

## **CHAPTER 6**

### **SILVER GLEN RUN, LOCUS B (8LA1-WEST)**

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Locus B occupies a relatively flat, well drained ridge nose less than 200 m to the southwest of Locus A and approximately 80 m south of Silver Glen Spring run. It consists of a small, roughly crescent-shaped shell node and the extensive archaeological deposits that surround it. A previously unknown archaeological resource, Locus B was initially recorded as a result of reconnaissance survey conducted by participants in the St. Johns Archaeological Field School in 2007 (Chapter 4). Despite being relatively modest in size and depth compared to the shell ridges at 8LA1-East and Locus A, Locus B contains well-stratified and largely intact deposits dating primarily to the Late Archaic Orange (4600-3600 cal BP) and preceramic Mt. Taylor (7300-4600 cal BP) periods, although subsequent St. Johns period artifacts are also present. Given the especially well preserved deposits encompassing multiple culture-historical components, this portion of the site presents a virtually unparalleled opportunity for investigation of Late Archaic ritual and domestic practices conducted outside of the more extensively studied “shell mound” contexts. Moreover, its close proximity to the concurrently utilized shell mound at Locus A renders Locus B a uniquely appropriate setting for studying the relationship between these two contrasting types of Archaic places.

Following shovel testing in 2007 (see Chapter 4), Locus B was recognized as an area that warranted more intensive investigation due to the identification of an arcuate or circular concentration of Orange ceramic sherds, presumed to be indicative of an Orange period habitation or “village” site. Consequently, between 2007 and 2011, Locus B was the target of rigorous field investigations that included three primary strategies: (1) topographic mapping and close-interval coring for the purpose of establishing the horizontal and vertical extent of cultural deposits; (2) extensive test unit excavations to determine the vertical structure of these deposits and their variability across Locus B; and (3) intensive block excavations intended to expose relatively fine-scale horizontal and vertical patterning of cultural materials, as well as evidence of architectural remains and features. Although unequivocal evidence for an Orange period “village” has proven elusive, the results of these investigations have revealed three successive, and fundamentally distinctive patterns of site use. Together, these patterns encompass virtually the entire Late Archaic, a dynamic period of region-wide material and social transformation in the middle St. Johns Valley. This chapter details the methods and initial results associated with each of the three testing strategies through 2010, as well as descriptions of feature contents and artifact assemblages for samples analyzed to date. In addition, preliminary interpretations are offered regarding the historical circumstances surrounding the shifting uses of Locus B as well as their relationship to coeval developments at other areas of the Silver Glen Run complex and the broader region. Excluded from this chapter are the results of excavations in 2011, analyses of which are ongoing and will be detailed in a subsequent report.

## SITE MAPPING AND SUBSURFACE AUGERING

The mapping of Locus B was conducted in accordance with a permanent east-west baseline established at 8LA1E in 2007 (see Chapter 3). Two permanent reference points (Datum A and Datum B) were created to form this line and the western point (Datum A) was assigned the coordinates of N1000.00 E1000.00, with an arbitrary elevation of 10.00 meters. Surface mapping of Locus B was conducted in the spring of 2009 using a Nikon DTM-310 Total Station. Two additional permanent data (Datum C and Datum D) were established in the bait field at the north end of Locus B, and several temporary stations were established to allow for relatively comprehensive mapping of Locus B while minimizing the extent of vegetation removal required in order to establish clear lines of site. Pin flags were used to mark and keep track of recorded points in order to ensure complete coverage. In total, 335 transit points were recorded across Locus B.

The resulting map largely recapitulates the topography discernable from LiDAR data collected by the Volusia County Public Works Department (2006). As illustrated in Figure 6-1, Locus B forms a slightly arcuate and relatively subtle topographic prominence that opens northward, toward Silver Glen Run. It stretches for approximately 60 m along its longest axis (east-west), roughly paralleling the natural terrace on which it sits. At its highest point Locus B rises approximately 1 m above the surrounding terrain. It slopes downward relatively steeply to the north toward the spring run (at least partially due to the presence of a modern gravel road) and more gently in all other directions.

Extensive subsurface testing was performed in 2008 by field school students using an Oakfield soil tube with a 3/4-inch diameter and a maximum depth of 85 cm. Although originally planned to cover all of Locus B and the surrounding area, the difficulty and time involved in punching the soil tube through dense and often concreted shell midden hampered this goal. Tests were conducted at 2-meter intervals within larger 10 x 10-m blocks. Each of these blocks was oriented along approximate cardinal directions using a sighting compass and measured out using 30-m cloth measuring tapes. Pin flags were used to mark the corners of each block as well as the intervening locations of each planned auger test. Ultimately, six contiguous 10 x 10-m blocks were completed that together cover the hypothesized core area of Locus B from the western edge of the topographically visible shell node to its central apex (Figure 6-2).

All auger tests were conducted to the maximum depth allowed by the soil tube (approximately 85 cm) except for the instances in which impenetrable concreted shell midden was encountered. For each test, information was recorded on a log sheet regarding the constituents of each strata encountered (i.e., the type of soil matrix, the density and condition of shell, and the occurrence of artifacts and other cultural materials) along with the depths of stratigraphic transitions. Unfortunately, as tests and logs were completed by a number of different field school participants and the detail with which observations were made and recorded varied significantly from person to person, the quality of data conferred by the auger survey was not entirely consistent across the tested area. Nevertheless, a great deal of useful information was gathered regarding the vertical extent of recent near-surface disturbance, the thickness and density of shell midden

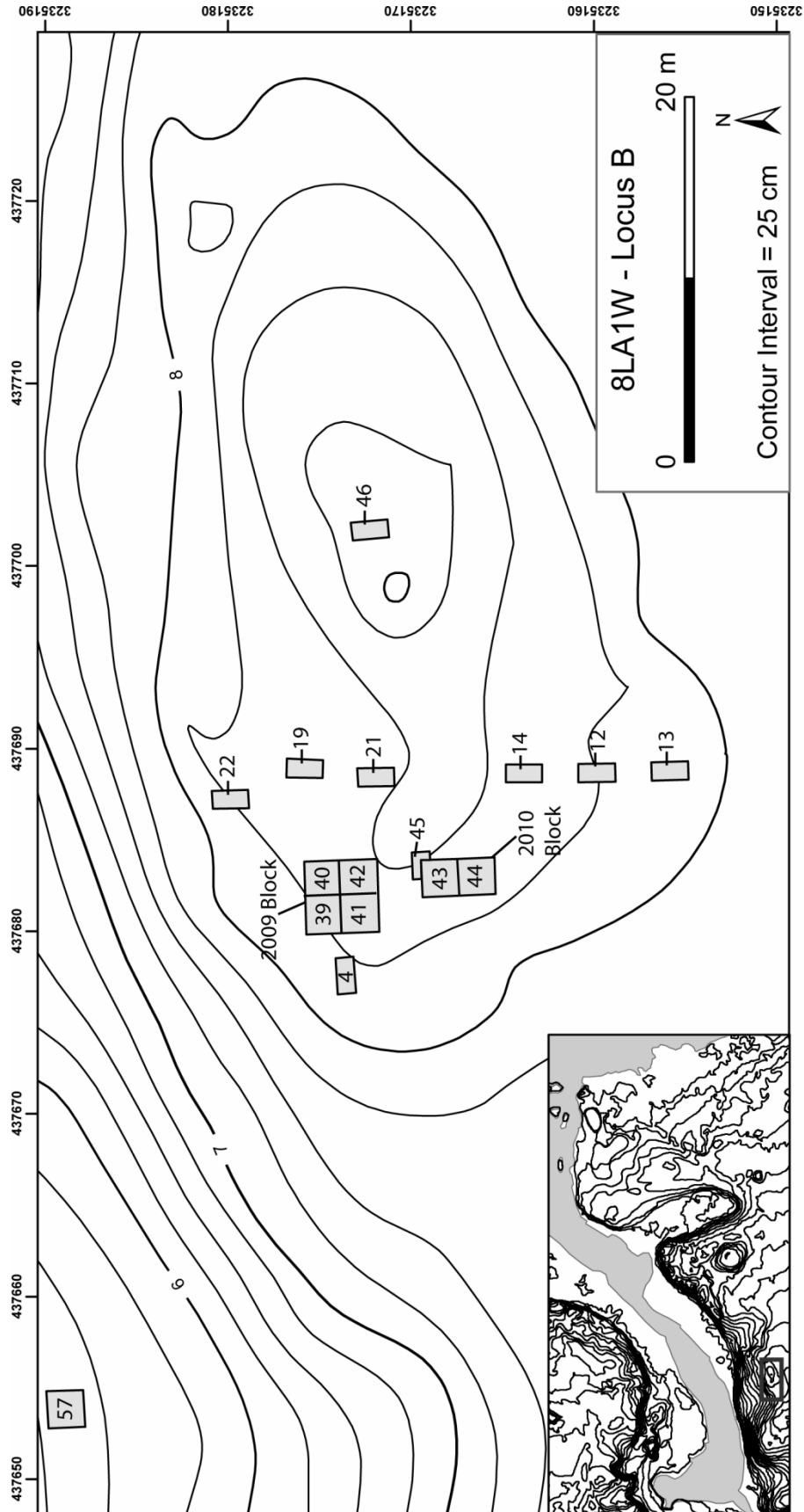


Figure 6-1. Topographic map of Locus B, 8LA1W.

deposits, and the basic morphology of the Locus B surface prior to the initiation of shell deposition.

While virtually every auger test indicated the presence of shell, a tremendous amount of variation was demonstrated in terms of the depth and thickness of shell deposits. Much of this variation can be seen in Figure 6-3, which shows fence diagrams of subsurface deposits along two perpendicular transects at Locus B based on auger tests and subsequent test unit excavations. Each of the vertical black bars represents the position of an auger test or test unit corner along the transect, although some are offset by up to 2.5 m perpendicular to the actual transect line. The diagrams show a consistent zone of disturbance related to historic plowing and recent bioturbation ranging from approximately 5-30 cm thick across this entire portion of the site. The intact shell midden underlying this disturbed stratum varies significantly in thickness along both transects. Shell deposits are most substantial along the western portion of the west-east line, exhibiting a maximum thickness of around 1.5 m in an area subsequently found to contain large numbers of Late Archaic shell-filled pit features. Along the eastern margin of this transect, which coincides approximately with the apex of Locus B's shell node, shell extends for just over 1 m below the surface. Along the north-south transect, shell deposits are most substantial in the north and then taper gradually toward the south, eventually reaching a thickness of only about 20 cm. Aside from the areas dramatically altered by Archaic period pit-digging activities and those where the midden could not be completely penetrated by the auger, these diagrams indicate that shell was deposited on a roughly level sand surface with an absolute elevation of approximately 7.5-7.7 m (NAVD1988; based on local site datum). If this is accepted as the natural pre-depositional surface, then virtually all of Locus B's modest topographic relief at present can be attributed to the depositional activities of the site's Late Archaic inhabitants. Additional stratigraphic evidence supporting this conclusion is discussed below.

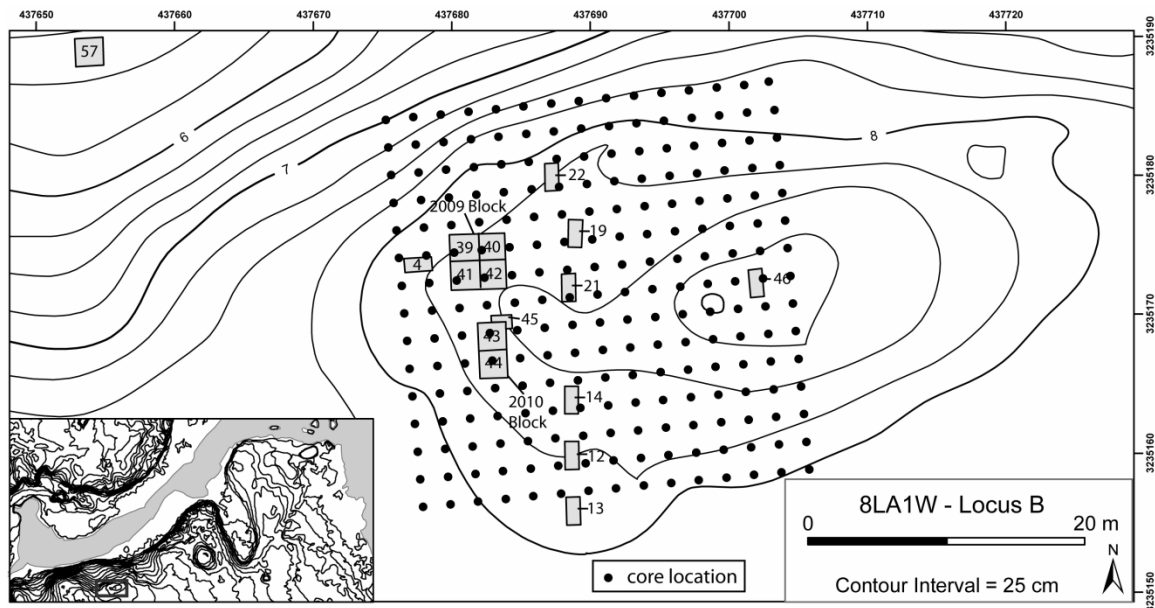


Figure 6-2. Topographic map of Locus B showing locations of 2008 auger tests.

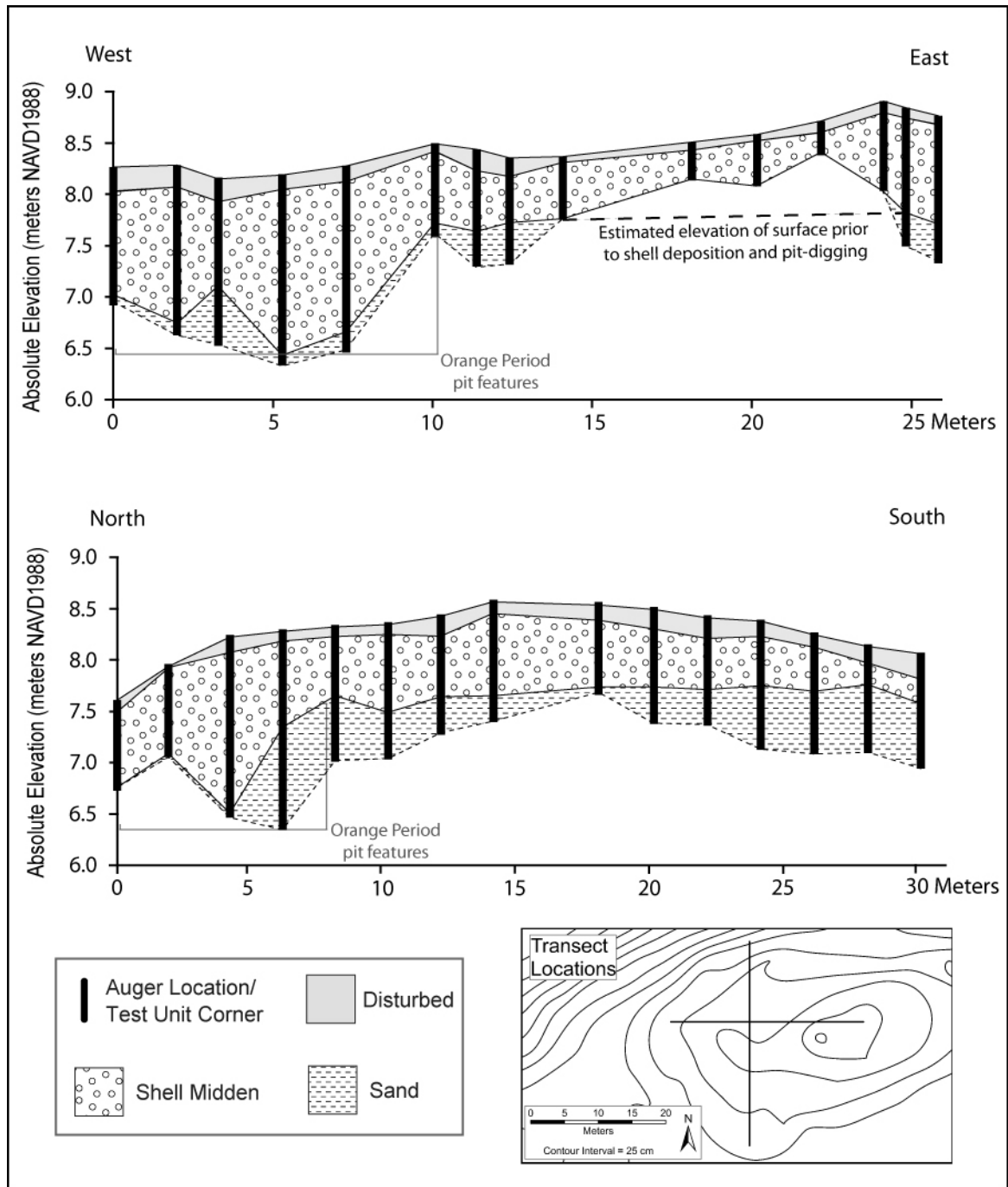


Figure 6-3. Fence diagrams showing cross-sectional profiles of archaeological deposits at Locus B based on auger and test unit excavations.

### EXPLORATORY TEST UNIT EXCAVATIONS

During the 2007 St. Johns Archaeological Field School, one 1 x 2-m test unit (Test Unit 4) was excavated at Locus B in an area that shovel testing had indicated contained a concentration of Orange fiber-tempered pottery. This excavation revealed

significant, stratigraphically intact cultural deposits dating to the Late Archaic Orange period. To further assess the nature and spatial extent of these deposits, in 2009 and 2010 six more 1 x 2-m test units (Test Units 12-14, 19, 21 and 22) were excavated perpendicular to Test Unit 4, along a north-south transect bisecting Locus B (Figure 6-4). These units were not contiguous but were instead placed two meters apart in order to preserve intervening stratigraphic data. In addition, a six-meter gap was left between Test Units 14 and 21 and the location of the northernmost unit (Test Unit 22) was offset one meter to the west of the original north-south transect in order to avoid two large trees. Finally, in 2010 field school students excavated two additional exploratory test units intended to broaden our understanding of other areas of the site. These included one 1 x 2-m unit (Test Unit 46) to the east near the apex of Locus B's shell node and one 2 x 2-m unit (Test Unit 57) to the northwest in a currently cleared and plowed bait field.

All test units were hand excavated by trowel in arbitrary 10-cm levels with the exception of the uppermost level, which, being heavily disturbed by thick roots and modern farming activities, was shoveled-scraped. A datum was set at the highest corner of each test unit from which level depths were measured. Fill was processed through 1/4-inch screens and all artifacts, vertebrate fauna, and other cultural materials (excluding freshwater shells) were collected and bagged according to provenience. Where clear archaeostratigraphic zones were identified within levels, these were mapped and the respective fills and artifacts kept separate. The floors of each level were inspected for these zones as well as the presence of cultural or natural features. When recognized as such during excavation, features were mapped in plan view, bisected vertically, and then drawn in profile. Where possible, one half of the feature fill was then collected for 1/8-inch water screening while the remaining half was removed as a bulk sample for flotation processing. In instances where large feature size prevented complete sampling, bulk samples were systematically collected from different areas of the feature (usually upper, middle, and lower sections), while the remainder of feature fill was processed through 1/8-inch and 1/4-inch screens. Excavation in all test units proceeded until reaching sterile or virtually sterile subsoil. In addition, 50 x 50-cm column samples were taken from the west profile of Test Unit 22, the west profile of Test Unit 43, and the north profile of Test Unit 46. Unlike the general test unit excavations, columns were excavated stratigraphically. Column strata that exceeded 10-cm in thickness were excavated in 10-cm levels. Within each level, a one gallon sample was collected for flotation while the rest was removed for 1/8-inch water screening. Processing and analysis of bulk column samples has not yet been completed.

The following discussion of individual test units begins with Test Unit 13, the southernmost unit in the north-south transect, and then proceeds northward, as this follows the general south-north progression of the Locus B shell midden from relatively thin and stratigraphically simple to thicker and more complex. Test Units 47, 4, and 57 are then discussed individually because of their relatively detached spatial positions as well as the unique interpretive challenges that each presents.



Figure 6-4. 2008 field school crew excavating a north-south transect of test units at Locus B, 8LA1W.

### Test Unit 13

Test Unit 13 (TU13) is a 1 x 2-m test unit placed approximately 10 m to the southeast of shovel test pit 22-2, in an attempt to catch the southern margin of the shell midden at Locus B as indicated by shovel testing and auger data. Oriented north-south, this unit was excavated to a depth of 100 cm below datum (cmbd).

Composite drawings and photographs of the stratigraphic profiles from all four of TU13's walls are shown in Figure 6-5, and descriptions of the major stratigraphic units are provided in Table 6-1. Artifact counts for each level and zone are shown in Table 6-2.

Corresponding with excavation Levels A and B, Stratum I is a 15 to 20-cm-thick A-horizon consisting of dark brown sand with occasional whole and fragmentary *Viviparus* (banded mystery snail) and bivalve (freshwater mussel) shell. Dense root mat permeates the entire stratum with larger roots appearing near the bottom. The few cultural materials that were recovered from this stratum include sparse vertebrate fauna and highly fragmented plain and check-stamped St. Johns ceramic sherds. It was discovered subsequently, during the 2009 block excavation (discussed below), that Locus

B and its surrounding area had been subjected to historic plowing and that the upper 20-30 cm of this part of the site has been significantly disturbed. Consequently, the sporadic occurrence of shell and artifacts throughout Stratum I may be at least partially a result of the repeated scraping and churning of the very top of the underlying midden.

Stratum II appears to represent the top of the undisturbed shell midden at Locus B. It corresponds primarily with excavation levels C, D, and E and consists of an approximately 20 to 30-cm-thick layer of gray sand with abundant whole and crushed *Viviparus* shell mixed with a smaller amount of crushed bivalve. In terms of cultural materials, this stratum contained only sparse vertebrate fauna and a small number of plain St. Johns and Orange ceramic sherds. Within Stratum II, discrete areas containing abundant charcoal and burned shell were encountered along the northern and eastern margins of the unit that were collectively designated Zone A in the field. The clean, fresh appearance of the charcoal from Zone A, the irregular shape of the deposits, and the overall similarity of the zone to the rest of Stratum II (if evidence for burning is excluded) all suggest that Zone A is a relatively recent intrusive disturbance, probably a tree that burned in place. A roughly circular pocket of whole and crushed *Viviparus* along the southern wall of the test unit was designated Zone B. Although initially thought to be of cultural significance, its horizontal orientation perpendicular to the test unit profile suggests instead that it is a natural disturbance. The soil and shell matrix constituting Zone B is identical to the general fill of Stratum II and was probably dragged down by a burrowing animal, most likely a gopher tortoise (*Gopherus polyphemus*).

Zone B is surrounded by a conspicuous area of virtually shell-free, dark grayish-brown sand, visible in the south profile drawing (Figure 6-5) as Stratum III. Occupying the same basic vertical position as Stratum II, this organically enriched pocket of soil is likely a byproduct of the activities of the burrower noted above. The majorities of both Stratum II and Stratum III correspond to excavation Levels C and D, although they do extend into lower levels in multiple places.

A sharp stratigraphic break is visible between Stratum II and Stratum IV, the latter composed of lighter brown medium sand with only sporadic and isolated pockets of whole *Viviparus* shell. Shell is most common near the top of this stratum and decreases with depth, disappearing entirely near the base of the test unit. Stratum IV largely corresponds with excavation Levels F through J. In locations where Stratum II deposits drop down and penetrate into Level F or below, these were designated Zone D, while the remainder of the test unit deposits, composed of Stratum IV sediments, were labeled Zone C. Overall, Stratum IV contains sparse vertebrate fauna and several lithic flakes but no pottery, making it likely that its constituent deposits are preceramic in age. This Stratum underlies the entire test unit, which was terminated at approximately 100 cmbd, although three lithic flakes were recovered from the bottom excavation level.



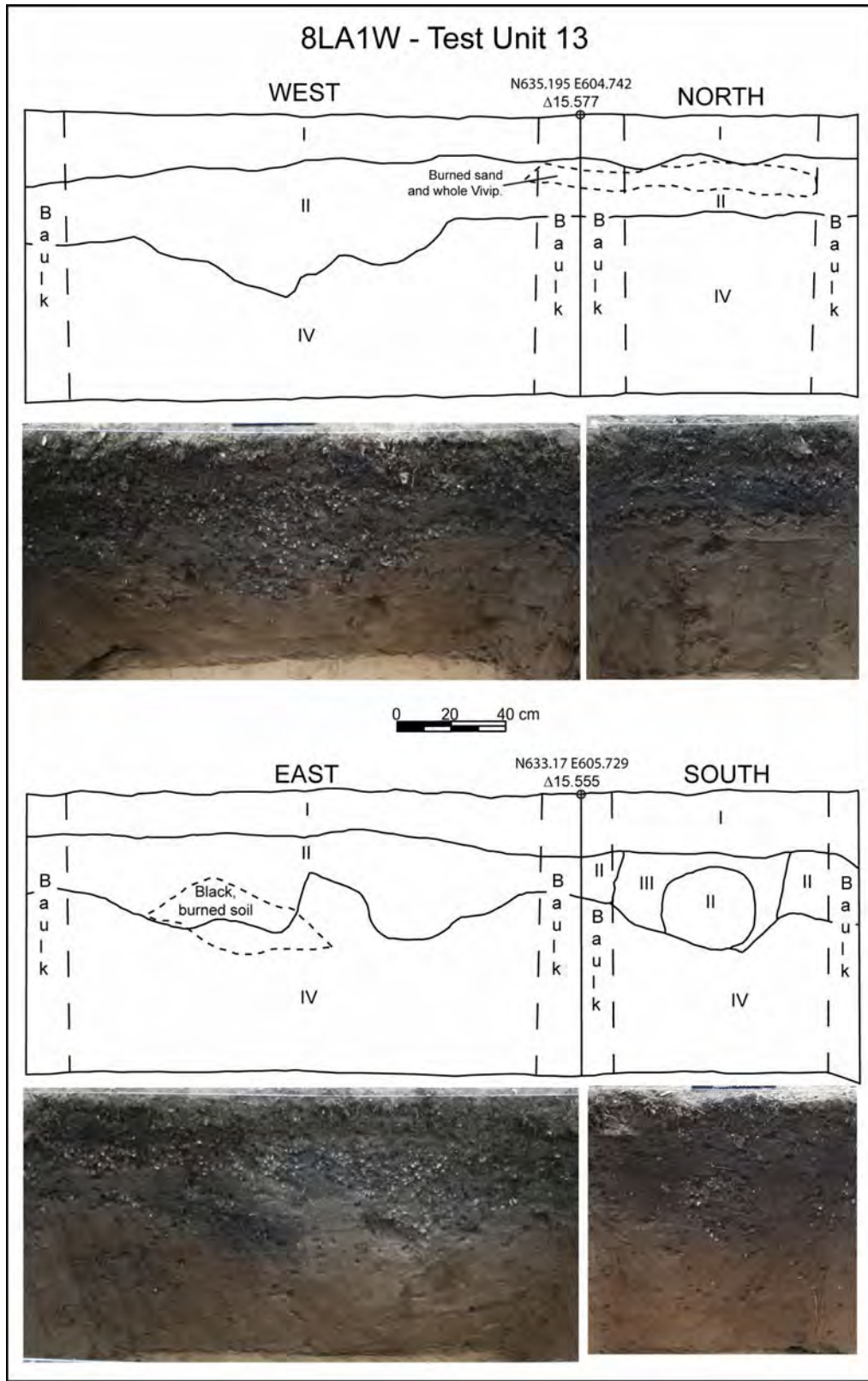


Figure 6-5. Stratigraphic drawings and photographs from profiles of TU13, 8LA1W. (Note: photographs are not to scale)

Table 6-1. Stratigraphic Units of Test Unit 13, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	28	28	7.5YR2.5/2	Very dark brown historically plowed A horizon; abundant roots; occasional whole <i>Viviparus</i> .
II	68	67	7.5YR3/2	Dense whole and crushed <i>Viviparus</i> in a medium dark brown sandy matrix.
III	58	57	7.5YR3/2	Dark brown organically enriched sandy matrix with no shell or visible cultural materials.
IV	107	107	7.5YR4/6	Strong brown fine sand with isolated pockets of dense concreted shell.

Table 6-2. Cultural Materials Recovered from Test Unit 13, 8LA1W.

Level	St. Johns Plain	Orange/T. I. Incised	Orange Plain	Crumb	Lithic Flake	Lithic Biface	Marine Shell (g)	Vert. Fauna (g)	Historic Artifact
A	3			15				38.0	
B	3			25	2			33.0	1
C	7			45	2	1		117.9	
D	2		2	49			2.4	103.9	
E – Zone A								5.1	
E – Zone B								0.3	
E – Zone C	2	2		31	2		0.3	66.1	
F – Zone B	1							2.9	
F – Zone C				11	1			44.7	
G – Zone C					6		1.1	18.2	
G – Zone D								0.4	
H – Zone C					4			19.7	
I – Zone C					2			2.9	
J – Zone C					3				
Total	18	2	2	176	22	1	3.8	453.1	1

*Test Unit 12*

Situated two meters to the north of TU13, Test Unit 12 (TU12) exhibits similar macro-stratigraphic units but with some added complexities. Composite drawings and photographs of the stratigraphic profiles from all four walls of TU12 are shown in Figure 6-6, and descriptions of the major stratigraphic units are provided in Table 6-3. Artifact counts for each level and zone are shown in Table 6-4.

Seven distinct strata were identified in this test unit. Like TU13, Stratum I of TU12 consists of a dark brown organic A horizon lying completely within the historic plow zone. It contains abundant small to medium juniper and palmetto roots along with occasional whole and fragmentary *Viviparus* and bivalve shell. Stratum I corresponds with excavation Levels A, B, and the upper portion of Level C from which were recovered a variety of cultural materials including highly fragmented St. Johns Plain and Check-Stamped ceramic sherds, lithic debitage, and a small amount of vertebrate faunal remains.

The top of Stratum II marks the upper boundary of the intact shell midden in TU12. It consists of dense predominantly whole *Viviparus* shell in grayish brown medium sand. Cultural materials in this stratum are limited to St. Johns ceramics and vertebrate fauna. Stratum III is distinguished from Stratum II by the addition of occasional whole *Pomacea* (apple snail) and bivalve to the shell matrix as well as the appearance of plain and incised Orange fiber-tempered ceramics. During excavation, a small area of dense concreted shell was noted in the northeastern corner of the test unit that penetrated into underlying strata but was never discrete enough to receive a feature designation. This area was labeled Zone B while the rest of the test unit was considered Zone A. Zone B produced no non-shell cultural materials and was terminated at the bottom of excavation Level G. Together, Strata II and III correspond roughly with excavation Levels C through F.

Across most of the test unit, Stratum III sits atop a thin layer of dense burned and crushed bivalve mixed with a small amount of brown fine sand and occasional whole unopened bivalve shells most clearly visible in the northern half of the unit (Stratum IV). Stratum IV slopes gently downward from north to south, paralleling the modern topography. It also thins out and becomes wisper in that direction, eventually tapering out completely as evidenced by its complete absence from Test Unit 13. The point of contact between Strata III and IV was the most artifact rich level within TU12, yielding a variety of materials including Orange ceramics, a bone tool, a marine shell bead, lithic debitage, and relatively abundant vertebrate fauna. Paleofeces were also recovered. The diversity of materials associated with everyday activities, along with the finely crushed roughly horizontal layer of shell suggest that Stratum IV probably represents a Late Archaic living surface.

At approximately the same elevation as Stratum IV, Stratum V consists of a discrete pocket of very dense whole *Viviparus* and abundant vertebrate fauna with only a small amount of interspersed fine sand. This deposit's discreteness and its apparent

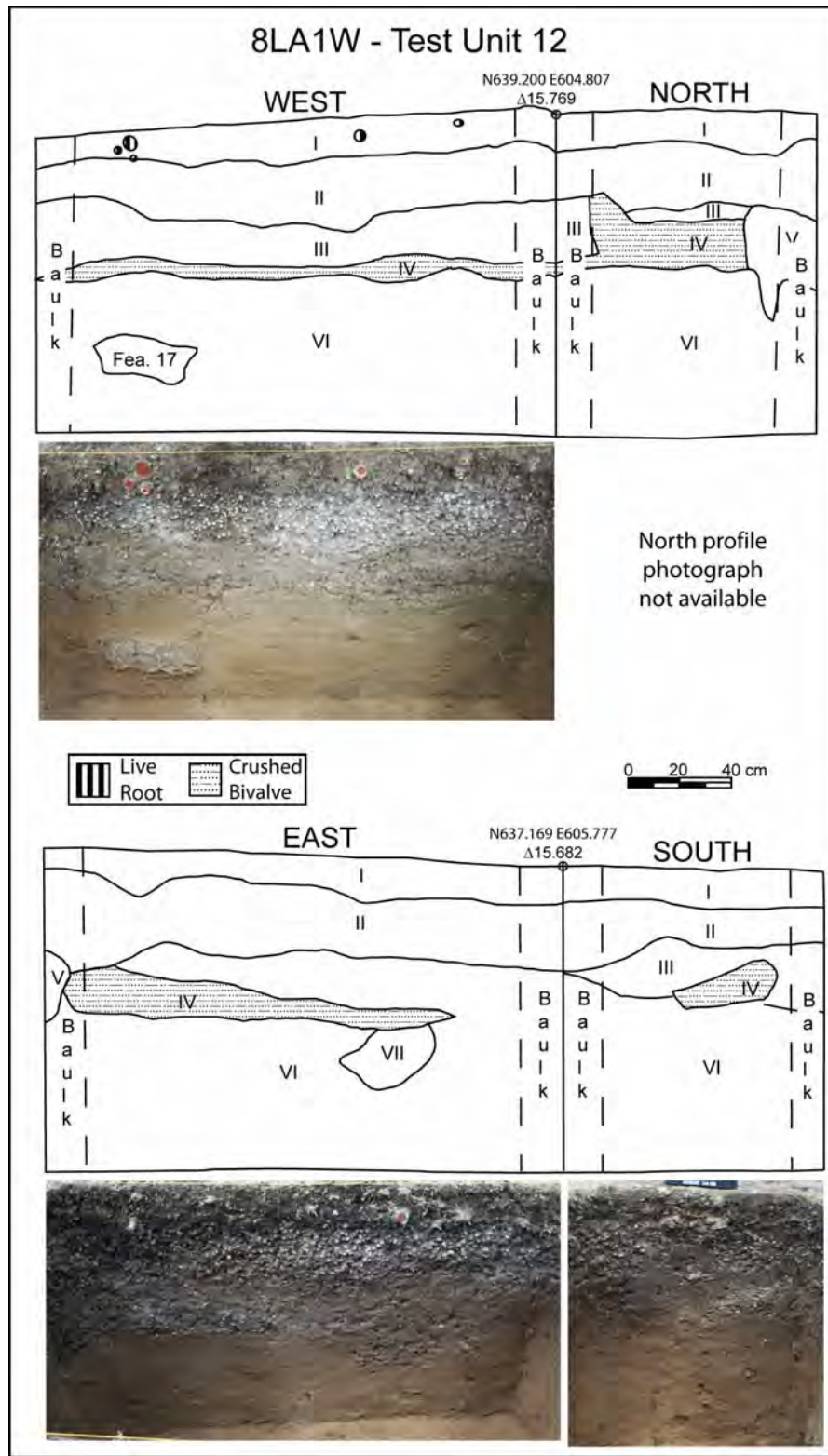


Figure 6-6. Stratigraphic drawings and photographs from profiles of TU12, 8LA1W. (Note: Photographs are not to scale.)

Table 6-3. Stratigraphic Units of Test Unit 12, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	25	18	7.5YR3/2	Dark brown historically plowed A horizon; abundant roots; occasional whole and fragmentary <i>Viviparus</i> and bivalve shell.
II	50	49	7.5YR2.5/1	Abundant whole <i>Viviparus</i> shell in a black medium sandy matrix.
III	65	60	7.5YR4/3	Abundant whole and crushed <i>Viviparus</i> shell in a brown fine sandy matrix; infrequent <i>Pomacea</i> and bivalve shell.
IV	72	67	7.5YR4/2	Dense burned crushed bivalve with a few whole unopened shells in a brown fine sandy matrix; abundant vertebrate fauna.
V	80	81	7.5YR4/3	Dense whole <i>Viviparus</i> with very sparse brown fine sandy matrix; abundant vertebrate fauna.
VI	127	127	7.5YR4/4	Brown fine sand with discrete pockets of dense shell and vertebrate fauna.
VII	96	91	7.5YR4/3	Dense whole <i>Viviparus</i> with very sparse brown fine sandy matrix; infrequent vertebrate fauna.

vertical correspondence with a hypothesized Late Archaic surface, suggest that Stratum V is probably actually a feature of some kind (perhaps a pit or an infilled post hole), although its position in the corner of the unit made this difficult to recognize in the field.

The basal stratum throughout all of TU12 (Stratum VI) is a thick layer of brown medium sand with occasional whole *Viviparus*, *Pomacea*, and bivalve shell. Within TU12, Stratum VI corresponds roughly with excavation Levels G through L. Although appearing in profile as relatively undifferentiated, Stratum VI contains abundant vertebrate fauna that decreases in density from top to bottom and exhibits scattered, apparently isolated deposits of shell and bone throughout. Beginning in excavation Level G, two seemingly discrete concentrations of concreted whole *Viviparus* shell were encountered. The first, Zone C, was located near the center of the test unit while the second, Zone D, was positioned approximately 25 cm to the southeast and intersected the east wall of the unit. By the bottom of Level I, (90 cmbd) these deposits had converged and were grouped together into Zone D. Neither of these zones contained significant non-shell cultural materials outside of trace amounts of vertebrate fauna. In the east wall profile drawing (Figure 6-6), Zone D is labeled Stratum VII and appears as an amorphous feature descending down from Stratum IV. Its irregular shape and intersection with Zone C suggest that Zone D is in all likelihood an old infilled animal burrow rather than a cultural feature.

Table 6-4. Cultural Materials Recovered from Test Unit 12, 8LA1W.

Level	St. Johns Plain	Orange/T. I. Incised	Crumb	Lithic Flake	Mod. Marine Shell	Marine Shell (g)	Mod-ified Bone	Vert. Fauna (g)	Paleo-Feces (g)
A			12	1				14.1	
B	7		17	3		5.0		46.0	
C	2		6	1				56.5	
D	3		47					38.5	
E		2	16	5				230.5	6.1
F – Zone A	1		5	2	1 <sup>1</sup>	5.5	2	364.9	4.5
G – Zone A				1		3.7	1	780.9	34.7
G – Zone C								8.4	
H			2					69.8	
I – Zone A				1				42.6	
I – Zone C								29.7	
I – Zone D			1					3.1	
J – Zone A				1		0.6		129.9	
J – Zone D								2.1	
J – Zone E								2.0	
K								22.6	
K – Zone F								98.5	
L				3				2.1	
Total	13	2	106	18	1	14.8	3	1942.2	45.3

<sup>1</sup>Marine shell disk bead

intersection with Zone C suggest that Zone D is in all likelihood an old infilled animal burrow rather than a cultural feature.

Zone E is another well-defined deposit of concreted shell (*Viviparus*, *Pomacea*, and bivalve) and sand extending out of the west wall of TU12 near the southwest corner. Eventually designated Feature 17, this roughly 15-cm deep deposit may represent a preceramic pit feature, although no pit margins could be defined in the test unit profile either above or below the shell itself. And finally, within excavation Level K (100-110 cmbd), an isolated pocket of shell (Zone F) was identified in the northeastern corner of the test unit that contained a relative abundance of vertebrate fauna that included fish, bird, and mammal. Interestingly, much of the bone from Zone F consists of rabbit (*Sylvilagus* spp.) appendages that remain articulated, having apparently been cemented by the calcium carbonate leached down from overlying shell deposits. The concentration of bone and shell constituting Zone F was not accompanied by any detectable change in soil color or texture. It is possible that it is simply a collapsed rabbit den.

#### Test Unit 14

Test Unit 14 (TU14) is located two meters to the north of TU12. Following the general south-north trend, TU14 shares a number of stratigraphic similarities with TU12

but also exhibits a certain amount of added complexity. Composite drawings and photographs of the stratigraphic profiles from all four of TU14's walls are shown in Figure 6-7 while descriptions of the major stratigraphic units are provided in Table 6-5. Summations of artifact counts for each level and zone are shown in Table 6-6.

