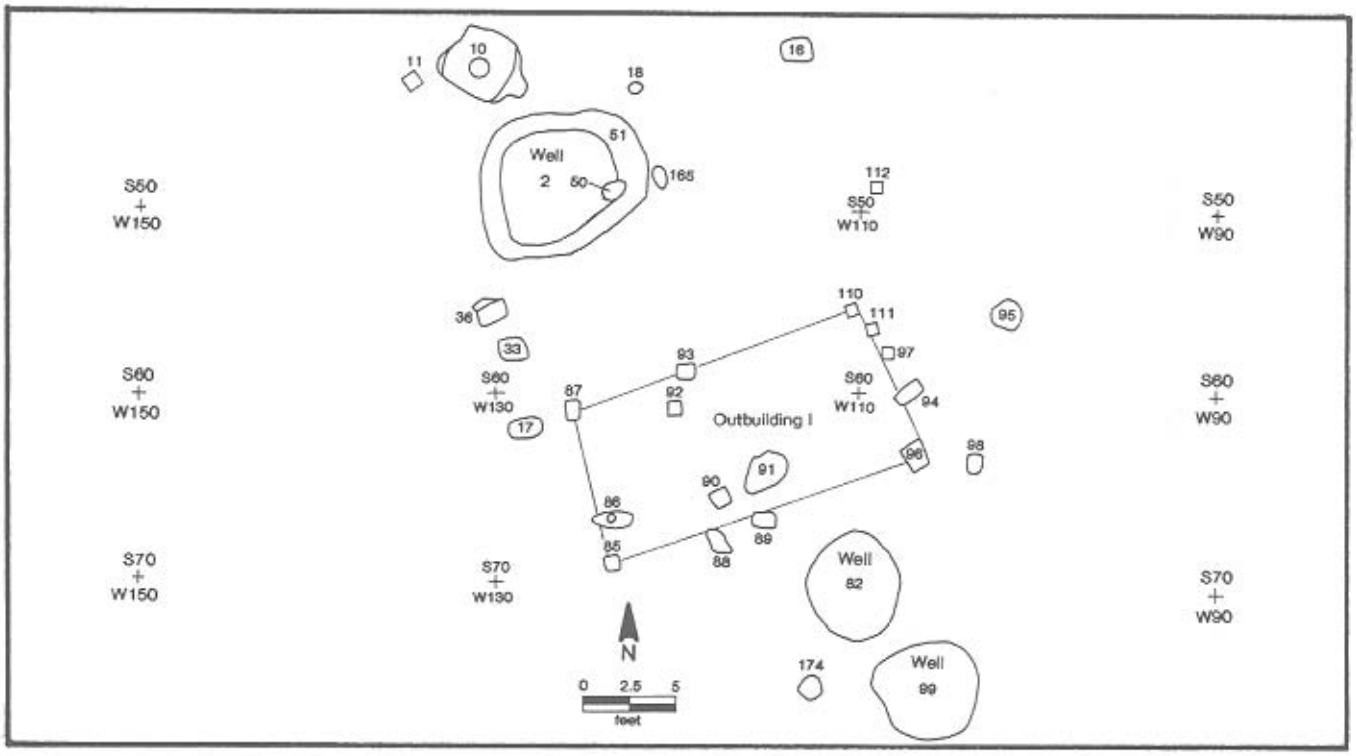
FIGURE 33

Plan of Outbuilding I and Wells



structures occupied physically and conceptually distinctive places in the cultural landscape of the lot. Outbuilding I stood just within the inner yard, Outbuilding II well into the outer yard. The function of Outbuilding II, however, remains elusive, but an agricultural or storage use is not inconsistent with the archaeological evidence.

Wells

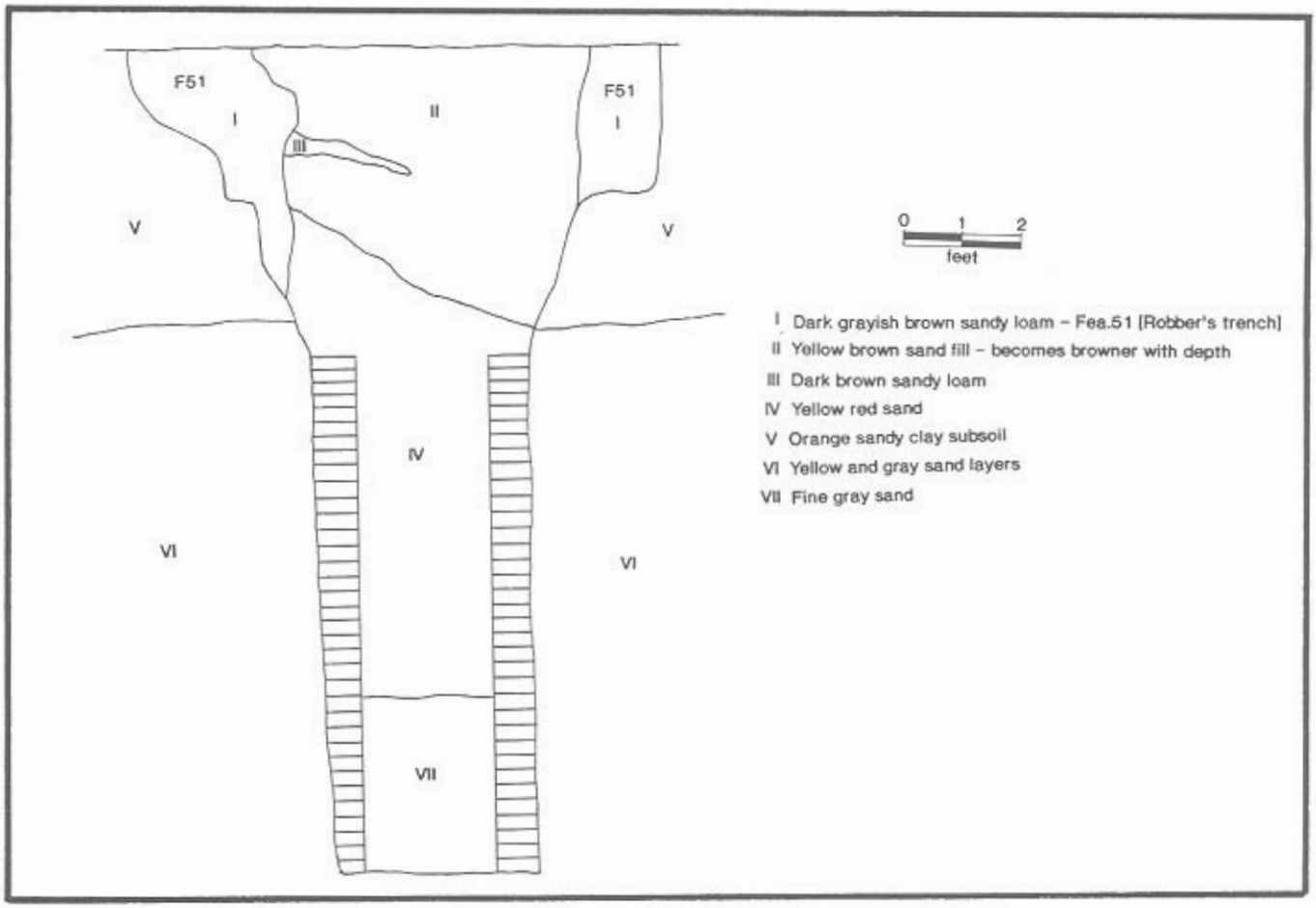
Well: Features 2 and 51

Well 2/51 was discovered during the Phase I/II investigations, and excavation of a 3' x 3' test square to a depth of 5' revealed the essence of the feature's structure and stratigraphy (Figure 11). The well's center point was located 15' south of the southwest corner of the Darrach Store and about 12' north of Outbuilding I in the inner yard (Figure 33). The Phase II test excavation determined that at or sometime after the well's abandonment, the uppermost 5' of the brick lining was robbed and the robber's excavation and well backfilled. The Phase III excavation of the well provided further detail on its construction and on the date of its robbing and filling.

