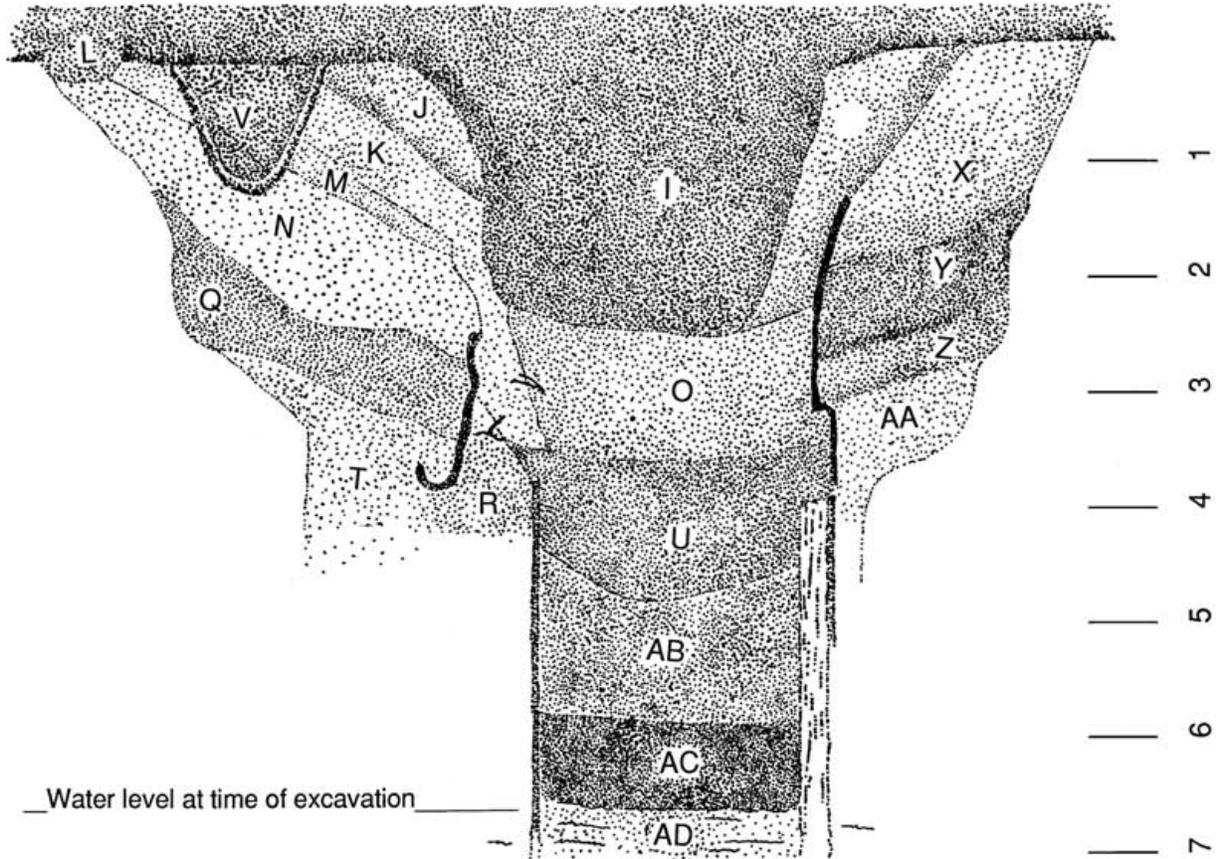
Deposited about 1767, based upon dendrochronology
(Excavation Register numbers 182b, j, m, n, q, r)

| | | |
|-------------------------|-------------------------|--|
| <i>Faunal material:</i> | daub | |
| oyster shells | <i>Glass:</i> | clear lead glazed |
| clam shells | clear glass tumbler | <i>Refined earthenwares:</i> |
| bones | olive green bottle | creamware (1762-1820) |
| <i>Structural:</i> | <i>Red earthenware:</i> | <i>Stonewares:</i> |
| brick | black-glazed | brown glazed bartmann face jug (1620-1720) |
| nails | trailed slipware | |