Seven distinct strata were identified in the TU14 excavation. Stratum I once again consists of a dark brown, organically enriched A-horizon that has been disturbed by modern plowing. It is permeated with small to medium tree roots and contains occasional whole and crushed *Viviparus*, as well as moderate amounts of highly fragmented St. Johns Plain and Check-Stamped ceramics, lithic debitage, and vertebrate fauna. Shell density is highest in the north and decreases gradually toward the south. Stratum I ranges between 20 and 25 cm thick and corresponds roughly with excavation Levels A and B.

Stratum II consists of a dense homogeneous layer of mostly whole *Viviparus* shell in dark brown loamy sand. It slopes gently upward from south to north and contains relatively small numbers of St. Johns Check-Stamped, St. Johns Plain, and plain Orange fiber-tempered ceramics in addition to sparse vertebrate fauna. Two discrete areas of charred black soil and shell encountered in Stratum II (one along the west profile and one along the east) were determined to have resulted from relatively recent burning subsequent to the stratum's original deposition. The charred area along the east wall penetrated deep into underlying strata and likely resulted from a tree root that smoldered in place.

At the bottom of Stratum II, near its contact with Stratum III, the *Viviparus* shell, while retaining its high density, transitions from primarily whole to primarily crushed. At approximately the same elevation, the vertebrate fauna density increases significantly and the first *Pomacea* and bivalve specimens appear within TU14. A hafted biface and a few fiber-tempered crumb sherds were also recovered. All of this suggests the possibility that at the time of initial Stratum II deposition, this location may have experienced a relatively intense level of depositional activity and trampling after which additional, perhaps more rapid, shell deposition took place that was not trampled and did not undergo the same level of diminution.

Beginning in excavation Level E, two discrete zones of whole *Viviparus* shell were identified within the otherwise crushed shell floor of TU14 (Zone A). The first of these (designated Zone B) extended approximately 30 cm out of the west profile in the southwestern quadrant of TU14. It proved to be only about 15 cm thick in profile and to represent a location where Stratum II dipped slightly, penetrating underlying strata (see the west profile drawing in Figure 6-7). The second area of whole *Viviparus* shell (Zone C) was located along the south profile of TU14. Unlike Zone B, Zone C descended more than 50-cm beneath the rest of Stratum II. Although not recognized as such in the field, in the south profile of the test unit (Figure 6-7), Zone C is revealed as a roughly straight-sided vertical deposit of shell, almost certainly a result of the infilling of a pre-existing open pit feature. The apparent homogeneity of the Zone C deposit, along with its dearth of non-shell cultural materials including food remains, indicate that it, along with most of

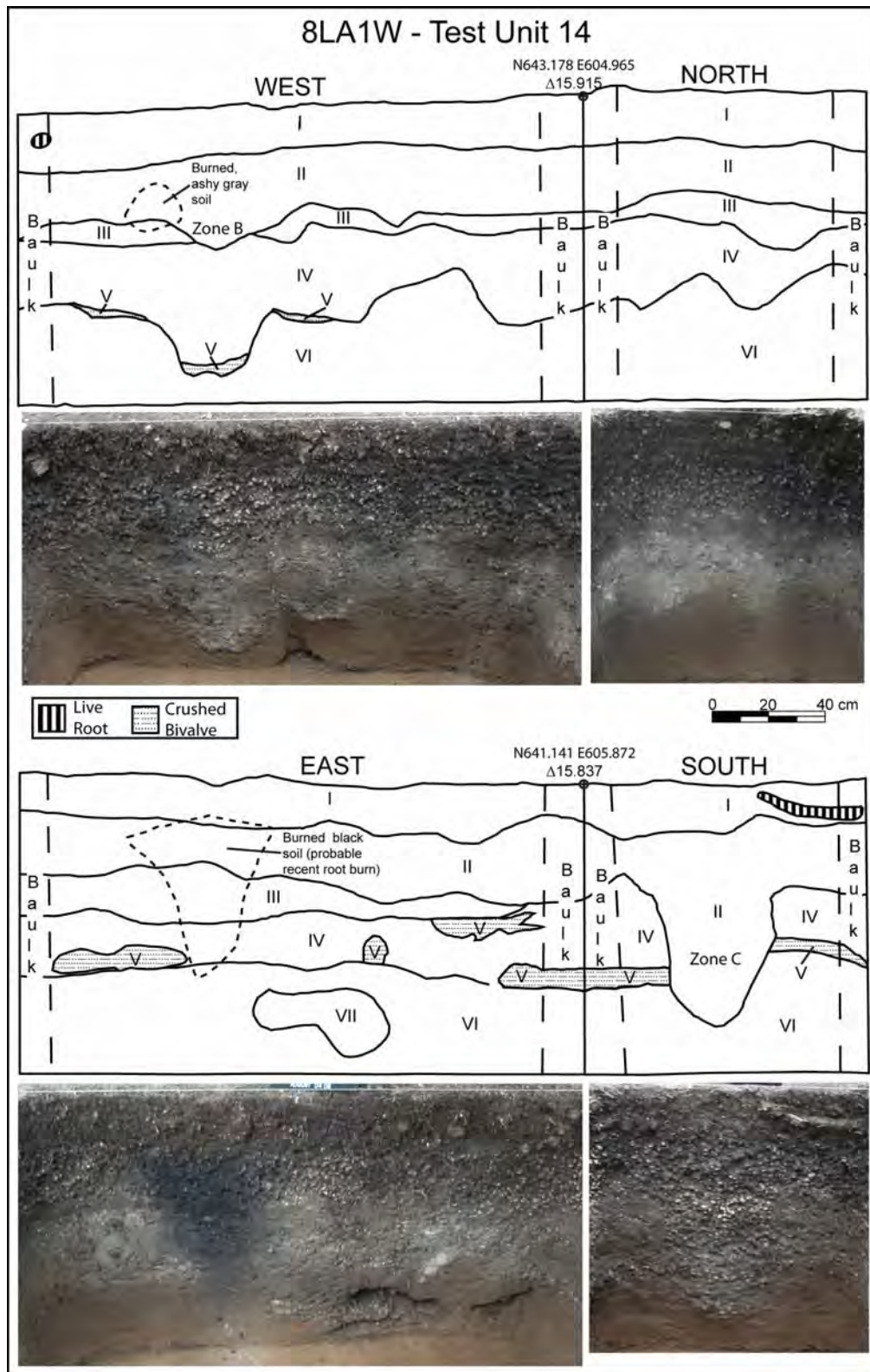


Figure 6-7. Stratigraphic drawings and photographs from profiles of TU14, 8LA1W. (Note: Photographs are not to scale.)



Table 6-5. Stratigraphic Units of Test Unit 14, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	28	22	7.5YR2.5/2	Very dark brown historically plowed A horizon; abundant roots; occasional whole and fragmentary <i>Viviparus</i> shell.
II	91	86	7.5YR3/2	Very high density whole <i>Viviparus</i> shell in dark brown loamy sand.
III	56	56	7.5YR4/3	Brown fine sand with small amount of finely crushed <i>Viviparus</i> shell.
IV	97	92	7.5YR4/2	Moderate density crushed bivalve and <i>Pomacea</i> shell in brown sandy matrix; abundant vertebrate fauna.
V	101	97	7.5YR4/2	Burned, crushed and concreted bivalve shell interspersed with very sparse brown fine sandy soil matrix.
VI	110	110	7.5YR4/4	Virtually shell-free brown fine sand.
VII	102	98	7.5YR4/4	Discrete deposit of mostly whole <i>Viviparus</i> shell with small amount of brown fine sand.

Stratum II, are a result of rapid, large-scale deposition rather than the gradual accumulation of debris from everyday living. In other Archaic places in the St. Johns Valley, similar deposits of “clean shell” have been interpreted as instances of ritualized “mounding” at ceremonially significant locations (Aten 1999; Randall and Sassaman 2005; Russo 1994, 2004). The possibility of ritual deposition at Locus B is further discussed later in this chapter.

Across much of TU14, Stratum II sits atop Stratum III, a thin horizontal layer of medium brown sand with a trace amount of finely crushed *Viviparus* shell. This stratum may constitute a buried A-horizon, indicating a substantial period of abandonment during which natural soil development was allowed to take place in the absence of human disturbance. Stratum III is thicker and better developed in the north and grows more faint toward the south. Although not easily discernable in the south profile, Stratum III may be the surface from which the Zone C pit feature descends.

Directly beneath Stratum III, Stratum IV is a 15 to 30-cm-thick layer of grayish-brown medium sand with a moderate density of fragmented *Pomacea* and bivalve shell. This stratum contains abundant vertebrate fauna, occasional lithic debitage, and one bone tool but no ceramics. Lining the base of Stratum IV in several spots are thin lenses of concreted, burned and crushed bivalve shell collectively labeled Stratum V. Stratum V in

Table 6-6. Cultural Materials Recovered from Test Unit 14, 8LA1W.

Level	St. Johns Plain	Orange Plain	Crumb	Lithic Biface	Lithic Flake	Marine Shell (g)	Mod-ified bone	Vert. Fauna (g)
A	2		6		1			11.1
B <sup>1</sup>	5		47		5	0.7		55.5
C <sup>2</sup>	3		32		4			30.1
D	1	2	10					41.0
E				1				22.7
E – Zone A			4		2	0.3		90.6
F – Zone A			1		2	0.9	1 <sup>3</sup>	92.0
F – Zone B								17.2
F – Zone C						0.9		2.7
G					3		1 <sup>4</sup>	152.4
G – Zone C								6.0
H				1	2			56.3
H – Zone C					1			4.3
I								69.0
I – Zone C								2.3
J								29.7
J – Zone D								1.7
J – Zone E								7.0
K								3.3
Total	11	2	100	2	20	2.8	2	694.9

<sup>1</sup>also two sand-tempered sherds

<sup>2</sup>also one St. Johns Check-Stamped sherd

<sup>3</sup>bone bead.

<sup>4</sup>bone pin

TU14 is similar in elevation and stratigraphic position to Stratum IV in TU12 and is most likely a continuation of the same preceramic living surface. In one location along the west profile, Stratum IV drops down approximately 20-25 cm below the rest of the stratum, revealing the presence of a small basin-shaped pit. The base of the pit is lined with the same burned and concreted bivalve comprising Stratum V, indicating that the pit was contemporaneous with the inferred crushed shell surface. In the field, the concreted bivalve lens lining the pit was designated Zone D.

The basal stratum of TU14, Stratum VI, is comprised of medium brown sand with only a trace amount of shell. The upper portion of the stratum contains moderate amounts of vertebrate fauna and lithic debitage. Both shell and bone densities decrease with depth and eventually disappear completely below 100 cmbd. A discrete deposit of dense whole *Viviparus* encountered along the east profile at approximately 80 cmbd (Stratum VII in Figure 6-7) was designated Zone F. Zone F is similar in stratigraphic position and composition to the isolated shell deposits discovered near the base of TU12.

Whether it represents a cultural feature or a natural disturbance of some sort could not be determined. TU14 excavations were halted at 110 cmbd.

### *Test Unit 21*

Test Unit 21 (TU21) is located six meters to the north of TU14 in a slight depression of unknown origin just north of the westernmost extension of Locus B's shell node. The northern edge of the test unit falls on the downward slope of this depression so there is an overall uphill trend from north to south. The possibility exists that this depression is a result of modern earth-moving activities and that the cultural deposits intersected by TU21 have been truncated to some extent.

Excavated to a depth of 110 cmbd, TU21 contained seven distinct stratigraphic units. Composite drawings and photographs of the stratigraphic profiles from all four of the unit's walls are shown in Figure 6-8, and descriptions of the major stratigraphic units are provided in Table 6-7. Summations of artifact counts for each level and zone are shown in Table 6-8.

Stratum I-A consists of the dark brown loamy A-horizon permeated by dense root mat. It varies significantly in thickness between 10 and 28 cm, perhaps contributing supporting evidence of modern surface modification in this location. Stratum I contains occasional whole *Viviparus* shell, a few small St. Johns ceramic sherds, and a trace amount of vertebrate fauna. In the southeastern quadrant of TU21, a small palm stump penetrated this and underlying strata and was not removed until excavation Level D. The criteria distinguishing Stratum I-B from I-A include a reduction in the density of the root mat and an increase in the density of shell. The shell constituents of Stratum I-B consist primarily of whole and crushed *Viviparus* and rare crushed bivalve. Non-shell cultural materials are similar to those recovered from Stratum I-A and include sparse St. Johns ceramics and trace vertebrate fauna. Together, Strata I-A and I-B correspond to excavation Levels A through C and parts of Level D.

Beginning in Level B and continuing through Level D, excavations uncovered an area in the southwestern corner of the unit consisting of gray, ashy sediment with moderate amounts of charcoal, shell and sand concretions, and whole and crushed *Viviparus* (some of which shows signs of burning). Within Level C, this anomaly spread amorphously to the east with depth and was determined to be a relatively recent root burn. Beginning in Level C, this disturbance was designated Zone B while deposits in the rest of the test unit were labeled Zone A. Zone B was no longer visible by the bottom of Level D.

Throughout much of TU21, Stratum I-B is underlain by Stratum II, a thin layer of dark brown medium sand with sparse whole and crushed *Viviparus* and abundant roots. Stratum II is roughly horizontal, although in the north profile, it can be seen sloping downward from west to east. It likely constitutes a buried A-horizon corresponding to the one identified within TU14. The sharply defined contact between Strata I-B and II falls within excavation Levels D and E, two of the most artifact-rich levels encountered in

TU21 excavations. Recovered artifacts include mostly incised Orange ceramics, lithic debitage, modified bone, and relatively abundant vertebrate fauna. As hypothesized for TU14, the relatively high artifact content may be indicative of an Orange period living surface directly atop the buried A-horizon.

Beneath Stratum II, Stratum III is a highly heterogeneous layer consisting of dark grayish-brown sand and containing numerous discontinuous pockets of shell, concretion, and mineralized roots. The shell from Stratum III is mostly whole *Viviparus*, although crushed *Viviparus* and bivalve are also present in small amounts. The few cultural materials recovered from this stratum include a lithic biface, a small fragment of marine shell, and a moderate amount of vertebrate fauna. No ceramics were found below Stratum II.

At approximately the same elevation as Stratum III, a discrete pocket of very dense shell was encountered along the north profile of TU21. Eventually designated Feature 25, this pocket was first noted near the base of excavation Level E and continues down into Level H. It consists exclusively of whole *Viviparus* shell in brown medium sand except at its base, which contains a highly concreted mixture of whole *Viviparus* and *Pomacea*. In the southern half of TU21, Stratum III is interrupted again by a thick mottled grayish brown and dark grayish brown layer containing a relatively low density of whole and crushed *Viviparus*. Labeled Stratum IV in Figure 6-8, this deposit is permeated by a number of light gray mineralized roots and amorphous sand concretions. Rather than a completely separate stratigraphic unit, it is likely that Stratum IV represents a largely disturbed portion of Stratum III where the large number of mineralized roots led to a distinct mottled appearance.

Stratum V consists of a 15-30 cm thick discontinuous layer of fine to medium sand with a high density of mostly crushed *Viviparus* shell. It is interrupted in the north by Feature 25 and Stratum IV and pinches out abruptly in the south. Stratum V is penetrated by a few small live and mineralized roots and contains few artifacts, although a Marion or Newnan-type point that had been reworked into a drill, few lithic flakes, and sparse vertebrate faunal remains were recovered.

Underlying Stratum V, the basal stratum within TU21 (Stratum VI) is composed of dark yellowish-brown fine sand that is largely shell-free but contains some isolated deposits of whole concreted bivalve and/or *Viviparus* shell. Artifacts in this stratum are limited to small amounts of lithic debitage and vertebrate fauna. One of the shell concentrations, occurring near the base of excavation Level K (100-110 cmbd), was surrounded by an faint amorphous "halo" of slightly darker sand, possibly reflecting elevated organic content.

Two additional shell concentrations within Stratum VI were given their own unique stratigraphic designations. Stratum VII-A is a small discrete deposit of very dark grayish-brown sand and dense shell lying at the contact between Strata III and VI in the northeastern corner of TU21. It contains primarily whole *Viviparus* but exhibits abundant crushed bivalve along its upper and lower margins. It appears to extend out of

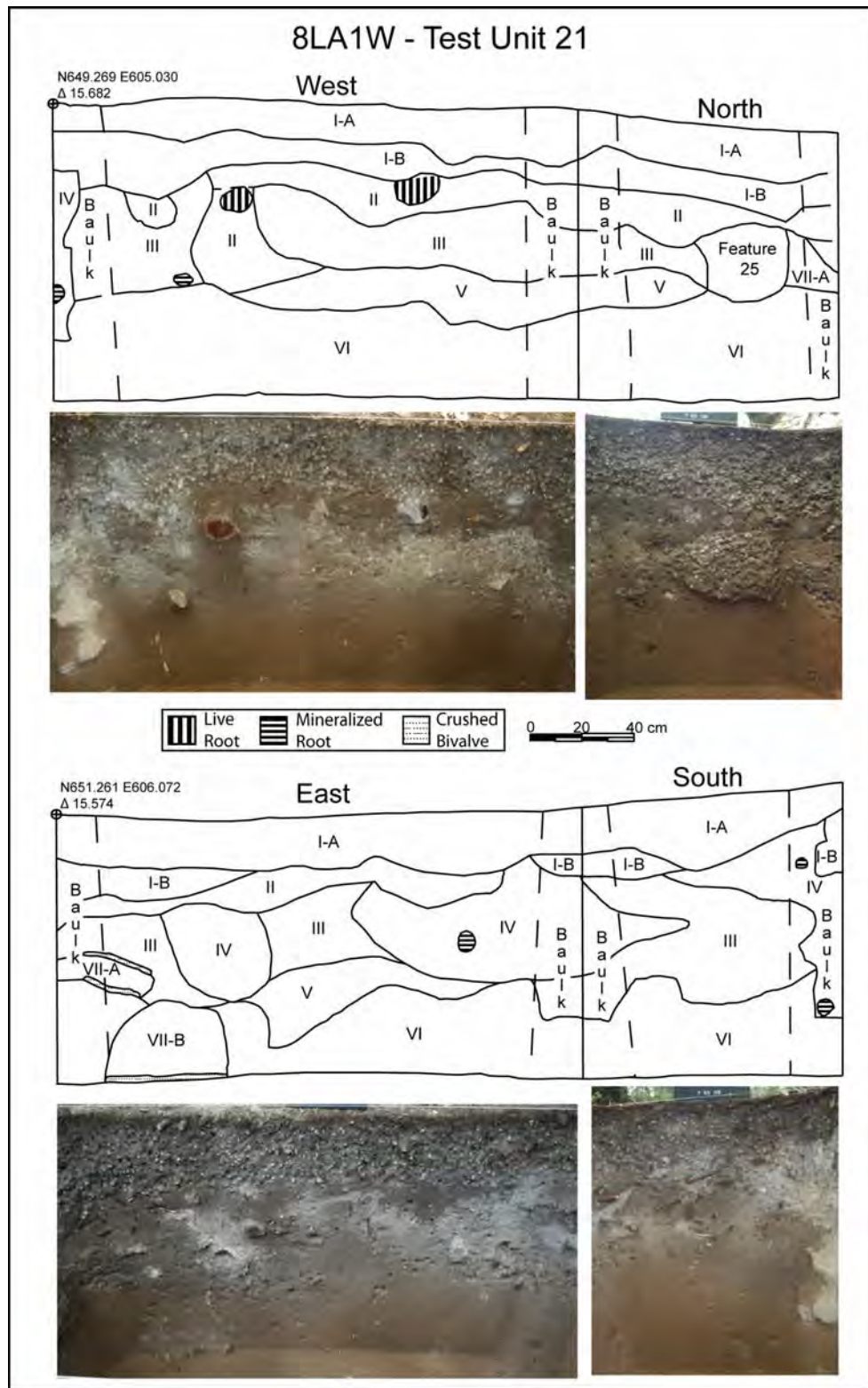


Figure 6-8. Stratigraphic drawings and photographs from profiles of TU21, 8LA1W. (Note: Photographs are not to scale.)

Table 6-7. Stratigraphic Units of Test Unit 21, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I-A	33	28	7.5YR3/1	Very dark gray medium loamy sand with abundant whole and crushed <i>Viviparus</i> shell; abundant roots.
I-B	46	38	10YR3/2	Very dark grayish brown medium loamy sand with abundant whole and few crushed <i>Viviparus</i> shell.
II	56	49	10YR3/3	Dark brown medium sandy loam with low density whole and crushed <i>Viviparus</i> shell; abundant roots.
III	91	84	10YR4/2	Dark grayish brown medium sandy loam with discrete pockets of whole <i>Viviparus</i> and crushed bivalve shell; occasional ashy deposits; abundant roots and mineralized root casts.
IV	90	90	10YR5/2 10YR4/2	Mottled grayish brown and dark grayish brown sandy loam with low density whole and crushed <i>Viviparus</i> shell; frequent mineralized root casts and concreted sand; occasional ashy deposits.
V	100	89	10YR4/3	Brown fine to medium loamy sand with high density mostly crushed <i>Viviparus</i> shell; few live and mineralized roots.
VI	114	114	10YR4/4	Dark yellowish brown fine loamy sand with discrete deposits of whole bivalve and <i>Viviparus</i> shell.
VII-A	81	70	10YR3/2	Very dark grayish brown medium sandy loam with high density whole <i>Viviparus</i> shell throughout and abundant crushed bivalve along lower margin; common fine charcoal particles. Probable animal burrow.
VII-B	113	102	10YR4/4	Dark yellowish brown medium loamy sand with common whole <i>Viviparus</i> shell throughout and concreted whole and crushed <i>Viviparus</i> , <i>Pomacea</i> , and bivalve shell along lower margin.

Feature 25 and is most likely the result of an animal burrowing through the feature deposit and dragging shell into the underlying sand. Stratum VII-B is another pocket of shell near the northeast corner of the TU21. It consists mostly of whole loose *Viviparus* shell but also contains frequent pockets of concreted whole and crushed *Viviparus*, *Pomacea*, and bivalve along its lower margin. Several of the preceramic pit features discussed below also exhibit a lining of concreted shell along their bases, and Stratum VII-B is likely an additional example of these pits that was not recognized during excavation.

Table 6-8. Cultural Materials Recovered from Test Unit 21, 8LA1W.

Level	St. Johns Plain	Orange / T. I. Incised	Orange Eroded	Crumb	Lithic Biface	Lithic Flake	Marine Shell (g)	Mod-ified Bone	Vert. Fauna (g)
A	4								0.9
B	3			4					4.3
C <sup>1</sup>	1		1	3					2.5
C – Zone A		1	1	3				1	14.5
D – Zone B		4	7	27		1			28.9
E <sup>2</sup>				4		1		2	63.4
F					1	1	0.1		66.7
G						4			29.2
H					1	2			10.7
I								1	5.8
J						1			4.0
K						2			4.0
Total	8	5	9	41	2	12	0.1	4	234.9

<sup>1</sup>plus one St. Johns Check-Stamped

<sup>2</sup>plus one Orange Plain

### Test Unit 19

Test Unit 19 (TU19) in another 1 x 2-m unit placed two meters to the north of TU21 in a relatively flat area just north of Locus B's shell node. Excavations of TU19 proceeded to a depth of 130 cmbd and revealed eight distinct stratigraphic units. Composite drawings and photographs of the stratigraphic profiles from all four of TU19's walls are shown in Figure 6-9, and descriptions of the major stratigraphic units are provided in Table 6-9. Summations of artifact counts for each level and zone are shown in Table 6-10.

In line with the previously discussed units in this transect, Stratum I of TU19 consists of a 10 to 20-cm-thick A-horizon that has been churned by historic plowing. It consists of dark brown loamy sand with abundant small to medium roots and occasional whole and fragmented *Viviparus*. Artifact content is relatively low in Stratum I and includes small St. Johns Plain ceramic sherds, a few lithic flakes, and sparse vertebrate fauna, all of which are likely to have been displaced by the plowing.

Stratum I sits atop four distinct strata in different parts of TU19, each of which is distinguished from the others based primarily on the density and condition of their shell constituents. Most clearly visible in the south and west profiles, Stratum II consists of a roughly horizontal layer of dark brown loamy sand with dense whole *Viviparus* shell. Stratum IV contains similar soil matrix but is distinguished from Stratum II by a higher proportion of crushed to whole *Viviparus* shell. It shares the same basic elevation as Stratum II and is visible primarily in the north and east profiles. Separating Strata II and IV in the northwestern corner of TU19 is a discrete pocket of very dense whole *Viviparus*

and bivalve that contains little to no soil matrix. The portion of this deposit visible in the west profile contains virtually no non-shell sediment and was designated IIIA, while the portion in the corner that contains some burned shell mixed with a small amount of very dark gray ashy sediment was labeled IIIB. Strata IIIA/IIIB extend approximately 25 cm out of the northwest corner of the test unit. Within excavation Levels D and E, this deposit was separated as Zone B while the remaining general level fill was referred to as Zone A. These distinctions are reflected in the artifact counts in Table 6-10.

All occurring at approximately the same elevations, Strata II, IIIA, IIIB, and IV correspond primarily to excavation Levels C through E and a portion of Level F. The density and condition of shell in these strata suggest rapid massive deposition rather than gradual accumulation. The frequency of Orange fiber-tempered ceramics in these levels exceeds that found in the more southerly units while the density of other artifact types remains relatively low. Vertebrate faunal remains, in fact, are significantly less abundant in TU19 than in comparable deposits from the test units already discussed. Also in contrast to previous units, several of the fiber-tempered ceramics recovered from TU19 exhibit Tick Island style surface decorations featuring bold curvilinear incisions and punctations.

Underlying these strata, Stratum V is a probable buried A-horizon visible in TU19's west, south, and east profiles. Stratum V at least roughly follows the general surface topography, sloping downward from south to north. It consists of a layer of dark brown loamy sand of variable thickness and contains only sparse whole *Viviparus* and virtually no other cultural materials. This stratum shares a similar stratigraphic position to presumed buried A-horizons in Test Units 12 and 14 and probably represents a period of site abandonment or very low-intensity use between the Late Preceramic and Early Ceramic occupations of the site.

Stratum VI is a small isolated lens of dense whole *Viviparus* located within the otherwise virtually shell-free matrix of Stratum V, along the southwestern margins of TU19. Located within an apparently natural pedogenic deposit, Stratum VI is best explained as resulting from an animal burrowing through the overlying shell midden and intruding into the soil below.

Throughout much of TU19 Stratum V sits atop Stratum VII, a thin horizontal layer of dense burned and, in some places, concreted bivalve stretching across the southeastern half of the test unit. Designated Zone C during excavation, Stratum VII was first encountered at the base of excavation Level D as a discrete pocket of dense bivalve located in the southeastern corner of the unit. As excavation proceeded, it expanded laterally across almost half of the test unit before eventually terminating near the top of Level G. The only non-shell cultural materials recovered include a small amount of vertebrate fauna and paleofeces. In terms of composition, morphology, and elevation, Stratum VII seems to correspond well with the preceramic crushed shell surfaces noted in TUs 12 and 14. In all three cases, the crushed shell layers are positioned directly underneath a buried A-horizon and exhibit a complete absence of ceramics, suggesting that they may all be extensions of the same preceramic surface.



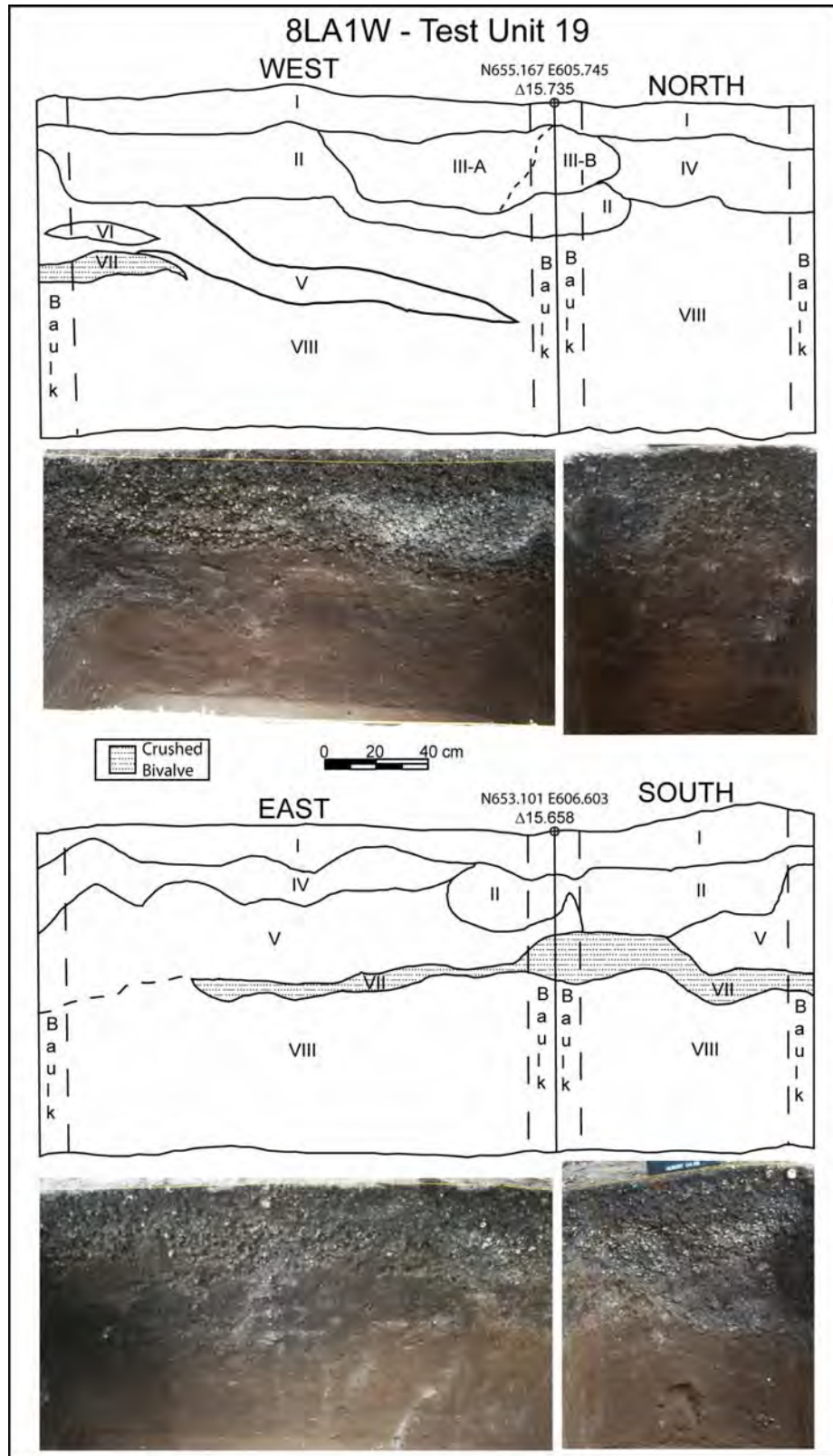


Figure 6-9. Stratigraphic drawings and photographs from profiles of TU19, 8LA1W. (Note: Photographs are not to scale.)

Table 6-9. Stratigraphic Units of Test Unit 19, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	26	23	7.5YR2.5/2	Very dark brown historically plowed A horizon with abundant roots and occasional whole and fragmentary <i>Viviparus</i> shell.
II	56	53	7.5YR3/2	Dense whole <i>Viviparus</i> shell in a dark brown loamy sand.
III-A	46	43		Extremely dense whole <i>Viviparus</i> shell and occasional bivalve with virtually no soil matrix.
III-B	46	43	7.5YR3/1	Extremely dense whole <i>Viviparus</i> and bivalve in very dark gray ashy, burned soil matrix.
IV	46	41	7.5YR3/2	Dense whole and crushed <i>Viviparus</i> shell in a dark brown loamy sand.
V	88	85	7.5YR3/2	Possible buried A horizon; dark brown organically enriched sand with sparse whole <i>Viviparus</i> shell.
VI	57	52	7.5YR3/1	Dense whole <i>Viviparus</i> shell in very dark gray sandy matrix.
VII	75	77	7.5YR3/3	Dense crushed and burned bivalve concreted in some places; sparse fauna; paleofeces.
VIII	127	136	7.5YR3/3	Dark brown, virtually shell-free fine sand; occasional fauna and chert flakes, decreasing with depth; large <i>Busycon</i> cooking vessel.

The basal stratum of TU19 (Stratum VIII) is composed largely of the same fine to medium brown sand that characterizes the basal deposits of the test units already discussed. Overall, this stratum contains very sparse whole and crushed *Viviparus* and bivalve along with occasional chunks of concreted shell near the center of the test unit. Artifact density is slightly higher than in other units and includes lithic debitage, marine shell, and infrequent vertebrate fauna. In addition to these items, a Newnan point and a burned out *Busycon* shell vessel were recovered from excavation Levels I and J respectively. Both of these are characteristic of the preceramic Mt. Taylor period. Shell and artifact density decrease with depth, eventually dwindling to almost nothing at the bottom of the unit (130 cmbd).

#### Test Unit 22

Test Unit 22 (TU22), the northernmost unit in the north-south transect bisecting Locus B, is another north-south oriented 1 x 2-m unit located 2 m to the north of TU19 at the northern edge of the ridge nose just before the land begins to slope downward toward the spring run. It is offset one meter to the west of the rest of the transect units in order to

Table 6-10. Cultural Materials Recovered from Test Unit 19, 8LA1W.

Level	St. Johns Plain	Orange/T. I. Incised	Orange Plain	Crumb	Lithic Biface	Lithic Flake	Marine Shell (g)	Vert. Fauna (g)	Paleofeces (g)
A	1			4		1		5.7	
B	2		1	3		1		12.8	
C		4	3	9			101.5	4.0	
D – Zone A		6		10		2		24.0	0.1
D – Zone B								2.2	
E – Zone A			2					15.8	
E – Zone B								1.5	
E – Zone C								0.4	
F – Zone A			2	3		3		28.7	
F – Zone C								2.7	
G – Zone A					1	1	14.4	35.1	
G – Zone C							0.9	48.5	10.9
H								28.1	
I				1	1	2	1.4	14.3	
J							726.2	18.4	
K				1				13.4	
L					1	1		9.2	
M								10.7	
Total	3	10	8	31	3	11	844.4	275.5	11.0

avoid a large tree. Excavated to approximately 175 cmbd, TU22 was found to contain seven distinct stratigraphic units, four of which exhibit their own internal divisions. Composite drawings of the stratigraphic profiles from all four of TU22's walls are shown in Figure 6-10, while descriptions of the major stratigraphic units are provided in Table 6-11. Summations of artifact counts for each level are shown in Table 6-12.

Stratum I in TU21 is the 10-20 cm thick active A-horizon covering virtually all of Locus B. It slopes gently downward from south to north, following the general trend of the surface topography on which it is located. Like previously discussed test units, this stratum lies entirely within the modern plow zone and has thus been disturbed to some extent. Located near the base of a large Juniper tree, the plow zone in this area is permeated by a dense mat of small to large roots. It corresponds to excavation Levels A and B and yielded very few artifacts. These are limited to a few small St. Johns Plain and Orange Plain ceramics and a trace of vertebrate fauna.

Consistent with the rest of the transect, the plow zone here sits atop a thick, dense layer of shell that extends across much of Locus B. In TU22, this layer (Stratum II) consists of mostly whole unconsolidated *Viviparus*, and occasional whole *Pomacea* within a dark gray fine sand. In some locations (Stratum IIA), shell density is so high that minimal soil matrix can be discerned. Along the east and south profiles, Stratum II is

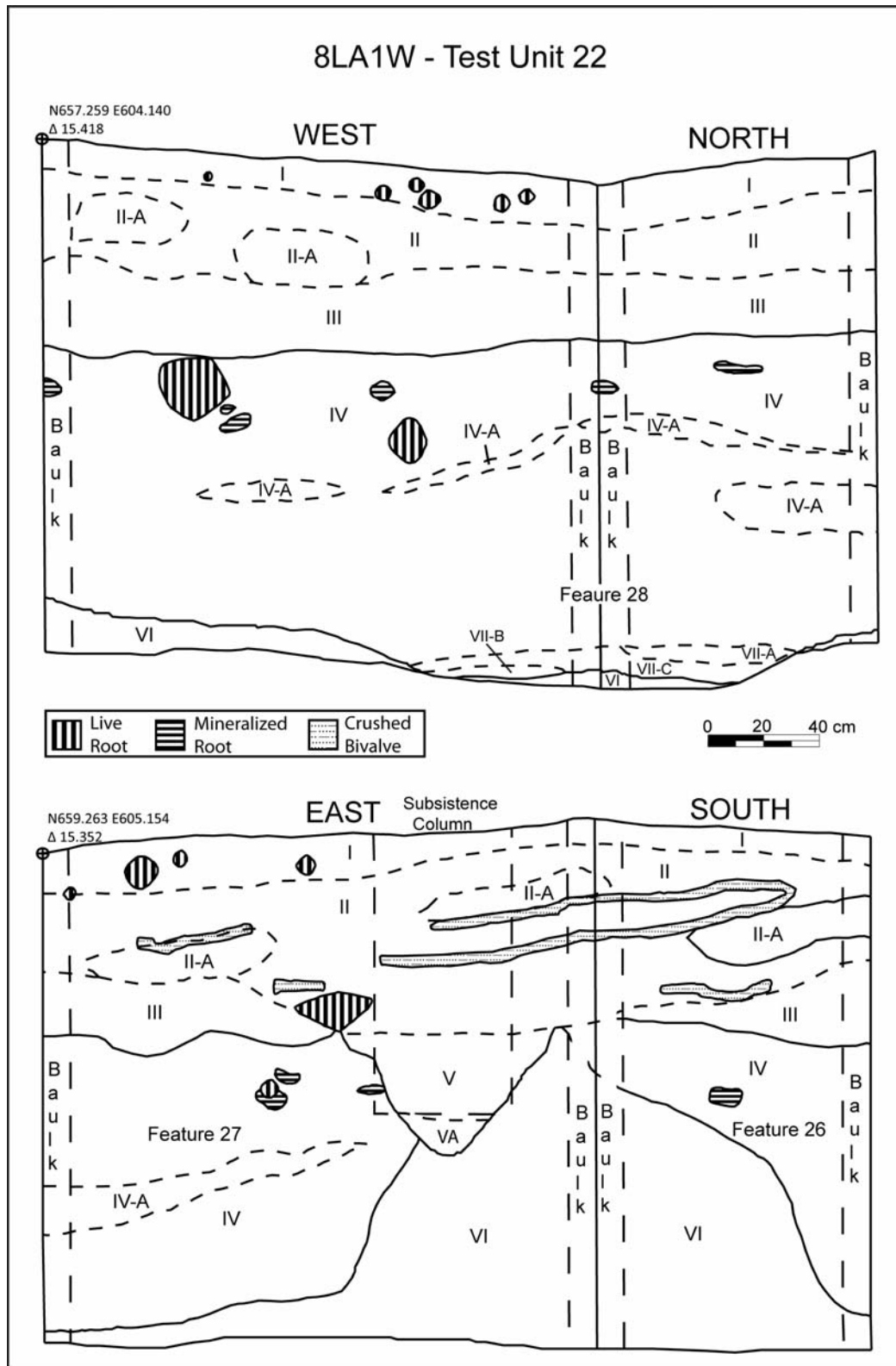


Figure 6-10. Stratigraphic drawings of profiles from TU22, 8LA1W.

Table 6-11. Stratigraphic Units of Test Unit 22, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	34	20	10YR3/2	Very dark grayish brown medium to fine sand with moderate whole <i>Viviparus</i> shell and dense root mat.
II	71	74	10YR4/1	Dark gray fine sand with dense whole <i>Viviparus</i> and low to moderate density crushed <i>Viviparus</i> shell; occasional <i>Pomacea</i> .
II-A	54	52		Whole <i>Viviparus</i> shell with minimal soil matrix.
III	80	78	10YR2/2 10YR3/2	Fine sand with moderate density whole <i>Viviparus</i> shell; grades from very dark brown to very dark grayish brown toward north.
IV	191	179	10YR3/3	Dark brown fine sand with low density whole <i>Viviparus</i> and occasional bivalve and <i>Pomacea</i> .
IV-A	144	138	10YR3/2	Very dark grayish brown fine sand with moderate density <i>Viviparus</i> shell.
V	104	106	10YR4/3	Brown fine sand with abundant whole and broken <i>Viviparus</i> shell. Undesignated pit feature.
V-A	115	117	7.5YR4/6	Dark yellowish brown fine shell-free sand with probable heat oxidation.
VI	200	192	10YR4/6 10YR6/6	Fine sand (sterile substrate) that grades from brownish yellow at the top to dark yellowish brown near the bottom.
VII-A	191	182	10YR3/3	Dark brown fine sand with small shell concretions; sparse charcoal.
VII-B	196	182	7.5YR5/6	Yellowish brown heat-oxidized sand.
VII-C	198	186	10YR4/4	Dark yellowish brown fine sand; zone of leaching.

interrupted in spots by thin horizontal lenses of burned and mostly crushed bivalve. These lenses provide virtually the only evidence of a depositional discontinuity within an otherwise massive deposit of gastropod shell. Stratum II deposits contain occasional St. Johns Plain and abundant Orange Plain and Incised ceramics but little else in terms of material culture. Although dominated by highly fragmented crumb sherds with indeterminate surface modifications, Orange ceramics from this stratum include both straight-line and curvilinear Tick Island style motifs. Other recovered materials include a single lithic tool and sparse vertebrate fauna.