The brick lining, intact beginning 5' below the surface, consisted of regular construction bricks and not of specially shaped "well bricks" (which are wider at one end than the other). These bricks were laid with their long ends adjoining, "header" style, and set in a fine gray clay. The handmade, irregular, poorly-fired bricks measured on average 8" x 3-7/8" x 2-1/4". The Phase I/II test also exposed a small section of the original well construction pit surrounding the brick lining, filled with a medium brown clay mottled with dark brown sand (Figure 11). The construction pit fill was not investigated during the Phase III excavations, when the fill of the brick-lined shaft was excavated to a depth of 14' below subsoil surface with the assistance of a backhoe. The backhoe was still bringing up brick, wood, and shell at 14'; the excavation had to be abandoned, however, due to a rising water table.

FIGURE 34

Feature 2/51 Well, North Wall Profile



The brick lining defined a circular well shaft measuring 3.3' in diameter and filled with sands comparatively free of cultural material (Figure 34). The yellowish-brown and yellowish-red sands appear to represent two phases of a single filling episode. The yellowish-red sand is a clean fill brought from off-site, while the yellowish-brown sands and gravels were redeposited in the well from elsewhere on the Darrach site. The small number of artifacts were concentrated almost exclusively in the upper yellowish-brown soil, apparently added to complete the abandoned well when the yellowish-red sand proved insufficient to fill the well shaft to existing grade.

Two hundred twenty-one artifacts and 38 pounds of bricks and brick fragments were retrieved from the backfilled well shaft (Feature 2) above the point where the brick lining remained intact. Virtually all were found in the uppermost deposit of yellowish-brown soils, and are presumably redeposited artifacts associated with the Darrach Store occupation, not materials brought in with the yellowish-red fill (Table 19). Of these, 50.7% were ceramic sherds. The small number of bottle, tableware and other household glass artifacts typifies the dearth of glass at the site as a whole. Of the architectural materials, the most diagnostic for dating purposes are the cut nails. These provide a TPQ for the deposit of c. 1790 (Nelson 1968).

TABLE 19

ARTIFACTS RECOVERED FROM FEATURE 2 WELL

Type	Artifact Counts	Subtotal	Total
CERAMICS			
Redware	22		
Creamware, Undecorated	7		
Pearlware, Undecorated	11		
Shell Edged	2		
Painted	3		
Transfer Printed	1		
Whiteware			
Undecorated	22		
Annular	4		
Shell Edged	4		
Painted	12		
Transfer Printed	3		
Sponged, Spattered	10		
Ironstone	5		
White Salt-glazed Stoneware	1		
Porcelain			
Bone China	1		
American China	5		
Subtotal		113	
GLASS			
Bottle			
Aqua Blown	4		
Clear Molded	1		
Olive Molded	1		
Aqua Molded	2		
Tableware			
Tumblers	2		
Lamp	4		
Unidentifiable	4		
Subtotal		18	
ARCHITECTURAL			
Window Glass	14		
Nails			
Cut	5		
Unidentifiable	18		
Brick	38 lbs.		
Wood	1		
Charcoal	5		
Subtotal		43	

TABLE 19 (cont.)

Type	Artifact Counts	Subtotal	Total
METAL			
Staple	1		
Key	1		
Unidentifiable	14		
Subtotal		16	
SHELL			
Oyster	12		
Clam	2		
Subtotal		14	
BONE *			
Bird	1		
Cow	2		
Pig	3		
Unidentifiable	8		
Subtotal		14	
FLORAL			
Carbonized corn cob	1		
Subtotal		1	
PLASTIC	1	1	
BUTTON, PEWTER	1	1	
TOTAL			221

* See also Table 20

With the exception of the carbonized corn cob, most often associated with prehistoric assemblages in Delaware, the floral and faunal collections (Table 20) from the well are also typical of the site. All the pig elements are from the head and foot. This suggests a pig butchered on site, but since both pigs' heads and feet yielded edible meat, these portions may have been purchased commercially or acquired from a neighboring farmer. The flotation samples yielded additional and mostly consistent data on the Darrach landscape. Amaranth occurred in all 11 samples taken from the upper 5' of the well fill, along with quantities of spores. Chenopodium appeared in only one sample, recovered from a depth of 2.8'-3.2' below subsoil.

TABLE 20

FAUNAL ASSEMBLAGE, FEATURE 2 WELL

Animal	# of Spec.	% of Fea. 2	% of Tot. Ass.	MNI Fea. 2	MNI Tot. Ass.	Elements Represented
Pig	3	50	1	1	2	L. Mandible R. 4th Molar
Cow	2	33	1	1	4	R. Femur L. Humerus
Bird	1	17	<1	1	?	Unidentified Fragment
Total	6	100	2	3	6	

Key:
Spec. = Specimens
Fea. = Feature
L. = Left
R. = Right
MNI = Minimum Number of Individuals
Tot. Ass. = Total Assemblage

TABLE 21

FEATURE 2 CERAMIC VESSELS

VESSEL NUMBER	DESCRIPTION
37	Slip decorated refined redware hollowware vessel, interior and exterior glaze; Philadelphia style
18	Slip trailed redware hollowware vessel, probably bowl used in food preparation
143	9" diameter pearlware plate, "wheat" pattern edge
144	Annular pearlware bowl, 5" diameter
169	Blue pearlware hollowware vessel, possibly annular bowl
167	Blue shell-edged pearlware plate
140	Polychrome hand painted pearlware tea cup with floral decoration; 4" diameter at rim, 2 3/8" high
163	Blue transfer printed pearlware dining vessel, probable plate, saucer or platter
158	Blue shell-edged whiteware plate, 9" diameter
194	Polychrome hand painted whiteware tea cup with stylized floral decoration
147	Blue and purple sponge-decorated whiteware flared tea cup; 4" diameter
148	Sponge-decorated whiteware saucer
181	Black transfer printed whiteware hollowware vessel
203	Undecorated porcelain vessel

Just under one-half (48.7%) of the ceramic sherds consisted of post c. 1820 refined white earthenwares - or whiteware. By far the majority of the 55 whiteware sherds are from undecorated or minimally decorated vessels. A smattering of decorative types appear among the 17 (15%) pearlware sherds, but again most are from undecorated or minimally decorated vessels. Redware sherds occur second in frequency behind the whitewares, composing 19.5% of the collection; they form a majority in most other contexts across the site. Ceramic sherd size is mostly small, and there are not many crossmends between sherds from the well fill. Nevertheless a minimum of 14 ceramic vessels can be identified from Feature 2 (Table 21). A filling date for the well in the second quarter of the nineteenth century is indicated, with soils containing earlier artifacts being mixed with more recent materials. The mean ceramic date for the collection of 1832.66 or 1840.56 excluding redwares supports this interpretation (Table 22).

Pieces of seven ceramic vessels represented in the well fill crosmended with sherds from four other features (Table 23), perhaps indicating the contemporaneity of the features' filling. Complicating any simple assumption of contemporaneity, however, is the issue of redeposition. Redeposition is especially likely, for instance, in the case of the gully (Feature 230), the third well (Feature 99), and as already discussed, the robber's trench of Well 2 (Feature 51). Given the depositional history of the well, crossmends between Features 2 and 51 would have been expected. The number of crossmends between the well fill and other features does argue that the fill originated on site, unless it can be demonstrated that the fill of all these features was brought in from the same location.