DEMOLITION FILL OF THE WESTERN WELL, FEATURE 18

(Excavation Register numbers 182o, u, ab)

| | | |
|-------------------------|----------------------------------|--------------------------------|
| <i>Faunal material:</i> | brick | <i>Refined earthenwares:</i> |
| bone | lath | overglazed enamelled pearlware |
| oyster shell | clapboard | plain pearlware (1780-1830) |
| clam shell | worked wood fragments | <i>Apparel:</i> |
| horse teeth | <i>Glass:</i> | brass buckle |
| pig teeth | clear glass container | shoe fragments |
| <i>Floral material</i> | <i>Red earthenware:</i> | felt cloth |
| corn cob | black-glazed | <i>Implements:</i> |
| <i>Structural:</i> | brown-glazed | lead bale seal |
| daub | clear lead-glazed | grinding stone |
| nails | slip decorated clear lead-glazed | iron pot fragments |



North-south profile of the western well, ER 182

| | | | |
|---------------------------|--|--|--|
| <i>Post-Demolition:</i> | 182aa | Orange sand and clay blobs | Feet |
| 182i | Topsoil, including shaft slump | <i>Deposited during demolition:</i> | |
| <i>Construction Fill:</i> | 182o | Clay infilling, lying against board wall | |
| 182j | Final construction fill, tamped | 182u | Trash-filled deposit with high organic content |
| 182k | Lens of mottled soil over charcoal layer | 182ab | Lensed clay deposits, probable final period when the well was open |
| 182l | Wedge of original topsoil deposited during slumping | <i>Remains of the well casing:</i> | |
| 182m | Clods of clay, charcoal flecks | 182p | Distorted remains of rotted outer casing boards, shown as a dark vertical line |
| 182n | Mottled light clay and gravel, lying against the wood casing | 182s | Surviving half-inch thick casing boards |
| 182q | Dark fill, probably bottom of the well-digger's work level | <i>Related to useful life of the well:</i> | |
| 182r | Fill separating probable inner and outer well casings | 182v | Probable post hole, intentionally backfilled with oyster shell |
| 182t | Fill outside the outer casing | 182w | Post mold fill associated with 182v, grey organic material, tan clay, brick, and shell |
| 182x | White and tan clay slabs in the northwest quadrant, equivalent of 182k | 182 ac | Brown organic layer, possible cess pit remains |
| 182y | Fill behind the casing, clay with few organics | 182ad | Clean grey clay muck, below water level |
| 182z | Equivalent of 182q, probable work level, 40% organic and charcoal | | |

Figure 76

Profile of the western well, showing the various strata.

MATERIAL DEPOSITED DURING THE ACTIVE LIFE OF THE WESTERN WELL, FEATURE 18

| | | |
|-----------------------|---|-------------------------------------|
| | (Excavation Register numbers 182ac, ad) | |
| <i>Floral remains</i> | <i>Red earthenware:</i> | <i>Refined earthenwares:</i> |
| peach pit | slip-decorated red earthenware | clouded (Wheildon) (1740-1770) |
| corn cob | black-glazed | royal pattern creamware (1762-1820) |
| <i>Structural:</i> | brown-glazed | <i>Implements:</i> |
| clapboards | clear lead-glazed | bone handled knife |
| lath | | |