Across most of the test unit, Stratum II transitions gradually to Stratum III, a stratigraphic distinction marked by the latter's contrasting color and slightly lower density of shell. Stratum III consists of dark grayish brown fine sand that grades to an even darker brown in the northern half of the test unit. It contains a moderate density of whole *Viviparus* shell along with a small amount of fiber-tempered ceramics, a few small fragments of marine shell and modified bone, and a noticeable, albeit modest, increase in vertebrate fauna density.

Along the east wall of TU22, Stratum III is intersected by Stratum V, a roughly cone-shaped deposit of sand and shell that penetrates approximately 45 cm into the underlying sand. Stratum V is composed of medium brown fine sand with abundant whole and broken *Viviparus*. It appears to originate from the basal margin of Stratum III and probably represents an undesignated pit feature emanating from a Late Archaic occupational surface at that elevation. Additional evidence for a once stable surface at the base of Stratum III occurs in the form of numerous mineralized roots visible in the TU22 profile drawings in the upper portion of Stratum IV. As discussed in Chapter 3, these mineral deposits are thought to form as large amounts of shell are dumped on a surface concealing live roots. As minerals leach down from the overlying shell, mineralized casts of the original roots are preserved. The size and position of these root casts in Stratum IV of TU22 resembles that of the live roots located just below the contemporary surface in Stratum I. In all likelihood, this is the same surface as that is most clearly identified at the base of Stratum II in TU14 and inferable from the profiles of the other test units already discussed. In all of these cases, massive deposits of snail shell containing fiber-tempered pottery were dumped upon a previously existing horizontal sand substrate at a depth of between 50 and 75 cm below the modern surface.

Underlying the Strata II and III shell deposits in TU22 is a massive ca. 120-cm thick layer of brown sand that at first glance appears to simply represent the sterile sand substrate observed at the bottoms of all the aforementioned test units. In contrast to this massive undifferentiated layer, however, excavation of the first few levels of the sand in TU22 revealed at least two large overlapping soil stains that were determined to be infilled pits. Although overlapping and only subtly distinct near their tops, these pits eventually diverged, exposing two discrete dark brown features (Features 26 and 27) penetrating more than one meter into the yellowish-brown substrate (see Figure 6-11). An additional pit (Feature 28), which was indiscernible at its top, was identified near the bottom of TU22 based on a discrete area of oxidized, charcoal impregnated sand and concreted shell. Although impossible to determine accurate dimensions because of the restricted view offered by the 1 x 2-m test unit boundaries, Feature 26 has a diameter of at least 60-cm while Feature 27 exceeds one meter in diameter. These pits contain little material culture aside from a small amount of Orange Plain pottery in Feature 27 and occasional vertebrate fauna. A thin lens of *Viviparus* shell (Stratum IV-A) runs through the center of both of these features, suggesting that their infilling may have occurred slowly in stages rather than in a single depositional episode. Subsequent excavations of similar pits in different areas of Locus B suggest that they functioned as large-scale

Table 6-12: Cultural Materials Recovered from Test Unit 22, 8LA1W

Level	St. Johns Plain	Orange/T.I. Incised	Orange Plain	Orange Eroded	Crumb	Lithic Tool	Lithic Flake	Marine Shell (g)	Modified Bone	Vert. Fauna (g)
A	2									
B				1	1					1.1
C		6	3	15						7.4
D	3	6	5	3	30					14.8
E		1	1	3	19	1				36.4
F				1	1					38.8
G				1						20.8
H		3	3	6	33			1.5		73.7
I	2	1	7	2	25	1		15.3		12.9
J			5		5			0.3		6.6
K			1		2	1				12.4
L				1			2			11.9
M			1				1			23.5
N			1					25.6		5.8
O			1		9				1	20.5
P										3.5
Q			1							8.0
R										11.4
Total	7	17	29	18	140	3	3	42.7	1	309.5

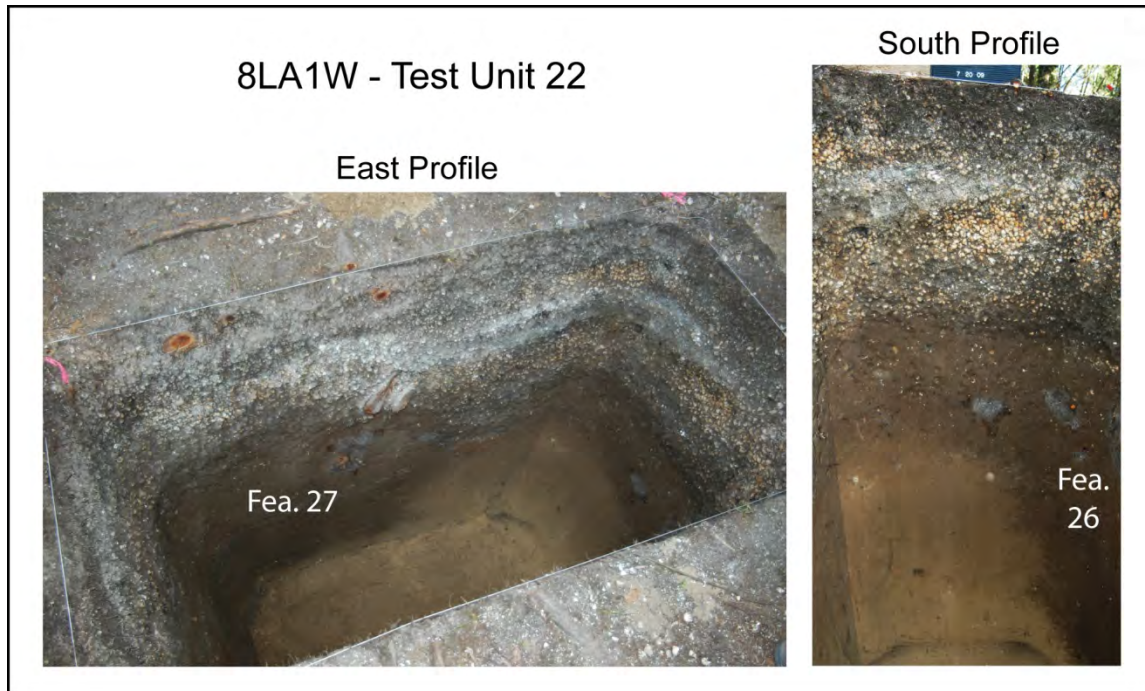


Figure 6-11. Photographs of the east and south profiles of Test Unit 22 showing Features 26 and 27.

roasting or steaming facilities used in the processing of bivalve. This interpretation helps to explain their general lack of artifact content as well as the burning evidence often exhibited at their bases. An AMS assay (see all radiocarbon data in Appendix B) from charcoal obtained near the bottom of Feature 26 yielded an age estimate of  $3970 \pm 40$  rcybp (4520-4300 cal BP). This estimate indicates that unlike the other test units in the same transect, TU22 contains no significant Mount Taylor component. Rather, its entire stratigraphic sequence resulted from Orange period depositional practices.

Following the general level excavations of TU22, a 50 x 50-cm column sample was removed from the east wall of the test unit (precise location of column shown in Figure 6-10) in order to collect fine-grained subsistence data. The column was located so as to capture the stratigraphic data present in the upper strata of the test unit as well as to intersect with the undesignated pit feature (Strata V and VA) descending down from Stratum III in the east profile. The column was terminated at ca. 125 cmbd, as bulk samples had already been removed from the underlying pit features.

#### *Discussion of North-South Transect (TUs 12, 13, 14, 19, 21, and 22)*

The six test units making up the north-south transect at Locus B offer a 26-m cross section of this portion of 8LA1W and provide a solid basis for inferring this area's depositional history. The overall stratigraphy of the transect consists of three major ethnostratigraphic units. Beginning at the bottom of the sequence, a substantial preceramic Mount Taylor occupation is visible primarily in the form of a thin crushed



shell surface laid down upon a locus-wide sterile substrate of yellowish-brown sand. This crushed shell stratum is visible in all of the test units excluding TU13, where the shell midden thins out considerably along Locus B's southern margin and TU22, where Mount Taylor deposits may have been obliterated by subsequent Orange period pit digging activities. Mount Taylor deposits in this area include a wide variety of cultural materials generally associated with everyday life including lithic, bone, and shell tools, abundant vertebrate fauna, paleofeces, and a number of small pit features suggesting that Locus B served as a place of domestic habitation during this period.

This Mount Taylor occupation was followed by a substantial, albeit indeterminate, period of abandonment or low-intensity use at Locus B as evidenced by the development of the organically enriched A-horizon visible in TUs 14 and 19. The interval represented by this stratum must necessarily have entailed relative surface stability and a lack of large-scale depositional activities. Further evidence for extended surface stability during this time is provided by the numerous mineralized root casts present just below Orange Period shell deposits, which indicate that substantial vegetation was in place shortly before these deposits were made.

Following this "abandonment" period, intensive utilization of Locus B was resumed by people utilizing Orange fiber-tempered ceramics. Along the northern margin of the excavated transect, this utilization involved the digging of extremely large pits, presumably for the processing of freshwater bivalve. After these pits were filled in, massive amounts of *Viviparus* shell were deposited over the entire area, resulting in a thick mantle of whole, often unconsolidated, shell that shows no signs of having been trampled or intensively lived upon. In contrast to earlier Mount Taylor period activities, those carried out by Orange people apparently involved a narrower range of material culture items and resulted in the deposition of less vertebrate fauna and non-*Viviparus* shellfish. All of these factors suggest the possibility of a more specialized use for Locus B during its Orange period occupation.

Finally, a relatively thin and poorly understood St. Johns component exists at the top of the stratigraphic sequence revealed by this series of test units. Unfortunately, Locus B's extensive near-surface disturbances have largely obscured the nature of this occupation as well as its relationship to the underlying Archaic components. There are some indications, such as the depression noted at the location of TU21, of modern surface modifications that may have truncated St. Johns deposits, although the extent of such activities is unclear. At the very least, the entire area appears to have been plowed and its upper 20-30 cm of sediment churned and displaced.

In summary, the 1 x 2-m test units comprising the north-south transect at Locus B revealed three distinct ethnostratigraphic units that respectively correspond to the archaeologically defined Mount Taylor, Orange, and St. Johns periods. The Mount Taylor and Orange components in this area appear substantial and well-preserved while the St. Johns stratum is relatively wispy and has been disturbed. A more nuanced understanding of these different components and their historical relationships has been

achieved through the excavation of two exploratory test units in other parts of Locus B, as well as larger-scale and more intense block excavations.

### *Test Unit 46*

Test Unit 46 (TU46) is a 1 x 2-m test unit located approximately 13 m to the east of TU21. Excavated in 2010, TU46 was placed near Locus B's topographic high point at the apex of the shell node in order to assess the node's age and cultural affiliation. It was also intended to help determine what the natural morphology of the Locus B landscape was prior to the deposition of shell during the Archaic.

Composite drawings and photographs of the stratigraphic profiles from all four of TU46's walls are shown in Figure 6-12, and descriptions of the major stratigraphic units are provided in Table 6-13. Summations of artifact counts for each level and zone are shown in Table 6-14.

Based on a 1941 aerial photograph and the nearby presence of a very large and presumably old hardwood tree, the location of TU46 is likely to have escaped the historic plowing that affected the rest of Locus B. The uppermost stratum in TU46 (Stratum I) consists of a 10 to 25-cm-thick A-Horizon and contains the highest density of St. Johns ceramics thus far encountered at Locus B. Beneath this stratum, pottery is largely absent, with only one sherd recovered that is larger than crumb-size (>2 cm in diameter). Fiber-tempered pottery is scarce throughout TU46, suggesting that the Orange component may be less substantial in this part of the site.

Directly beneath the active A-horizon lies a thick deposit of mostly whole *Viviparus* that is divided into multiple distinct strata based primarily on soil color differences and the presence of additional shellfish species. Much of this differentiation may be a result of several disturbances intruding into the deposit from above including live tree roots, trees that burned in place, and animal burrows. In some instances, these disturbances penetrate more than a meter into the TU46 deposits, obscuring the upper portion of the stratigraphic profile. Burned ashy deposits in the south half of the test unit and orange oxidized sand and shell along the west profile are perhaps the most severe examples. A shell-filled pit feature (Feature 52) also interrupts this *Viviparus*-dominated stratum in the southwest corner of TU46. Originally designated Zone A during excavation, the pit itself is highly stratified, indicating that it was filled in multiple episodes involving alternately the deposition of whole and broken bivalve and whole *Viviparus*. Although containing no ceramics, this feature appears to originate high in the stratigraphic sequence, perhaps emanating from the St. Johns deposits near the modern surface. A few mineralized roots are present at the base of and directly underneath this *Viviparus* layer.

A series of thin, horizontal layers of crushed and burned bivalve and *Pomacea* are observable underneath the thick stratum of *Viviparus* shell. These bivalve lenses are most clearly visible in the west and north profiles as Strata V, VIII, and X but exist in all four profiles to some extent. When first encountered as a seemingly discrete pocket of

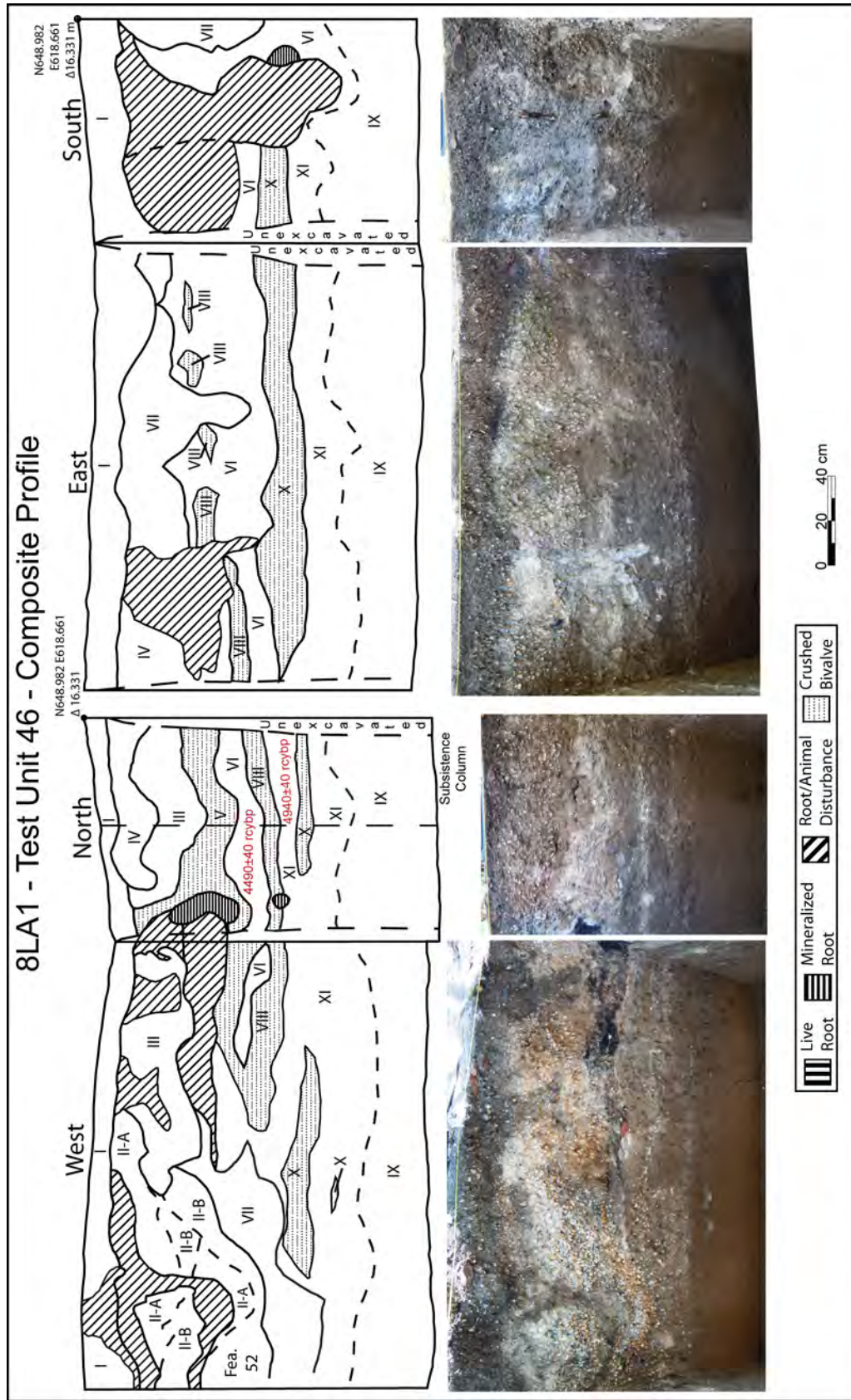


Figure 6-12. Stratigraphic drawings and photographs from profiles of TU46, 8LA1W. (Note: Photographs are not to scale.)

Table 6-13. Stratigraphic Units of Test Unit 46, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	36	30	10YR2/2	Very dark brown fine sand with low density whole <i>Viviparus</i> .
II-A	73	72		Dense crushed bivalve with virtually no soil matrix.
II-B	81	80		Dense whole <i>Viviparus</i> with virtually no soil matrix.
III	54	46	10YR3/6	Dark yellowish brown medium sand with moderate density whole and broken <i>Viviparus</i> .
IV	52	50	10YR6/2	Light brownish gray ashy fine sand with moderate to high density whole <i>Viviparus</i> and crushed bivalve.
V	72	59	10YR5/3	Brown fine sand with moderate to high density crushed bivalve.
VI	133	121	10YR3/3	Dark brown fine sand with very low density broken shell.
VII	103	101	10YR4/3	Brown fine sand with medium whole <i>Viviparus</i> and broken shell.
VIII	109	104	10YR4/3	Brown fine sand with moderate to high density whole and crushed bivalve and <i>Pomacea</i> .
IX	153	148	10YR3/3	Dark brown, shell-free fine sand.
X	101	96	10YR4/3	Brown fine sand with moderate to high density whole and crushed bivalve and <i>Pomacea</i> .
XI	127	126	10YR3/3	Dark brown fine sand with very low density broken shell.

bivalve and *Pomacea* in an otherwise sand test unit floor at the base of Level G, the uppermost lens was labeled Zone B. These thin layers of shell contain a variety of cultural materials, albeit all in modest amounts, including lithic debitage and tools, marine shell, modified bone, increased vertebrate fauna relative to overlying strata (including a shark's tooth), and paleofeces. Stratigraphically, the crushed shell lenses alternate with thin layers of dark brown sand containing very low densities of shell or other cultural materials. This entire sequence of shell-filled and shell-free strata most likely reflects a series of domestic occupations with intervening periods of abandonment during which natural soil development was allowed to take place. Two charcoal samples from the intervening sand strata were submitted for AMS radiocarbon assays, one from Stratum VI and one from the top of Stratum XI and returned dates of  $4490 \pm 40$  rcybp (5300-4970 cal BP) and  $4940 \pm 40$  rcybp (5740-5600 cal BP) respectively. If confirmed

Table 6-14. Cultural Materials Recovered from Level Excavation of Test Unit 46, 8LA1W.

Level	St. Johns Plain	Crumb	Lithic Tool	Unmod. Lithic Flake	Misc. Rock	Marine Shell (g)	Modified Bone	Vert. Fauna (g)
A <sup>1</sup>	4	12	1	1	1			22.4
B <sup>2</sup>	1	10	1	1	1			13.8
C <sup>3</sup>	9	10				48.8		10.6
D		22				0.3		23.9
E	1	3				3.4	1	36.0
F		1	1	1		16.3		44.6
F – Zone A								36.2
G <sup>4</sup>			1	2			2	103.8
G – Zone A								3.0
G – Zone B <sup>5</sup>								10.4
H <sup>6</sup>				3		6.8		56.4 <sup>7</sup>
I			2	1				80.3
J				1		2.0		152.6
K								7.8
L			1	5				1.4
M				5	1			4.2
N				7				0.9
Profile Cleanup								14.9
Total	15	58	7	27	3	77.6	3	623.2

<sup>1</sup> plus one St. Johns Incised sherd

<sup>2</sup> plus one Orange/Tick Island Incised sherd

<sup>3</sup> plus one sand-tempered eroded sherd

<sup>4</sup> plus 26.1 g paleofeces

<sup>5</sup> plus 1.7 g paleofeces

<sup>6</sup> plus one historic artifact; 9.6 g paleofeces

<sup>7</sup> includes one shark tooth

by additional analysis, these dates indicate a surprisingly long, roughly 450-year interval between successive occupations at the base of TU46.

A brown sand substrate underlies these serial occupations at the base of TU46. The color of the substrate is slightly darker in this area than that revealed by other Locus B test units. Also, a higher density of heavily patinated lithic debitage was observed, possibly indicating the presence of an early Holocene component akin to those noted at 8LA1-East (Chapter 3) and also directly across the spring run at 8MR123 (Randall et al. 2011).

To summarize the current understanding of the stratigraphic sequence at TU46, beginning at ca. 5000 B.P. this location was the site of apparent domestic activities involving the deposition of relatively large meaty shellfish species (primarily bivalve and *Pomacea*), various tools and manufacturing debris, vertebrate fauna, and paleofeces. Eventually, however, the area was abandoned and natural pedogenic processes gradually

covered it with a thin layer of dark organic sediment. Over the next four-plus centuries, this process of settlement and abandonment repeated itself at least two additional times leading to the stacked sequence of shell and sand visible near the base of TU46. At some point, still prior to the introduction of ceramic technology, the use of this location changed dramatically as everyday domestic activities were discontinued and a massive mantle of *Viviparus* shell was placed over the former settlement, resulting in the shell node observable at Locus B today. Similar episodes involving the “capping” domestic locales at the end of their use-lives have been noted for other Mount Taylor period sites in the region and may mark a ritual transition in the use-lives of places (Randall 2010; Sassaman 2010). The only subsequent cultural deposition evident from TU46 was carried out by people using St. Johns Plain ceramics, indicating a probable hiatus in the use of the shell node throughout the Late Archaic Orange period.

### *Test Unit 57*

Test Unit 57 (TU57) is a 2 x 2-m test unit located approximately 34 m to the northwest of TU22, the north end of the north-south transect discussed above. This puts it within what is now a cleared field that slopes down toward the spring run to the north. TU57 was excavated in 2010 in an area in between shovel tests 23-1 and 23-6, both of which yielded substantial quantities of Orange fiber-tempered ceramics. These shovel tests, along with judgmentally placed bucket auger tests, also indicated this as an area where shell deposits extended at least a meter beneath the modern surface. TU57 was intended to help determine the lateral extent of the Orange component at Locus B and perhaps to locate the habitation structures and/or domestic debris associated with this component that were conspicuously absent in the test units farther to the east.

Composite drawings and photographs of the stratigraphic profiles from three of TU46's walls are shown in Figure 6-13. Missing from this figure is the north profile, which unfortunately collapsed after a severe rain storm late in the field season before it was photographed or drawn (see Figure 6-14). Descriptions of the major stratigraphic units are provided in Table 6-15, and artifact counts for each level and zone are shown in Table 6-16.

The clearing in which TU57 is situated is maintained by the current land manager through periodic disking. Consequently, the upper 20-25 cm of sediment has been repeatedly churned leading to a well-defined plow-zone throughout the unit with visible plow scars near the bottom of this stratum. This plow zone (Stratum I) was excavated largely as a single unit (Level A). Directly underneath the plow zone, a clear division became visible in the floor of the unit between a dark grayish brown zone with a very high density of mostly whole *Viviparus* shell (Zone A) and a dark brown loamy sand with a much lower density of primarily crushed *Viviparus* (Zone B). Initially, at the base of Level B (30 cmbd), Zone A was restricted to the southern quarter of the unit. It expanded with depth, however, reaching its maximum extent in Level E (50-60 cmbd) before again receding toward the south. Artifact distribution was fairly comparable between Zone A and Zone B with both containing Orange ceramic sherds, of which incised varieties

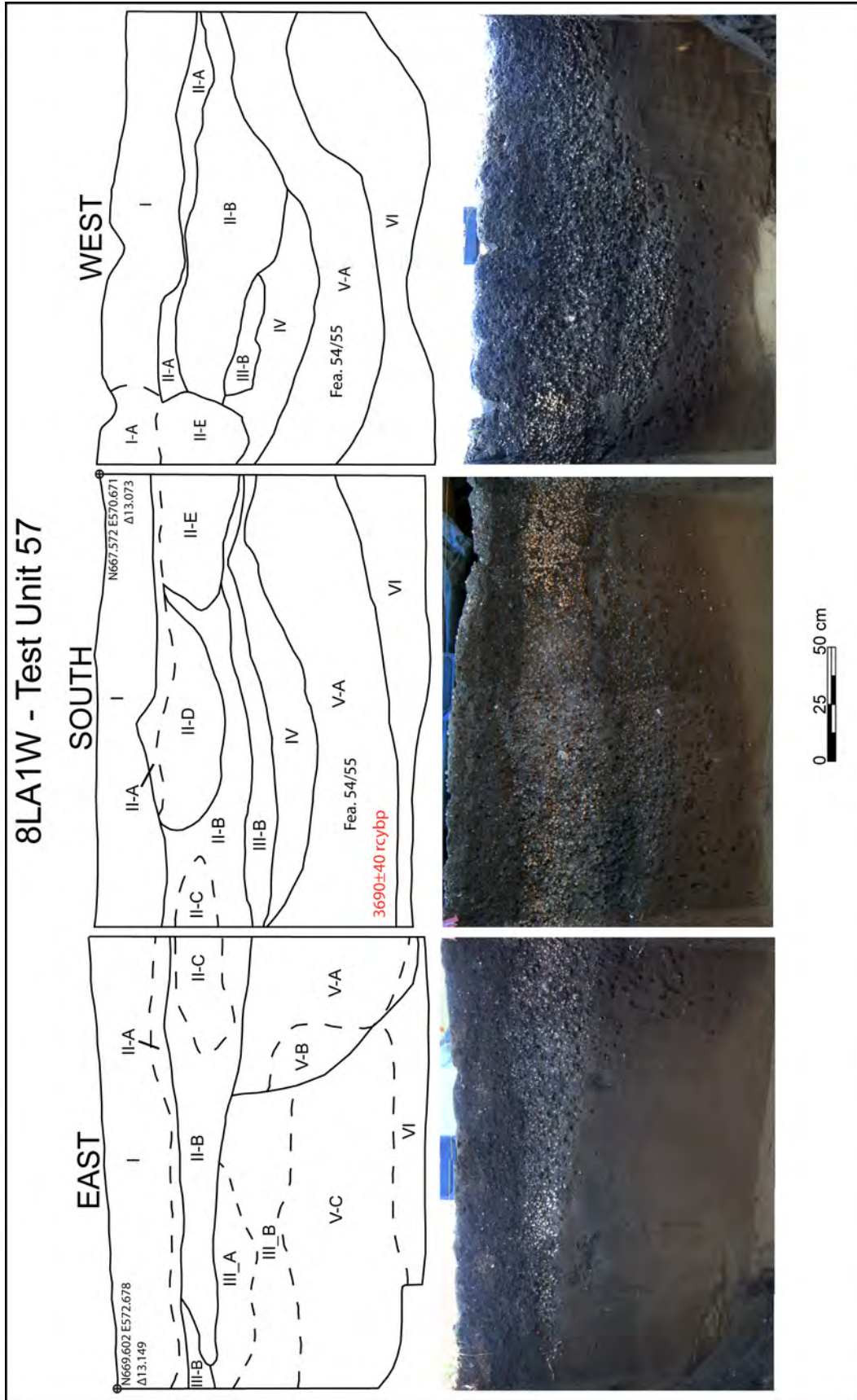


Figure 6-13. Stratigraphic drawings and photographs of profiles from Test Unit 57, 8LA1W. (Note Photographs are not to scale.)

Table 6-15. Stratigraphic Units of Test Unit 57, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	47	31	10YR3/2	Plow zone. Very dark grayish brown medium sand with low density <i>Viviparus</i> .
II-A	55	39	10YR3/2	Very dark grayish brown medium sand with dense crushed <i>Viviparus</i> .
II-B	88	72	10YR3/2	Very dark grayish brown medium sand with dense whole <i>Viviparus</i> .
II-C	94	60	10YR3/2	Very dark grayish brown medium sand with high density whole <i>Viviparus</i> and moderate density whole <i>Pomacea</i> .
II-D	60	58	10YR4/2	Dark grayish brown medium sand with dense whole <i>Viviparus</i> and crushed bivalve.
II-E	71	66	10YR3/2	Very dense whole <i>Viviparus</i> in small amount of very dark grayish brown medium sand.
III-A	75	63	10YR3/3	Dark brown medium sand.
III-B	94	80	10YR3/2	Dark grayish brown medium sand.
IV	103	101	10YR3/3	Dark brown medium sand with high density whole <i>Viviparus</i> .
V-A	140	138	10YR4/3	Brown medium sand with low to moderate density whole <i>Viviparus</i> .
V-B	124	120	10YR4/3	Brown medium to fine sand with no shell surrounding pit feature.
V-C	140	128	10YR4/3	Brown medium to fine shell-free sand.
VI	155	154	10YR6/6	Yellowish-brown fine sand.

outnumber the plain ones, and occasional vertebrate fauna. In profile, Zone A is visible as a thick dense mantle of shell (Strata IIA-III-E) that, like the upper shell strata in the 1 x 2-m units to the southwest, shows little differentiation from bottom to top, perhaps indicating its complete deposition in one or a few episodes over a short period of time.

The thick stratum of dense *Viviparus* constituting Zone A sits atop a buried A-horizon that can be observed as Stratum IIIB in the profile illustrations. This 5 to 15-cm-thick layer runs throughout much of the test unit at approximately 70-80 cm below the modern surface. Interestingly, as this ancient surface was approached during excavation, the fiber-tempered ceramic assemblage shifted from predominantly incised to





Figure 6-14. North profile of Test Unit 57 following the collapse of its rain-saturated basal sands.

predominantly plain, indicating two distinct depositional patterns within the Orange component in TU57.

As excavations proceeded beneath the buried surface, the densest shell deposits remained confined to the southern half of the test unit. Initially, this shell appeared to constitute a broad continuous stratum cutting across the entire test unit, but at ca. 100 cmbd, it became more discrete, revealing a large shell-filled pit. Originally considered two separate pits (Features 54 and 55) due to the angle at which the shell intersected the corner of the test unit, it was later determined to be one large pit. This pit is similar in scale to those observed in TU22, although it is somewhat shallower and more basin-shaped. It also lacks clear evidence for thermal alteration at its base, perhaps indicating an alternative function from its counterparts to the southwest. Detailed compositional data from the pit fill is not yet available but the fill includes dense whole and crushed *Viviparus*, moderate density of vertebrate fauna, and occasional lithic flakes. A complete bone awl was also recovered from Feature 54/55. A zone of dark brown organic sediment with a lower density of shell (Strata VA and VB) surrounds the shell-dense portion of the feature. It is unclear whether this reflects the stratigraphically distinct basal portions of the pit or simply a zone of organic leaching into the underlying substrate. An AMS radiocarbon assay obtained from charcoal recovered from the base of Feature 54/55 returned an age estimate of  $3690 \pm 40$  rcybp (4140-3900 cal BP), situating it at least two hundred years later than Feature 26 from TU22.

Table 6-16: Cultural Materials Recovered from Level Excavation of Test Unit 57, 8LA1W

Level	Historic Objects	St. Johns C.-S.	St. Johns Plain	St. Johns Eroded	Orange /T. I. Incised	Orange Plain	Orange Eroded	Crumb Sherds	Lithic Tool	Unmod Lithic Flake	Misc. Rock	Marine Shell (g)	Modified Bone	Vert. Fauna (g)
A <sup>1</sup>	4	4	9	1				57		2	1			14.9
B	3	4	16	3			1	75	2	3				20.1
C	1	10	19		8			53				1.0		54.9
D		1	4	3	1	1	3	18		1				18.4
D-Zone A					2		1	20				0.1	3	113.1
D-Zone B			8				1	46						52.3
E-Zone A						1		29		1				51.2
E-Zone B					2		3	23						110.5
F-Zone A						2		13				1.0		35.2
F-Zone B								7				4.3		19.1
G-Zone A					1			4						44.6
G-Zone B						2	2	13		2				26.1
H								14						25.9
H-Zone B						3		1	1	3				9.3
I-Zone B									1	3	1			4.2
J								1	1	1				5.0
K-Zone B														0.8
L										1				
L-Zone B									1	5				0.4
M-Zone B										2				2.6
Profile Clean			1			1		1		1				3.9
Total	8	19	56	7	14	11	11	375	6	25	2	6.4	3	612.5

<sup>1</sup> plus one sand tempered plain sherd

Before its collapse, the north profile of TU57 contrasted significantly with the rest of the test unit in its overall dearth of shell. The buried A-horizon (Stratum IIIB) was clearly visible at the same elevation as the rest of the unit but instead of supporting an overlying mantle of dense shell, it was topped by a thick undifferentiated layer of dark brown sand. In the surviving profiles, this sand layer is visible as only a small lens (Stratum IIIA) in the east wall that underlies the shell stratum as it pinches out in the northeast corner of the unit. This sand was emplaced directly onto the ancient surface and must have existed as subtle topographic rise at the time that the mantle of shell (Strata IIA-III E) was deposited. That shell thus appears to have leveled out what previously would have been a rough and uneven surface.

#### *Test Unit 4*

Test Unit 4 (TU4) is an east-west oriented 1 x 2-m test unit located approximately five meters south (upslope) of shovel test pit 22-1 and ca. ten meters to the west of the north-south transect described above. It was sited in an effort to investigate an Orange period occupation, possibly of circular orientation judging from the distribution of shell and fiber-tempered pottery in shovel tests. Although the first test unit excavated at Locus B in 2007, TU4 is discussed last among the exploratory units because its stratigraphic complexity made explanation difficult until additional units were dug to provide some interpretive context. Excavation of TU4 was supervised by Neill Wallis and this discussion is adapted largely from his field notes.

Composite drawings and photographs of the stratigraphic profiles from three of TU4's walls are shown in Figures 6-15 and 6-16. Descriptions of the major stratigraphic units are provided in Table 6-17, and artifact counts for each level and zone are shown in Table 6-18.

Excavation methods in TU4 differed slightly from those described at the beginning of this chapter. Like the other test units, TU4 was excavated primarily in arbitrary 10-cm levels. As excavation proceeded, however, dense unconsolidated shell in the walls of the unit began to dislodge and in order to avoid a complete collapse, the walls were allowed to slope further and further in toward the center of the unit until it took on a bathtub shape. Subsequently, this "bathtub balk" was removed in natural stratigraphic layers. Consequently, artifact counts (Table 6-18) are provided for both arbitrary excavation levels and natural stratigraphic units.