The robber's excavation to remove the brick well lining to a depth of 5' was backfilled with a 0.5'-2' wide deposit of dark grayish-brown sand (Feature 51) (Figure 34; Plate 4). This deposit consists mostly of the original construction pit fill mixed with artifact-bearing soils from the surrounding ground surface. Six hundred forty-three artifacts and 215.2 pounds of discarded bricks and brick fragments were retrieved from the robber's trench (Table 24). Of these, 45.9% were ceramic sherds. The remainder included a large collection of cut nails and 151 shells, almost all of them oyster.

As with the glassware collection from Feature 2, the Feature 51 glass typifies the collections from across the site in its small size. Architectural remains are much more numerous in Feature 51 than in the well shaft fill; however, the quantity of brick is a function of the robbing of the well lining and is not structural demolition rubble. Window glass fragments are almost twice as numerous as in Feature 2, and almost four times as many nails, mostly cut, were recovered. The single wire nail from this context suggests a late nineteenth or twentieth century disturbance of the deposit. Other evidence, however, indicates the robbing of the well lining predated demolition of the store. The bricks from the store, for example, were not salvaged but rather dumped in the cellar, and as will be seen, in other features on the site.

The large number of shells redeposited in the well ring robber's trench supports an idea proposed in discussion of the outbuildings; that is, that these later activities in this portion of the site may have disturbed an earlier midden. The assemblage of identifiable faunal remains from the robber's trench is very small, including elements of only two species, cow and pig. In both cases, however, head elements are present (Table 25), perhaps butchering waste deposited in the early midden and later disturbed by the robbing activities. Alternatively, these artifacts may originally have been deposited in the backfill during construction of the well, and were only disturbed and redeposited during the robbing episode.

The ceramics support the interpretation that an eighteenth century feature was disturbed in the nineteenth century. At the time the well was abandoned and its upper courses of brick removed, more recent ceramics were introduced into the well ring's backfill, which already contained eighteenth century types dating to the original well construction. Staffordshire, tin glazed, white salt glazed stoneware, and English brown stoneware are among the earliest types represented at the Darrach site, although these occur in this feature in small numbers - 2.4% of the collection. More representative of the late eighteenth century contexts across the site is the substantial proportion

TABLE 22

MEAN CERAMIC DATE, FEATURE 2 WELL

South Number	Number of Sherds	Mean Date	Total
81	22	1800	39600
11	1	1808.5	1808.5
2	22	1860	40920
2.11	1	1850	1850
3	5	1852.5	9262.5
2.5	11	1842.5	20267.5
16	1	1753	1753
19.1	2	1805	3610
12	3	1807.5	5422.5
84	1	1900	1900
2.7	10	1847.5	18475
85	5	1900	9500
2.6	1	1845	1845
2.9	2	1847.5	3695
22	7	1791	12537
2.1	2	1852.5	3705
2.3	4	1845	7380
20	11	1805	19855
6	2	1852.5	3705
TOTAL	113		207091
MEAN DATE = 1832.66			
TOTAL EXCLUDING REDWARE	91		167491
MEAN DATE = 1840.56 EXCLUDING REDWARE			

TABLE 23

CERAMIC CROSSMENDS, FEATURE 2
LIST OF FEATURES WITH CROSSMENDS TO FEATURE 2

Feature Number	Number of Vessels With Mends	Identification
230	1	Gully
99	4	Well
31	1	Posthole of Store Addition
51	1	Well Robber's Trench

PLATE 4

Well, Feature 2/51, During Excavation

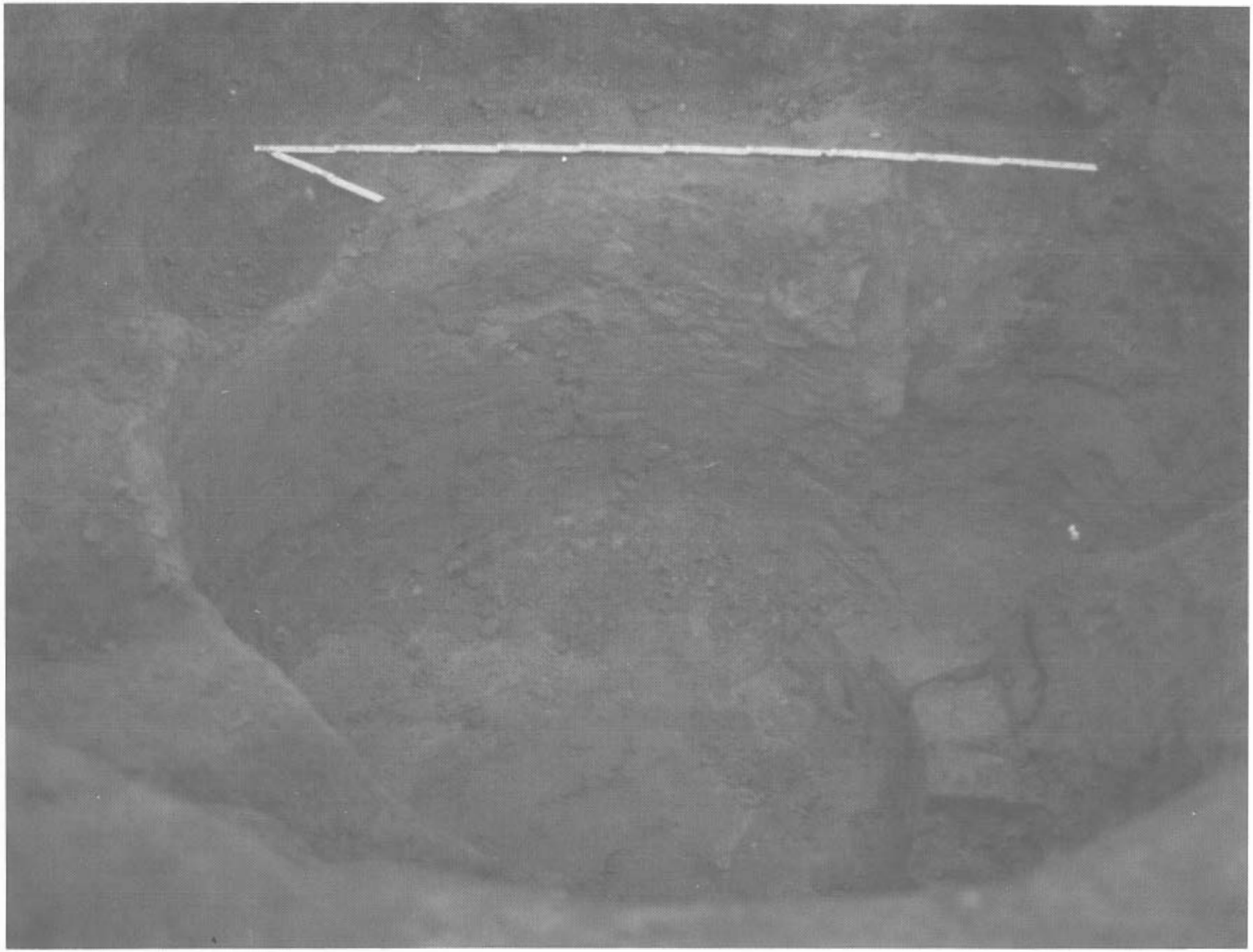


TABLE 24

ARTIFACTS RECOVERED FROM FEATURE 51 WELL RING ROBBER'S TRENCH

Type	Artifact Counts	Subtotal	Total
CERAMICS			
Redware	137		
Staffordshire	3		
Tin Glazed	2		
Creamware			
Undecorated	24		
Transfer Printed	7		
Pearlware			
Undecorated	45		
Annular	3		
Shell Edged	4		
Monochrome Painted	4		
Polychrome Painted	12		
Transfer Printed	3		
Whiteware			
Undecorated	22		
Annular	2		
Shell Edged	5		
Polychrome Painted	4		
Transfer Printed	3		
Yellowware	1		
Stoneware			
White Salt-glazed	1		
Brown	2		
Porcelain			
Chinese	3		
Bone China	4		
American	4		
Subtotal		295	
GLASS			
Bottle			
Clear Brown	1		
Clear Molded	6		
Olive Molded	8		
Subtotal		15	

TABLE 24 (cont.)