THE FINAL SLUMPED FILL AND TOPSOIL OF THE WESTERN WELL, FEATURE 18

| | | |
|-------------------------|--|------------------------------------|
| | (Excavation Register number 182i), mean ceramic date 1799.25 | |
| <i>Faunal material:</i> | <i>Porcelain</i> | <i>Stonewares:</i> |
| oyster shells | Overglaze enamel Chinese (1660-1800) | black-glazed purple-bodied |
| clam shells | <i>Red earthenware:</i> | black-glazed red-bodied |
| bones | black-glazed | greenish-brown glazed |
| <i>Structural:</i> | brown-glazed | white saltglazed (1720-1805) |
| brick | clear lead-glazed | <i>Implements:</i> |
| nails | slip-decorated | possible broken hammerstones |
| daub | <i>Refined earthenwares:</i> | fire-cracked rocks |
| <i>Glass:</i> | clouded (Whieldon) (1740-1770) | gunflint, possibly local |
| window glass | overglaze enamelled creamware (1765-1810) | iron pipe fragment |
| olive green bottle | lighter yellow creamware (1775-1820) | <i>Apparel and personal items:</i> |
| olive green case bottle | plain pearlware (1780-1830) | white clay pipe fragments |
| | polychrome painted pearlware (1795-1815) | blue wire-wound bead |
| | blue handpainted pearlware (1780-1820) | |

DISCOVERY OF THE SHAFT

Immediately south of the western well was a large mottled feature that superficially resembled other pit features on the site. Its true nature was not suspected until the last days, when a hollowed log was discovered at its bottom.

Because it lay on the south end, this feature was deferred, to make sure that the features north of the well would be cleared before the Gradall arrived. Crew members working on the west well with Browning picked at the feature during slow times, but its true nature was unsuspected. Sandy finished the east well first, and volunteered to finish the “pit” feature.

The mottled pit fill kept going, deeper and deeper. Sifting yielded a few artifacts, but the fill contained mostly clods suggestive of relatively quick backfilling. Pockets of burned material, thrown into the backfill, showed that the site was occupied at the time the hole was backfilled.

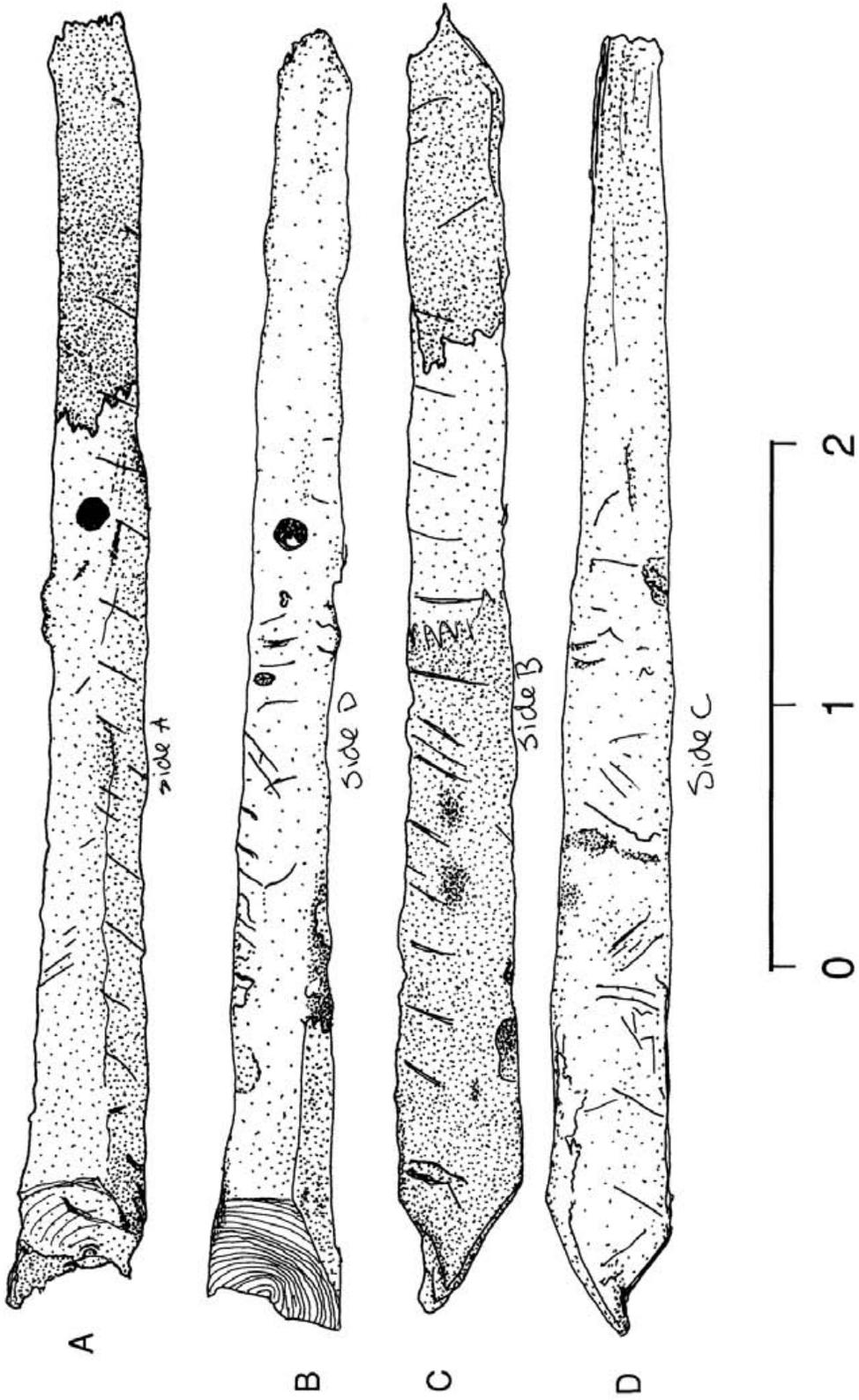
No shaft or mold was apparent at the center of the fill, nor were there any layers that might indicate working floors such as