TU4 exhibits a 20 to 30-cm-thick dark brown, organic plow zone containing a few displaced artifacts and occasional *Viviparus* shell, the density of which increases with depth. By the middle of excavation Level C (ca. 25 cmbs) this plow zone (Stratum I) begins to give way to the same thick stratum of dense whole *Viviparus* (Strata IIA-B, IV, and IVA-B in the profile drawings; Zones A and B during excavation) that has been observed within all Locus B test units so far discussed. The shell density in TU4, however, exceeds that encountered in most of the other units, leading to the instability issues noted above. In multiple locations along the profiles (especially in the east and

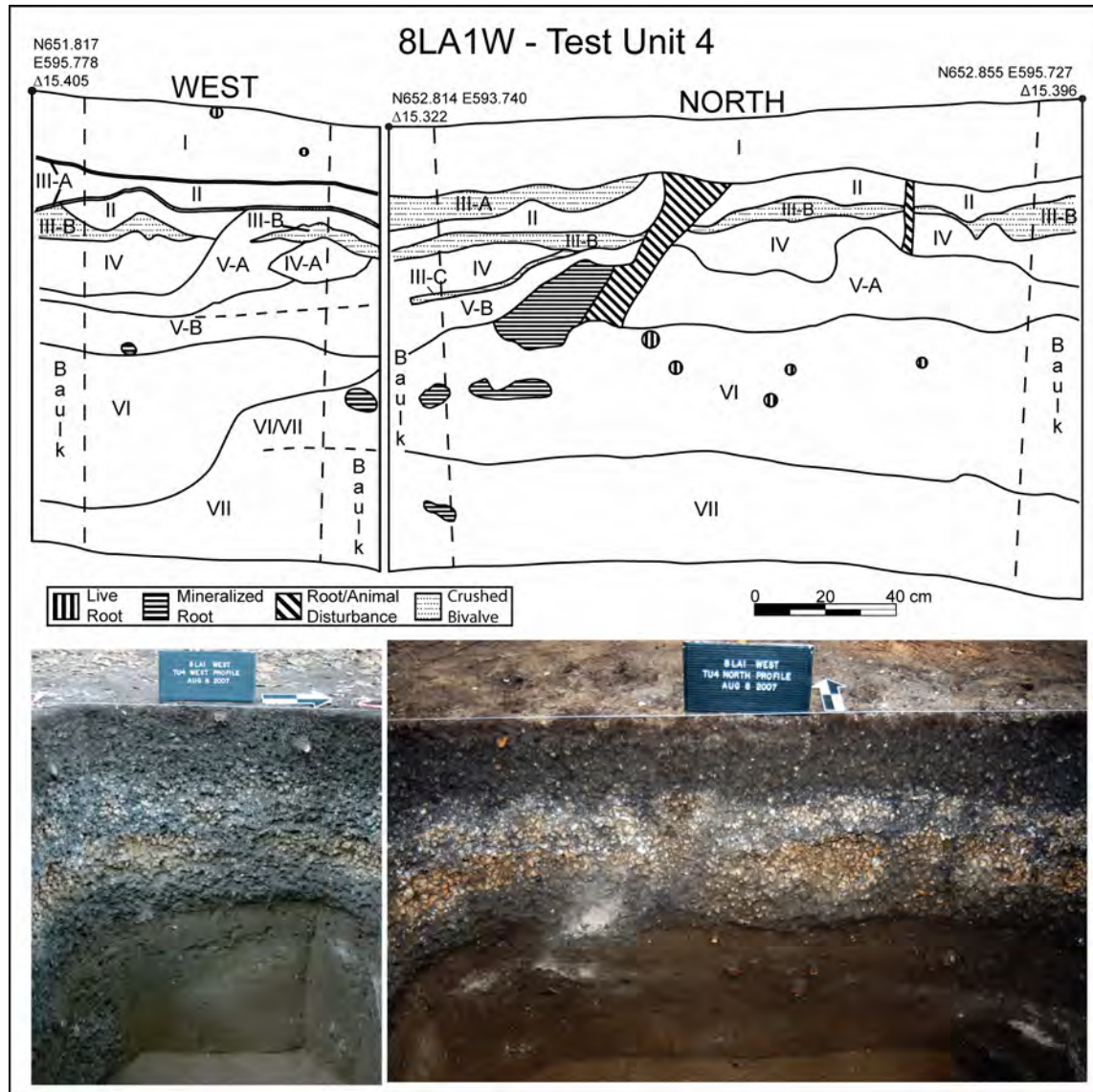


Figure 6-15. Stratigraphic drawings and photographs from west and north profiles of TU19, 8LA1W. (Note: Photographs are not to scale.)

south) there are large shell pockets that contain virtually no soil matrix. Thin horizontal lenses of crushed and sometimes burned bivalve (Strata IIIA-C; Zone C) cut through this thick *Viviparus* stratum in at least three distinct elevations. One of these lenses extended across the entire floor of the test unit at the base of excavation Level E (50 cmbd) and contained some of the densest concentrations of Orange ceramic sherds (including both plain and incised varieties) and vertebrate fauna within TU4. Together, these upper shell strata at TU4 may show evidence of a sequence of prepared and lived upon surfaces consisting of layers of whole *Viviparus* laid down to form a level and regular foundation upon which burned and crushed bivalve shell was then placed. At least three of these surfaces are discernible in the TU4 profiles, while another may have sat atop Stratum II,

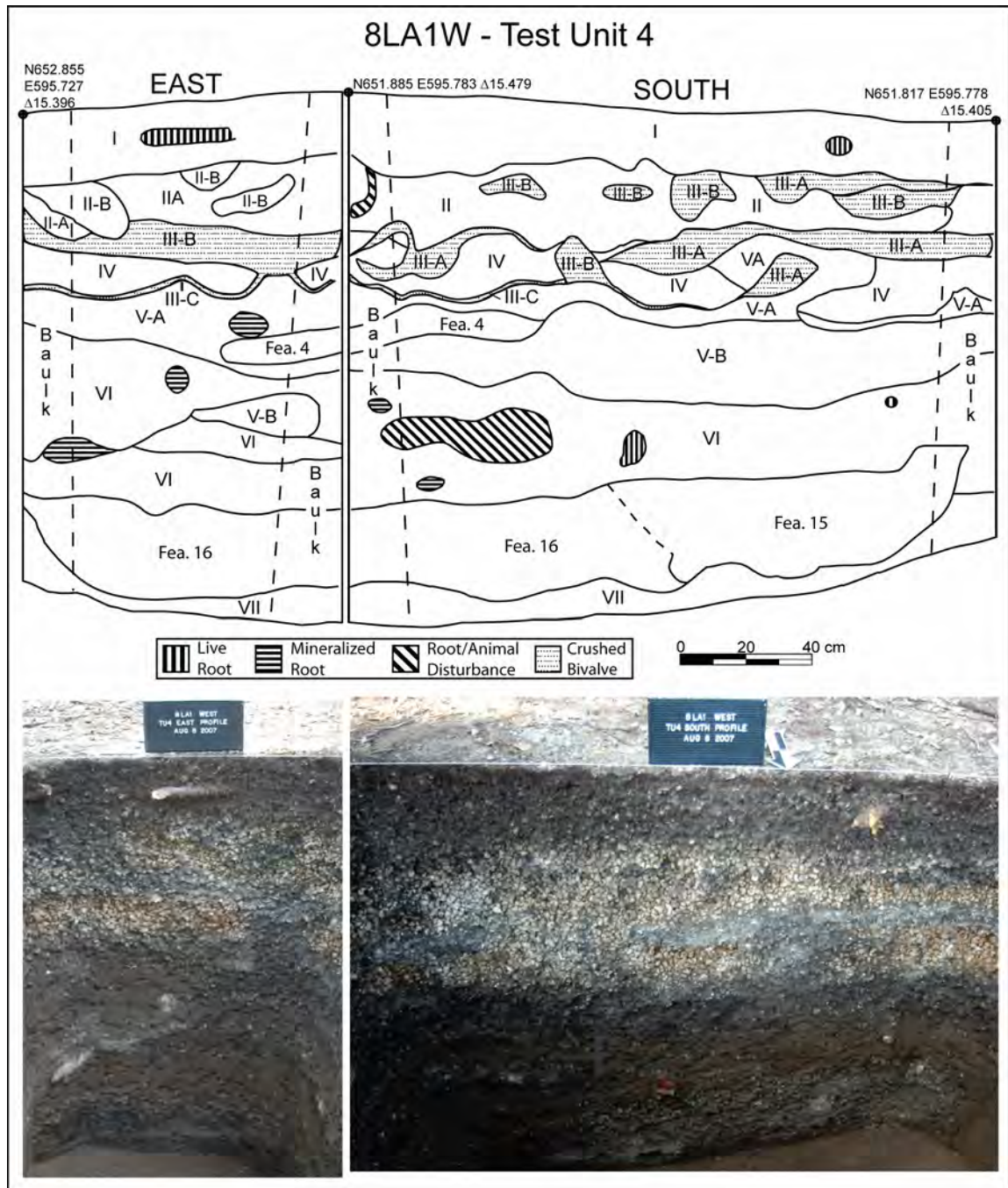


Figure 6-16. Stratigraphic drawings and photographs from east and south profiles of TU19, 8LA1W. (Note: Photographs are not to scale.)

but was perhaps obliterated by plowing. Underneath the lowermost crushed bivalve lens the shell density decreases substantially. Strata VA and VB constitute a thick massive layer of moderately dense whole *Viviparus* and sand distinguished only by the darker color of the latter. This layer (designated Zone D during excavation) contains abundant Orange Plain ceramics, occasional flakes and vertebrate fauna, and frequent charcoal. It

Table 6-17. Stratigraphic Units of Test Unit 4, 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	30	25	10YR3/3	Historically plowed A horizon with abundant roots and moderately dense whole <i>Viviparus</i> shell.
II-A	52	48		Whole unconsolidated <i>Viviparus</i> shell with no soil matrix. Trace amounts of vertebrate fauna and charcoal.
II-B	45	40	10YR3/1	High density <i>Viviparus</i> in very dark gray loamy fine sand.
III-A	62	57	10YR5/2	Crushed and burned bivalve shell (with trace amounts of <i>Viviparus</i> and <i>Pomacea</i> ) interspersed with grayish brown fine ashy sand.
III-B	60	55	10YR3/2	Identical to Stratum IIIB but with very dark grayish brown sand and slightly less dense shell.
III-C	67	60		Identical to Strata IIIA and IIIB but with absolutely no soil matrix.
IV	70	64		Whole unconsolidated <i>Viviparus</i> shell with small amounts of <i>Pomacea</i> and bivalve and no soil matrix. Trace amounts of vertebrate fauna and abundant charcoal.
V-A	85	83	10YR4/3	Moderately dense whole <i>Viviparus</i> shell in brown fine sandy matrix. Abundant vertebrate fauna.
V-B	106	106	10YR3/2	Moderately dense whole <i>Viviparus</i> shell in very dark grayish brown sandy loam; abundant vertebrate fauna.
VI	131	126	10YR3/4	Dark yellowish brown fine sand with scant whole <i>Viviparus</i> shell; sparse vertebrate fauna.
VII	165	165	10YR4/4	Dark yellowish brown fine sand with no shell; trace vertebrate fauna.

sits atop a dark yellowish brown sandy substrate (Zone E) that lightens slightly in color near the base of the test unit. In the southeastern half of the test unit, the basal sands are interrupted by Features 15 and 16, visible as a 20-30 cm thick deposit of concreted shell, ash, and charcoal in the south and east profiles. Originally designated Zone F, these features covered over half of the test unit at the base of excavation Level L (120 cmbd). They consist primarily of burned whole and crushed *Viviparus* but also contain pockets of burned whole bivalve, *Pomacea*, and charcoal. Portions of the features are highly concreted and had to be excavated with a pick. Both contain Orange Plain ceramics but no other artifacts were recovered. No obvious division exists between Features 15 and

Table 6-18. Cultural Materials Recovered from Test Unit 4, 8LA1W.

Level	St. Johns Plain	Orange/T. I. Incised	Orange Plain	Crumb	Lithic Flake	Marine Shell (g)	Vert. Fauna (g)	Botanicals (g)	Other
80CM			3						
A				1			0.1		
B	1		2	7	1	0.9	2.6		2 <sup>1</sup>
C (Zone A)				1			0.7		
C (Zone B)	2			12	2		5.9		
D (Zone A)				8			0.7	0.5	
D (Zone B)				1			1.7	0.4	
D (Zone C)				15			1.8		
E (Zone A)				10			3.8		
E (Zone C)		1		16	1	9.6	14.4	3.3	0.6 <sup>2</sup>
F (Zone C)		1		4			4.7		
G (Zone C)				4			4.3		
G (Zone D)		1	11	11			28.5		
H (Zone D)			14	35	2		15.2		
H			3						
I (Zone D)			12	10			3.9	1.2	
I (Zone E)			6	7			7.1		
J (Str. VI)			1	17			8.3	11.7	
J (Zone F)			2						
K (Str. VI)			2	7			14.9	2.4	
K (Str. VII)			2	24	3		33.1	1.5	
L (Str. VII)			5	18	3		19.3	1.4	1 <sup>3</sup>
L (Zone F)			5						
M (Str VIII)							3.1		
M (Zone F)			8	21			7.0	1.0	
N			2				0.2		
Profile Clean			4	14			8.1		
Str. I							1.6		
Str. IIA							5.1		
Str. IIB							0.5		
Str. III			3	24			1.6	1.4	
Str. IV+				1			6.0	2.9	1 <sup>3</sup>
Str. V			10	15	1		8.9		
Str. VI			14	12	2		24.5		
Total	3	3	109	295	15	10.5	237.6	27.7	

<sup>1</sup>one historic lead bullet; one St. Johns Check Stamped sherd<sup>2</sup>paleofeces (g)<sup>3</sup>one modified bone

16, although the shell in Feature 16 in the southeastern corner of the test unit does drop down further into the underlying sand than that from Feature 15. Nevertheless, it is possible that these are actually distinct portions of the same massive feature. No vertical margins could be discerned within the overlying sand but it is likely that the shell and ash deposits represent the basal fill of one or more large roasting pits, similar to those Features 26 and 27 at the bottom of TU22. An AMS radiocarbon assay from charcoal recovered from Feature 15 returned an age estimate of  $3820 \pm 40$  rcybp (4410-4100 cal BP), which overlaps temporally with the 2-sigma calibrated range of the assay from Feature 26.

### *Summary of Exploratory Test Units*

The excavation of nine individual discontinuous test units at 8LA1W's Locus B between 2007 and 2010 yielded a tremendous amount of information regarding the extent, condition, and structure of the site's archaeological deposits. These test units first expand upon the auger survey in demonstrating the presence of extensive shell deposits at Locus B that extend at least 35 m from north to south and 50-m from east to west. Within this 1750-m<sup>2</sup> area, deposits vary greatly with regard to both thickness and depth, with the thickest, most complex stratigraphy occurring along the northern margin and then thinning gradually to the south. Aside from a consistent 20-30-cm plow zone and various discrete plant and animal disturbances, these deposits were shown to have escaped the mining activities that impacted other areas of the Silver Glen Run site and remain relatively intact.

Test units revealed three distinct ethnostratigraphic units within Locus B that together span thousands of years of the site's history. Beginning as early as 5700 cal BP, Mount Taylor people began using Locus B in a manner that involved the deposition of freshwater shellfish (primarily bivalve and *Pomacea*), a variety of stone, bone, and marine shell tools and debitage, and moderate amounts of vertebrate fauna. Formal floors or living surfaces were constructed during this period through the deposition of bivalve that was either processed beforehand through burning and crushing or was altered in this way through use. Small cylindrical and basin-shaped pits were dug down from these surfaces presumably for either storage or cooking, although there is little evidence for thermal alteration. All of these material culture objects and features are what would be expected to result from routine everyday living at this time, suggesting that the Mount Taylor component at Locus B reflects a settlement or "village" occupation. At least one area of Locus B, as revealed by TU46, was occupied repeatedly in a similar manner following periods of abandonment as indicated by a series of thin horizontal bivalve strata with intervening layers of sand. This eventually resulted in the construction of Locus B's raised shell node, which was subsequently capped with a layer of *Viviparus* by Mt. Taylor or later people. The test units tentatively suggest that this Mt. Taylor component is restricted to the southeastern portion of Locus B as it was not observed in TU22 at the north end of the north-south transect or in TUs 4 and 57 to the west.

Eventually Locus B was abandoned or utilized sparingly over an extended enough period that a well-developed A-horizon was allowed to form with associated large tree



roots. Subsequently, perhaps as early as 4500 cal BP, this location was utilized in a wholly different manner by Orange period people using the region's earliest pottery type. Enormous pits were dug deep into the underlying sand and shellfish was processed at an unprecedented scale. At the same time, fewer and less diverse cultural materials were deposited with the shell, possibly suggesting a more specialized, non-domestic function. Later in the Orange period, use of the site changed again, as the entire area was capped with a massive layer of whole *Viviparus* shell. In most places this capping appears to have occurred quickly as a single act while in TU4 it was added in stages as indicated by the presence of horizontal bivalve lenses interrupting the *Viviparus* stratum at multiple points. The architects of the shell cap utilized a new type of fiber-tempered pottery (Tick-Island Incised) featuring bold curvilinear incisions and punctations. It is unknown at present whether they were the same or a different people than those responsible for the massive underlying pits. Although spatially overlapping somewhat with earlier Mount Taylor materials, Orange deposits at Locus B appear to be centered to the west of the shell node on the down-slope portion of the landform.

And finally, following the Orange occupation, Locus B was utilized to some extent by St. Johns people as evidenced by the smattering of St. Johns ceramics found throughout the site's near-surface deposits. Unfortunately, the St. Johns component lies completely within this area's plow zone and has been heavily disturbed, making any inferences regarding the nature of the St. Johns occupation or its relationship to earlier Orange materials difficult at best.

The individual test units also revealed some significant stratigraphic patterns that proved useful for interpreting the results of subsequent excavations. First, they provide additional support for the notion that the presence and distribution of the mineralized root casts that form underneath shell deposits (see also Chapter 3) can be used to infer periods of relative inactivity and approximate the elevations of paleosurfaces. At Locus B, root casts are generally concentrated within or just below buried A-horizons, thus replicating the pattern exhibited by live roots in relation to the modern surface. In addition, these test units demonstrate that living surfaces during both the Mount Taylor and Orange periods are frequently lined with thin layers of burned and crushed bivalve that sometimes contain concentrations artifacts and vertebrate fauna.

## BLOCK EXCAVATIONS

Each of the individual test units described above provides an important window into the basic structure of Locus B deposits at a particular location and together, they begin to offer some clues as to the distribution of particular stratigraphic units and the historical relationships among them. These small-scale units are clearly limited, however, in the insight they convey into the contemporary processes operating *within* any one temporal-stratigraphic unit because of the relatively restricted horizontal perspective that they entail. To address topics such as community organization, architectural features, and the horizontal patterning of cultural materials, it was necessary to broaden the perspective by opening up larger continuous areas for excavation. Consequently,

between 2009 and 2010 two block excavations were conducted near the presumed center of Locus B's archaeological deposits.

### *2009 Block Excavation*

In 2009, a 4 x 4-m block was excavated in the area between the north-south transect of test units and TU4 (see Figure 6-17). It was originally laid out as a 3 x 4-m unit with its southeast corner positioned 4 m to the west of the southwest corner of TU21 but was expanded to 4 x 4 m before excavation began. The block was intended to locate Orange period domestic features and architectural remains and to document spatial patterning in features and artifacts at a finer scale than is possible utilizing smaller excavation units. This location was chosen because of the particularly dense Orange shell deposits and pit features indicated by the surrounding 1 x 2-m test units.

*Excavation Methods.* With these goals in mind, excavation methods employed in the block deviated somewhat from those described above and were tailored toward detailed documentation of spatial data. Initially, the block was divided into sixteen 1 x 1-m units (Test Units 23-38) which were excavated and documented separately, although at the same rate. It was quickly realized, though, that digging in these small units, while providing a fine level of spatial control, actually obscured the broad horizontal perspective that constituted the ultimate goal of the block excavation. Ultimately, near the base of the plow zone, the block was divided into four 2-x-2 m units (Test Units 39-42) in order to maintain adequate spatial control while still allowing for the recognition of horizontal patterning. Test unit numbers both before and after the switch from 1 x 1-m to 2 x 2-m test units are shown in Figure 6-18.

The four individual units were generally excavated separately in arbitrary 10 cm levels; however, an effort was made to take them all down at approximately the same rate so that when stratigraphic zones or large features were uncovered, they could be followed and documented across test unit boundaries. To this end, level elevations for all four units were measured from the same datum located at the southeastern corner of the block with an absolute elevation of 15.81 m based on the site datum. Because the upper 30 cm of the block was lumped together as the "plow zone," Level A refers to the absolute elevations 15.51-15.41 m, Level B to 15.41-15.31 m, and so on. As a result of the sloping surface on which the block was situated, Levels A through E were excavated as partial levels until a level plane was reached across all four test units.

All artifacts larger than two centimeters in diameter (excluding unmodified vertebrate fauna) that were discovered *in situ* were plotted with a Nikon DTM-310 Total Station, assigned a unique piece-plot number, and bagged individually. As with the exploratory units discussed in the previous section, all non-feature fill was dry sieved through 1/4-inch screen and all cultural materials excluding freshwater shells were collected and bagged according to provenience. Features were mapped in plan view, bisected vertically, and then drawn in profile. When possible, one half of the feature fill was removed for 1/8-inch water screening while the remaining half was removed as a bulk flotation sample. For some extremely large features, it was not practical to collect



Figure 6-17. 2009 field crew excavating a 4-x-4-m block at Locus B, 8LA1W.

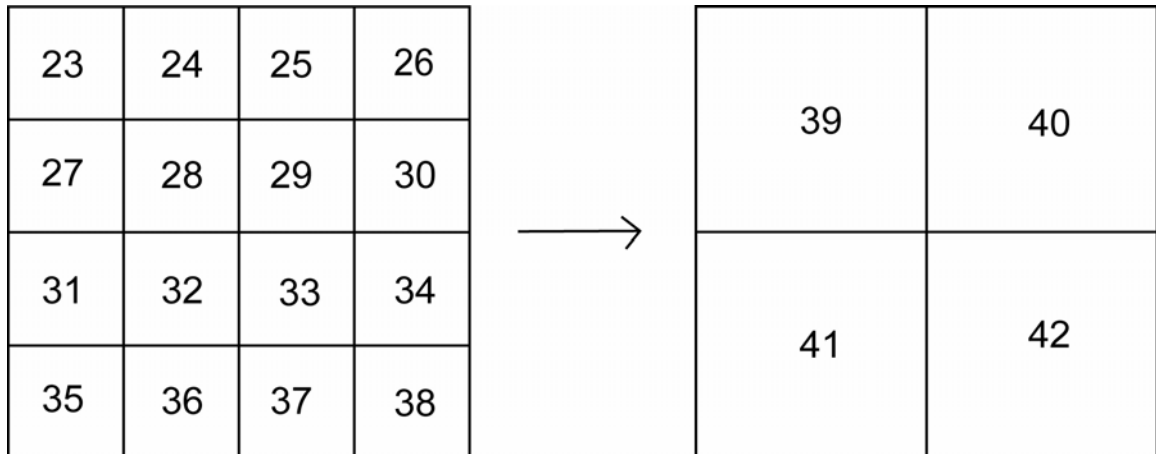


Figure 6-18. Test unit numbers of 1-x-1-m units and 2-x-2-m units from 2009 block at Locus B, 8LA1W.

them in their entirety. In these cases fine screen and bulk flotation samples were collected from multiple locations within the feature while the rest of the fill was 1/4-inch screened.

*2009 Block Stratigraphy.* Nineteen distinct stratigraphic units were identified in the 2009 block excavation. Composite drawings and photographs of the stratigraphic profiles from the block's walls are shown in Figures 6-19 through 6-25. Descriptions of the major stratigraphic units are provided in Table 6-19, and artifact counts for each level and zone are shown in Table 6-20.

For the most part, the uppermost stratum encountered within the 2009 block (Stratum I) is consistent with that observed in the individual exploratory units. It consists of a 20 to 30-cm thick layer very dark grayish brown organically enriched sand with a moderate density of whole *Viviparus* and is permeated by dense tree roots. Small, highly fragmented St. Johns ceramic sherds are the most common artifact type, although Orange ceramics, lithic tools and debitage, and vertebrate faunal remains were also observed. Near the base of Stratum I, linear stringers of whole and crushed shell oriented in a northeast-southwest fashion (shown in Figure 6-26) were identified as plow scars, confirming suspicions based on earlier excavations that Locus B was cleared and plowed in the relatively recent past.

The contact between Stratum I and the intact shell deposits below is irregular in some locations, probably owing to the scraping of the top of the midden by the metal plow. It is unclear how much shell may have been removed or displaced by these activities. Regardless, Stratum I now sits atop a variably thick (ranging primarily between ca. 30 and 50 cm) deposit of extremely dense mostly whole *Viviparus* with occasional bivalve and *Pomacea* labeled Stratum II (also IIA and IIB). This shell layer is thickest in the north half of the block and thins considerably near the southeast corner. In one discrete location visible in the west profile, Stratum II abruptly drops down into underlying strata, apparently infilling a pit that was open at the time of its deposition. Shell density in Stratum II varies slightly, ranging from high (Zone A) to extremely high (Zone C), often with little to no intervening soil matrix. As in TU4, this dense, unconsolidated shell resulted in instability issues in some locations as whole *Viviparus* shell would occasionally pour out of the profile if even lightly contacted. Again, shell of this density and condition suggests rapid large-scale deposition rather than the gradual accumulation of domestic food remains that would have allowed for more substantial soil development and resulted in crushed tightly packed shell deposits. The highly variable basal margin of Stratum II indicates that these shell deposits filled in what had been a rough irregular surface at the time of deposition.

Stratum II, however, was probably not deposited in a single episode as evidenced by the fact that this thick layer of *Viviparus*, as seen in TU4, is interrupted at different levels by thin horizontal lenses of burned and crushed bivalve (Zone B) that may represent a series of prepared shell surfaces. These bivalve lenses are clearly visible in the north and east profiles of the block but were not observed in the west and south.

### 8LA1W - 2009 Block (TUs 39-42)

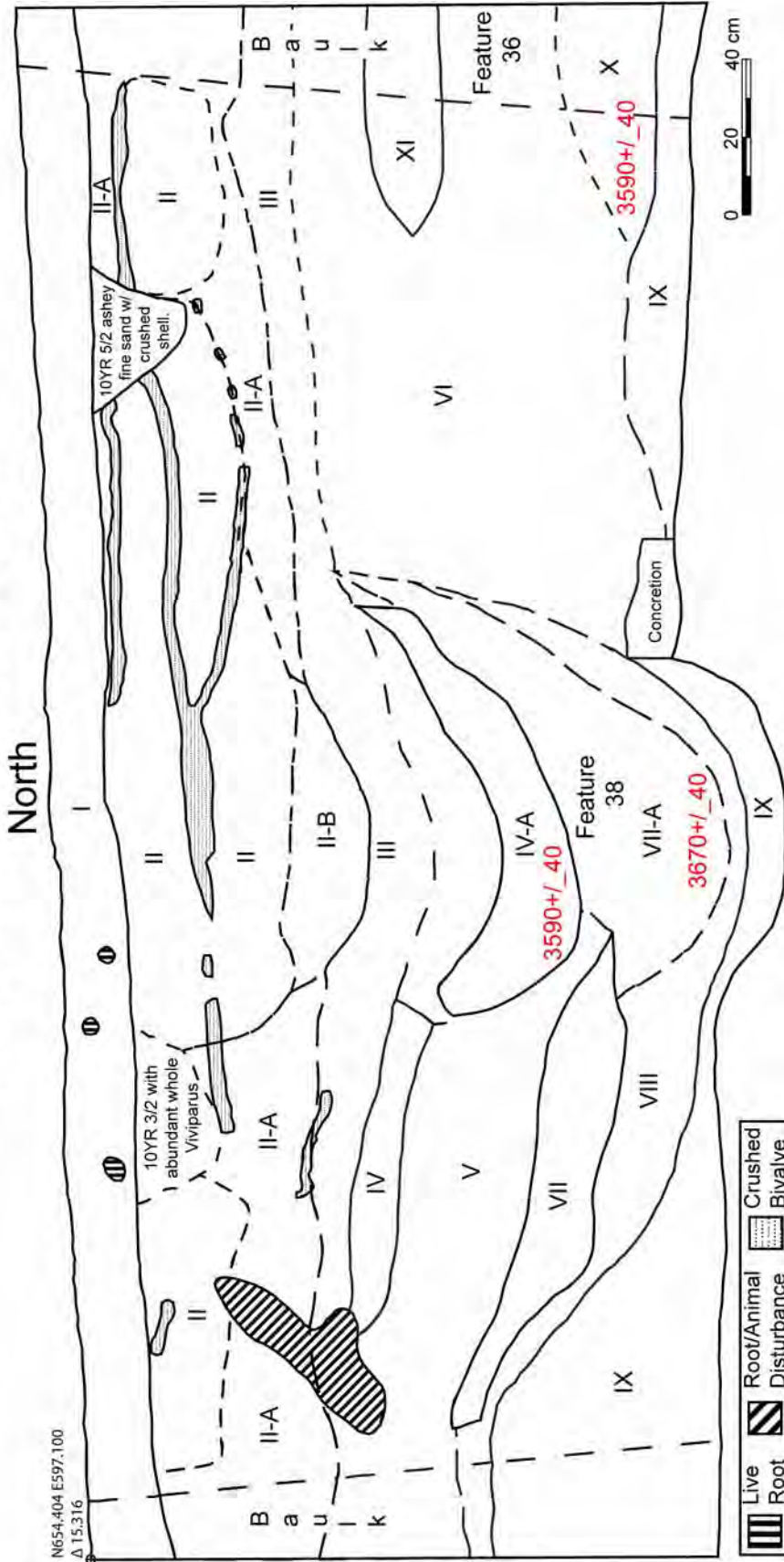


Figure 6-19. Stratigraphic drawing of north profile from 2009 block (TUs 39-42), 8LA1W.

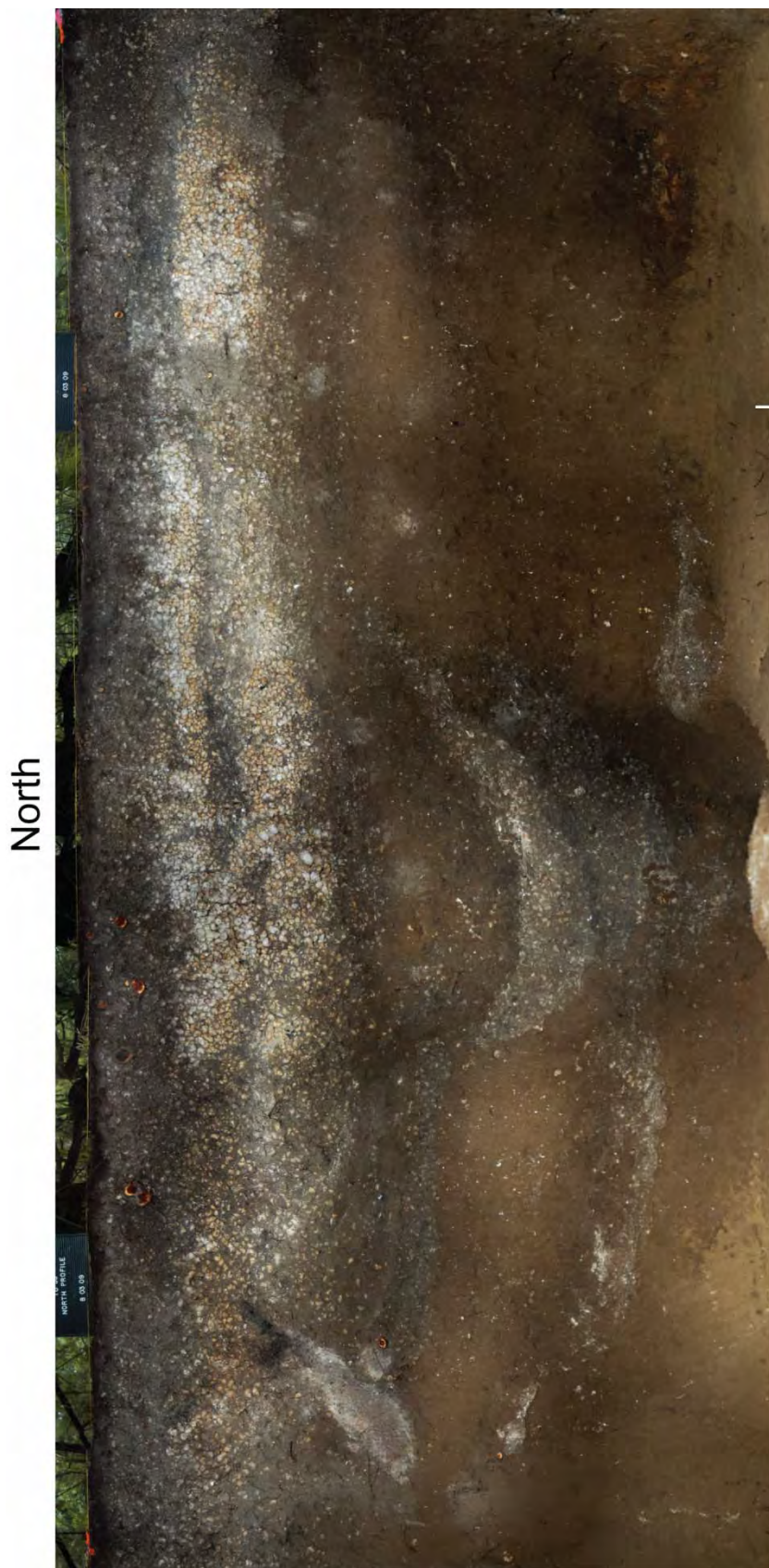


Figure 6-20. Composite photograph of north profile from 2009 block (TUs 39-42), 8LA1W.

8LA1W - 2009 Block (TUs 39-42)  
West

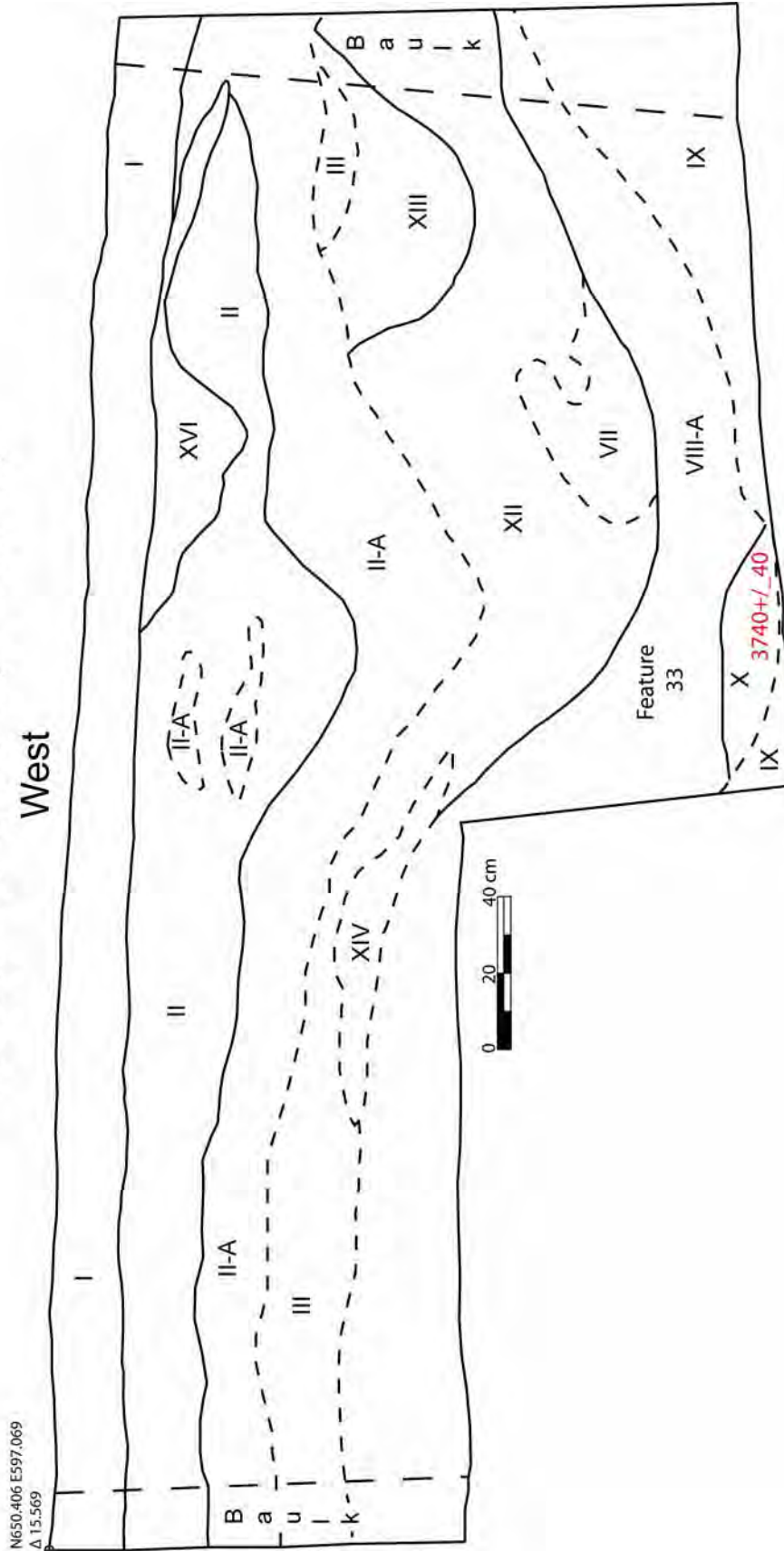


Figure 6-21. Stratigraphic drawing of west profile from 2009 block (TUs 39-42), 8LA1W.

West



Figure 6-22. Composite photograph of west profile from 2009 block (TUs 39-42), 8LAIW.



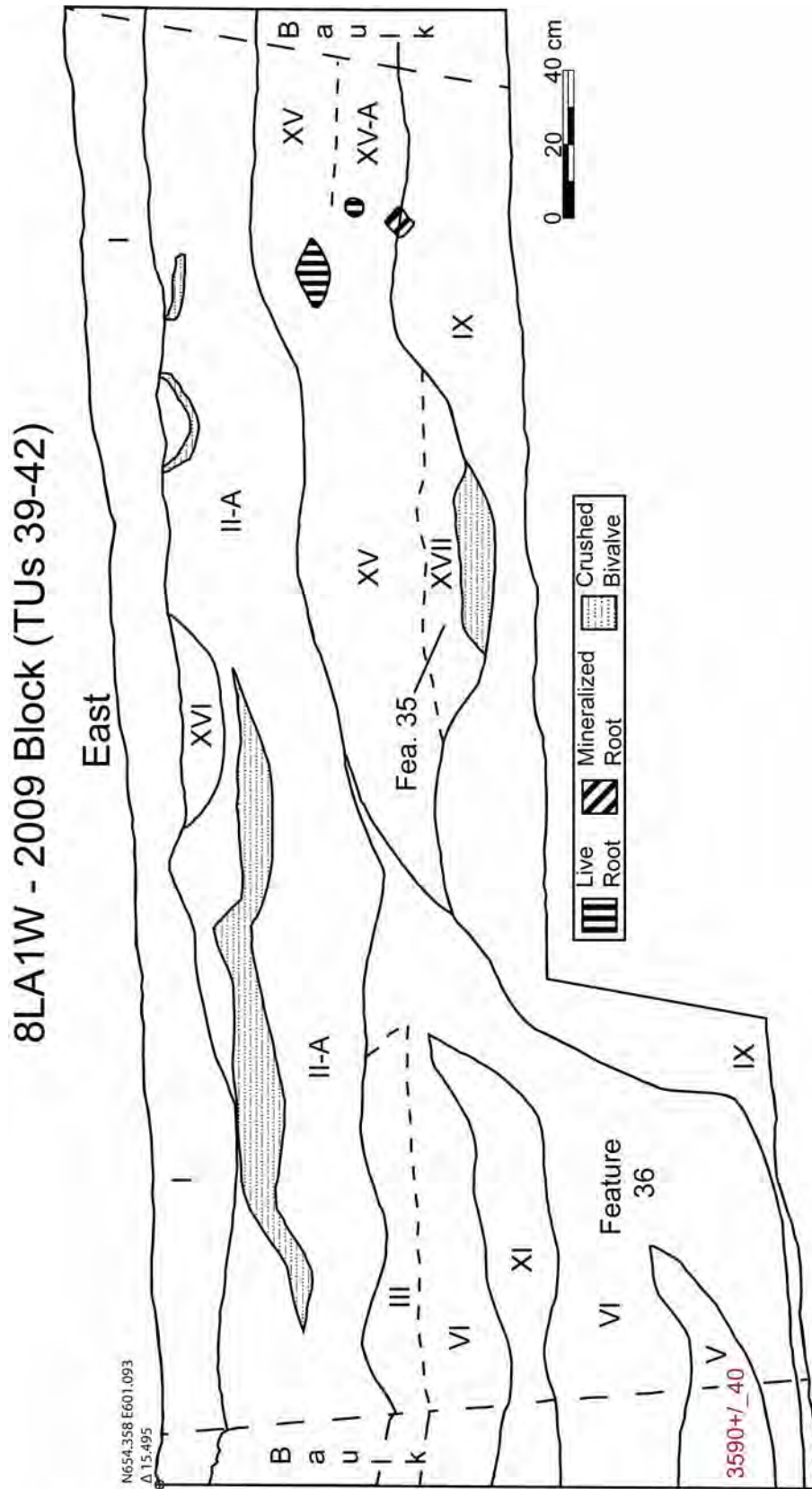


Figure 6-23. Stratigraphic drawing of east profile from 2009 block (TUs 39-42), 8LA1W.

East

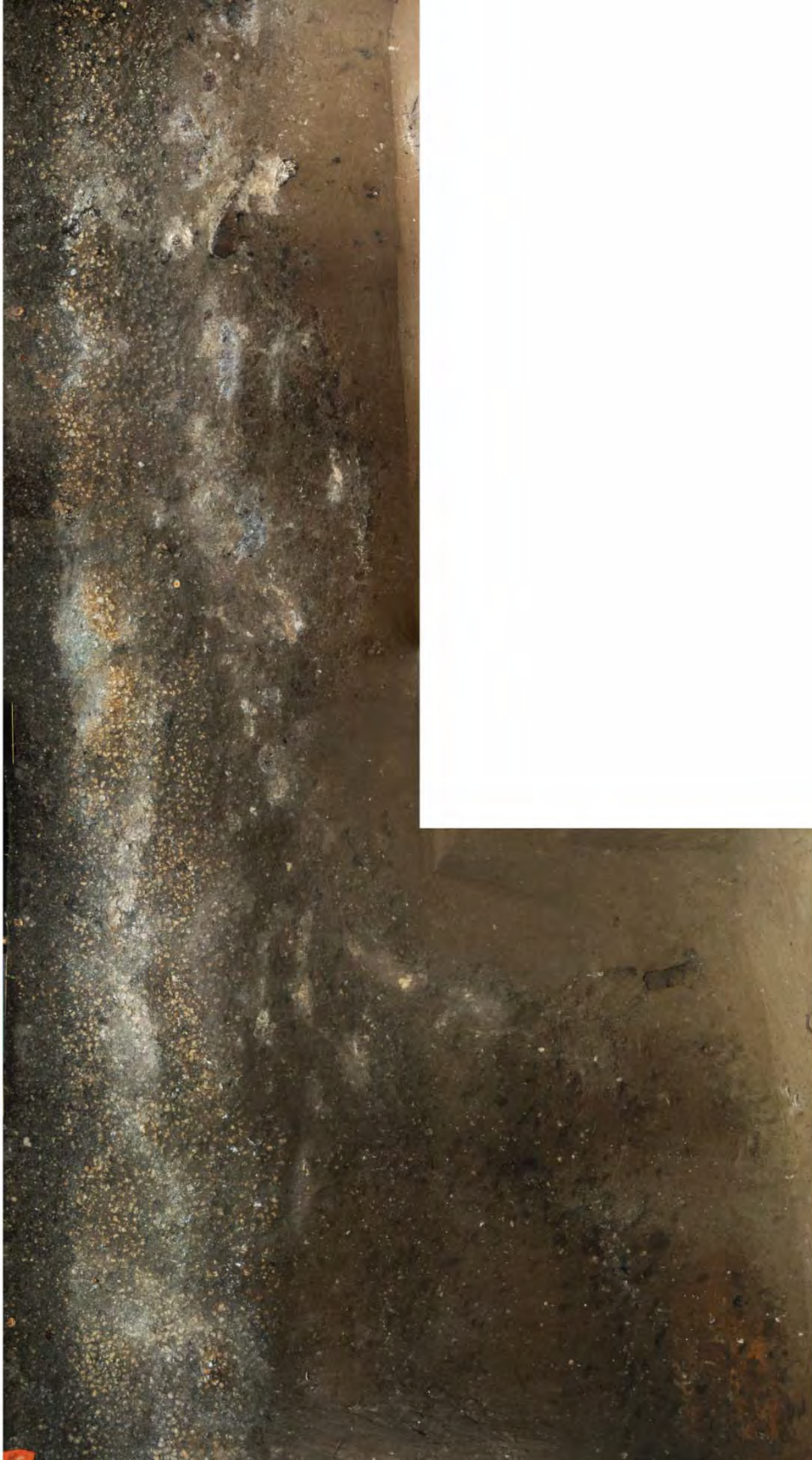


Figure 6-24. Composite photograph of east profile from 2009 block (TUs 39-42), 8LA1W.