Type	Artifact Counts	Subtotal	Total
ARCHITECTURAL			
Window Glass	22		
Brick	4 frags., 215.2 lbs.		
Nails			
Wrought	1		
Cut	64		
Wire	1		
Unidentifiable	17		
Subtotal		109	
TOBACCO PIPES			
Stems	6	6	
METAL			
Chain	1		
Drawer escutcheon	1		
Wire	1		
Iron strap	9		
Hook	1		
Decorative Screw and Nut	1		
Copper, pierced	1		
Unidentifiable	21		
Subtotal		36	
SHELL	151	151	
BONE			
Pig	4		
Cow	2		
Unidentifiable	25		
Subtotal		31	
TOTAL			643

of utilitarian redwares - 46.4%. Another 34.5% are late eighteenth and early nineteenth century tableware and teaware forms - the creamwares and pearlwares. Only the whitewares (12.2%), yellowware, and nineteenth century porcelains (2.7%) can definitely be associated with the robbing of the well brick. These types form a substantially smaller proportion of the collection from the robber's trench than from the well fill (Feature 2). The mean ceramic date of the robbed well construction pit is 1807.67 or 1814.40 excluding redwares (Table 26), about 20-25 years earlier than that of the well fill (Feature 2). A minimum of 26 ceramic vessels are identifiable from the fill of the robber's trench (Table 27).

TABLE 25

FAUNAL ASSEMBLAGE, FEATURE 51 WELL ROBBER'S TRENCH

Animal	No. of Spec.	% of F51	% of Tot. As.	MNI F51	MNI Tot. As.	Elements Represented	Cut	Gnawed
Pig	4	67	1	1	2	L. ulna, R. mandible, L. humerus, vertebrae	no	no
Cow	2	33	1	1	4	incisor, vertebrae (split down center)	yes	no
TOTALS	6	100	2	2	6		1	0

KEY:

No. = number
Tot. = total
Spec. = specimens
As. = assemblage
MNI = minimum number of individuals
L. = left
R. = right

TABLE 26

MEAN CERAMIC DATE, FEATURE 51, ROBBED WELL PIT

South Number	Number of Sherds	Mean Date	Total
81	137	1800	246600
56	3	1733	5199
22	24	1791	42984
12	12	1807.5	21690
13	3	1810	5430
84	4	1900	7600
19.2	3	1815	5445
19.1	1	1805	1805
2.3	3	1845	5535
20	45	1805	81225
23	7	1790	12530
2	22	1860	40920
17	4	1805	7220
11	3	1808.5	5425.5
2.5	4	1842.5	7370
85	4	1900	7600
79	1	1885	1885
2.1	2	1852.5	3705
2.9	3	1847.5	5542.5
16	1	1753	1753
54	2	1733	3466
7	2	1807.5	3615
39	1	1730	1730
49	2	1686	3372
TOTAL	293		529647
MEAN DATE = 1807.67			
TOTAL	156		283047
EXCLUDING REDWARE			
MEAN DATE = 1814.40			
EXCLUDING REDWARE			

TABLE 27

FEATURE 51 CERAMIC VESSELS

Vessel Number	Description
15	Slip trailed redware shallow dish with coggled rim
19	Slip trailed redware bowl with clear interior lead glaze
31	Slip trailed redware bowl or dish
48	Redware bottle/jug
56	Glazed redware hollowware vessel
58	Large heavy redware storage vessel with manganese-tint glaze
73	Glazed redware hollowware vessel
76	Glazed redware hollowware vessel, possibly a milk pan
77	Unidentifiable redware vessel
105	Glazed redware hollowware vessel
107	Glazed redware hollowware vessel, probably bowl used in food preparation
109	Unidentifiable redware vessel
137	Staffordshire posset mug
143	Pearlware plate, 9" diameter, "wheat" pattern edge
153	Green shell edged flatware vessel
174	Annular or hand painted pearlware cup,3" diameter at rim
182	Hand painted pearlware hollowware vessel
195	Polychrome underglaze and overglaze hand painted pearlware saucer with floral decoration
196	Polychrome hand painted pearlware lid
152	Annular whiteware bowl
187	Annular whiteware bowl
215	Blue shell edged whiteware plate
216	Black lined whiteware saucer
217	Green transfer printed whiteware plate, saucer or platter
189	Green transfer printed whiteware plate, saucer or platter
214	Black transfer printed whiteware vessel

Pieces of fifteen ceramic vessels represented in the robber's trench fill crossmend with sherds from nine other features (Table 28). With the exception of the gully and the well shaft fill, these features are not the same ones with which artifacts from the well shaft fill crossmended. The lack of correspondence between the mends of the well and robber's trench fills suggests different points of origin of the materials in the two contexts.

Other Features Possibly Associated with Well:Features 2 and 51

Although the form and placement of this group of features does not delineate a structural housing for the well, their proximity associates them with it (Figure 33, Table 29). The large post hole just north of the well (Feature 10) and/or the one(s) to its southwest (Features 33 and 36), for example, likely supported a mechanism for hoisting water from the well. Alternatively, they formed part of a fence(s) enclosing the well in the inner work yard with Outbuilding I.

TABLE 28

CERAMIC CROSSMENDS, FEATURE 51
LIST OF FEATURES WITH CROSSMENDS TO FEATURE 51

Feature Number	No. of Vessels With Mends	Identification
136	1	Fence Posthole
148	5	Privy
20	2	Posthole near Well 2
108A	1	Shell Midden
230	1	Gully
39	1	Early Fence Posthole North of Well 2
108	1	Midden
132	2	Privy
2	1	Well

Well: Feature 82

Well 82 appeared on the surface of subsoil as a 5' diameter circular stain of medium brown sandy clay. Located in the yard between Outbuildings I and II, Well 82 lay only about 2' northwest of Well 99 (Figure 33).

Excavation of Well 82 to a depth of 12' below subsoil with the assistance of a backhoe revealed a barrel-lined well. The water table preserved the barrel staves from 7'-12' below subsoil, where excavation was ceased due to the rising water and instability of the sandy soils. The well diggers had stacked two barrels on top of each other, and filled the construction pit for the well with a very dark grayish-brown organic fill. At least two or possibly three additional barrels would originally have sat atop the surviving ones, if the well was barrel-lined for its entire depth. The exact size of the barrels is uncertain, as it was not possible to remove the surviving ones intact. The interior dimension of the well shaft, at the top of the uppermost preserved barrel, measured 3.4'.