are common in well shafts. Water level was reached, together with a wooden object that originally appeared to be a post. It turned out to be the hollowed log segment (Figures 69 and 81).

At first glance, it appeared to be a pump stock segment, but it was much larger inside than a typical pump. It was stuck into the water-bearing sand layer under the clay layer that was encountered in the other wells.

The artifact content of the well added to the mystery. The artifacts all were fragmentary, broken into relatively small pieces, spread sparsely through the fill. This was secondary fill, accidental inclusions in the backfill. The hole was filled quickly after it was dug, possibly only a few days. While it was being backfilled, a few loose sherds fell into the hole.

So what happened? Did an experimental pump fail? Did the site occupants make a pump for a customer, and dig a test pit to try it out? Did a pump salesman fail to close a deal after the pump was half installed? We may never know. Answers to these questions are beyond the realm of archaeology.



Scale in Feet

Figure 77

Timber from the east well, ER180z, item 32.

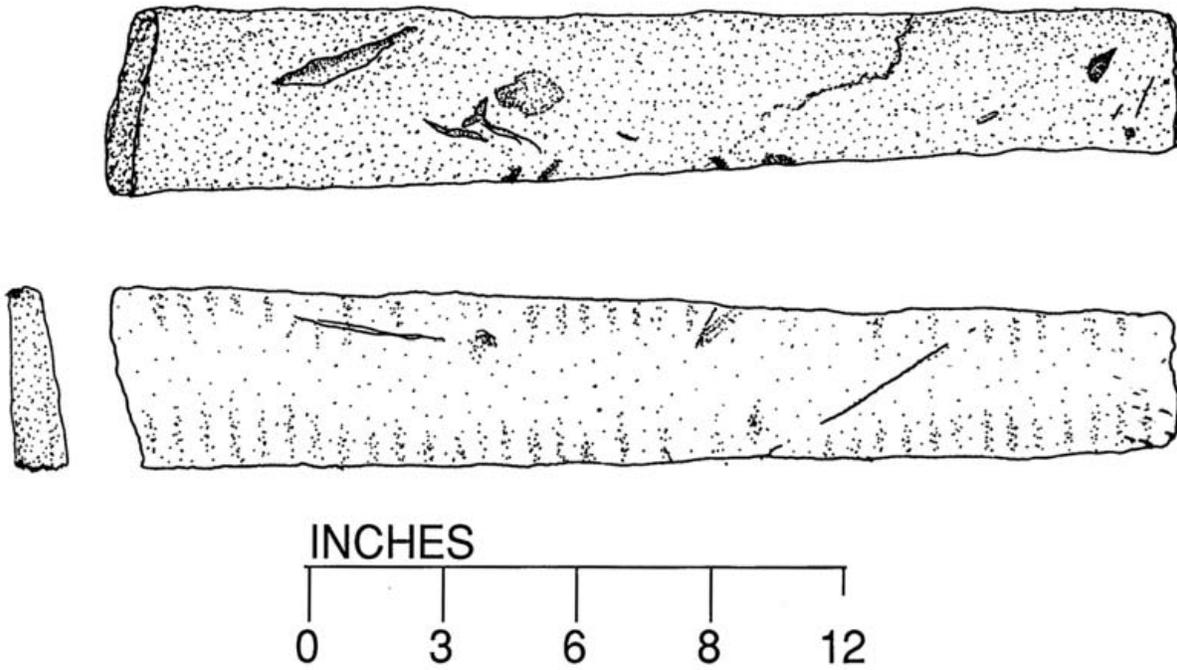


Figure 78

A sawn clapboard, typical of the sheathing of both wells.

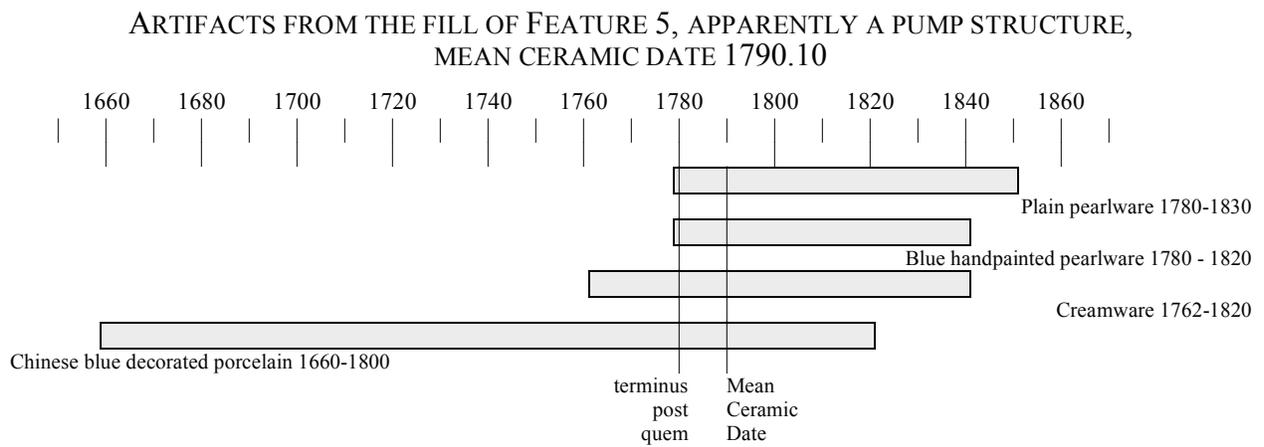
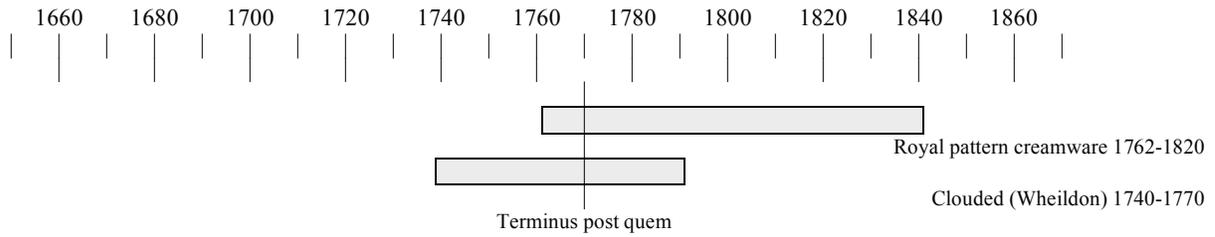