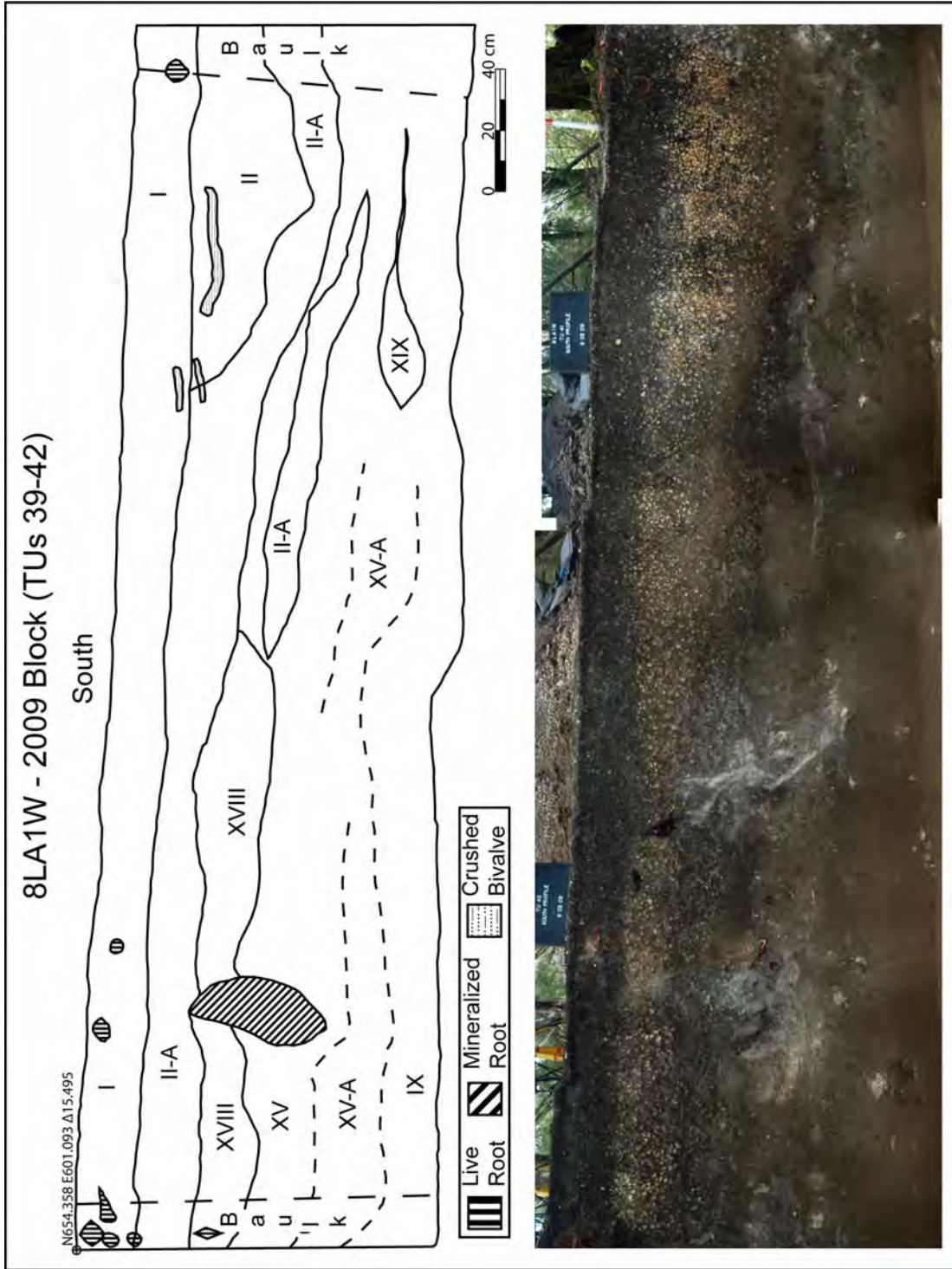


Figure 6-25. Stratigraphic drawing and composite photograph of south profile from 2009 block (TUs 39-42), 8LA1W.

Table 6-19. Stratigraphic Units of 2009 Block (TUs 39-42), 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	74	23	10YR3/2	Plow zone; very dark grayish brown loamy fine sand with moderate to abundant whole <i>Viviparus</i> shell; abundant live roots
II	111	71		Whole <i>Viviparus</i> shell with minimal soil matrix; traces of crushed shell throughout; thin lenses of crushed bivalve
II-A	144	104	10YR4/2	Dark grayish brown loamy fine sand with abundant whole <i>Viviparus</i> shell and occasional <i>Pomacea</i> shell
II-B	125	81	10YR3/2	Very dark grayish brown loamy fine sand with whole <i>Viviparus</i> shell; infrequent fauna.
III	141	96	10YR3/3	Buried A-horizon; dark brown fine to medium sand with only trace amount of shell; grades to lighter brown color with depth.
IV	141	94	10YR4/2	Dark grayish brown medium sand with abundant whole <i>Viviparus</i> shell and moderate density crushed <i>Viviparus</i> and bivalve.
IV-A	179	132	10YR4/2	Dark grayish brown concreted medium sand with abundant whole <i>Viviparus</i> and bivalve shell and moderate density crushed <i>Viviparus</i> .
V	187	141	10YR4/3	Brown fine sand with moderate to low frequency of whole <i>Viviparus</i> and bivalve.
VI	201	158	10YR4/3	Brown fine sand with low frequency of whole <i>Viviparus</i> and bivalve.
VII	190	148		Concreted <i>Viviparus</i> (whole) and bivalve (whole and crushed) shell.
VII-A	217	172		Concreted <i>Viviparus</i> (whole) bivalve (whole and crushed) shell; higher density bivalve than stratum VII.
VIII	222	176	10YR4/4	Dark yellowish brown fine to medium sand with no shell.
VIII-A	218	176	10YR4/2	Dark grayish brown medium sand with no shell.
IX	231	187	10YR6/4	Light yellowish brown fine to medium sand with no shell.
X	221	181	7.5YR5/8	Strong brown heat oxidized sand with high frequency of charcoal.

(continued on next page)

Table 6-19. (continued)

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
XI	144	109	10YR2/2	Very dark brown medium sand with moderate density whole and crushed <i>Viviparus</i> and small amount of charcoal.
XII	190	148	10YR3/2	Very dark grayish brown fine sand with abundant whole <i>Viviparus</i> and moderate density whole bivalves. Heterogeneous in color and content.
XIII	144	96	10YR4/2	Dark grayish brown fine sand with abundant compacted whole <i>Viviparus</i> and rare crushed bivalve, <i>Pomacea</i> . Occasional charcoal.
XIV	135	99	10YR4/2	Dark grayish brown fine to medium sand with abundant whole and moderate density crushed <i>Viviparus</i> .
XV	108	85	10YR5/3- 10YR3/3	Brown to dark brown medium sand with moderate frequency whole <i>Viviparus</i> and abundant mineralized root casts throughout.
XV-A	116	92	10YR4/3	Brown fine to medium sand with abundant mineralized root casts throughout.
XVI	83	40	10YR5/3	Brown mottled crushed shell with oxidized sand and burned shell. Virtually no soil matrix.
XVII	118	103	10YR3/3	Dark brown medium sand with whole and crushed <i>Viviparus</i> and bivalve near base.
XVIII	70	54	10YR4/1	Dark gray medium sand with moderate amount finely crushed shell and whole <i>Viviparus</i> .
XIX	119	98	10YR3/3	Dark brown medium sand with moderate amount crushed shell and whole <i>Viviparus</i> and <i>Pomacea</i> .

Whatever their origin, there is little indication, in terms of either habitation debris or shell diminution, that they reflect lengthy domestic occupations.

In addition, at least three discrete thermal features were encountered in the excavation of Stratum II. All were ovoid in shape and consisted of a central pocket of gray ash and burned shell surrounded first by burned and crushed *Viviparus* and bivalve and then by orange oxidized shell and sand. Initially these were designated as features (Features 29 and 30) and were interpreted as possible domestic cooking hearths. As excavations progressed, however, the burned deposits began to taper and turn in unpredictable ways suggesting that they were in fact tree roots that penetrated into shell deposits and eventually burned in place.

Table 6 20. Cultural Materials Recovered from Level Excavation of 2009 Block (Test Units 39, 40, 41, and 42), 8LAIW

Level	Absolute Elevation (m) <sup>1</sup>	St. Johns Plain	Orange/ T. I. Incised	Orange Plain	Orange Eroded	Crumb	Lithic Tool	Unmod. Lithic Flake	Marine Shell (g)	Modified Bone	Vert. Fauna (g)	Paleo-feces (g)
<b>Plow Zone<sup>2</sup></b>		69	2	3	4	107	4	8		1	92.5	
<b>A</b>	<b>15.51-15.41</b>											
A - Zone B						1			0.5		0.3	
A - Zone C											4.4	1.9
<b>B</b>	<b>15.41-15.31</b>											
B - Zone A						5					0.4	
B - Zone B		1				2					2.6	
B - Zone C		1				8					17.3	
<b>C</b>	<b>15.31-15.21</b>											
C - Zone A			1									
C - Zone B			4	1	1	30					17.0	
C - Zone C						16					28.8	
C - Zone E							1	1			38.8	
<b>D</b>	<b>15.21-15.11</b>											
D - Zone A			1	1		1	1				4.6	
D - Zone B			2	4	1	39					39.5	
D - Zone C			4	3	3	27			7.0	1	48.5	
D - Zone E											8.9	
<b>E</b>	<b>15.11-15.01</b>											
E - Zone A												0.6
E - Zone B			3	3	5	29			67.7		10.2	
E - Zone C			8	11	9	69			1.6		114.5	6.0
E - Zone E				1	1	4			17.1		16.4	
<b>F</b>	<b>15.01-14.91</b>											

(continued on next page)

Table 6-20. (continued)

Level	Absolute Elevation (m) <sup>1</sup>	St. Johns Plain	Orange/T. I. Incised	Orange Plain	Orange Eroded	Crumb	Lithic Tool	Unmod. Lithic Flake	Marine Shell (g)	Modified Bone	Vert. Fauna (g)	Paleo-feces (g)
F-Zone B			4	1	7	8					10.0	
F-Zone C			5	7	7	54	1	1	0.1		32.6	
F-Zone D									28.1			
F-Zone E				1	2	9				1	51.8	
<b>G<sup>3</sup></b>	<b>14.91-14.81</b>											
G-Zone B/C				2		2					8.1	
G-Zone C			1	4	2	18	2				59.3	
G-Zone D			2	1	1	1		1			44.6	
G-Zone E			1	9	7	35		2			57.1	7.4
G-Zone F											0.6	
G-NE Quad				1							8.3	
G-SE Quad											10.8	
<b>H<sup>4</sup></b>	<b>14.81-14.71</b>											
H-Zone C				7	3	87					9.6	
H-Zone D				5	2	29	1	2	143.0		56.3	
H-Zone D/E				1	2	7	1				54.8	
H-Zone E						5					0.3	
H-Zone F				1	3	9	1				4.7	
H-NE quad			1	1	2	14			12.4		5.0	
H-NW quad				5	2	11					1.9	
<b>I<sup>5</sup></b>	<b>14.71-14.61</b>										23.8	
I-Zone D				2	2	13				2	47.3	
I-Zone F			2	23	6	85	2	1	1.1		29.7	
I-NE quad						2					11.8	

(continued on next page)

Table 6-20. (continued)

Level	Absolute Elevation (m) <sup>i</sup>	St. Johns Plain	Orange/ T. I. Incised	Orange Plain	Orange Eroded	Crumb	Lithic Tool	Unmod. Lithic Flake	Marine Shell (g)	Modified Bone	Vert. Fauna (g)	Paleofeces (g)
I - NW Quad				8	1	14					7.7	
<b>J<sup>6</sup></b>	<b>14.61-14.51</b>											
J - Zone D						8		1		1	6.9	
J - Zone F				23	3	72		3	1.9		8.5	0.5
J - NW quad				7	4	30					7.3	
<b>K</b>	<b>14.61-14.51</b>											
K - Zone D						2					1.6	
K - Zone F				14	1	20	1		0.6		24.6	
K - NW quad				4	2	13					3.0	
<b>Total</b>		<b>65</b>	<b>39</b>	<b>173</b>	<b>85</b>	<b>942</b>	<b>15</b>	<b>20</b>	<b>281.1</b>	<b>6</b>	<b>1035.2</b>	<b>13.9</b>

<sup>1</sup> maximum upper and lower elevations based on Datum A from 8LAI E with arbitrary elevation of 10.00 m

<sup>2</sup> plus two St. Johns check-stamped sherds

<sup>3</sup> Level G/H in Test Unit 40

<sup>4</sup> Level I in Test Unit 40

<sup>5</sup> Level J in Test Unit 40

<sup>6</sup> Level K in Test Unit 40





Figure 6-26. Plow scars in south half of 2009 block at approximately 20 cmbd.

Artifacts are generally sparse within Stratum II and include Orange fiber-tempered ceramics, occasional lithic flakes, and a very low frequency of vertebrate fauna. The Orange ceramic assemblage includes both plain and incised varieties, including relatively rare Tick Island Incised examples. The latter were found primarily within the densest shell in the northern half of the block.

The thick mantle of shell constituting Stratum II sits atop a probable buried A-horizon (Stratum III) suggesting some period of disuse at Locus B before the shell was deposited. This natural soil horizon consists of a ca. 10-15 cm thick layer of dark brown sand with only a trace amount of shell and is most clearly visible in the block's north profile. It is roughly horizontal but trends gently upward toward the northeast, following the slope of the modern surface in this area.

Beneath the thick *Viviparus* layer and buried A-horizon, it becomes more difficult to discuss the block as a whole, as at this point its north and south halves begin to diverge stratigraphically. In the north, just below Stratum III the basal sand (Stratum IX) is intersected by a number of massive pit features similar to those found in TUs 4 and 22 (see Figure 6-27). As in TU22, these pits are broadest and often overlap at their tops so that virtually the entire bottom 1.5 m of cultural deposits in the northern half of the excavation block consist completely of pit fill. Although only five of these large-scale pits could be defined well enough to receive feature distinctions, several additional examples were undoubtedly excavated. Probable pit fill that could not be confidently attributed to any specific feature was excavated as either Zone D if it consisted of shell-

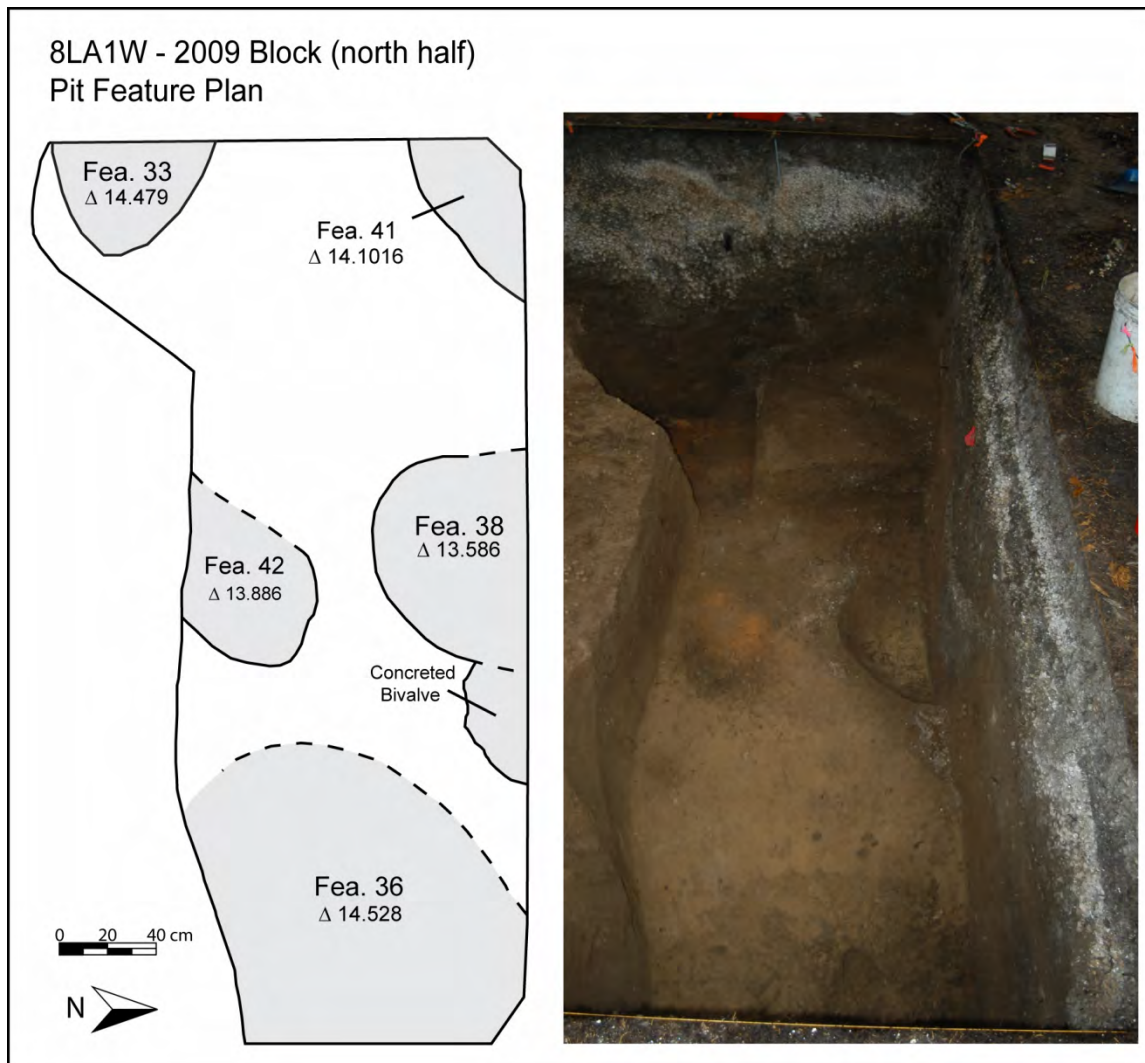


Figure 6-27. Plan drawing and photograph of the bases of pit features in the north half of the 2009 block, 8LA1W (Note: photograph not to scale).

free sand or Zone F if it contained both sand and shell. With one notable exception, the features that could be delineated contain mostly dark gray-brown sand with varying densities of *Viviparus* shell and small to moderate amounts of plain fiber-tempered pottery. They all exhibit evidence of thermal activities, with most displaying the bright red oxidized sand and charcoal deposits at their bases noted above for TU22. In addition, at least three of the pits contain substantial amounts of burned and concreted bivalve shell, providing strong support for their interpretation as mussel steaming facilities. Charcoal samples recovered from two of the pits containing Orange Plain pottery (Features 33 and 36) returned respective AMS radiocarbon assays of  $3730 \pm 40$  rcybp (4230-3980 cal BP) and  $3590 \pm 40$  rcybp (3980-3830 cal BP).

One of the pit features, Feature 38 is different from the others in that it appears to have been filled in at least three distinct stages. The base of this feature is composed of fine brown sand with no shell. Above this is a dense, highly concreted layer of whole and crushed bivalve and *Viviparous* shell, followed by a less concreted layer with more sand relative to shell. Feature 38 is also the only pit in the 2009 block to contain decorated ceramic sherds, all of which exhibit Tick Island style designs. This pit appears to be slightly younger in age than the others because it originates from a higher surface and actually cuts into two preexisting pits. Two AMS assays of  $3590 \pm 40$  rcybp (3980-3830 cal BP) and  $3670 \pm 40$  rcybp (4140-3890 cal BP) situate Feature 38, along with the Tick Island style pottery that it contains, late in the Orange period, near the end of Locus B's Late Archaic occupation. Individual pits are discussed in more detail in the section below on features.

In the south half of the block, instead of a covering a series of large pits, Stratum II, the thick *Viviparus* layer, obscures a low-lying, flat-topped mound of emplaced sand labeled Strata XV and XV-A (Figure 6-28). This sand feature is approximately 40 cm tall at its highest exposed point in the southeast corner of the block and can be seen to slope gradually down in both the south and east profiles until it reaches the underlying basal sand (Stratum IX). Although its precise dimensions are unknown, prior to excavation the sand extended almost 1.5 m out from the southeast corner. In all likelihood, the sand was piled up as the pits evident in the north half of the block were dug, although what, if any, function this feature may have served is unclear at this time.

Virtually no cultural materials were found either on or within the emplaced sand and no features were discovered that would suggest it served as an architectural foundation. There were, however, two small, shallow basin shaped pits discovered along the margins of the emplaced sand. One of these, Feature 35, extended out of the east wall of the block near the northern edge of the sand and contained mostly whole unopened bivalve and whole *Pomacea* while the other, Feature 37, was located approximately 2 m to the west and contained exclusively whole unopened bivalve. These pits emanated from the same surface as the larger steaming pits in the northern half of the block and appear to have been placed in relation to the emplaced sand feature. Their relatively small size, lack of thermal alteration, and the whole paired bivalves they contained, suggest that these features may reflect either short-term storage pits that were abandoned or forgotten or perhaps even intentional votive deposits or "offerings" associated with the shellfish production process. An AMS radiocarbon assay of  $3640 \pm 40$  rcybp (4080-3850 cal BP) from Feature 37 indicates general contemporaneity with the large steaming pits and possibly a coordinating function.

The emplaced sand sits atop the yellowish brown layer of shell-free sand (Stratum IX) that constitutes the sterile basal stratum throughout the excavation block. In the south half of the block this stratum was consistently encountered at approximately 70 to 90 cmbd. In the north half, the upper portion of the basal sand was largely obliterated when the large steaming pits were dug. Consequently, at some spots along the northern profiles it is present only below these pits at depths of 150 to 200 cmbd.

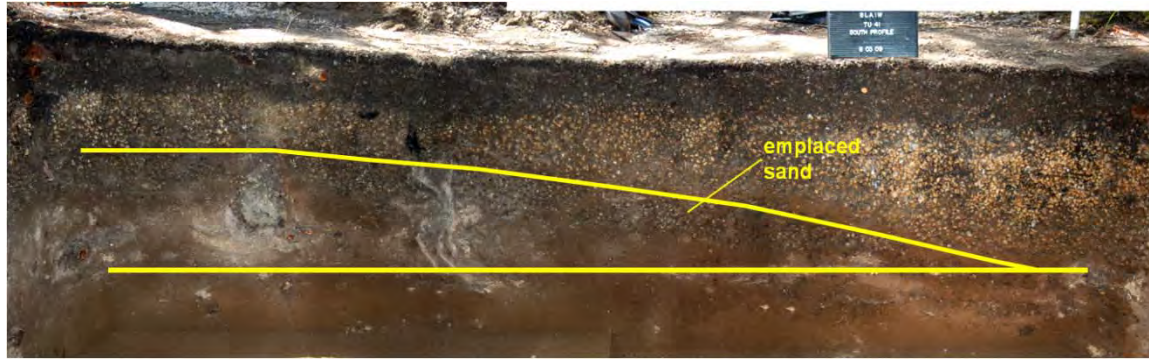


Figure 6-28. South profile of 2009 block showing location of emplaced sand.

### *2010 Block Excavation*

In 2010, an additional 2 x 4-m block was excavated at Locus B by members of the St. Johns Archaeological Field School (Figure 6-29). Oriented north-south, the 2010 block was aligned with the eastern edge of the 2009 block and offset two meters to the south, placing it at the western edge of Locus B's shell node. It was positioned in an attempt to intersect the southern edge of the emplaced sand "platform" encountered in 2009 and thereby determine what, if any, function the sand may have served. As in 2009, the ultimate goal was to locate any architectural features or patterns in the distribution of artifacts and/or features from which houses or other domestic structures could be inferred.

*Excavation Methods.* The excavation block was divided into two 2 x 2-m test units, Test Unit 43 (TU43) in the north and Test Unit 44 (TU44) in the south. The basic excavation methods employed were identical to those utilized in 2009 and were once again geared toward the collection of fine-grained spatial data. As with the previous year, all artifacts larger than two centimeters in diameter were point-plotted, although in this case plot locations were measured manually using folding rules and line-levels rather than a total station. Depths for both units were measured from a local datum set at 10-cm above the northeast corner of TU43.

At approximately 50 cmbd, a pit feature (Feature 45) was encountered along the eastern portion of TU43's north wall. Within the feature, a large portion of a fiber-tempered ceramic vessel protruded out of the wall and into TU43. In order to expose the feature in its entirety and recover the pot without destroying it, a small L-shaped test unit covering 1 m<sup>2</sup> (Test Unit 45) was tacked onto the northeast corner of the block. Following the same excavation methods employed for the rest of the block, it was initially excavated down to the level of the exposed pot. Once this level was reached and the sherds recovered, Test Unit (TU45) was left untouched until excavation of TU43 and TU44 was completed, so that their original profiles could be recorded. Subsequently, TU45 was excavated down to the same level as the other two test units.

*2010 Block Stratigraphy.* Eleven distinct stratigraphic units were identified in TU43 and TU44 from the 2010 block excavation. Composite drawings and photographs of the stratigraphic profiles from the block's walls are shown in Figures 6-30 through 6-33. Descriptions of the major stratigraphic units are provided in Table 6-21. Because TU45 was excavated and profiled independently from the rest of the block, its stratigraphic data are reported separately in Figure 6-34 and Table 6-22. Nonetheless, unless otherwise indicated, the following in-text discussion of the block's stratigraphy utilizes strata designations from TUs 43 and 44. Artifact counts for each level and zone of all three test units comprising the 2010 block are shown in Table 6-20.



Figure 6-29: Field school students excavating the 2010 block at Locus B, 8LA1W.

### 8LA1W - 2010 Block (TUs 43 and 44)

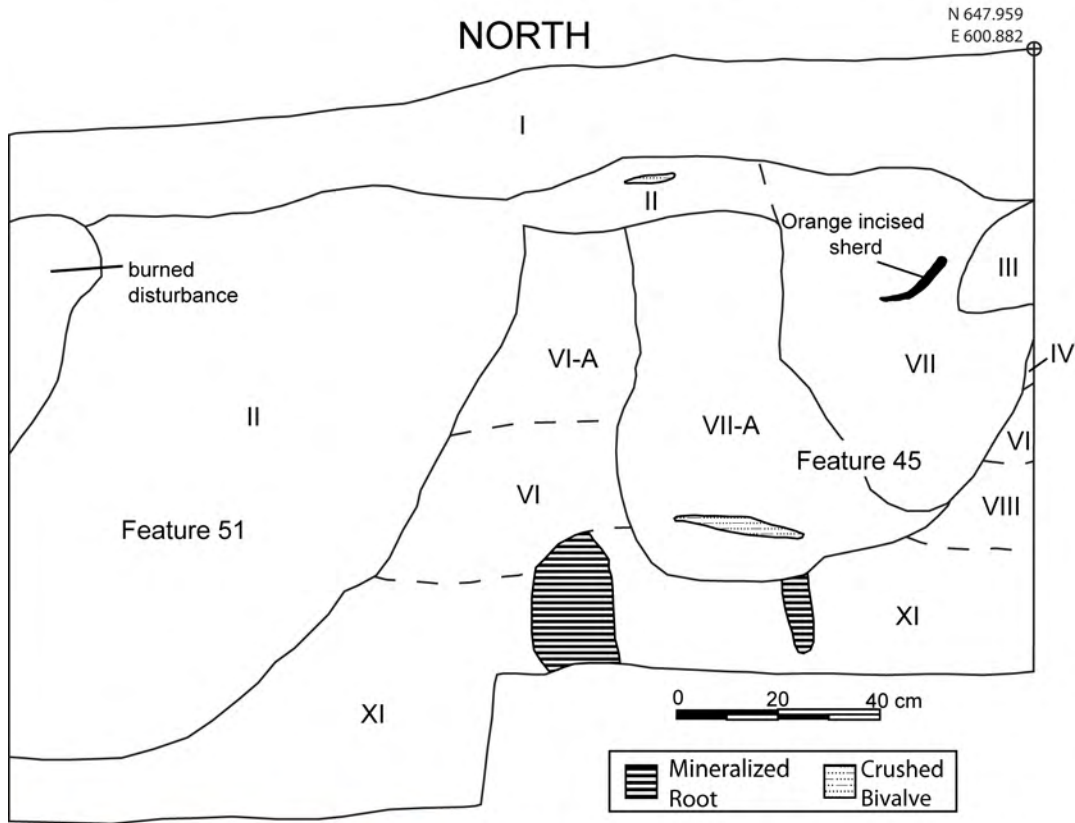


Figure 6-30. Stratigraphic drawing and composite photograph of north profile from 2010 block (TUs 43 and 44), 8LA1W. (Note: photograph not to scale.)

8LA1W - 2010 Block (TUs 43 and 44)



Figure 6-31. Stratigraphic drawing and composite photograph of east profile from 2010 block (TUs 43 and 44), 8LA1W.



Figure 6-32. Stratigraphic drawing and composite photograph of west profile from 2010 block (TUs 43 and 44), 8LA1W.



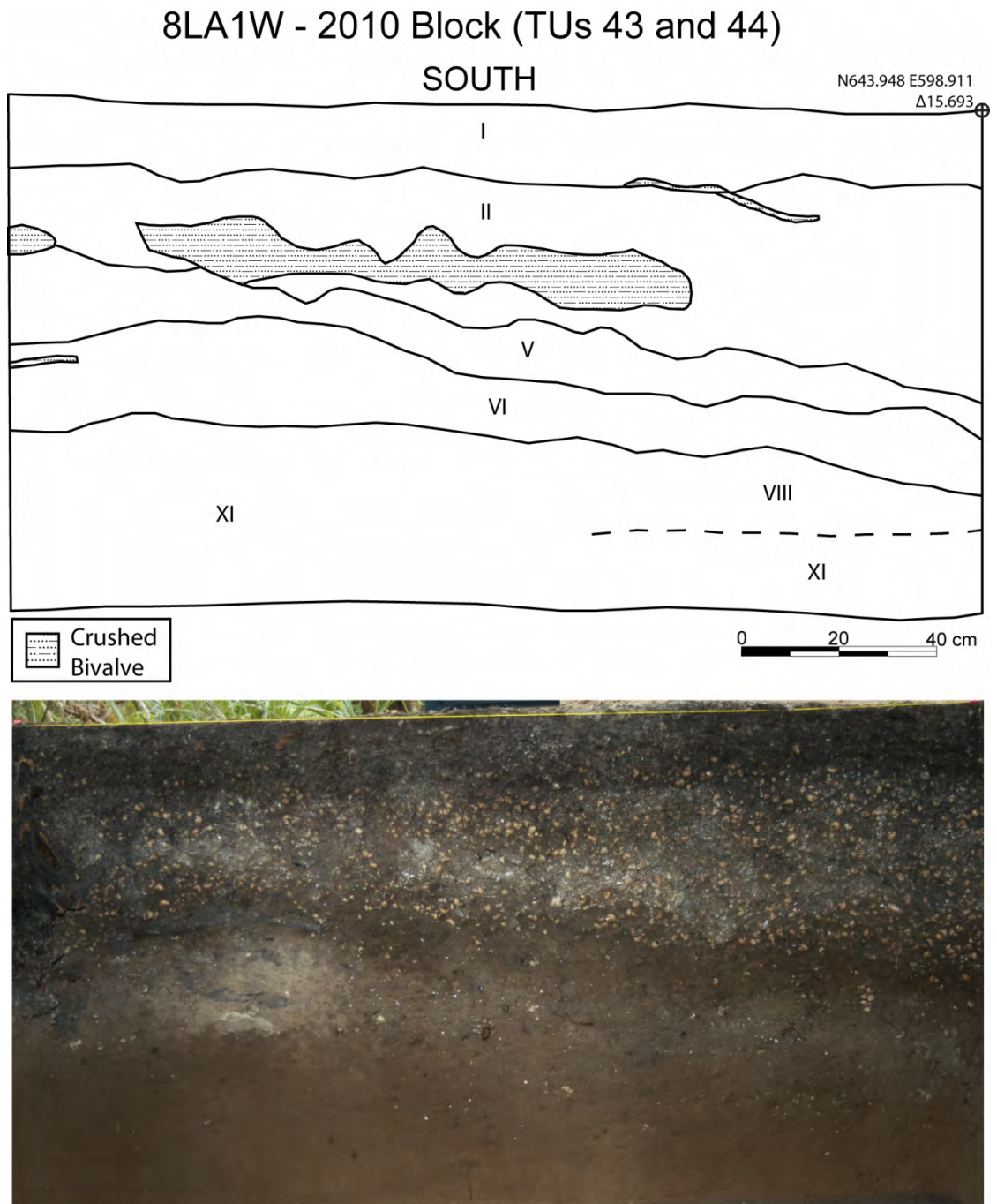


Figure 6-33. Stratigraphic drawing and composite photograph of east profile from 2010 block (TUs 43 and 44), 8LA1W. (Note: photograph not to scale.)

Table 6-21. Stratigraphic Units of 2010 block (Test Units 43 and 44), 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	35	30	10YR3/2	Very dark grayish brown, organically enriched sand with moderate density whole and crushed <i>Viviparus</i> and abundant live roots. Plow zone.
II	76	59	10YR4/2	Dark grayish brown sand with high density of mostly whole <i>Viviparus</i> , frequent lenses of burned crushed bivalve and occasional <i>Pomacea</i> .
III	55	50	10YR5/1	Very dense burned and crushed bivalve shell in a small amount of gray sand.
IV	71	67		Very high density of whole <i>Viviparus</i> and crushed bivalve with virtually no soil matrix.
V	83	68	10YR3/2	Buried A-horizon. Very dark grayish brown medium sand with low density whole <i>Viviparus</i> .
VI	118	84	10YR5/3	Medium grayish sand with low density crushed bivalve, occasional whole <i>Viviparus</i> and <i>Pomacea</i> .
VI-A	87	80	10YR5/3	Medium grayish brown sand with low density crushed bivalve. Abundant mineralized roots, and patches of very pale brown sand (10YR8/3).
VI-B	95	81		Very dense and compacted whole and crushed <i>Pomacea</i> and bivalve with virtually no soil matrix.
VII	102	96	10YR5/3	Medium grayish brown sand with very high density whole <i>Viviparus</i> . Smaller amounts of crushed <i>Pomacea</i> and bivalve. Feature 45.
VII-A	103	97	10YR6/2	Light brownish-gray, ashy sand with moderate density whole <i>Viviparus</i> , occasional crushed bivalve and frequent mineralized roots.
VIII	108	92	10YR3/1	Medium very dark gray sand with very low density crushed shell. Second buried A-horizon.
IX	105	97	10YR3/1	Very dark gray sand with high density whole <i>Viviparus</i> . Feature 49.
X	145	131	10YR4/3	Medium brown sand with occasional whole <i>Pomacea</i> and bivalve. Feature 48.
X-A	125	109	10YR8/3	Mineralized roots and sand with frequent whole and crushed bivalve. Highly concreted.
X-B	137	122		Very dense concreted <i>Pomacea</i> and bivalve with virtually no soil matrix.
XI	150	137	10YR4/3	Medium brown sand with no shell. Sterile.

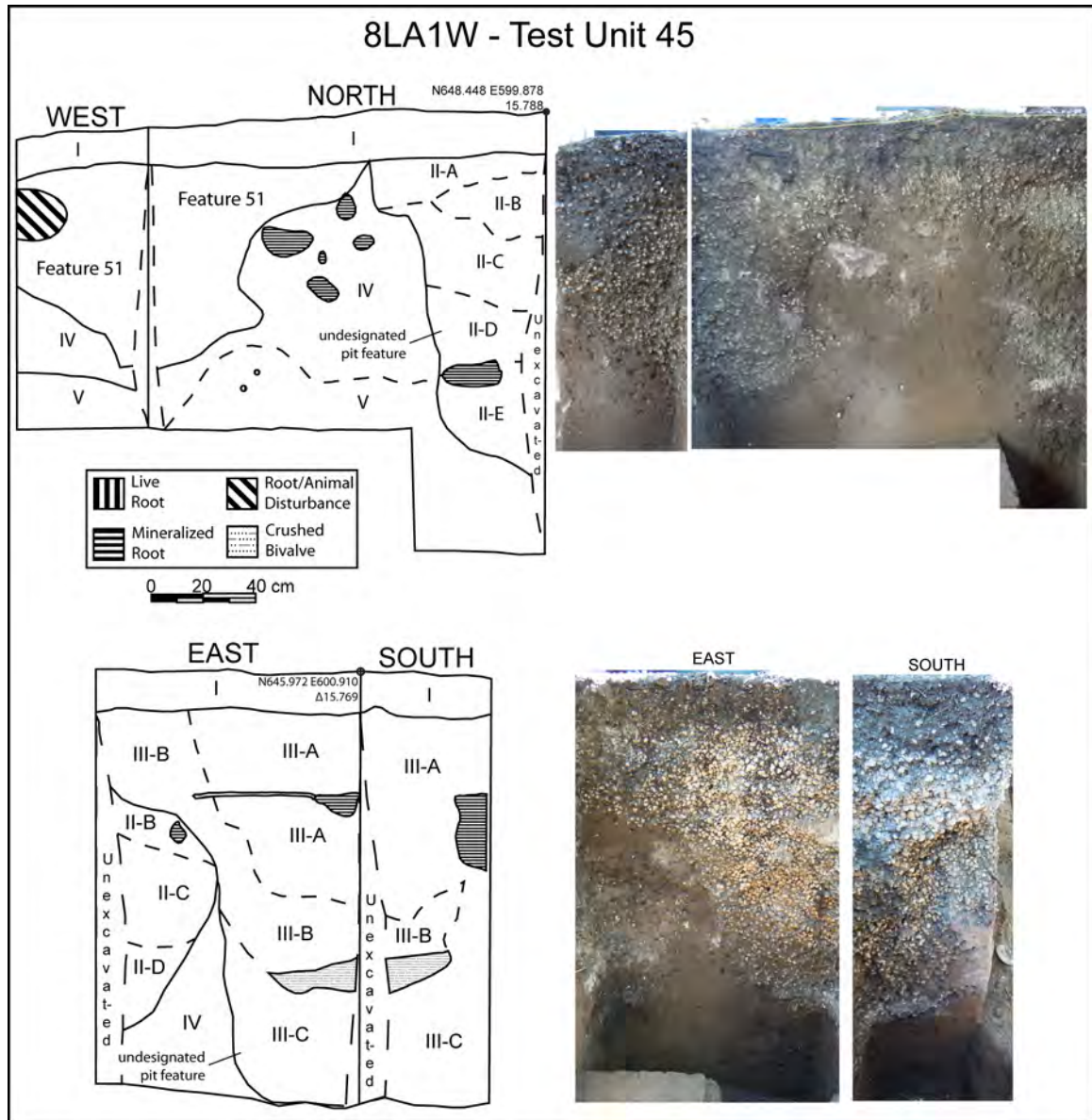


Figure 6-34. Stratigraphic drawings and composite photographs of profiles from Test Unit 45, 8LA1W. (Note: photographs not to scale.)

The plow zone exposed by the 2010 block ranges from 10-25 cm thick and largely corresponds to excavation Level A/B, although it extends down into Level C in some places. Like other excavated areas of Locus B, it consists of very dark, organically enriched sand with low to moderate density whole and crushed *Viviparus* shell and abundant small to large roots. It contains a relatively high density of mostly plain St. Johns ceramics, several lithic tools and flakes, and a small amount of vertebrate fauna. Again, the St. Johns component is largely confined to this upper, disturbed stratigraphic unit.

Table 6-22. Stratigraphic Units of Test Unit 45 (2010 block), 8LA1W.