Beginning approximately 4' below the surface of subsoil to the point at which excavation was ceased, the fill of the well consisted of yellowish-brown sands to sandy clays banded with light gray sand which darkened somewhat in color below 7.5' (Figure 35). Artifacts were recovered from this fill between 4' and 5' below subsoil. Between 4.6' and 5' (the bottom of the hand-excavated portion of the well shaft), excavators encountered a scattering of brickbats and stone. No artifacts were retrieved from the backhoe-assisted excavation of the lower 7' of the well, although oyster shell and nails were still seen coming from the fill at a depth of 10' below subsoil.

Above the yellowish-brown and gray sands to 0.4' below subsoil, the fill of the well-shaft was predominantly a sterile strong brown sand (Figure 35; Plate 5). This sand, presumably brought in from off-site to

TABLE 29

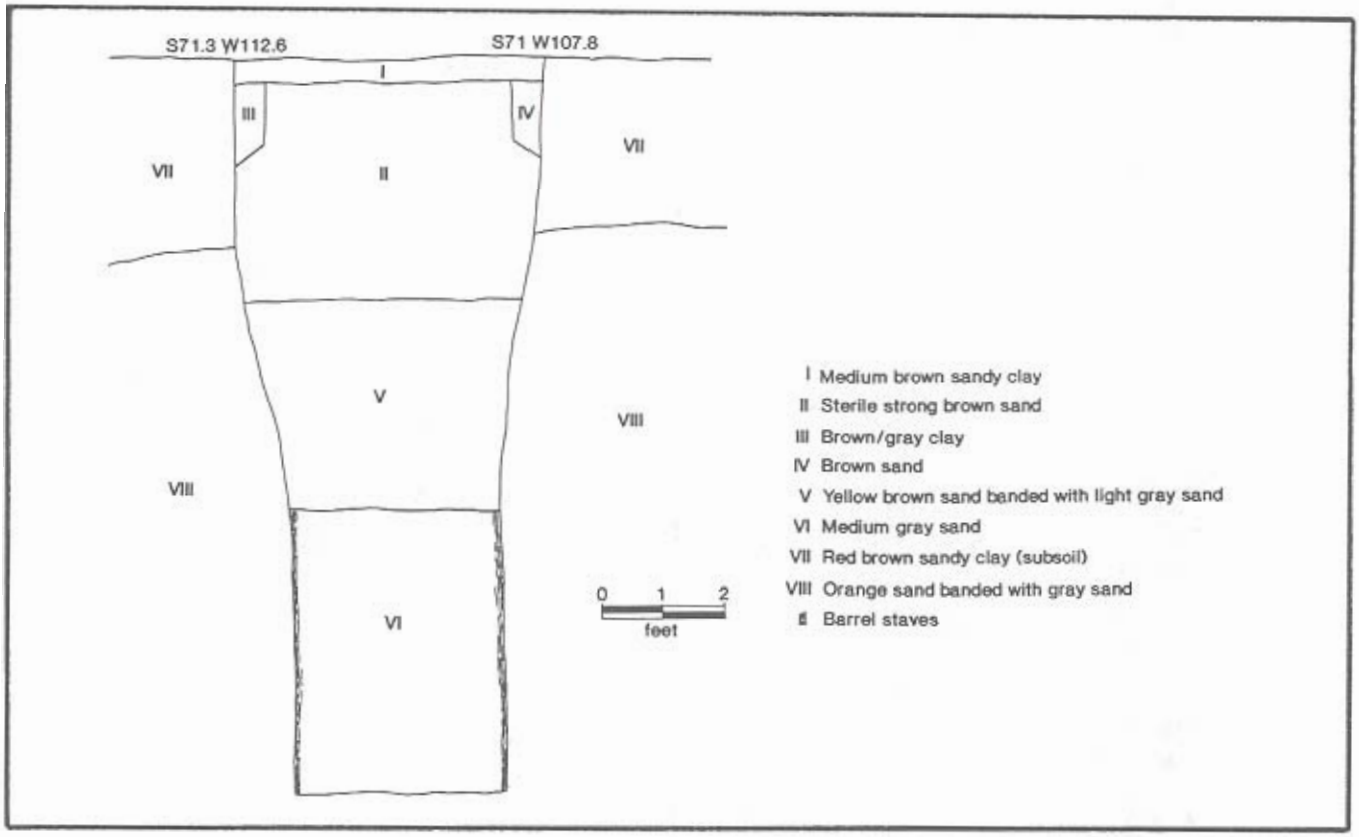
FEATURES ASSOCIATED WITH WELL 2/51

Feature Number	Plan Dimen.	Depth*	Shape	Soil Fill	Artifacts	Interpretation
165	1.5′ x .8′	.75′	rectangular	medium brown loam	-----	post or planting hole
10	2.2′ x 1.8′	3.2′	irregular square	dark grayish brown silty loam with charcoal in NW quarter (post mold ?)	cut nail 1 brick	post hole (rodent-disturbed)
13	1′ x .95′	.3′	irregular circle	dark brown loam	nail 1 whiteware 1	post or planting hole
18	.7′	.35′	circular	dark brown loam	-----	post or planting hole
36	1′ x .9′	.55′	rectangular	brown silty loam with charcoal	brick pipe bowl 1 redware 1 window glass 1	post hole
33	1.3′ x 1′ mold: .5′	1′	rectangular hole, square mold	hole: mottled brown and yellowish sandy clay mold: dark brown sandy loam	tin glazed 2 redware 3 porcelain 1 brick	post hole with mold

*Below Subsoil Surface

FIGURE 35

Feature 82 Well, North Wall Profile



fill the well, is the same as that which filled the lower portion of Well 2/51 (ascribed the Munsell descriptor "yellowish-red" there). Unlike the deposit in Well 2/51, however, the strong brown sand in Well 82 is mixed with other soils at different loci in the well shaft. At 2' below subsoil in the northeastern portion of the shaft, the sand began to be mixed with bands of a light gray sand. At 3' the deposit had become just the gray sand. At the upper end of the deposit, the strong brown sand was surrounded by patchy bands of medium brown sand and a grayish-brown clay ranging from 0.25'-0.75' in width (Figure 36). These artifact-bearing soils may represent the disturbed remains of the decayed barrel lining and construction pit for the well. No wood survived in the soils, but broken bricks appeared in the grayish-brown clay. The deposit disappeared at 1.4' below subsoil. A 0.4' thick deposit of medium brown sandy clay capped the well shaft.