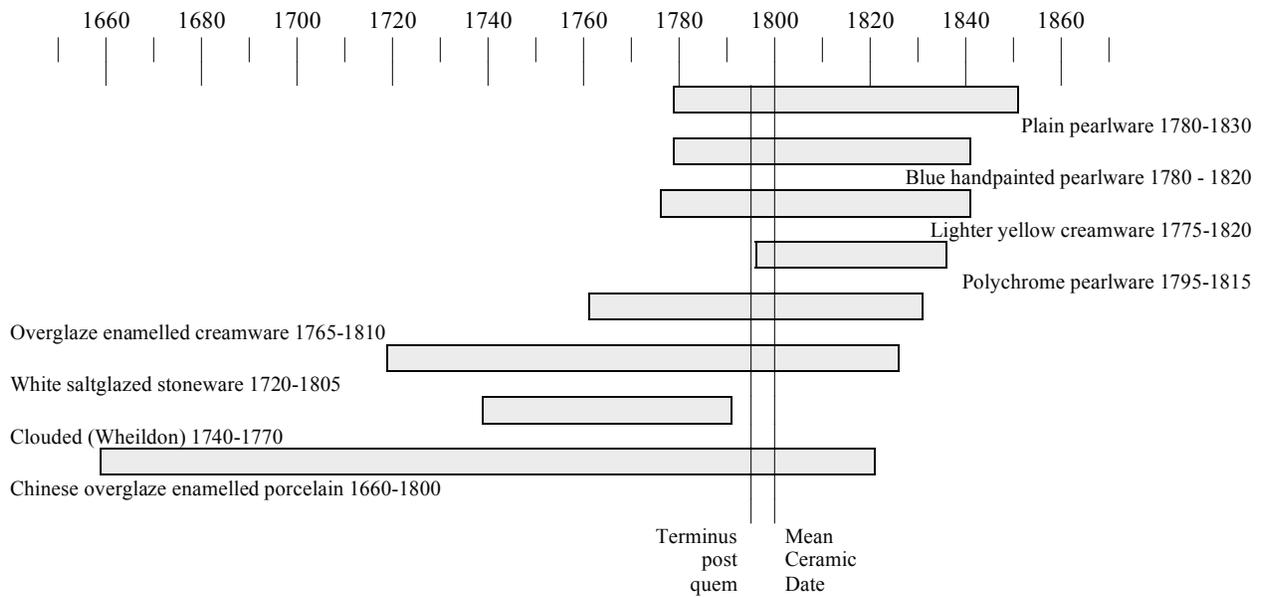
Figure 79

Graphic time-line of ceramics from the fill around the apparent pump stock

ARTIFACTS PROBABLY DEPOSITED DURING THE ACTIVE LIFE OF THE WESTERN WELL
AFTER 1767



ARTIFACTS FROM THE TOPSOIL AND THE FINAL SLUMP ON THE WESTERN WELL
MEAN CERAMIC DATE 1799.25



ARTIFACTS FROM CONSTRUCTION DEPOSITS OF THE WESTERN WELL,