Stratigraphic Unit	Max. Depth		Munsell Color	Description
	cm BD <sup>1</sup>	cm BS <sup>2</sup>		
I	25	18	10YR3/2	Dark grayish-brown fine sand with low to medium density whole and crushed <i>Viviparus</i> .
IIA	41	39	10YR4/2	Dark grayish brown fine sand with medium density whole <i>Viviparus</i> .
IIB	79	74	10YR4/2	Dark grayish brown fine sand with high density crushed bivalve and occasional whole <i>Viviparus</i> .
IIC	110	104	10YR2/2	Very dark brown fine sand with low density whole <i>Viviparus</i> .
IID	141	138	10YR3/2	Very dark grayish brown fine sand with medium to high density crushed bivalve and occasional whole <i>Viviparus</i> .
IIE	142	135	10YR2/2	Very dark brown fine sand with occasional crushed bivalve and whole <i>Viviparus</i> .
IIIA	52	45		Very high density whole <i>Viviparus</i> and crushed bivalve with virtually no soil matrix.
IIIB	120	113	10YR4/2	Dark grayish brown fine sand with high density whole <i>Viviparus</i> .
IIIC	171	165	10YR2/2	Very dark brown fine sand with sporadic whole <i>Viviparus</i> .
IV	170	163	10YR3/3	Dark brown fine sand.
V	162	168	10YR4/4	Dark yellowish brown fine sand.

In this area, as in the 2009 block just to the north, the plow zone sits atop a massive stratum of mostly whole shell with varying amounts of dark grayish brown sand (Stratum II). At one location in the northeast corner of TU43 (Stratum IV), shell density is so high that virtually no soil matrix can be discerned. This shell layer consists primarily of large whole *Viviparus* but also contains occasional *Pomacea* and is crosscut in several locations by thin horizontal lenses of burned and crushed bivalve. While the top of this stratum contains a significant amount of St. Johns Plain ceramics, this is most likely a result of plow disturbance. Orange fiber-tempered ceramics are present throughout, although their density is highest around the crushed bivalve lenses near the stratum's center. They include roughly equal proportions of plain and incised varieties. Other artifacts from Strata II/IV are sparse and include a few chert flakes, small bits of marine shell, and a low frequency of vertebrate fauna.

Table 6-23. Cultural Materials Recovered from Level Excavation of 2010 block (Test Units 43, 44, and 45), 8LA1W.

Level	St. Johns		Orange/		Crumb	Lithic Tool	Unmod.			Misc. Rock	Marine Shell (g)	Modified Bone	Vert. Fauna (g)
	Plain	Orange/T. I. Incised	Orange Plain	Orange Eroded			Lithic Flake	Lithic	Misc. Rock				
A/B <sup>1</sup>	11		2		36	4	10		2		1.8		32.9
C <sup>2</sup>	22	1	4	1	86	3	5		4		13.0	1	105.5
D <sup>3</sup>	3	21	13	1	46	1	1				13.8		47.0
E <sup>4</sup>		2	8	2	35		1	3					111.6
F		6	5	4	35	1	5	1	1		27.1		177.6
G		2	1	1	24	5	5	1	1		194.8	4	405.4
H			1		2	2	1				7.6	1	195.3
I							6				10.3	1	180.2
J						1	4				94.1		134.9
K <sup>5</sup>													53.6
K-Zone A						1	1						1.1
K-Zone B											2.9		6.8
K-Zone C							1						15.6
L													28.2
L-Zone C							2				1.4		9.6
M					1		6						25.8
Profile Cleanup <sup>6</sup>			1				1				0.1		56.7
Total	36	32	35	9	265	18	49	11	11		366.9	7	1587.8

<sup>1</sup> plus one historic metal object; one St. Johns Check Stamped sherd; two St. Johns incised sherds<sup>2</sup> plus two St. Johns Check Stamped sherds<sup>3</sup> plus one St. Johns eroded sherd<sup>4</sup> plus 0.6 g of paleofeces; one sand-tempered plain sherd<sup>5</sup> plus 0.1 g of paleofeces<sup>6</sup> plus 3.5 g of paleofeces

Stratum II is interrupted in multiple spots along the west profile by patches of charcoal and burned black sand that probably resulted from tree roots burning in place. In the east profile near the southeast corner, a large branching tree root penetrated down into Stratum II from the base of the plow zone. It was initially thought that this root may have been a small Archaic-age tree preserved as a result of being encased in the Stratum II shell. A sample of the root, however, returned conventional radiocarbon assay of  $120 \pm 40$  rcybp (280-0 cal BP), indicating that it is actually the lower root portion of a modern tree, perhaps removed when the land was cleared for plowing in the early 20<sup>th</sup>-century.

The shell cap in the 2010 block (Strata II/IV) thickens substantially from east to west, increasing from around 20 cm in the east profile to upwards of 45 cm in the west. This trend appears to result from the sloping buried A-horizon (Stratum V) upon which the shell was deposited. This buried soil horizon consists of very dark grayish brown soil with low shell density and slopes upward from west to east (see south profile in Figure 6-33). As observed within other Locus B test units, this buried surface resembles the modern active A-horizon in exhibiting an underlying concentration of mineralized root casts. It is possible that the shell constituting Strata II/IV was used to level this preexisting sloped surface. Alternatively, if the shell deposits at Locus B have been truncated by plowing or other recent earth-moving activities, then the Strata II/IV may represent deposits of mounded shell that actually accentuated the sloping surface before they were scraped flat. It appears unlikely, however, that significant Late Archaic deposits have been removed, given the abundance of St. Johns materials that remain within the modern plow zone.

In the northwest corner of the block the Stratum II shell drops down approximately 110 cm, filling in a huge Orange period pit (Feature 51). The shell demarcating the exposed portion of this pit extends approximately 50 cm out from the northwest corner into TU43 and is identical to that observed in the overlying shell stratum. At least two additional shell-filled pits were exposed during the excavation of TU45, although they were not designated as such during excavation. One of these undesignated features can be seen in Figure 6-34 cutting down through the eastern edge of TU45's north profile and coming back up in the east, while the second partially overlaps the southern margin of the first and is visible in both the east and south profiles. This southernmost feature is similar to Feature 51 in that there is no distinction between the pit fill and the overlying shell cap, suggesting that some pits may have been open at the time that the shell layer was deposited and were infilled in one or a few large scale depositional events. This is perhaps a further indication that the shell cap was used consciously as means for obscuring existing topographical irregularities or "renewing" the existing Locus B surface. These massive pits are similar in scale and morphology to those previously excavated at Locus B and indicate widespread intensive use of this area during the Orange Period. Once again, however, little was found within them in terms of typical domestic debris that would suggest they resulted from everyday habitation activities. Instead, their extraordinary size and overlapping distribution suggest intermittent pulses of extremely intensive activity, perhaps geared toward the rapid processing of large quantities of shellfish.

This cap is visible across all 2010 block profiles with the exception of the north profile of TU45. There, an undifferentiated sand deposit exists between the two pit features that probably represents an intact portion of the emplaced sand “platform” observed in the southern half of the 2009 block. Unfortunately, this appears to be the only section of the emplaced sand that was not obliterated by subsequent pit-digging and is not particularly informative regarding the feature’s function or meaning.

Underneath the buried A-horizon, excavations uncovered a layer of grayish brown sand with low (Stratum VI) to very high (Stratum VI-B) densities of whole and crushed *Pomacea* and bivalve shell. This provides a noticeable contrast with the subsequent *Viviparus*-dominated Orange deposits and implies a distinct suite of shell deposition activities during this time. Stratum VI ranges in thickness from 10 cm to upwards of 50 cm. In spots (designated Stratum VI-A), it is permeated by abundant mineralized root casts associated with the overlying buried surface. No ceramic sherds were recovered from this stratum, indicating its probable preceramic Mount Taylor age. It does, however, contain frequent lithic and marine shell artifacts and relatively abundant vertebrate fauna compared to overlying deposits.

Stratum VI was deposited on top of a second buried A-horizon (Stratum VIII) that is most clearly visible in the block’s east profile as a 10 to 20-cm-thick layer of very dark, organic sand. The densest shell within Stratum VI was observed at its base along the contact with this organic layer, suggesting that the top of Stratum VIII is most likely the original Mount Taylor period surface. An increase in the density of cultural materials was noted as this surface was approached during excavation. Recovered artifacts include the base of a Newnan point, lithic flakes, marine shell fragments, and vertebrate fauna. Three pit features were also found to originate from this surface, including a broad shallow basin (Feature 49), a small straight-sided cylindrical pit filled with *Viviparus* (Feature 50), and a massive roughly 2-m-wide basin that is lined with dense concreted *Pomacea* and bivalve (Feature 48). All three are devoid of ceramics and Feature 48 contains a moderate density of vertebrate fauna remains. Charcoal samples from Features 50 and 48 returned radiocarbon assays of  $4180 \pm 40$  rcybp (4810-4430 cal BP) and  $4240 \pm 40$  (4860-4650 cal BP), situating them late in the Mount Taylor Period within the recently defined Thornhill Lake Phase (5600-4500 cal BP) (Endonino 2008). The diversity of features and artifacts, along with the higher frequencies of vertebrate fauna, suggest that the Mount Taylor component revealed by the 2010 block resulted from sustained activities associated with everyday living. These Mount Taylor deposits are underlain by medium brown, virtually sterile subsoil (Stratum XI).

### *Locus B Depositional Patterns*

Excavation of a 4 x 4-m block in 2009 and a 2 x 4-m block in 2010 exposed evidence for the same basic culture-historical components previously identified in Locus B’s initial exploratory test units, albeit at a much broader and more revealing scale. When combined with the data from the exploratory test units, the added insight gained from these relatively expansive excavations has exposed evidence for three distinct patterns of shell deposition at Locus B (see Figure 6-35). These patterns each exhibit

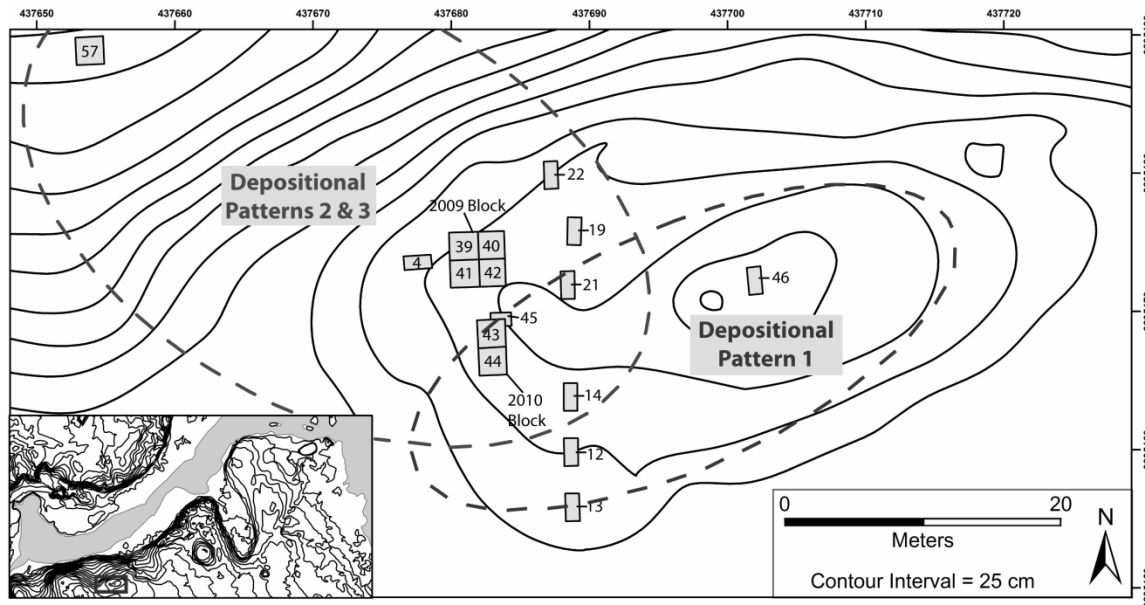


Figure 6-35. Map showing distribution of Late Archaic depositional patterns at Locus B, 8LA1W.

distinct material culture assemblages and correspond to three fundamentally different uses of this place during the Late Archaic. Together, they divulge a great deal regarding the Locus B's dynamic depositional history and its shifting role in larger-scale social processes.

*Depositional Pattern 1 (DP1)*. As noted above, the earliest shell deposition at Locus B is centered on the high point of this area's shell node and in fact, these cultural deposits, and not natural fluvial processes are responsible for most of Locus B's modern topographic relief. The preceramic occupation responsible for this pattern involved a small domestic settlement where everyday activities were carried out off and on over a period of hundreds of years. TU46, excavated near the center of the shell node, revealed a series of thin horizontal deposits of shell with intervening thin layers of dark, organically enriched sand that is virtually shell-free. In terms of composition, the thin shell layers are made up primarily of crushed freshwater bivalve and apple snail, but also include lithic tools and debitage, marine shell, modified and unmodified vertebrate fauna, and paleofeces. It is likely that these alternating layers represent a sequence of at least 4 repeated habitations and abandonments.

Approximately 20 m to the southwest, we see a continuation of this same basic pattern in deposits uncovered in the 2010 block excavation. Again, there is a horizontal layer of crushed bivalve and *Pomacea* shell but in this location there are also a series of pit features descending from this apparent habitation surface. Varying in size, morphology, and content, these appear to constitute three functionally distinct features within a preceramic domestic context. The artifacts recovered from this stratum and the associated pits include a diverse array of bone, lithic, and shell tools and a relatively large



quantity of vertebrate fauna, all of which support a domestic interpretation of these deposits. These materials were deposited on top of a well-developed intact A-horizon, the original preceramic surface at Locus B. Calibrated 2 sigma ranges from a series of four radiocarbon assays indicate that DP1 dates to the late preceramic Thornhill Lake Phase between 5740 and 4580 cal BP.

*Depositional Pattern 2 (DP2).* Radiocarbon and stratigraphic data indicate that this area of Locus B was abandoned near the end of the Thornhill Lake phase for perhaps a few hundred years, but at least long enough that substantial natural soil development was allowed to take place. Further evidence of this abandonment exists in the large mineralized tree roots that permeate the soil just below this second buried A-horizon. The next people to occupy Locus B did so during the subsequent Orange Period and initiated a depositional pattern wholly inconsistent with their preceramic predecessors. Where before the site's inhabitants had deposited materials and prepared features indicative of residential domestic activities, DP2 entailed a mode of inhabitation centered on the excavation and use of extraordinarily large pits. Many of these pits overlap, dug one on top of another across a broad area stretching at least 50 m from the western edge of Locus B's shell node over to TU57.

Burned and concreted bivalve shell in the bottoms of multiple pits hints at their use in shellfish processing, although with dimensions sometimes exceeding a meter in both diameter and depth, these pits seem out of proportion with domestic food processing. This period also saw the introduction of the region's first ceramic technology to Locus B. Aside from a modest number of undecorated fiber-tempered pot sherds, however, relatively few cultural materials were deposited during this time, especially considering the apparently high-intensity activities taking place. Consequently, little evidence exists suggesting that Locus B was a place of residence during this time. Instead, the size and overlapping nature of the pits point to successive short-term, high intensity events involving the processing of shellfish at a communal or even extra-communal scale. Calibrated 2 sigma ranges from a series of seven radiocarbon assays situate DP2 within the Orange period between 4520 and 3830 cal BP.

*Depositional Pattern 3 (DP3).* Shortly following the end of large-scale pit digging, a large quantity of mostly whole *Viviparus* shell was deposited across the surface of Locus B, an event marking another major transition in the site's history. DP3 forms a 30-50 cm thick, mostly homogeneous stratum of dense unconsolidated shell that at many places contains little if any soil matrix. Like the pits below it, this stratum contains only very sparse vertebrate fauna and artifacts, save for a small amount of fiber-tempered pottery. In contrast to the undecorated pottery from the pits, however, many of the sherds recovered from this deposit exhibit the curvilinear incisions and punctuations typical of the Tick Island style of decoration.

In many locations this layer of shell is completely undifferentiated from top to bottom. In others, it is crosscut by thin, roughly horizontal layers of crushed bivalve similar in many respects to the preceramic surfaces noted in DP1. These may be an indication that DP3 did not entail a single massive depositional act but rather a repeated

sequence of formal surface preparations using crushed bivalve followed by deposition of clean *Viviparus*. Nevertheless, the “clean” and unfragmented nature of the shell suggests a series of large-scale intentional capping events and not the gradual accumulation of domestic debris. The layer of shell constituting DP3 is virtually coextensive with the pits underlying it and in some places appears to have infilled open pits, in effect turning what must have been a rough and uneven surface into a relatively flat and smooth one. This massive mantle of shell is not unlike the ones noted earlier that cap discontinued Mt. Taylor habitation spaces (Randall 2010; Sassaman 2010) and perhaps constitutes the renewal of a long lived tradition of laying down whole shell over places at the end of their use lives. Two radiocarbon assays on samples recovered from Feature 38 (the only pit feature containing Tick Island style pottery similar to that recovered from DP3 deposits) tentatively date this stratum to 4140-3830 cal BP.

### FEATURE ASSEMBLAGE

In total, 34 features were recorded during the 2007-2010 excavations at Locus B, of which 25 were determined to be of pre-modern cultural origin (see Table 6-24). Following examination of excavation profiles, an additional four features were identified that had gone unrecognized in the field and as a result, were not assigned feature numbers. All Locus B features have been interpreted as infilled pits. These pits were classified according to shape and size as follows:

- Type 1: includes shallow basin-shaped pits with outward sloping margins; maximum diameters range from 25- 87 cm and depths from 8-20 cm;
- Type 2: includes broad, deep basin-shaped pits with outward sloping margins; maximum diameters range from 67-230 cm and depths from 42-73+ cm;
- Type 3: includes small cylindrical pits with vertical margins; maximum diameters range from 40-45 cm and depths from 31-51 cm;
- Type 4: includes large cylindrical pits with vertical margins; maximum diameters range from 60-140+ cm and depths range from 50-102 cm;
- Type 5: includes conical pits with inward sloping margins; maximum diameter of 120 cm and depth of 94 cm;
- Type 6: includes isolated shell pockets of presumed cultural origin: maximum diameters range from 38-47 cm and depths from 20-28 cm.

Typical examples of the various feature types and their relative stratigraphic distributions can be seen in Figure 6-36. The Thornhill Lake Phase deposits constituting DP1 include the widest variety of feature types, even though this component has undergone the smallest amount of excavation in terms of total surface area. DP1 features include small basins (Type 1), one large shallow basin (Type 2), small cylindrical pits (Type 3), and isolated shell pockets (Type 6). Most of these DP1 pits are found within

the relatively restricted space encompassed by the southern two thirds of the 2010 block (see Figure 6-37). In this location, various pit types were dug down from a buried surface occurring at approximately 90-100 cmbd.

Table 6-24. Cultural features recorded at Locus B, 8LA1W.

Feature No.	Type	Shape	Dimension (cm)	Depth (cm)	Cult.-Hist. Affiliation	Depo. Pattern
1	1	basin	25	14	Orange	2
2	downgraded					
3	downgraded					
4	1	basin	45 x 27	10	Orange	2
5	downgraded					
13	downgraded					
14	1	basin	17 x 12	8	Orange	2
15	2	basin	131+ x 52+	75?	Orange	2
16	2	basin	100+	80?	Orange	2
17	6	amorph.	45 x 22	20	Thornhill?	1
25	6	amorph.	38 x 30	28+	Thornhill?	1
26	4	cylinder	60	65+	Orange	2
27	4	cylinder	100+	50+	Orange	2
29	downgraded					
30	downgraded					
31	downgraded					
33	4	cylinder	100 x 66	84	Orange	2
34	1	basin	87 x 83	12	Orange	2
35	1	basin	82 x 74	16	Orange	2
36	2	basin	120+ x 80+	~90	Orange	2
37	1	basin	55 x 34	19	Orange	2
38	5	cone	120 x 72+	94	Orange/T.I.	3?
39	downgraded					
41	2	basin	indeterminate	indeterminate		
42	4	cylinder	100+	indeterminate		
45	4	cylinder	71 x 58	70	Orange	2/3?
48	2	basin	230 x 135+	42	Thornhill	1
49	1	basin	54 x 23	20	Thornhill	1
50	3	cylinder	45 x 43	31	Thornhill	1
51	4	cylinder	140+ x 100+	102	Orange	2
52	2	basin	67 x 27	65	St. Johns?	
53	downgraded					
54/55	2	basin	227+ x 134+	50+	Orange	2

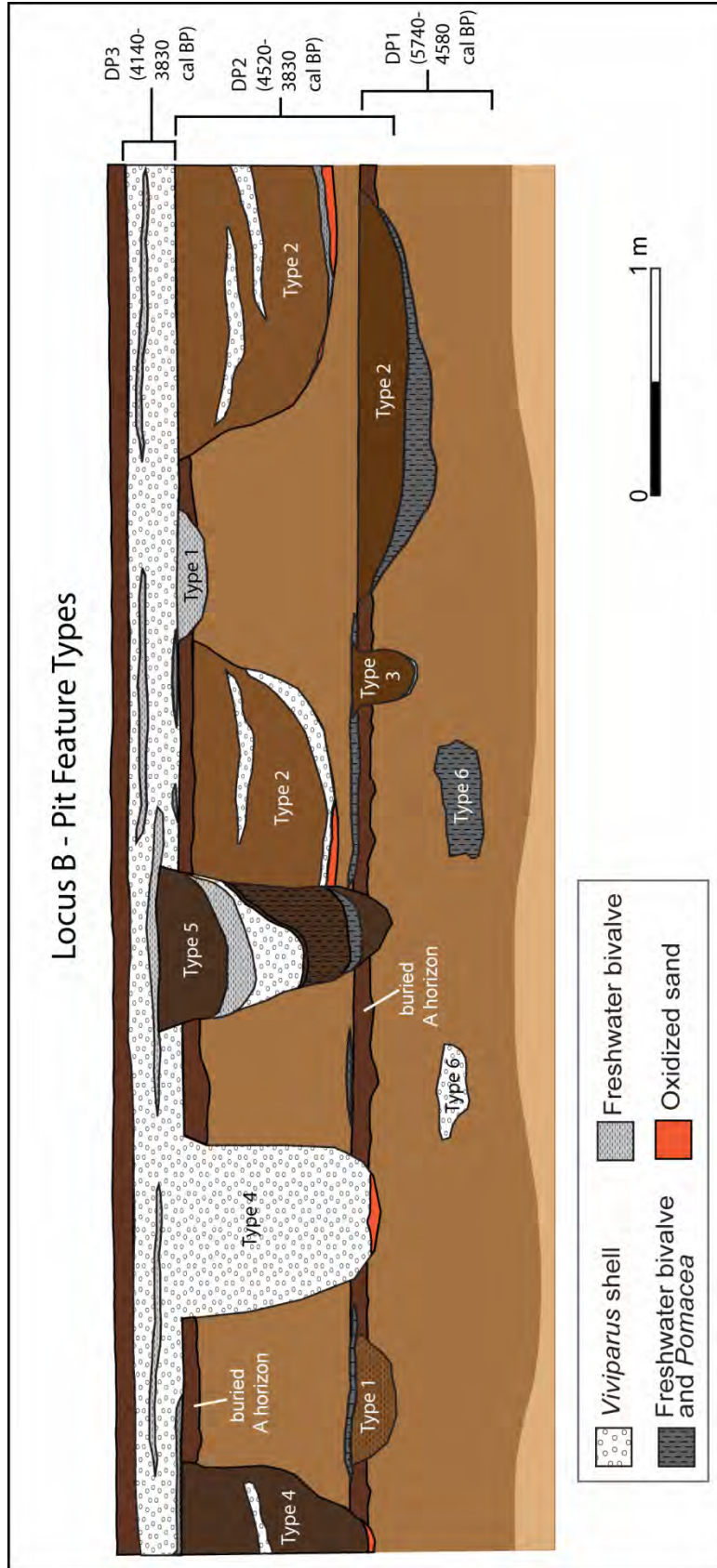
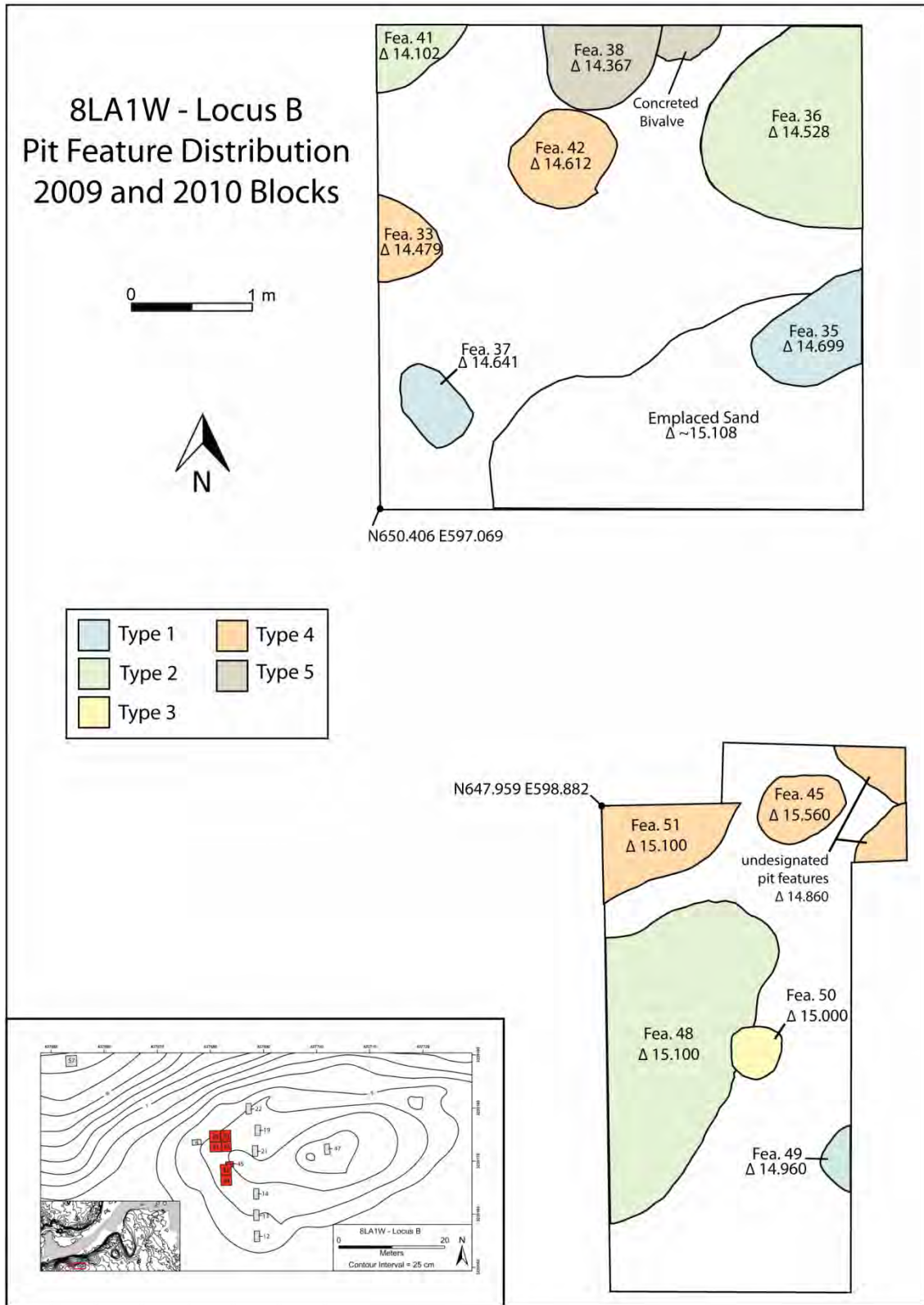


Figure 6-36. Schematic showing typical examples of feature types and their stratigraphic distributions within Locus B deposits.



Feature 6-37. Map showing horizontal distribution of pit feature types in the 2009 and 2010 blocks, 8LA1W.

DP2 features are far less varied and reflect a major transition in the mode and temporality with which Locus B was utilized during the Orange period. The most striking aspect of DP2 features is their scale, as almost all of Locus B's truly massive Type 2 and Type 4 features are associated with this pattern. These unusually large pits are found in all excavated contexts in the northern half of Locus B from TU22 in the east to TU57 in the west. They are tightly bunched across much of this area and frequently overlap making the delineation of some pit boundaries impossible. This has undoubtedly led to an underestimation of their total number. Smaller Type 1 features are also found within DP1 deposits, although at a lower frequency than Types 2 and 4.

The only Type 5 feature has tentatively been associated with DP3. This is a large conical pit, similar in size to many of the DP2 pits but with a tapered base and complex stratified fill. It straddles the boundary between TU39 and TU40 along the northern edge of the 2009 block. All feature types and individual features are discussed in more detail in the section that follows.

### *Type 1 Features*

A total of seven Type 1 features were recorded at Locus B. While these features all share a shallow basin shape in profile, in plan view, they vary widely in size and shape, ranging from small and roughly circular to long and ovoid. They also hold a variety of different fills with some enclosing only dark organic sands and others containing dense deposits of shell, bone, and other artifacts. The precise function(s) of Type 1 features is unknown, although they may have served variously as roasting pits, small-scale storage containers, or even as receptacles for votive offerings. As noted above, they are found within both the 2009 and 2010 blocks and are distributed throughout DP1 and DP2, thus bridging the gap between the preceramic Thornhill Lake and early ceramic Orange Period occupations of Locus B.

*Feature 1.* Feature 1 (Figure 6-38) is a small circular Type 1 pit located in the southern half of TU4. Measuring approximately 25 cm in diameter, it was initially recognized at 86 cmbd as a very dark gray (10YR3/1) pocket of loamy soil containing denser shell than that in the surrounding matrix. In cross-section, Feature 1 is a shallow basin with a maximum depth of 14 cm. It contains dense whole and crushed *Viviparus* and bivalve shell, some of which shows signs of burning. Bits of charcoal and small fiber-tempered ceramic sherds were also recovered from the pit, dating it to the Late Archaic Orange period. It is possible that this feature functioned as a small, temporary cooking hearth or roasting pit, although none of the matrix surrounding the pit shows any signs of having been exposed to fire. Feature 1 was bisected along a north-south axis. The eastern half was removed as a bulk sample for flotation, while the western half was ¼-inch screened.

*Feature 4.* Feature 4 (Figure 6-39) is a Type 1 pit located in the southeastern corner of TU4. Although only a quarter-section of this feature was uncovered, it appears amorphous in shape, with exposed dimensions of 70 x 63 cm. A large mineralized root that was originally designated Feature 5 was observed along the northern edge of the pit

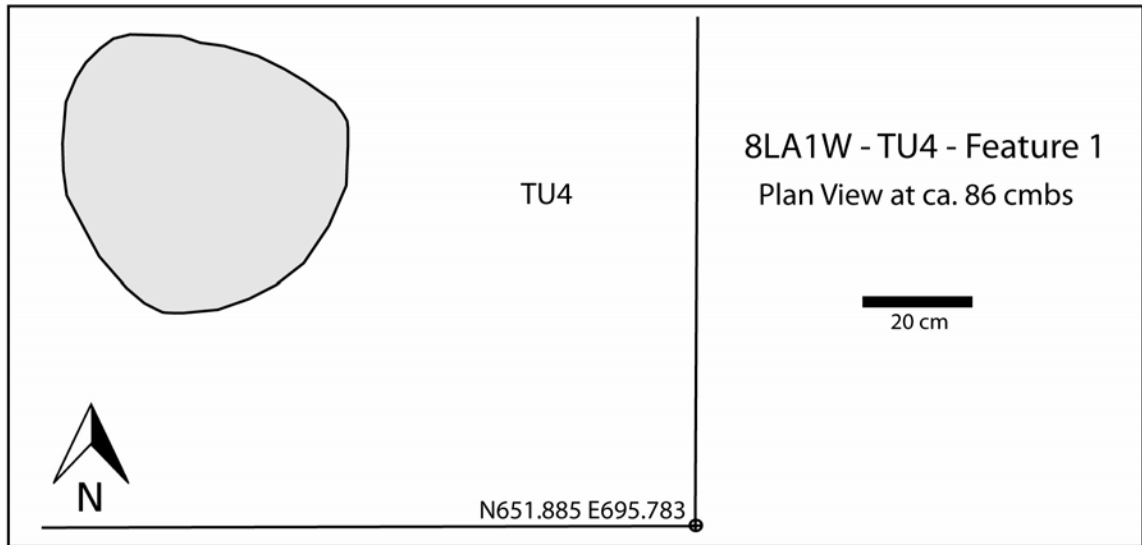


Figure 6-38. Drawing of the plan view of Feature 1, TU4, 8LA1W.

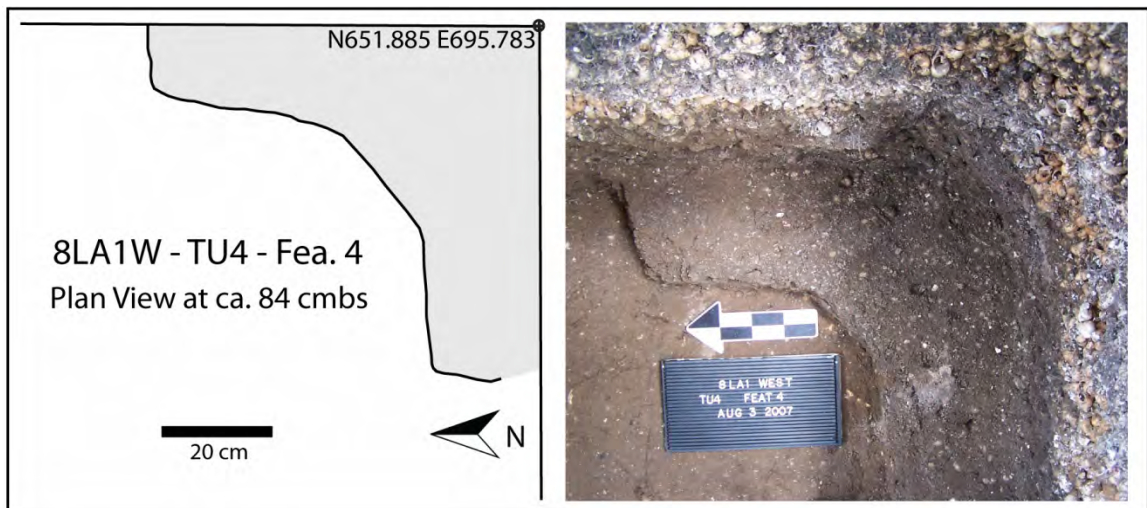


Figure 6-39. Drawing and photograph of the plan view of Feature 4, TU4, 8LA1W. (Note: photograph not to scale.)

and may be at least partially responsible for its unusual morphology. Feature 4 was not recognized until near its base but the portion visible in the south and east profiles of TU4 exhibits a maximum depth of approximately 10 cm. The pit is characterized by very dark grayish brown (10YR3/2) loamy soil matrix containing moderately dense whole *Viviparus* shell. After documenting the feature, the entire intact portion was removed as a bulk sample for flotation. Although no artifacts were observed during excavation, some

may still exist within this unanalyzed sample. Stratigraphically, Feature 4 is situated near the top of DP2 deposits, likely situating it within the Orange period.

*Feature 14.* Feature 14 is visible in cross-section in the northern half of TU4's east profile. It has been tentatively interpreted as a very small and shallow basin-shaped pit but could alternatively be the base of an infilled posthole. Feature 14 was recognized during excavation as a discrete pocket of dense whole *Pomacea* in slightly darker brown sand than the surrounding matrix. The shell is most concentrated near the base of the pit and is mixed with frequent lumps of charcoal. Due to its small size, Feature 14 was excavated in its entirety as a bulk sample for flotation.

*Feature 34.* Feature 34 (Figure 6-40) is a broad shallow basin-shaped pit located in the eastern half of TU39. It is roughly circular in plan view, measuring 87 x 83 cm at the top. It is characterized by abundant whole *Viviparus* shell in very dark grayish brown (10YR3/2) medium sand. Much of the shell excavated from Feature 34 is semi-concreted, especially that found near the center of the pit. One fiber-tempered plain sherd was recovered from this area and two other large sherds were found near the feature's southwestern periphery, near the base of Feature 29. The close proximity of Feature 29 may have impacted this portion of the pit, while a mineralized root runs through its eastern half.

Feature 34 was bisected along an axis running northwest to southeast. The northeastern half of the feature was removed as a bulk for flotation analysis while the southwestern half was 1/8-inch water screened. Excavation of the water screen sample was carried out to a point below the actual lower margin of the feature in order to ensure that the bottom had been reached and to expose a complete cross-section of the pit. It revealed a shallow basin with gently sloping sides that bottoms out in the northwest with a maximum depth of approximately 12 cm.

*Feature 35.* Feature 35 (Figures 6-41 and 6-42) is a shallow pit extending out of the east wall of TU42. It exhibits an unusual elongated ovoid shape that distinguishes it among Type 1 features and results in a linear "trough"-like appearance. It was first recognized at an absolute depth of 14.699 m (based on the local site datum) as a discrete concentration of whole bivalve and *Pomacea*. Excavation of the pit also revealed occasional whole *Viviparus*, crushed shell fragments of various types, and small flakes of charcoal. No artifacts were recovered that can confidently be attributed to the feature but a marine shell fragment found near its edge may be associated. Feature 35 lies within DP2 deposits, right at the edge of the emplaced sand anomaly discovered in the southern half of the 2009 block and appears to originate from approximately the same surface as the one on which the sand was deposited. It is likely that Feature 35 was intentionally placed in relation to the emplaced sand and the two may have had interrelated functions, although it remains unclear what those may have entailed.

In the field, this pit was bisected along an east-west axis, revealing the cross-section of a shallow basin with a maximum depth of 16 cm and regular, gently sloping margins. The cross-section grades in color from medium brown (10YR4/3) at the top to



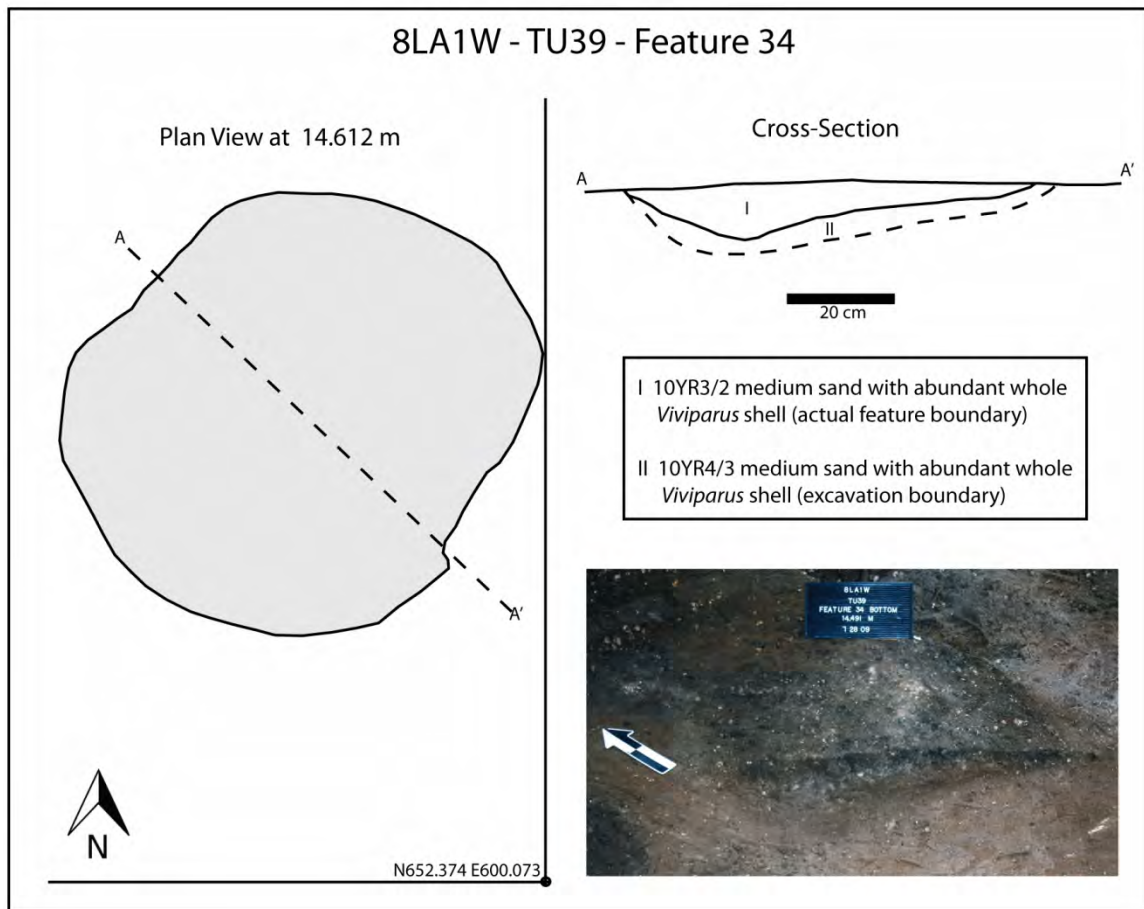


Figure 6-40. Drawings and photograph of the plan view and excavated cross-section of Feature 34 from TU39, 8LA1W. (Note: photograph not to scale.)

dark yellowish brown (10YR4/4) at the bottom. A thin 2-4-cm layer of dense bivalve and *Pomacea* cuts through the center. A potential disturbance exists in the form of a large mineralized root that runs along, or perhaps truncates, the northern edge of the pit and may have affected the feature's current shape.