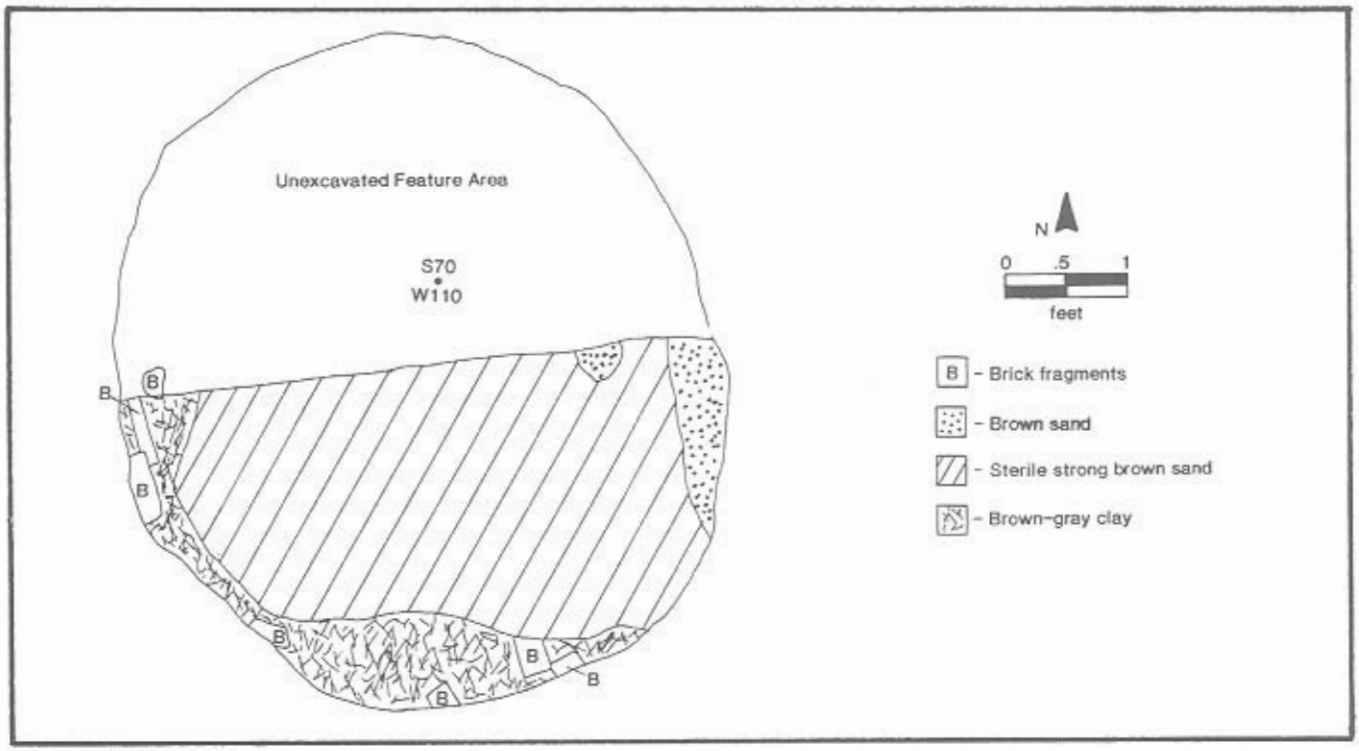
Soil samples were taken for chemical analysis at several depths in the well shaft fill. Soil pH ranged from 5.8-6.7. Readings over 6.0 in Delaware should generally correspond with high magnesium and calcium readings and indicate agricultural liming or the presence of other high lime or calcium-containing substances. In this case, however, the calcium levels from the well soils were much lower than those of the subsoil. This suggests the application of lime as a fertilizer during the latter nineteenth century when the site became an agricultural field, but does not explain the low calcium and magnesium readings and the high pH readings from the well soils. Potassium readings were also lower than the average for the subsoil at the site. The two flotation samples from Well 82 yielded similar ethnobotanical assemblages to those from Well 2/51. Amaranth and the spores occurred in quantities; however, chenopodium was not represented in these samples.

PLATE 5

Well, Feature 82, During Excavation

FIGURE 36

Feature 82 Well, Plan View of South Half, Base of Level 3



The well shaft stratigraphy indicated three distinct artifact-bearing soils representing discrete depositions. These are discussed separately below, beginning with the yellowish-brown and gray sand deposit at the bottom of the well. Only six artifacts and a small quantity of brick were recovered from this deposit. The four cut nails provide a TPQ for the deposit of c. 1790 (Nelson 1968), while the presence of annular whiteware (1830-1875) pushes the date back to at least 1830. This date must remain tentative, however, based on Miller's (1980) data on the pearlware-whiteware transition.

Little more can be said of the assemblage of 35 artifacts from the disturbed remnants of the well construction pit (Table 30). The shell-edged pearlware and cut nails also provide a post 1780-1790 deposition date for this deposit. Given its disturbed nature, however, this cannot be firmly interpreted as the construction date of the well.

A date for the final sealing of the well may be offered by the 56 artifacts deposited in the loam cap (Table 31). The whiteware and Rockingham point to a later deposition, but anytime between the War of 1812 and the demolition of the store is possible.

Well: Feature 99

Well 99 also appeared after the plow zone stripping during the Phase III excavations as a 5' diameter circular stain at the surface of subsoil. Brick and shell lay on the surface in a medium brown sandy loam. Located in the outer yard between Outbuildings I and II, Well 99 was only about 2' southeast of Well 82 (Figure 33) and its center point less than 10' north of the north wall of Outbuilding II (Figure 26).

TABLE 30

ARTIFACTS RECOVERED FROM DISTURBED CLAY AND SAND WELL RING OF FEATURE 82

Type	Number	Subtotal	Total
CERAMICS			
Redware	2		
Pearlware			
Undecorated	4		
Shell Edged	1		
Subtotal		7	
GLASS			
Bottle			
Olive Molded	1		
Tableware			
Serving Vessel	1		
Subtotal		2	
ARCHITECTURAL			
Window Glass	4		
Nails			
Cut	8		
Unidentified	1		
Subtotal		13	
METAL			
Copper pin	1		
Subtotal		1	
MISCELLANEOUS			
Button, Copper	1		
Tableware			
Wooden Knife Handle	1		
Subtotal		2	
BONE			
Pig	1		
Unidentified	5		
Subtotal		6	

TABLE 30 (cont.)

SHELL		
Oyster	1	
Clam	1	
Subtotal		2
TOBACCO PIPES		
Bowl	1	
Stem	1	
Subtotal		2
TOTAL		35

Excavation of Well 99 to a depth of 14' below subsoil with the assistance of a backhoe revealed a barrel- and brick-lined well. The barrel staves were preserved beginning at 10.5' below subsoil (Plate 6; Figure 37), and were still being encountered by the backhoe as it dismantled the well down to a depth of 14'. At this depth the excavation was discontinued due to the rising water table, which made visibility impossible. Also intact below a depth of 7' was the brick lining laid up inside the stacked barrels. Unlike the bricks lining Well 2/51, in Well 99 they were laid end-to-end "stretcher" style in a single width stack. The builders dry laid the bricks in a very unstable column, leaving a space of a few inches between each brick, and staggering the courses to span the voids. The interior diameter of the well shaft, within the brick-lined column, measured 3'.

At approximately 12' below subsoil (and 1' below standing water), large stones in a grayish "mud" began to come up in the backhoe bucket from the well shaft fill. These stones resemble those of the store's foundation. From this depth to within 1.6' of the subsoil surface, the shaft fill consisted of an artifact-bearing medium brown sandy loam full of brick rubble. The bricks, some with patches of mortar preserved, match those recovered from the store's cellar. Thus, Well 99 apparently remained open until the mid-1860s when the store was demolished. At that time it was filled with demolition rubble. A total of 2415.5 lbs. of brick occurred within the shaft fill between the depths of 1.6' and 4.4' below subsoil alone; below this depth, it was not weighed. The brick rubble tapered to a mound in the center of the shaft at about 0.8' below subsoil. From that point to the surface, only a few fragments of brick appeared in the sandy loam. Crossmends between ceramic sherds from all contexts between the surface and 4.4' indicate a single depositional event. Only a plow blade was recovered from the backhoe-assisted excavation of the lower 9.5' of the well fill; the soils were not screened for smaller artifacts.

The brick and barrel linings of the well shaft were not preserved above 7'-10.5' below subsoil. Neither, however, was evidence preserved of a robber's trench, clearly present in Well 2/51 (and designated Feature 51). Instead, only a thin band of yellow-brown gravelly sands, 0.1'-0.4' in width, formed a perimeter deposit between the rubble-filled shaft and subsoil. This may represent the remains of the original well construction pit. By the 1860s, the uppermost barrels of the well lining may have already decayed, and the initial dumping of rubble in the shaft toppled the unstable brick lining, thus accounting for its absence in the upper 7' of the shaft. Some bricks were found in the yellowish-brown sands, but not in situ. Artifacts were not segregated from those of the rubble fill during excavation.