PROBABLY DEPOSITED 1767

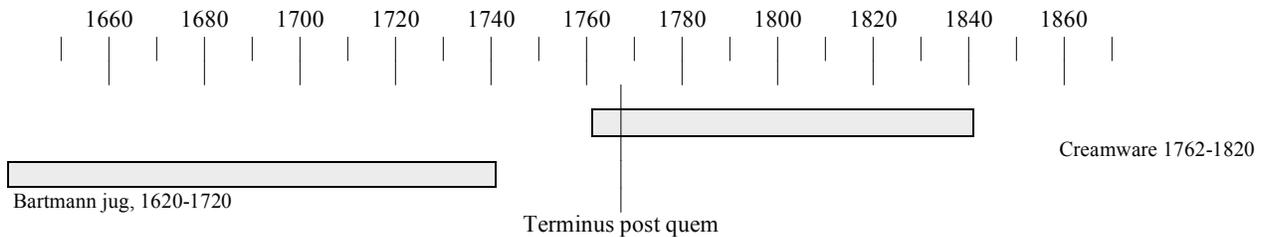


Figure 80

Graphic representation of the refined wares from the western well.

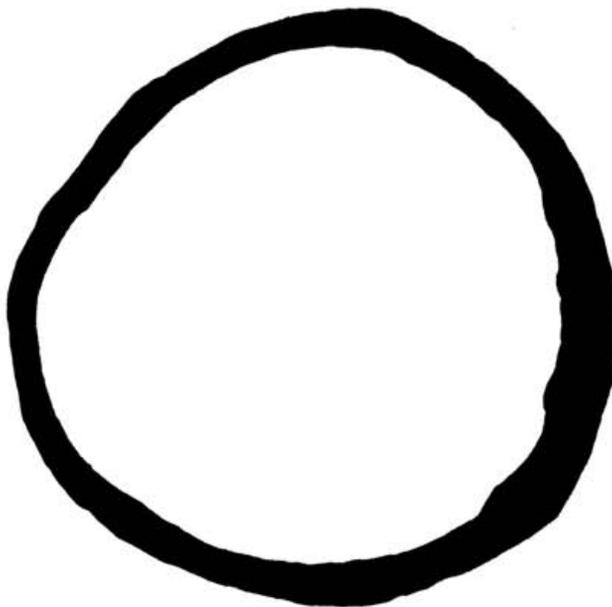
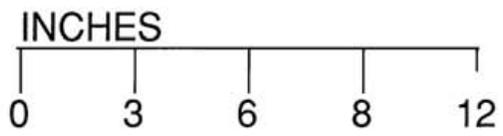
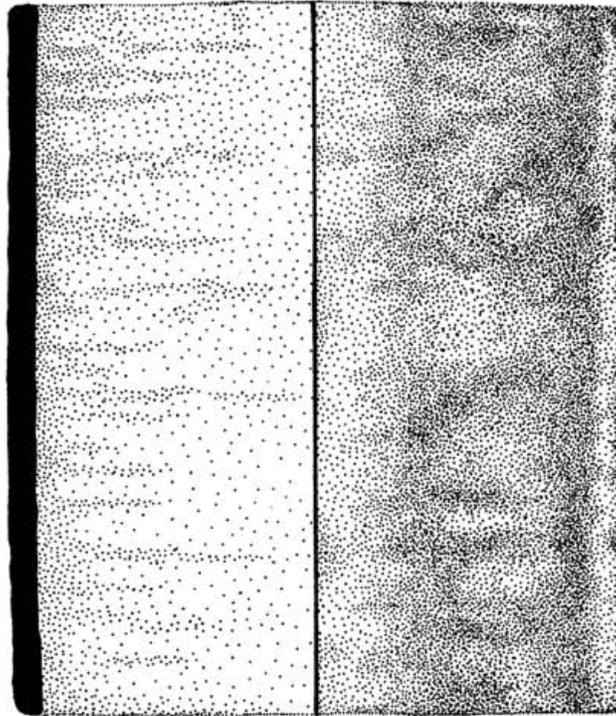


Figure 81
Section through the hollowed log from the pump or well, feature 5.