*Feature 37.* Feature 37 (Figure 6-43) is a Type 1 pit feature located in the southwest quadrant of TU41. It stood out during excavation as a dense concentration of bivalve shell and very dark grayish brown (10YR3/2) sand in an otherwise mostly shell-free stratum. This feature is unusual in that it is filled primarily with whole bivalve shells that were paired and unopened prior to excavation. On the west side of the pit, a layer of extremely dense whole and concreted bivalve line the bottom of the pit. Underneath this concreted layer is a lens of bright red oxidized sand. This type of thermally altered sand is common at the bases of larger Type 2 and Type 4 pits at Locus B but is unique to Feature 37 among Type 1 features. The oxidized sand, along with a small amount of charcoal, and the whole unopened bivalve, may indicate that Feature 37 was a small

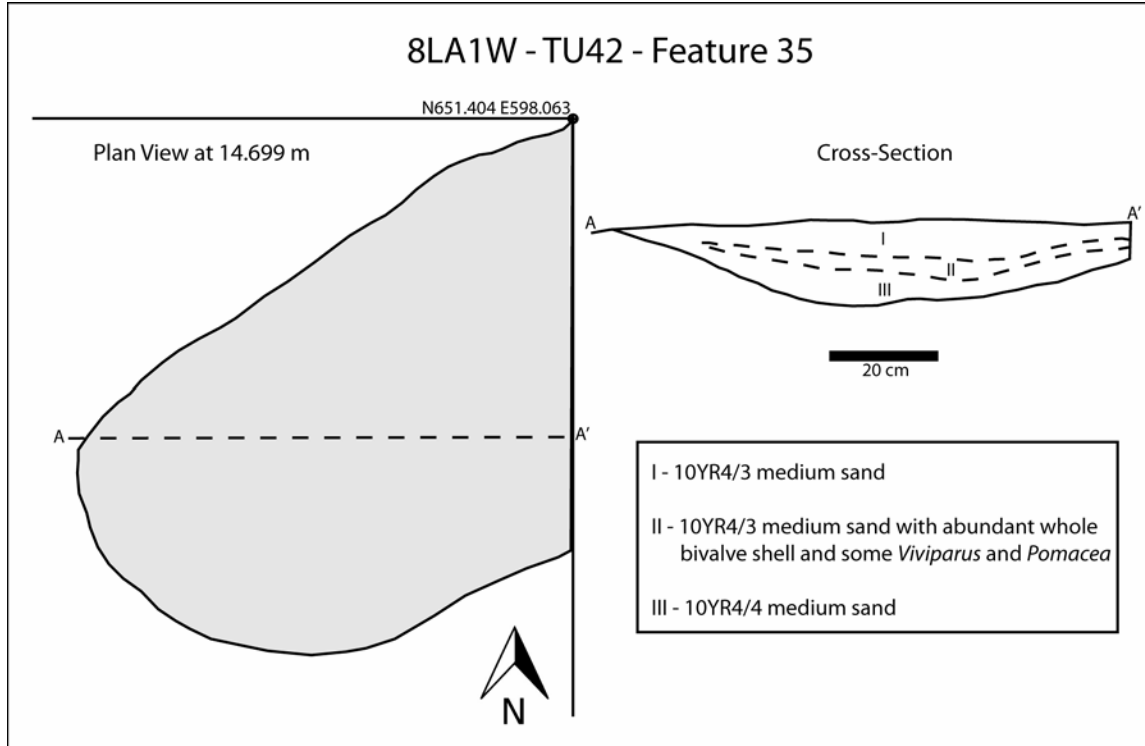


Figure 6-40. Drawings of the plan view and excavated cross-section of Feature 35 from TU39, 8LA1W.



Figure 6-41. Photograph of the excavated cross-section of Feature 35 from TU39, 8LA1W.

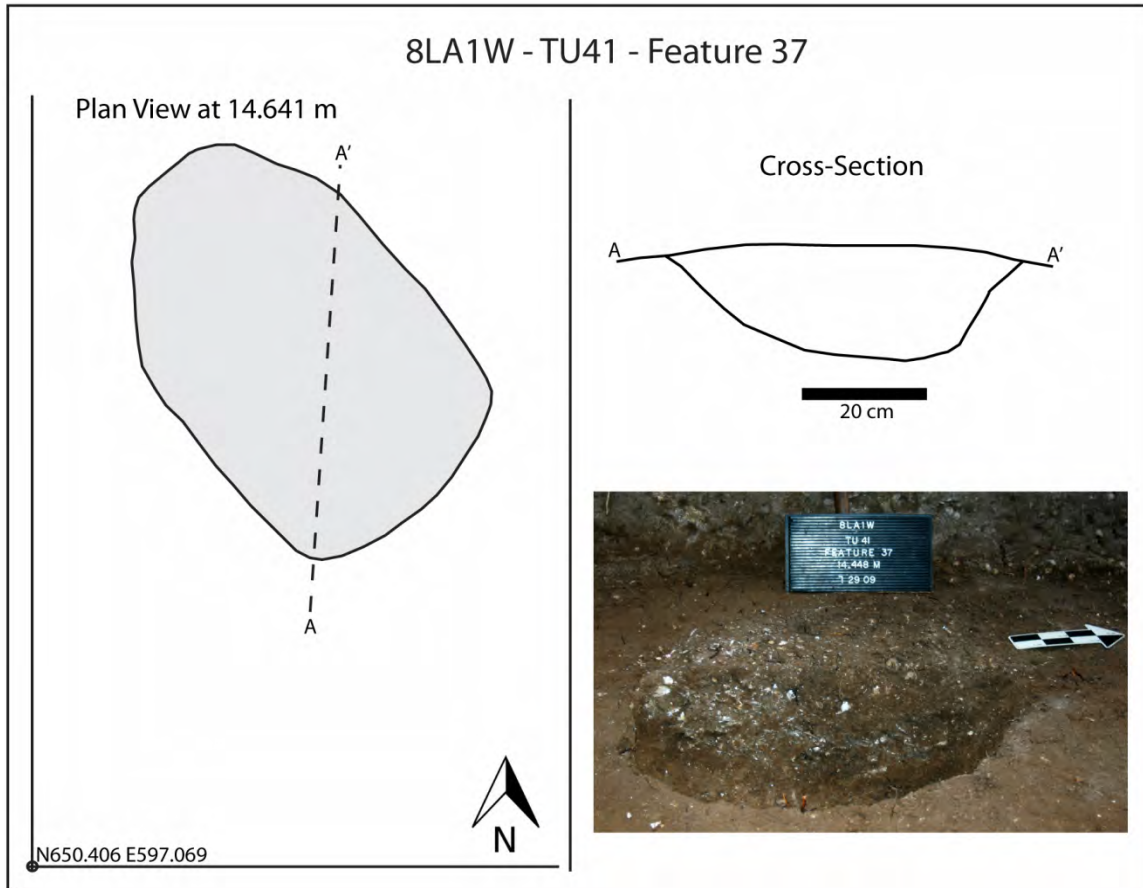


Figure 6-43. Drawings and photograph of the plan view and excavated cross-sections of Feature 37 from TU39, 8LA1W. (Note: photograph not to scale.)

roasting pit that was filled with freshwater clams, covered, and then forgotten about. A moderate density of *Viviparus* and small number of fiber-tempered plain ceramic sherds are the only other materials documented during excavation. A small concreted root runs through the base of the feature.

Feature 37 was bisected along a north-south axis, revealing a shallow basin with a maximum depth of approximately 19 cm. The west half was removed for flotation analysis and the east half was 1/8-inch water screened. A charcoal sample recovered from the bulk returned a radiocarbon assay of  $3630 \pm 40$  rcybp (4080-3850 cal BP), which is within the temporal range of other DP2 features.

*Feature 49.* Feature 49 (Figure 6-44) is a Type 1 feature overlapping the eastern edge of TU44 in the 2010 block. Although its actual top sits at 88 cmbd, this feature was not recognized as such until near its base when a concentration of *Viviparus* and bivalve in dark grayish brown (10YR3/2) sand became apparent in both the floor and east profile of the test unit. The exposed half of the feature measures 54 cm in diameter and extends approximately 23 cm into TU44. It appears to be the western half of a roughly circular

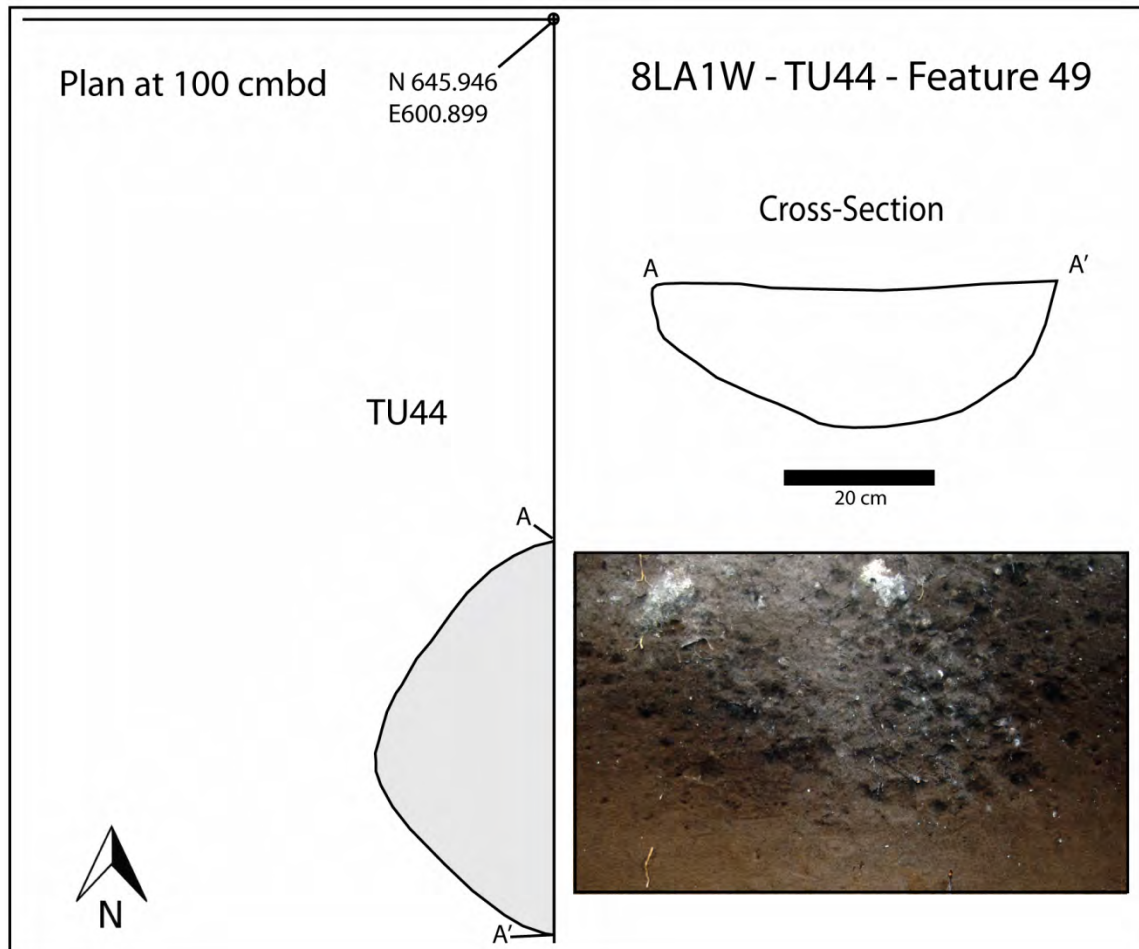


Figure 6-44. Drawings and photograph of the plan view and excavated cross-section of Feature 49 from TU44, 8LA1W. (Note: photograph not to scale.)

pit containing a moderate density of shell but no other observable artifacts. Bisected by the test unit wall, the feature originates from the lower buried A-horizon observed within the 2010 block, making it a part of DP1. It may consequently be related to two other pits (Features 48 and 50) discovered at this same level. Feature 49 is basin shaped and relatively shallow with a maximum depth of around 20 cm. Upon its recognition at approximately 100 cmbd, the entire remaining portion of the feature was removed and bagged as a bulk sample for flotation analysis.

### *Type 2 Features*

A total of eight Type 2 features have been documented at Locus B. Like Type 1 features, these exhibit a basic basin shape in cross-section with sloping sides and rounded or flat bottoms. They are clearly distinguished, however, by their scale, with maximum diameters ranging from 67-230 cm and depths from 42-73+ cm, resulting in volumes many times greater than those displayed by Type 1 pits. Pit fill varies considerably

among features, with some containing only a trace of shell while others enclose large, dense shell deposits. At least four Type 2 features contain highly structured deposits of shell and earth, resulting in complex stratified profiles. As noted above, most of these massive pits (at least six of the eight) are associated with DP2. At least five of these have evidence for burning near their bases, a fact that, when combined with the ambient shell and general lack of vertebrate fauna throughout DP2 deposits, suggests a primary function related to the steaming or roasting of shellfish. Type 2 features have a horizontal distribution that stretches across the entire area encompassed by the Locus B excavations. Within this area, individual pits frequently overlap each other, often making their recognition difficult and their precise delineation nearly impossible.

*Features 15/16.* Features 15 and 16 (Figure 6-45) are two large basin-shaped pits stretching across the entire southwestern half of TU4. These pits were first recognized as a single continuous concentration of shell in the floor of the test unit at approximately 110 cmbd. This concentration was later determined, however, to include two distinct pits. The features appear in stark contrast to the virtually shell-free sand surrounding them. Examination of the south and east profiles of TU4 reveals that the pits probably originate from a surface just below the base of the DP3 shell, perhaps at around 70-80 cmbd. This results in estimated maximum depths of 75 cm for Feature 15 and 80 cm for Feature 16. Horizontally, the visible portions of both pits extend for over one meter in diameter, although their actual dimensions are obscured by their overlapping margins and the limited perspective provided by the 1 x 2-m test unit.

If the upper boundary of the features proposed above is correct, then the fill from both pits can be said to exhibit some level of stratification. At least three distinct filling episodes are evident in both features. These can be seen in the cross-sections of the features shown in the south and east profiles of TU4 (see Figure 6-16 above). The lowermost, and presumably earliest, fill in Feature 15 consists of brown (10YR4/3) fine sand containing very dense, mostly burned shell, ash, and charcoal. Shell constituents include mostly whole and crushed *Viviparus* with pockets of whole burned bivalve. Portions of this stratum are solidly concreted and had to be broken up with a pick hammer during excavation of the feature. The bottom stratum of fill in Feature 16 is very similar to that in Feature 15 but with the addition of whole and broken *Pomacea*. Plain fiber-tempered pottery was found within the shell of both features. During excavation of the lower portion of these pits, a smell similar to burned rubber was noted. Above this basal stratum, the stratigraphic sequence of the two pits is virtually identical. In each case, a 25 to 45-cm thick layer of dark yellowish brown (10YR3/4) sand with only sparse whole *Viviparus* was deposited directly on top of the dense shell. In Feature 16, this layer is penetrated by a possible animal burrow and multiple mineralized roots. Following this, roughly 25 cm of dense whole *Viviparus* in a very dark grayish brown (10YR3/2) sand was laid down, thus completing the fill sequence. Relatively abundant vertebrate fauna is present within this upper layer. The fact that this sequence of discrete depositional acts was repeated in two distinct pits dug at different times suggests intentional structured deposition rather than the haphazard disposal of everyday refuse.

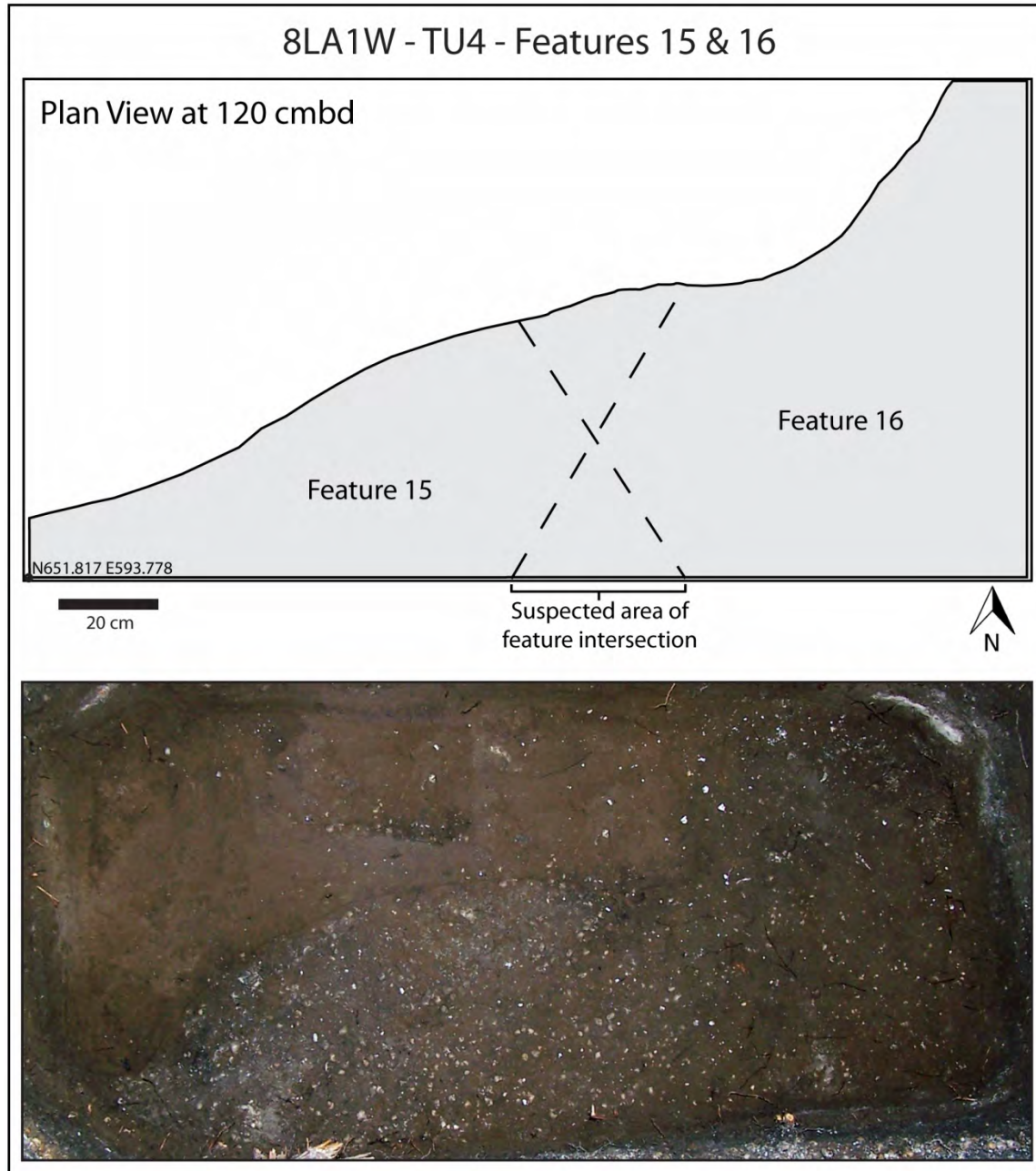


Figure 6-45. Drawing and photograph of plan view of the basal strata of Features 15 and 16, TU4, 8LA1W. (Note: photograph not to scale.)

As noted above, these features were not recognized until their dense basal shell was encountered at approximately 110 cmbd. Consequently, this stratum alone was preserved for fine screening. In each case, standard feature protocol was followed so that half of the fill was 1/8-inch water screened while the remaining half was removed in bulk for flotation analysis. The abundance of shell in the bottom of Features 15 and 16, (including substantial amounts of the larger, meatier *Pomacea* and bivalve), along with

the evidence for burning, indicate that these pits were likely utilized as shellfish roasting facilities. Their extraordinary size and elaborate fill sequences, however, suggest a significance that extends beyond small-scale subsistence economics. Charcoal from the base of Feature 15 returned an AMS radiocarbon assay of  $3830 \pm 40$  rcybp (4410-4100 cal BP).

*Feature 36.* Another probable DP2 roasting pit, Feature 36 (Figures 6-46 and 6-47) is an extremely broad and deep basin located in the northeast corner of TU40, a part of the 2009 block. The pit appears to be roughly oval in shape, measuring more than 120

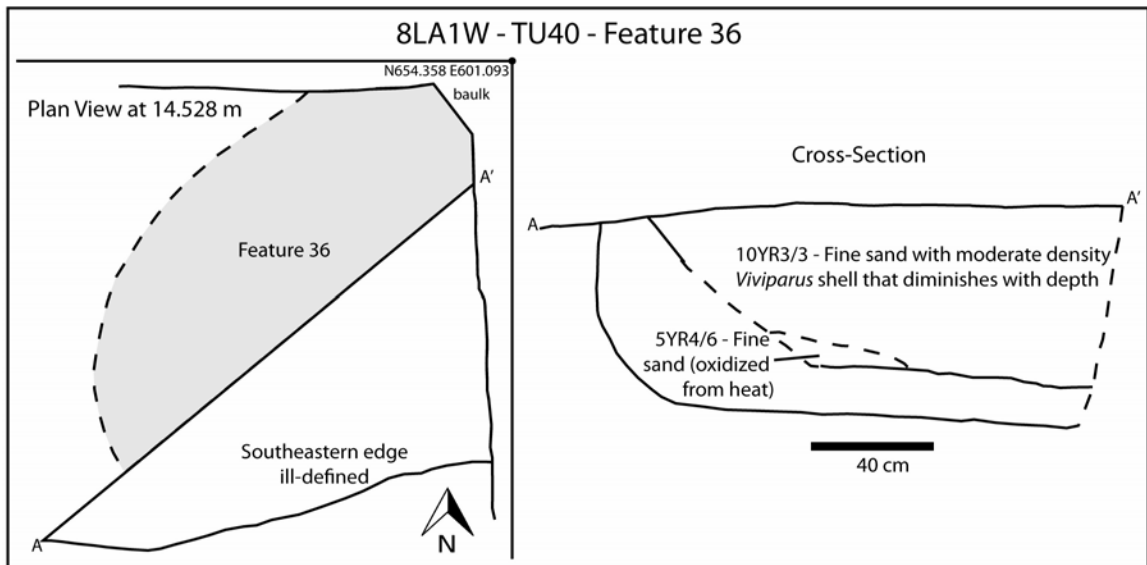


Figure 6-46. Drawing of the plan view and cross-section of Feature 36 from TU40, 8LA1W.

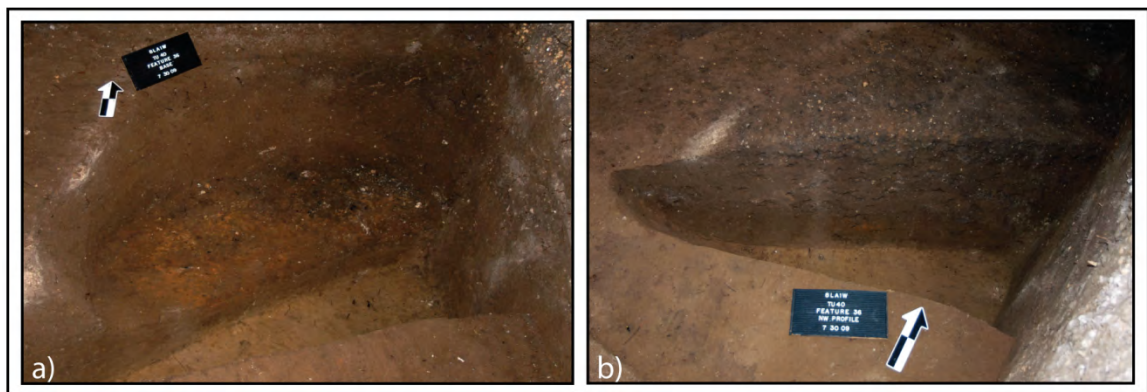


Figure 6-47. Photographs showing a) the excavated plan view, and b) the excavated cross-section of Feature 36 from TU40, 8LA1W.

cm long and at least 80 cm wide, although its actual dimensions are obscured by the test unit boundaries. It was initially recognized as a feature at an absolute elevation of 14.528 m, although its actual upper boundary seems to be slightly higher than this. In cross-section Feature 36 appears as a roughly 90-cm deep straight-sided and flat-bottomed basin. In the 2009 block's east profile (see Figures 6-23 and 6-24 above), the top of the pit can be seen to flare outward, significantly expanding its maximum upper diameter.

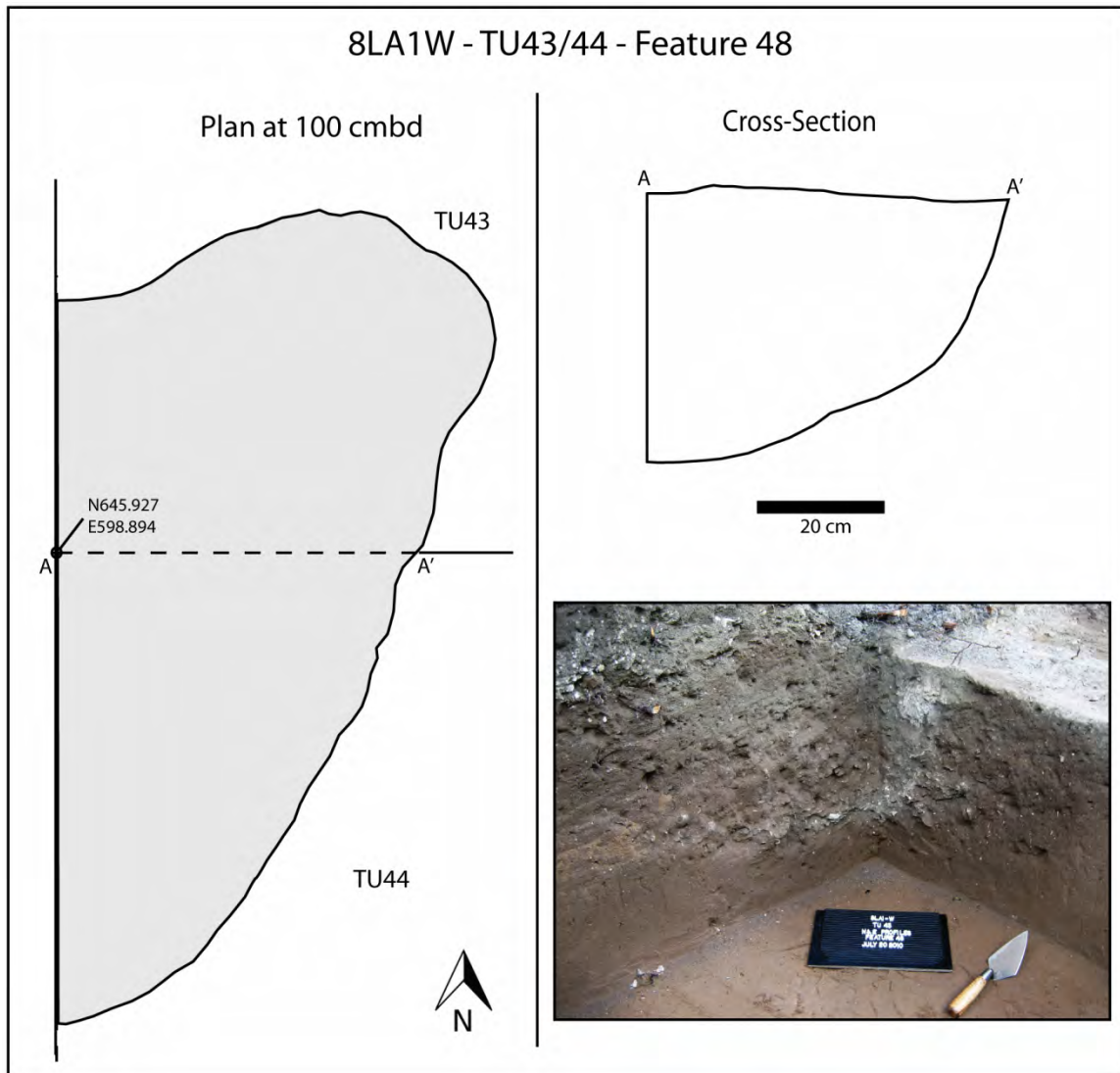
Feature 36 fill consists primarily of dark brown (10YR3/3) sand with moderate density of *Viviparus* shell that diminishes with depth. Whole and broken bivalve is also present throughout with the highest density occurring near its base. The pit is largely bereft of material culture with no significant vertebrate fauna and only a trace of plain fiber-tempered pottery. The basal portion of the western half of the pit consists of a very distinct stratum of heavily oxidized bright orange (5YR4/6) sand. This thermally altered sand extends for 120+ cm across the entire length of the feature and measures up to 15 cm thick in some places. A heavy concentration of charcoal was found associated with the oxidized sand in the northeast quadrant of the pit.

Upon recognition, Feature 36 was bisected along a southwest-northeast transect. As its southeastern margin was difficult to delineate in plan view, excavation of this half of the feature was extended beyond the known boundary of the pit in order to expose a clear and complete cross-section. Fill from this half was 1/8-inch water screened. The northwest half of the feature was carefully excavated only up to the boundary of the pit. Bulk samples were removed from this section for flotation analysis and the remainder was 1/4-inch screened. A charcoal sample from the basal bulk returned an AMS assay of  $3590 \pm 40$  rcybp (3980-3830 cal BP).

*Feature 41.* Feature 41 is a pit of unknown dimensions located in the northwest corner of TU39, within the 2009 block. Unfortunately, it was not recognized as a feature until bright orange oxidized sand and charcoal was encountered near its base (at approximately 13.54 m in absolute elevation), so little information regarding its size and morphology were documented. The depth and stratigraphic position of the pit's base, nonetheless, suggest a large and extremely deep feature in line with other Locus B Orange Period roasting pits belonging to DP2. Along the western half of the block's north profile, a thin arcuate stratum of shell is visible that may be an upper stratum of Feature 41. The broad, gently sloping basin-like configuration of this shell layer and the similarity of TU41's basal deposits to Feature 36 in terms of depth and composition are the primary criteria on which Feature 41 was tenuously classified as a Type 2 rather than a Type 4 feature. The pit's basal portion was removed in bulk for flotation analysis.

*Feature 48.* Feature 48 is an extremely broad, but relatively shallow, preceramic Type 2 feature that stretches across the boundary between TU43 and TU44 in the 2010 block. This massive pit originates from a hardened clay-like DP1 surface at approximately 86 cmbd that is lined in spots by thin lenses of dense bivalve, *Pomacea*, and relatively abundant vertebrate fauna. Feature 48 was initially recognized as an anomalous pocket of sand and shell within this surface. Because of its unusual size, it was at first unclear whether the anomaly was a feature or simply an intersecting stratum.





Feature 6-48. Drawings and photograph showing the plan view and excavated cross-section of Feature 48 from TU43 and TU44, 8LA1W. (Note: photograph not to scale.)

It measures 230 cm in length and at least 135 cm in width, although its actual maximum width is unknown as the feature intersects the western margin of the excavation block. In cross-section, however, the edges of the pit can be seen to slope regularly down to a maximum depth of 42 cm, forming an expansive shallow basin. This overall shape contrasts significantly with the deep and often straight-sided Type 2 features associated with DP2.

Excavation revealed that most of Feature 48 is filled with medium brown (10YR4/3) sand with occasional whole shell. The bottom of the pit however, is lined with dense whole and crushed bivalve and *Pomacea* shell similar to that found lying on

the surface from which the pit descends. A large concreted mass of this shell and sand was recovered near the center of the pit, at its deepest point. A moderate amount of vertebrate fauna and frequent charcoal were the only other material culture observed during excavation. The northern half of the pit has been penetrated by a number of mineralized and live roots. In addition, the eastern edge of Feature 48 appears to have been intersected by a small cylindrical pit (Feature 50), which emanates from the same surface. The evidence for burning and the large amount of shell in the bottom of the pit suggest that this feature too may have been utilized in cooking or shellfish processing activities.

Already crosscut by the western wall of the block, Feature 48 was bisected again along the east-west transect formed by the boundary between TU43 and TU44, and the south half was removed in order to obtain a perpendicular cross-section. Samples were taken from multiple levels and sections of the feature for flotation analysis and 1/8-inch water screening. The remainder of the feature fill was 1/4-inch screened. Charcoal obtained from the base of the pit returned an AMS radiocarbon assay of  $4230 \pm 40$  rcybp (4860-4650 cal BP), which dates it to near the end of the preceramic Thornhill Lake Phase.

*Feature 52.* Feature 52 is a deep basin-shaped pit located along the western edge of TU46. Although the top of this pit sits near the surface at approximately 10 cmbd, it was largely concealed, by the numerous natural and modern disturbances that have affected the upper strata of TU46. Consequently, Feature 52 was not recognized as an anthropogenic pit until near its base. In cross-section (see west profile of TU46 in Figure 6-12) the feature shows up as a large, relatively deep basin measuring more than 67 cm in length and approximately 65 cm in maximum depth. The pit is filled with a complex, stratified sequence of deposits that are somewhat obscured by the various disturbances cutting through it. Nevertheless, a pattern consisting of layers of whole and crushed bivalve alternating with layers of whole *Viviparus* shell is apparent. Excluding a moderate amount of vertebrate fauna, the feature is devoid of any other material culture that might provide a clue to its function. Despite the lack of ceramics within the Feature 52 fill, its stratigraphic origin near the top of the TU46 profile indicates that it probably dates to the St. Johns period, given the relative abundance of spiculate-tempered ceramic sherds recovered from this level of the test unit. Because the feature was recognized so late, only the basal portion was available for sampling. This entire intact section was removed in bulk for flotation analysis.

*Feature 54/55.* Features 54 and 55 (Figure 6-49) are located in the southwest half of TU57. Originally these were assigned separate feature numbers because pit cross-sections were visible in both the south and west profiles of the test unit with an apparent gap in the corner. Further inspection of the profiles, however, indicates instead one massive pit (hereafter Feature 54/55) covering more than half the test unit. Its center is likely near the midpoint of TU57 and its southwest margin angles up toward the corner of the unit. The feature appears roughly circular in shape and based on the test unit profiles exhibits a maximum diameter of more than 230 cm. The pit itself descends down to a maximum depth of approximately 30-40 cm from a buried A-Horizon visible across most



Figure 6-49. Photograph showing the plan view of Feature 54/55 at 100 cmbd in TU57, 8LA1W, facing south.

of the unit. An additional 30-40 cm of organic leaching extends below this point. Like all other pits associated with DP2, Feature 54/55 was covered with a thick, dense stratum of mostly whole *Viviparus* and occasional *Pomacea* shell (DP3). The development of organic soil at the top of the feature suggests that a substantial amount of time elapsed before the overlying shell was deposited.

The fill from Feature 54/55 is composed primarily of dense whole *Viviparus* shell, although smaller amounts of *Pomacea* and broken bivalve shell are also present. These shell constituents are mixed with dark brown (10YR3/3) medium sand. This feature is unusual among DP2 pits in that it contains a significant amount of vertebrate fauna, as well as a variety of other cultural materials including a lithic drill, a bone pin, and frequent plain fiber-tempered ceramics. These materials, along with the shallow cross-section of the pit and the lack of obvious burning in the bottom, may reflect an alternative function with regard to other Type 2 features associated with DP2, perhaps one related to day-to-day domestic activities. If so, this pit may be the best evidence so far for the residential occupation of Locus B during the Orange period.

Bulk samples were collected from various locations throughout Feature 54/55 for flotation analysis. The remaining portions were 1/8-inch water screened or 1/4-inch

screened. An AMS assay from a charcoal sample recovered from near the base of the feature provided an age estimate of  $3680 \pm 40$  rcybp (4140-4120 cal BP).

### *Type 3 Features*

Only one small cylindrical Type 3 feature (Feature 50) has been identified within Locus B deposits, although another probable feature of this type is visible in the south profile of TU14 but was not recognized as such in the field. Despite being the only representative example, Feature 50 was designated as its own “type” because, while it is similar in shape to some Type 4 features, its scale is so vastly different that the two cannot be assumed to have any functional similarity. It is possible that additional small cylindrical pits were utilized within excavated areas of Locus B but were obliterated by the large-scale DP2 pit digging that occurred during the Orange period.

*Feature 50.* Feature 50 (Figure 6-50) is a small cylindrical pit that straddles the boundary between TU43 and TU44 within the preceramic deposits of the 2010 block. First encountered at an elevation of 96 cmbd, the pit is almost perfectly circular, measuring 45 cm long and 43 cm wide. It has straight sides and a rounded bottom, exhibiting a maximum depth of 19 cm. Feature 50 originates from the same organically enriched buried surface from which Features 48 and 49 descend. It is positioned at the westernmost edge of Feature 48 and likely intersects the larger pit to some extent.

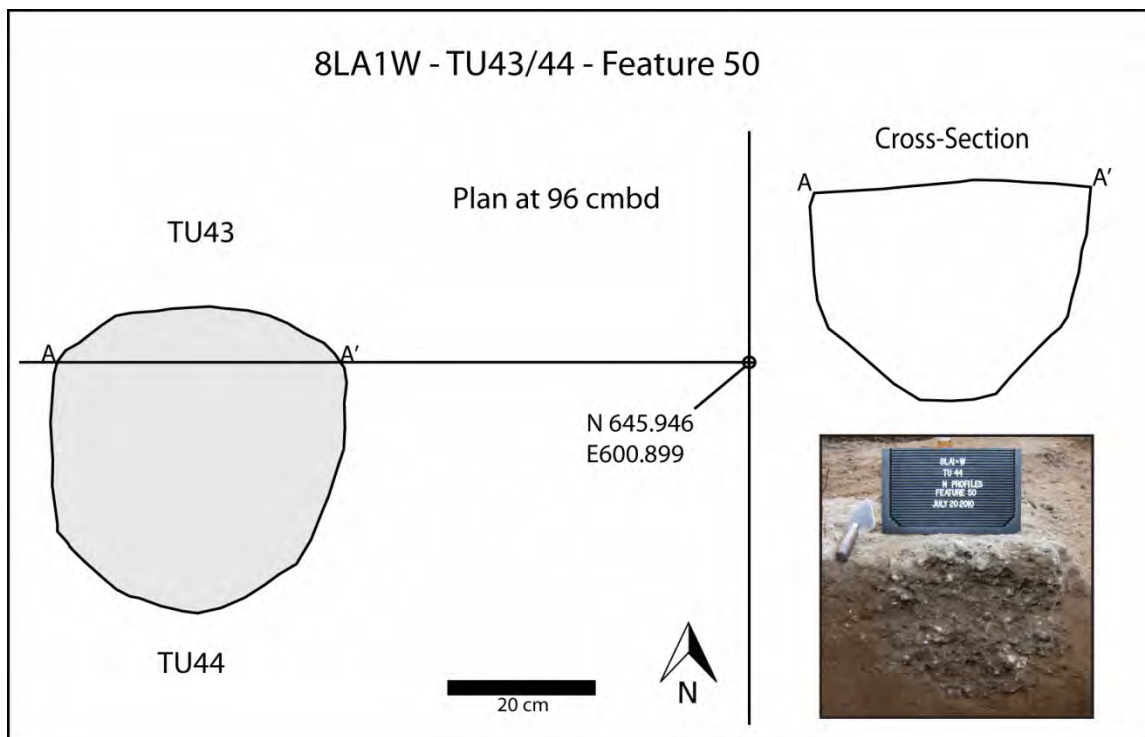


Figure 6-50. Drawings and photograph showing the plan view and excavated cross-section of Feature 50 from TU43 and TU44, 8LA1W. (Note: photograph not to scale.)

In the field, Feature 50 was bisected by the east-west line formed by the test unit boundary. The southern half of the feature was excavated first in order to expose the pit's cross-section. Bulk samples were taken from both sides of the feature and the remaining fill was processed through ¼-inch screen. Pit fill is composed virtually exclusively of dense whole *Viviparus* shell in very dark grayish brown (10YR3/2) sand. The shell was concreted in some places, especially near the center of the feature's base. Although no artifacts were observed during excavation, the pit's stratigraphic position and its placement relative to other features securely implicate it as a part of DP1. Few clues were discovered regarding the feature's function, but it could easily have served as a small storage pit. A small charcoal sample from the feature returned an AMS radiocarbon assay of  $4180 \pm 40$  rcybp (4840-4580 cal BP), positioning it right on the eve of ceramic use in the region.