Excavators took soil samples for chemical analysis at several depths in the well shaft fill. Soil pH ranged from 6.7-8.2, compared to 5.8-6.7 in the samples from Well 82. The lime mortar of the brick rubble fill accounts

TABLE 31

ARTIFACTS RECOVERED FROM LOAM CAP OF FEATURE 82 WELL

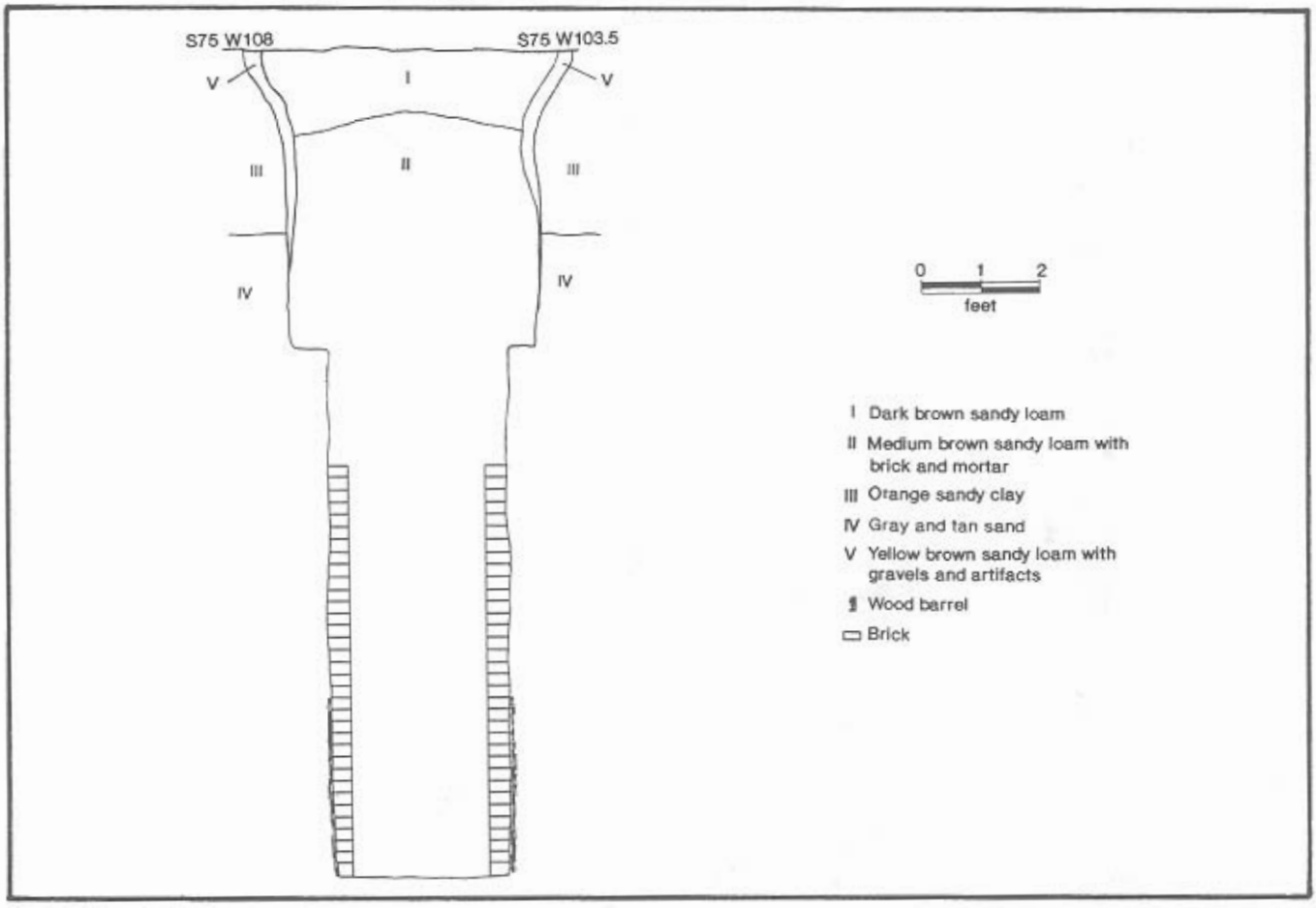
Type	Number	Subtotal	Total
CERAMICS			
Redware	10		
Pearlware			
Undecorated	1		
Whiteware			
Undecorated	5		
Shell-edged	1		
Transfer-printed	1		
Rockingham	1		
Subtotal		19	
GLASS			
Bottle			
Blown Aqua	2		
Unidentifiable	4		
Subtotal		6	
ARCHITECTURAL			
Window Glass	7		
Nails			
Cut	3		
Spike	1		
Unidentifiable	7		
Subtotal		18	
METAL			
Blade	1		
Heavy Wire	1		
Subtotal		2	
BONE			
Pig	1		
Cow	1		
Unidentifiable	9		
Subtotal		11	
TOTAL			56

PLATE 6

Well, Feature 99, Approximately 11' below Surface

FIGURE 37

Feature 99 Well, North Wall Profile



for these high levels and for the high (118-170) magnesium and calcium (1360-3800) levels. Moderately high phosphate levels were also recorded for Well 99 (52-119 compared to an average of 5 from subsoil). Phosphates are normally associated with soils containing high levels of organic wastes. Comparison of the phosphate readings from Well 99 and from Privy 132, however, do not indicate that Well 99 was used as a privy. Phosphate levels from the fill of Privy 132 ranged between 552 and 1305. Instead, decomposed wood members deposited with the brick rubble may have produced the moderately high phosphate levels in Well 99.

Five flotation samples were processed from the fill of Well 99. As in the other two wells, amaranth was represented. However, the assemblage differed from those of Wells 82 and 2/51, as corn hulls, fish scales and large numbers of tiny snail shells were also present.

Based on the stratigraphy and crossmend analysis, all artifacts from Well 99 were treated as a single assemblage resulting from a single depositional event, the filling of the well shaft in the 1860s. The first question in interpreting this assemblage regards the origin of the artifacts in the backfilled well. Do they represent material in use by the store's occupants in the 1860s just prior to the abandonment and demolition of the store? Do they represent redeposited material scooped up with the rubble and dumped in the well, and thus the remains of an

TABLE 32

ARTIFACTS RECOVERED FROM THE FILL OF WELL 99

Type	Artifact Counts	Subtotal	Total
CERAMICS			
Redware	46		
Yellowware	3		
Creamware			
Undecorated	6		
Transfer Printed	1		
Pearlware			
Undecorated	42		
Annular	9		
Shell Edged	3		
Painted	7		
Transfer Printed	2		
Whiteware			
Undecorated	50		
Annular	7		
Shell Edged	3		
Painted	2		
Transfer Printed	3		
Sponged	3		
Ironstone	1		
Rockingham	5		
Porcelain	5		
Unidentifiable	4		
Subtotal		202	
GLASS			
Bottle			
Clear Molded	8		
Aqua Molded	3		
Olive Molded	1		
Tableware			
Tumbler	1		
Unidentified	1		
Lamp	1		
Unidentifiable	5		
Subtotal		20	

TABLE 32 (cont.)

Type	Artifact Counts	Subtotal	Total
ARCHITECTURAL			
Window Glass	41		
Nails			
Wrought	1		
Cut	60		
Wire	1		
Spike	2		
Doornail	1		
Unidentified	29		
Subtotal		135	
METAL			
Buckle	1		
Chain	2		
Closure	1		
Eye hook	1		
Plough blade	1		
Unidentifiable	21		
Subtotal		27	
SHELL			
Oyster	176		
Clam	88		
Unidentifiable	24		
BONE			
Muskrat	2		
Sheep	1		
Bird	1		
Unidentifiable	19		
MISCELLANEOUS			
Plastic			
Comb	1		
Unidentifiable	1		
Subtotal		313	
TOTAL			697

TABLE 33

MEAN CERAMIC DATE, WELL 99

South Number	Number of Sherds	Mean Date	Total
81	46	1800	82800
79	3	1885	5655
22	6	1791	10746
2	50	1860	93000
2.3	3	1845	5535
2.11	3	1850	5500
2.5	2	1842.5	3685
20	44	1805	79420
19.1	2	1805	3610
11	2	1808.5	3617
13	9	1810	16290
80	5	1856	9280
3	1	1852.5	1852.5
12	5	1807.5	9037.5
85	4	1900	7600
19.2	1	1815	1815
17	2	1805	3610
2.1	7	1852.5	12967.5
2.7	3	1847.5	5542.5
23	1	1790	1790
84	1	1900	1900
TOTAL	200		365253

MEAN DATE = 1826.27

earlier period? Do they represent a mix of both? Internal and external evidence are required to address these questions.

The most closely datable of the artifacts from the well fill are the 202 ceramic sherds (Table 32), which composed 29 percent of the assemblage. Both South's mean ceramic date (South 1977) (Table 33) and a more qualitative analysis of the ceramics indicate possible origins of the deposit. The computed mean ceramic date of 1826.27(1834.11 excluding redwares) clearly does not suggest an assemblage of the latest in ceramic wares being dumped in the well by the store's last occupants. This does not mean, of course, that the assemblage should not be attributed to the last occupants, only that if it does represent their household wares, they were using many older wares or at least wares in production for a long period of time. The redwares and pearlwares, which together composed 54 percent of the ceramic collection pushed the MCD back earlier into the nineteenth century. Although the 1800 MCD for redwares may be problematic, as redwares were still in production and use in the eastern United States as late as the early 1860s, the pearlwares (themselves 31.2% of the collection) had been replaced by whitewares and even ironstones. In fact those ceramic types typically associated with the 1860s, transfer printed, sponged and flow blue whitewares, ironstones, and Rockingham, form an especially small portion of the collection (6%).

TABLE 34

FEATURE 99 CERAMIC VESSELS

Vessel Number	Description
4	Slip decorated redware bowl with copper oxide decoration Philadelphia style
23	Slip decorated redware hollowware vessel
25	Slip decorated redware hollowware vessel with copper oxide and manganese decoration
53	Redware mug
75	Redware hollowware storage vessel
82	Unidentifiable redware vessel
84	Redware chamberpot
108	Unidentifiable redware hollowware vessel
134	Unidentifiable green transfer printed creamware vessel
144	Annular pearlware bowl, 5" diameter
166	Blue shell edged pearlware plate
140	Polychrome hand-painted pearlware tea cup with floral motif
145	Mulberry transfer printed pearlware tea cup with Oriental motif
188	Yellow and black transfer printed pearlware plate or platter
183	Annular whiteware hollowware vessel
184	Banded whiteware tea cup
185	Banded whiteware plate or platter
194	Polychrome hand-painted whiteware tea cup with floral motif
190	Annular whiteware hollowware vessel
191	Annular whiteware hollowware vessel
192	Annular whiteware hollowware vessel
148	Sponged whiteware saucer
172	Sponged whiteware tea cup
177	Sponged whiteware vessel
176	Black transfer printed whiteware plate or platter
136	Yellowware mixing bowl
206	Unidentifiable porcelain vessel of low quality

The 27 "minimum number of ceramic vessels" represented in the well's assemblage offer another perspective (Table 34). Of the 17 (63%) refined white earthenware vessels, 11 (41%) are whiteware, a definitive indication of a nineteenth century date. However, all of the decorative types represented - annular, edged, painted, and transfer printed - were in production in whiteware by the 1820s. Indeed, painted and edged white earthenwares appear in the 1805 sale inventories of John Darrach. These ceramic vessels also comprise an assemblage archaeologists would be likely to identify as that of a "middling" household. Virtually no porcelain appears, and slipped redwares may have been used on the table as well as in the kitchen. Annular bowls are comparatively numerous, yet so are six decorated teaware vessels. This issue of social and economic status, household strategies, and material culture is explored in a later section of this report.

Finally, crossmend analysis of the ceramic vessels also yielded information relevant to the original questions of the well assemblage's date and origin (Table 35). Well 99 had the greatest number of mends with the

TABLE 35

LIST OF FEATURES WITH CERAMIC CROSSMENDS TO WELL 99

Feature Number	No. of Vessels with Mends	Identification
108A	2	Shell Midden
108B	1	Shell Midden
202	1	Post Hole Near Midden
108	1	Midden
132	2	Privy
148	2	Privy
118	1	Fence Posthole
42	1	Early Fence Posthole Near Store
123	1	Fence Posthole
217	1	Rodent Disturbance
230	1	Gully
131	1	Fence Posthole
31	1	Posthole Near Store Addition
2	4	Well
TOTAL	20	

greatest number of features of those yet discussed. Twenty vessels crossmended across 14 features. Thus either the deposits in all 14 features date to the last years of the store's occupation, or Well 99 contains some redeposited materials. The crossmending of vessels between Well 99, fence post holes (especially an early post hole in the immediate vicinity of the store - Feature 42), the shell midden, and the privies especially support the latter interpretation.

The nonceramic artifacts from the well fill differ little from those recovered elsewhere on the site, and in particular from the other wells. The plow blade hints at one component of the domestic strategy of at least one of the store's occupants, as do the oyster and clam shells, and the muskrat and sheep bones. The oyster/clam ratio from this feature does differ from that of other deposits in the comparatively large number of clam shells.

Other Features Possibly Associated with Well: Feature 99

Two features, 170 and 177, were located in front of Outbuilding II and east of Well 99. Neither appear to represent the remains of a well structure or pump assembly, but rather landscape features perhaps only indirectly associated with the well (Table 36).

In conclusion, the temporal relationships among the three wells can now be examined. First, Well 99 clearly remained open until the store's abandonment in the 1860s, as it is filled with rubble from the store's demolition. Its construction date, however, remains unknown. The robbed well ring of Well 2/51 contained the earliest artifacts of any of the well contexts, and although disturbed and refilled in the nineteenth century, these early artifacts provide the best available evidence for Well 2/51 having been the first well dug on the site. At the same time, four ceramic vessels crossmend between the fills of Wells 2/51 and 99, while neither yielded sherds crossmending with ceramics from Well 82. Either Wells 2/51 and 99 were filled at the same time, or the fills of both were redeposited artifact-bearing soils at least in part from the same source. The soils from which the

TABLE 36

FEATURES ASSOCIATED WITH WELL 99

Feature Number	Plan Dimen.	Depth*	Shape	Soil Fill	Artifacts	Soil Chemistry	Interpretation
177	1.1′	.85′	square; straight walls, flat base	Medium brown brick and charcoal flecked. Feature lined with pebbles.	nails 3 oyster 3 whiteware 1	phosphates 53 magnesium 126 calcium 890 Elevated	possible planting hole
170	----	.9′	irregular; straight walls, flat base	brick and charcoal flecked	----	phosphates 13 magnesium 131 Elevated	possible planting hole (rodent disturbed)

*Below Subsoil Surface