#### *Type 4 Features*

A total of 6 pits at Locus B were designated Type 4 features and another two probable features of this type were subsequently identified in test unit profiles. These features exhibit a cylindrical shape similar to the Type 3 pit but are many times larger, with maximum depths and diameters often exceeding one meter. They do share a number of characteristics with Type 2 pits, the other variety of extremely large DP2 features. First, all six Type 4 pits are associated with DP2 and most contain some quantity of Orange plain fiber-tempered pottery but a conspicuous absence of other material culture. Their contents also vary widely in terms of the quantity and pattern of their shell deposits with some being filled completely with shell from a single species while others contain only trace amounts of various types. Like Type 2 features, Type 4 pits are distributed broadly across Locus B with examples occurring in both the 2009 and 2010 excavation blocks, as well as in the north-south transect of test units to the east. They are also arranged tightly together and frequently overlap with other pit features. Finally, at least three of the six Type 4 features exhibit evidence for burning at their bottoms in the form of orange oxidized sand and charcoal. Together, these parallels suggest similar, or at least interrelated, functions between Type 4 and Type 2 features.

*Feature 26.* Feature 26 (Figures 6-51 and 6-52), the first Type 4 feature encountered at Locus B, intercepts the southwest corner of TU22. It was first recognized as a subtle dark brown (10YR3/3) soil stain with low density shell at approximately 126 cmbd, but its actual top is likely higher than this. Although its outline was difficult to make out in plan, it appears to be roughly circular with a diameter of ca. 60 cm. In cross-section, the feature exhibits very slightly inward sloping sides and a flat bottom, forming a large cylinder more than 65 cm in depth. The color of the pit's fill grades to a dark yellowish brown (10YR3/4) near its base. The feature runs into the walls of the test unit along its western and southern margins and intersects a similar cylindrical pit (Feature 27) on the east.

Feature 26 was bisected along an east-west transect. Two bulk samples were taken from the south half of the pit (one from the top and one from the bottom), while the remaining feature fill was 1/8-inch water screened. The fill includes a low to moderate

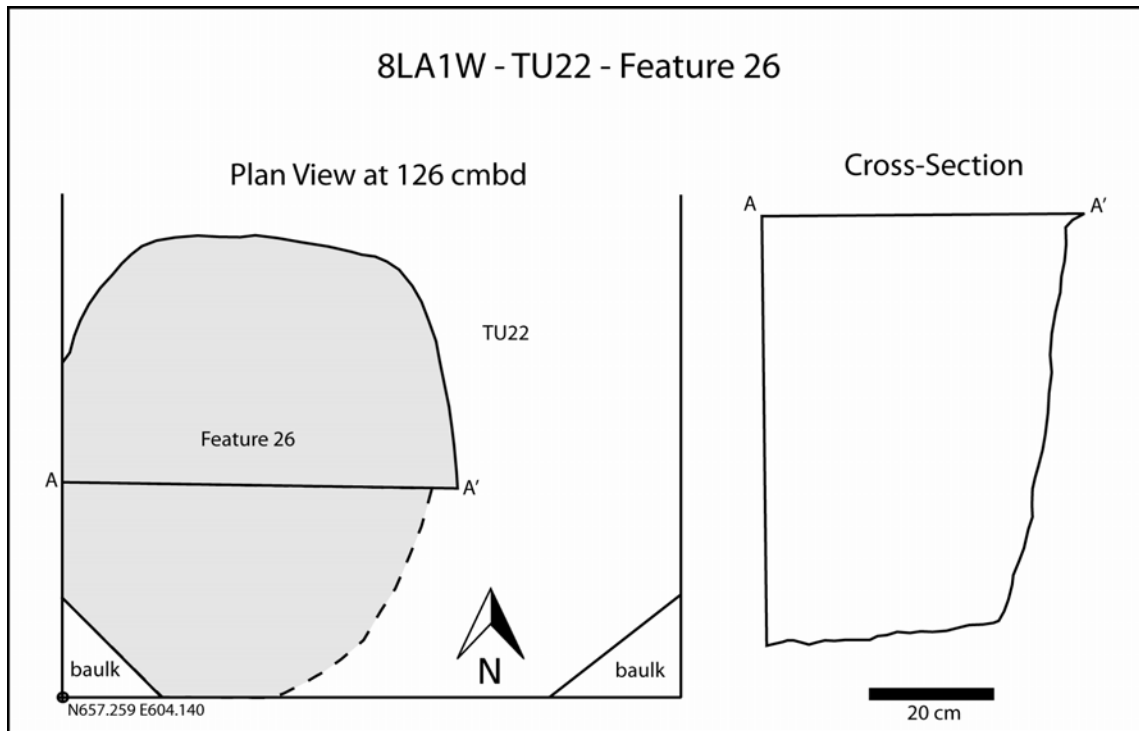


Figure 6-51. Drawings of the plan view and excavated cross-section of Feature 26 from TU22, 8LA1W.



Figure 6-52. Photograph of the excavated cross-section of Feature 26 from TU22, 8LA1W.

density of *Viviparus* shell and occasional bivalve and *Pomacea* fragments. Beyond this, sparse vertebrate fauna and a small amount of charcoal are the only other cultural materials that were recovered. A charcoal sample from near the bottom of Feature 26 yielded an AMS radiocarbon assay of  $3970 \pm 40$  rcybp (4520-4300 cal BP), making this the earliest of the large DP2 pit features yet dated.

*Feature 27.* Feature 27 (Figure 6-53) is a large cylindrical pit feature similar to and actually intersecting Feature 26 within TU22. The outline of most of the pit and its

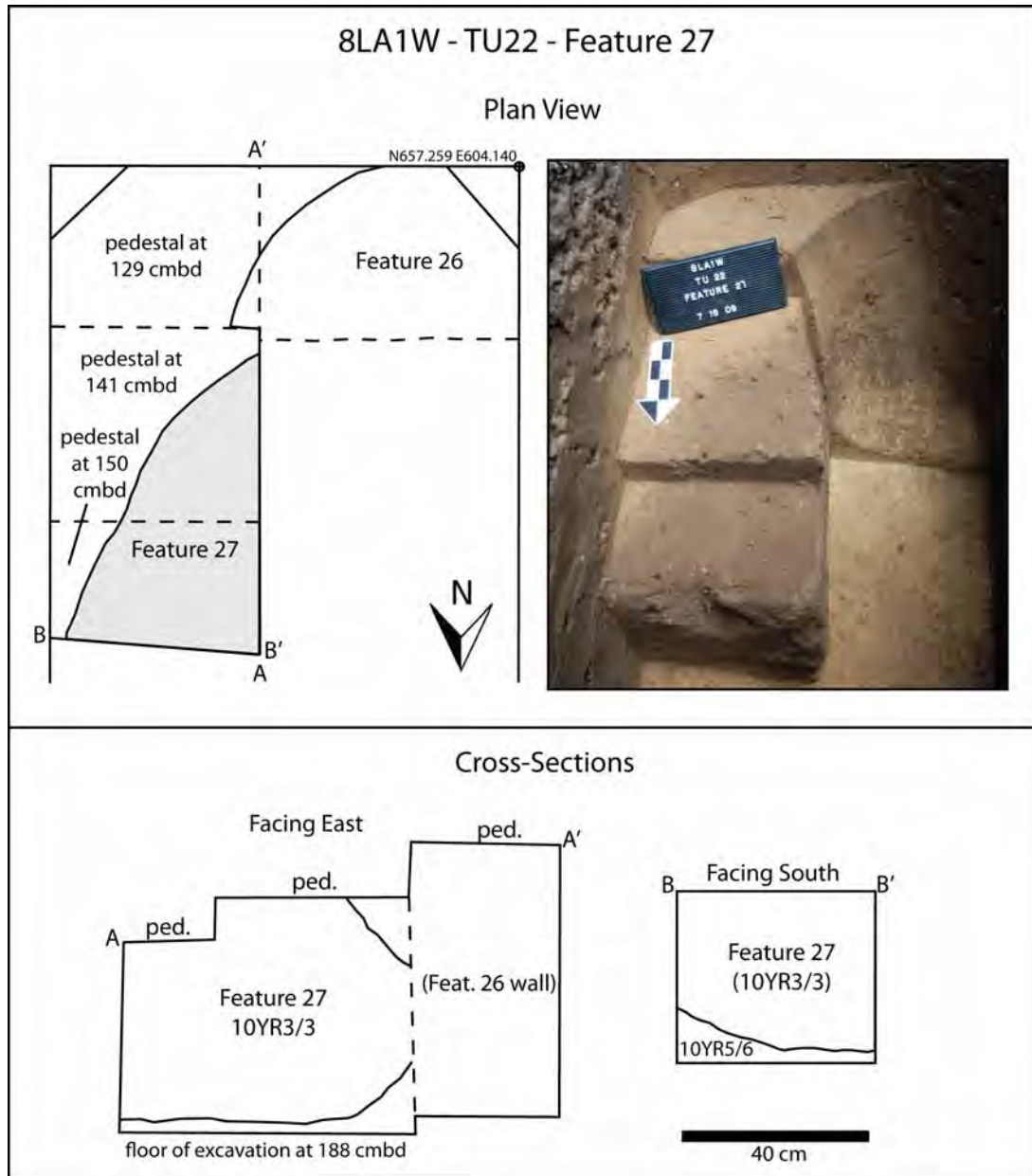


Figure 6-53. Drawings and photograph showing the plan view and excavated cross-sections of Feature 27 from TU22, 8LA1W. (Note: photograph not to scale.)

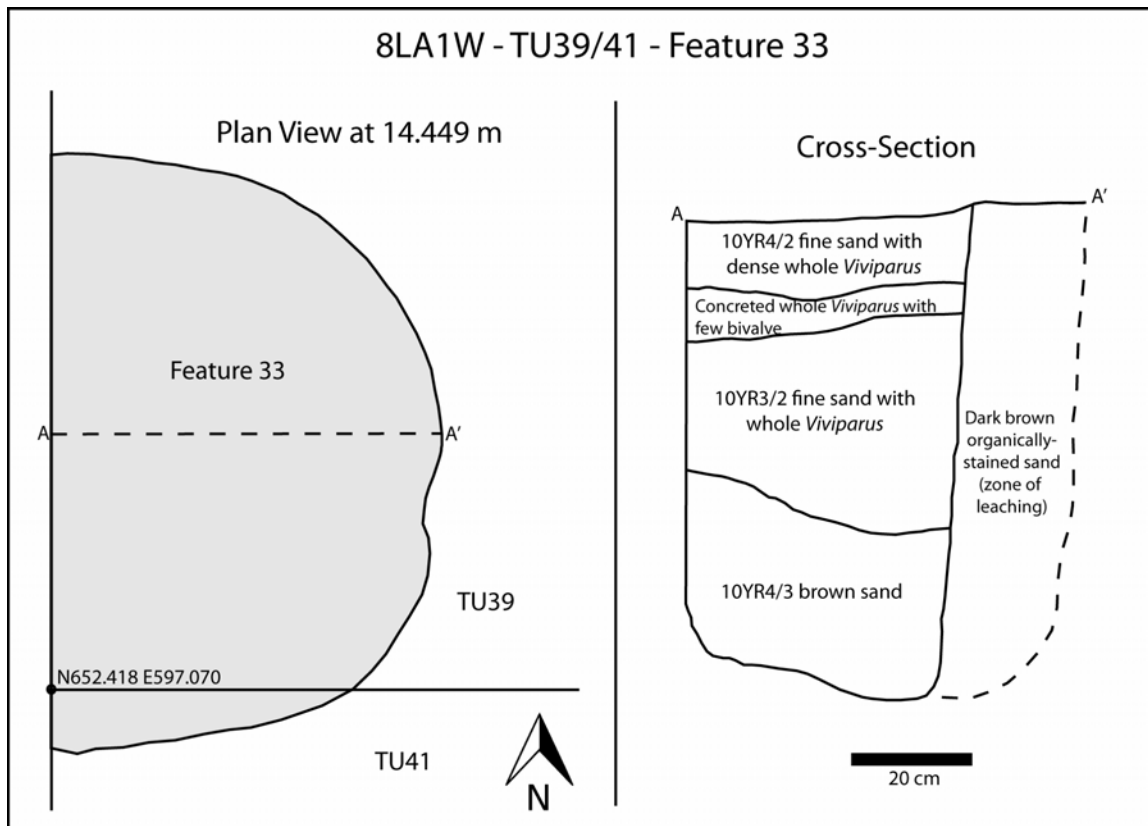
stratigraphic origin could not be defined due to the pervasive pit-digging that has occurred within the area encompassed by the test unit. Only the east half could be isolated and this was possible only after sectioning the pit along both north-south and east-west axes and carving the intact portion of the feature into multiple pedestaled sections, each at a different level. In this way, the eastern edge of the feature was recognizable as a dark brown (10YR3/3) soil stain with diffuse margins surrounded by yellowish brown (10YR5/6) medium sand.

Feature 27 appears to be similar in both size and shape to Feature 26. Based on the visible portion of the feature, it is roughly circular to ovoid in outline and exhibits a diameter of greater than one meter. The pit bottoms out at approximately 50 cm below the point at which it was recognized but its actual depth may have been as much as twice this. It is flat-bottomed and appears to have steeply sloping sides similar to those noted for Feature 26. Shell was found scattered throughout the pit and included a low to moderate density of whole *Viviparus* shell along with occasional bivalve and *Pomacea*. A small amount of fiber-tempered pottery was also recovered but no vertebrate fauna was observed. Bulk samples were taken from the top and bottom of the feature for flotation.

*Feature 33.* Feature 33 (Figure 6-54) is a Type 4 feature that straddles the boundary between TU39 and TU41, along the western edge of the 2009 block. The visible eastern half of the feature forms a semicircle with a maximum diameter of approximately one meter and extends 66 cm into the block. It was initially recognized as a discrete concentration of shell at an absolute elevation of 14.755 m but appears in profile to originate from a buried surface, perhaps 30 cm above this point. This is the same Orange period surface from which several additional large DP2 pits were dug. The very top of Feature 33 may have been impacted somewhat by the lower extension of a burned root disturbance (originally designated Feature 29).

The feature was bisected along an east-west axis running perpendicular to the wall of the block, and the southern half was excavated first. The resulting cross-section reveals a deep, straight-sided, cylindrical pit with four distinct fill strata. The uppermost stratum consists of dense whole *Viviparus* shell in dark grayish brown sand. It is virtually identical to the overlying DP3 shell and may reflect the portion of the pit that was open at the time that this shell was deposited. Underneath this is a thin layer of dense and highly concreted whole *Viviparus* and bivalve shell with occasional whole *Pomacea* intermixed. This concreted layer sits atop a 25-35-cm stratum of very dark grayish brown sand containing moderate density of whole *Viviparus*. Most of the pit bottom is filled with shell-free medium brown sand. In the south half, this sand is underlain by a thin layer of bright orange oxidized sand and frequent charcoal, indicating yet another massive DP2 pit with evidence for thermal alteration. A modest quantity of fiber-tempered plain pottery and a trace amount of vertebrate fauna were found scattered throughout the feature. As noted above with reference to Type 2 features, the stratification present within Feature 33 indicates multiple pit-filling episodes and provides convincing evidence for intentional, “structured” depositional practices by Late Archaic peoples at Locus B.





Feature 6-54. Drawing showing the plan and cross-section of Feature 33 from TU39 and TU41, 8LA1W.

*Feature 42.* Feature 42 is a large pit feature located in TU39 and TU40 that went undetected until near its base due to the pervasive overlapping pits that exist in this area of Locus B. It was finally recognized as a discrete feature at an absolute elevation of 13.886 m when a roughly circular pocket of orange oxidized sand and charcoal was encountered. These heat altered deposits are interspersed with dark brown (10YR3/3) sand across an area measuring approximately one meter in diameter. This has been inferred as a minimum diameter for the pit, although its rim may have been significantly broader. Given the close proximity of the features' bases, it is likely that Feature 42 intersected Feature 38 at some point near their tops. Feature 42 may also have been truncated somewhat on its western edge by additional pit digging. One small fiber-tempered plain sherd was found among the burned deposits at the bottom of the pit, dating this feature to the Orange period and likely confirming its association with DP2 activities.

*Feature 45.* Feature 45 (Figure 6-55) is a large, roughly cylindrical pit located within TU43 and TU45 at the northern edge of the 2010 block. The feature was first recognized in TU43 at approximately 30 cmbd as a definable concentration of particularly dense whole *Viviparus* shell. Soon after excavation of the feature began, a relatively large portion of a fiber-tempered incised vessel was encountered protruding out

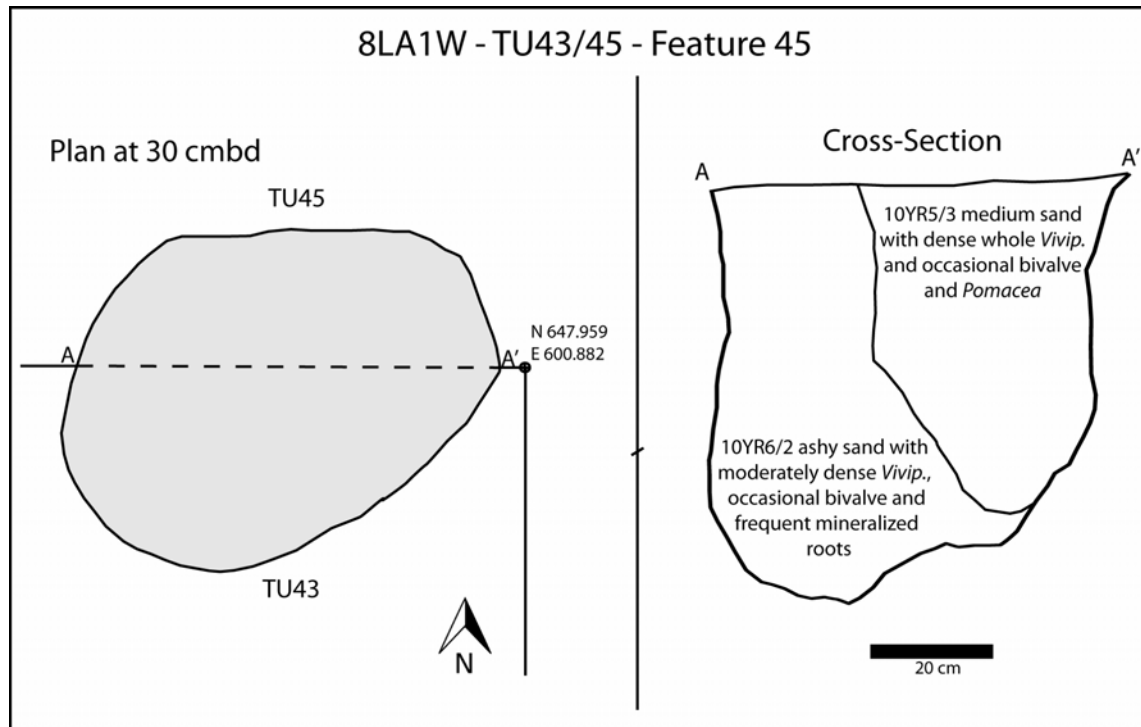


Figure 6-55. Drawings of the plan view and excavated cross-section of Feature 45 from TU43 and TU45, 8LA1W.

of the north wall of the test unit within the upper portion of the pit. As explained earlier in this chapter, TU45, a small L-shaped unit, was then tacked onto the northeast corner of the block to expose the northern half of the feature and make retrieval of the ceramic sherd possible. When the complete top of the feature was exposed, a roughly ovoid-shaped pit was revealed measuring 71 cm x 58 cm.

Using the line of bisection formed by the test unit boundary, the southern half of the feature was first excavated in its entirety. This exposed an unusual profile with clear compositional differences between the eastern and western sides of the feature. The western half contains light brownish gray (10YR6/2) sand and ash with a moderate density of *Viviparus* and crushed bivalve shell. Near its bottom, this side of the feature is highly concreted and may contain a concentration of mineralized roots. The eastern half of the feature profile shows a discrete deposit of dense shell (whole *Viviparus* with occasional bivalve and *Pomacea*) and brown (10YR5/3) sand apparently intruding into this ashy fill. It thus appears that Feature 45 may actually include two cylindrical pits, with one having been dug into the other. The larger and earlier pit exhibits roughly straight vertical walls and measures 70 cm deep at its lowest point. The intrusive pit, on the other hand, displays a similar morphology but tapers slightly at the bottom and is approximately 50 cm deep. The primary functions are not known for either pit, although the evidence for burning in the earlier one and the corresponding lack of it in the later

may indicate two different uses. The intrusive pit is unusual among Locus B features in containing incised fiber-tempered ceramic sherds, perhaps indicating its association with DP3. Bulk samples were taken from both the northern and southern halves of the feature for flotation analysis. The remaining feature fill was processed through a combination of ¼-inch dry screening and 1/8-inch water screening.

*Feature 51.* Feature 51 (Figure 6-56) is an extremely large cylindrical pit located in the northwest corner of TU43 in the 2010 block. Although it appears that only about a quarter-section of the feature was exposed, this portion extends more than a meter out from the corner of the test unit. The pit originates from the paleosurface upon which the DP3 shell was initially deposited. The fill within Feature 51 is virtually indistinguishable from the overlying shell, consisting of very high density whole *Viviparus*, burned crushed bivalve, and infrequent *Pomacea* in dark grayish brown (10YR4/2) sand. In fact, the feature was first recognized as an apparent dip in this shell mixture into the underlying, relatively sand-rich stratum. This is perhaps evidence that Feature 51 was still an open pit at the time that the DP3 shell was deposited and was infilled during the course of that event.

In the cross-sections provided by the north and west walls of the test unit (see test unit profiles in Figures 6-30 and 6-32) Feature 51 can be seen to drop down vertically

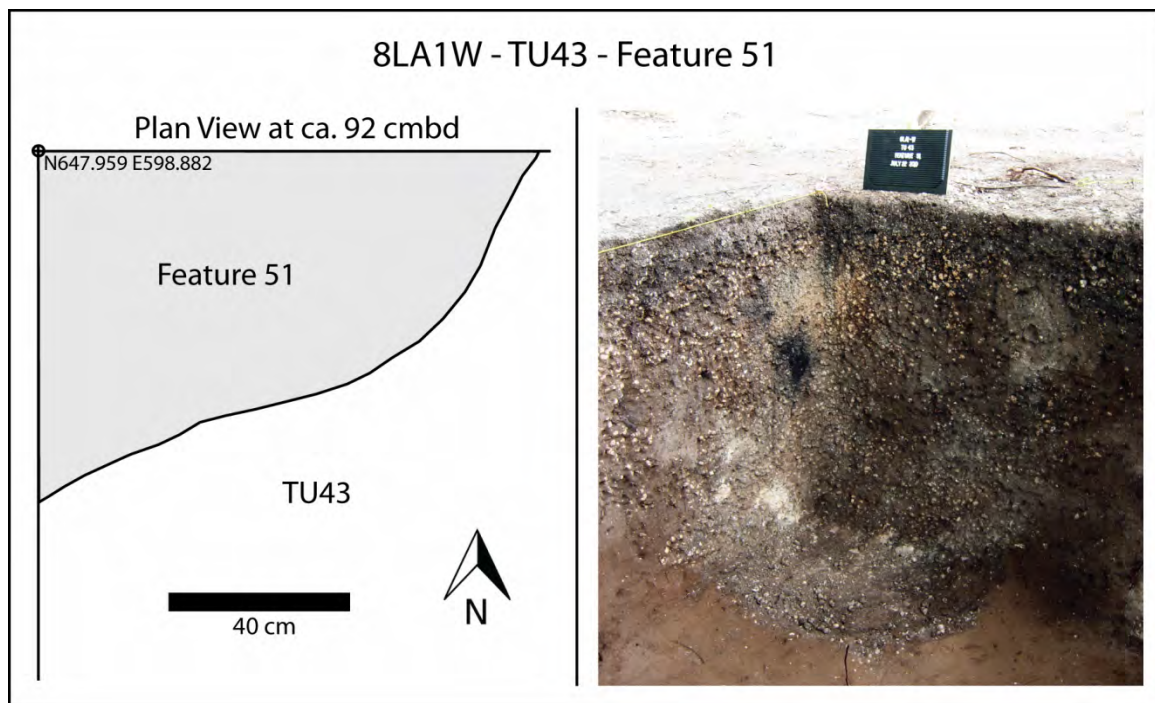


Figure 6-56. Drawing of the plan view and photograph of the excavated cross-sections of Feature 51 from TU43, 8LA1W.

before rounding off at its base, achieving a maximum depth of 92 cm. The exposed portion of the feature appears unimpacted by any of the other features within the excavation block. There is, however, a sizable pocket of charcoal and burned shell observable in the west profile near the top of the feature, probably a result of a tree root that smoldered in place. Bulk flotation and 1/8-inch water screen samples were taken strategically from different sections of the feature while the remaining fill was 1/4-inch screened.

### *Type 5 Features*

Type 5 features from Locus B are defined above as cone shaped pits with broad openings and tapered profiles. Only one Type 5 feature (Feature 38) has thus far been identified at Locus B; however, like Feature 50, the size and morphology displayed by this pit is distinct enough to warrant its own type designation.

*Feature 38.* Feature 38 (Figure 6-57; see also north profile of block in Figures 6-19 and 6-20) straddles the boundary between TU39 and TU40 along the northern edge of the 2009 excavation block. Although only partially exposed, the top of the pit appears roughly circular in shape with an approximate diameter of 120 cm, making it comparable to the large DP2 pits in size. While Feature 38 clearly cuts through the surface on which the DP3 shell was deposited, it is unclear whether this surface is the origin point from which the pit was dug or whether it originates from some higher point. This ambiguity makes it difficult to determine stratigraphically whether the pit is associated with DP2 or DP3 activities. From this level, the pit penetrates at least 94 cm into underlying deposits, bottoming out at an absolute elevation of 13.764 m. It narrows with depth, coming almost to a point at its base. As can be seen in the block's north profile, this feature was dug through at least one and perhaps two large preexisting basin shaped pits. These were not recognized during excavation but were revealed through subsequent profile examination.

In addition to its unusual morphology, Feature 38's fill also exhibits some unique characteristics among Locus B pits. Like a few of the large DP2 pits, Feature 38 is stratified, containing at least three distinct layered deposits. The uppermost layer consists of very dark grayish brown (10YR3/2) sand with moderately dense whole and crushed *Viviparus*. This sits atop a 15-20 cm thick layer of very dense crushed bivalve and whole *Viviparus* mixed with somewhat lighter (10YR4/2) sand. The base of the pit is filled with dense and highly concreted whole *Viviparus* and sand. These different strata are clear and distinct in cross-section and the contacts between them are sharp suggesting that they resulted from three planned and discrete filling episodes rather than a hodgepodge of accumulated domestic trash. Small flakes of charcoal recovered from the pit's bottom and middle strata yielded respective AMS radiocarbon assays of  $3670 \pm 40$  rcybp (4140-3890 cal BP) and  $3590 \pm 40$  rcybp (3980-3830 cal BP). Because these estimates overlap within the 2-sigma range, the strata must be considered contemporaneous at the level of precision offered by radiocarbon dating methods. The actual temporality of their deposition, however, be it on the order of hours, days, or even years, is unknown.

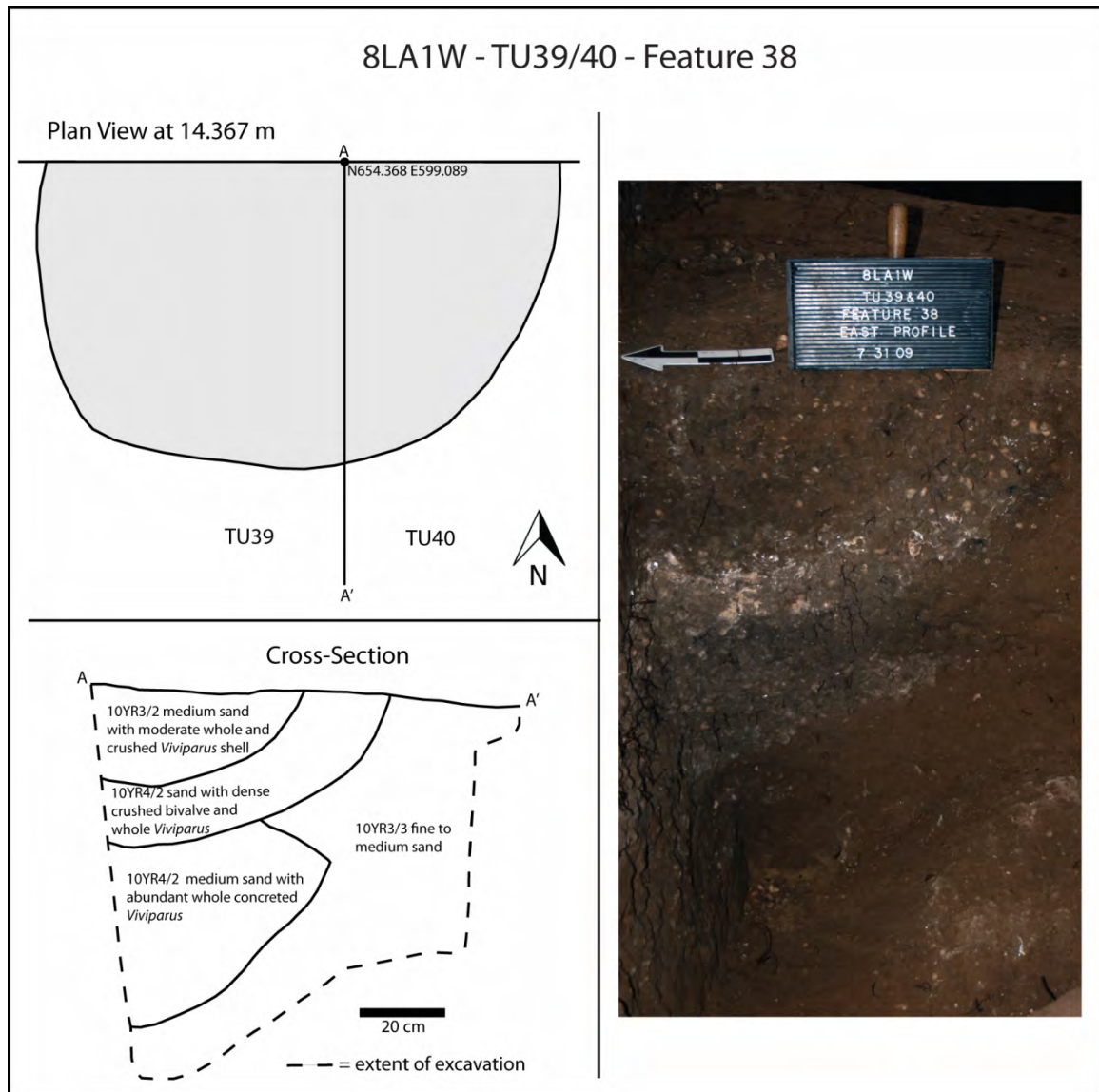


Figure 6-57. Drawings and photograph showing the plan view and excavated cross-section of Feature 38 from TU39 and TU40, 8LA1W. (Note: photograph not to scale.)

Regardless, Feature 38 provides yet further evidence that the infilling of at least some of Locus B's abnormally large pits was an intentional, structured affair.

Feature 38 is also one of only two Locus B pit features to contain incised fiber-tempered pottery and the only one with Tick Island style incisions and punctations. While this ceramic variety is rare in feature contexts, it occurs relatively frequently within the expansive shell cap constituting DP3. Given Feature 38's somewhat uncertain stratigraphic origin in relation to the large DP2 roasting pits and relatively late radiocarbon dates, it is possible that this feature is either one of the last DP2 pits to be dug and utilized at Locus B or that it reflects one of the earliest events associated with

DP3 activities. The primary function of the pit remains unclear, as it displays an unusual morphology and does not exhibit the obvious evidence of burning observable in other large Orange period pits at Locus B.

### *Type 6 Features*

Two Type 6 features have been recorded at Locus B. These are defined as discrete, isolated pockets of shell located in the otherwise shell-free sand underlying Locus B's large, expansive cultural deposits. These features are assumed to mark pits or perhaps the basal portions of pits, but this interpretation is tenuous due to the fact that neither of the examples appears to be connected to an apparent paleosurface or other cultural deposits. It is also possible that these shell concentrations are simply animal burrows that were filled in with overlying shell, although no burrow passages or collapses have been identified connecting them to upper shell deposits. Both Type 6 features are located near the center of Locus B and were encountered in 1 x 2-m test units making up the north-south transect bisecting this part of the site. If cultural, they are almost certainly associated with DP1 and may constitute yet another type of domestic feature associated with the late preceramic Thornhill Lake Phase habitation of Locus B.

*Feature 17.* Feature 17 (Figure 6-58) is an isolated concentration of concreted shell and sand extending out of the western wall of TU12. The exposed portion of the feature is amorphous in shape and measures 47 cm in length, although its complete dimensions and configuration are unknown. It is composed of whole and crushed *Viviparus*, *Pomacea*, and bivalve mixed with brown (7.5YR5/4) medium sand. In profile, the feature shows up as a 15-cm thick pocket of shell surrounded by virtually shell-free sand. It is positioned approximately 25-30 cm beneath a shell-rich stratum but there is no indication in the profile that the feature originates from or is connected in any way to this shell. No artifacts were recovered from the feature and its function remains unclear, although it may be a small pit originating from a deeply buried surface imperceptible in the profile of the test unit.

*Feature 25.* Similar in many ways to Feature 17, Feature 25 is an isolated pocket of concreted shell jutting out of the north wall of TU21. The feature appears roughly circular or ovoid in shape and exhibits a maximum exposed diameter of 38 cm and a maximum thickness of 28 cm. It is composed primarily of concreted whole *Viviparus* shell but *Pomacea* is also frequent, especially along its base. Like Feature 17, this shell concentration is surrounded on all sides by shell-free sand; however, in this case, a dense shell stratum is located only 5-10 cm above it. There is, nonetheless, nothing connecting the feature to the overlying shell and its function is unknown.

### *Non-cultural and Modern Features*

Nine anomalies were encountered during Locus B excavations that were initially designated cultural features and assigned feature numbers but were subsequently downgraded. Seven of these were eventually recognized as natural disturbances, while two were determined to have resulted from recent modern activities. Features 2, 3, 5, and

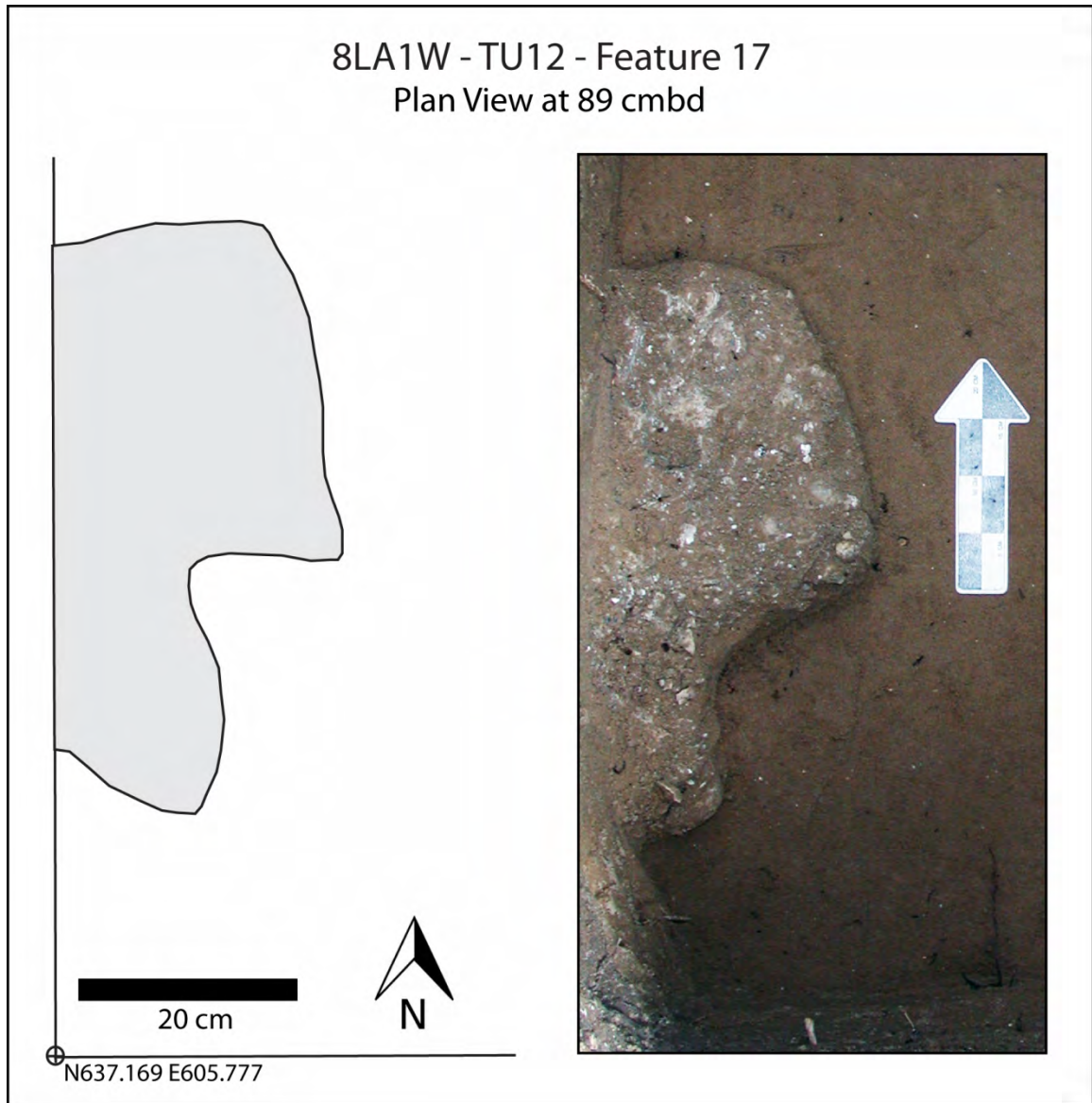
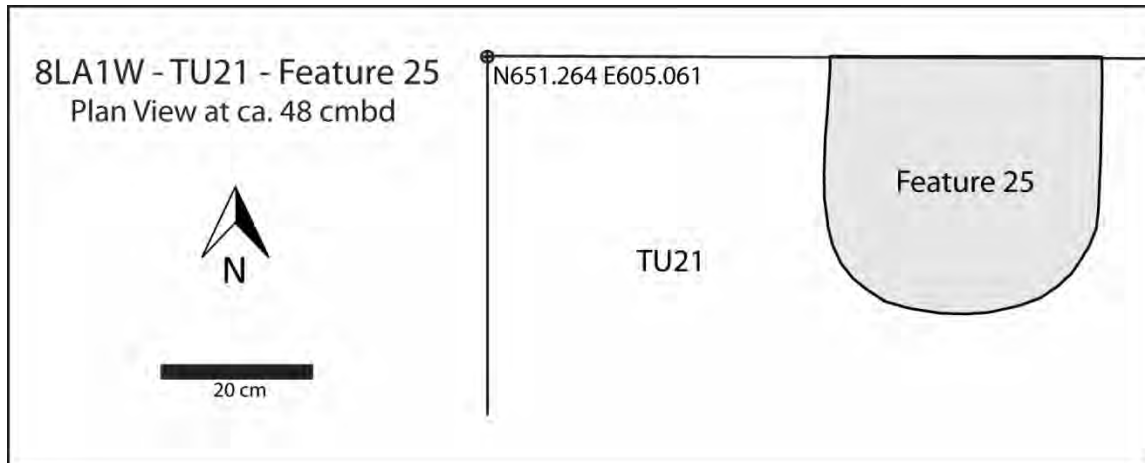


Figure 6-58. Drawing and photograph of the plan view of Feature 17 from TU39, 8LA1W. (Note: photograph not to scale.)

13 were all documented during the first year of Locus B excavation within TU4. They were originally recorded as possible post molds but, as experience with these phenomena accumulated, were ultimately determined to be mineralized root casts whose size and vertical orientation mimic those usually displayed by architectural supports. Similarly, Features 29, 30, and 31, were initially recorded as potential cooking hearths. These features all display a similar morphology and structure consisting of a gray ovoid deposit of burned shell, ash, and charcoal ringed by orange heat-oxidized shell (see Figure 6-60).



Feature 6-59. Drawing of the plan view of Feature 25 in TU21, 8LA1W.

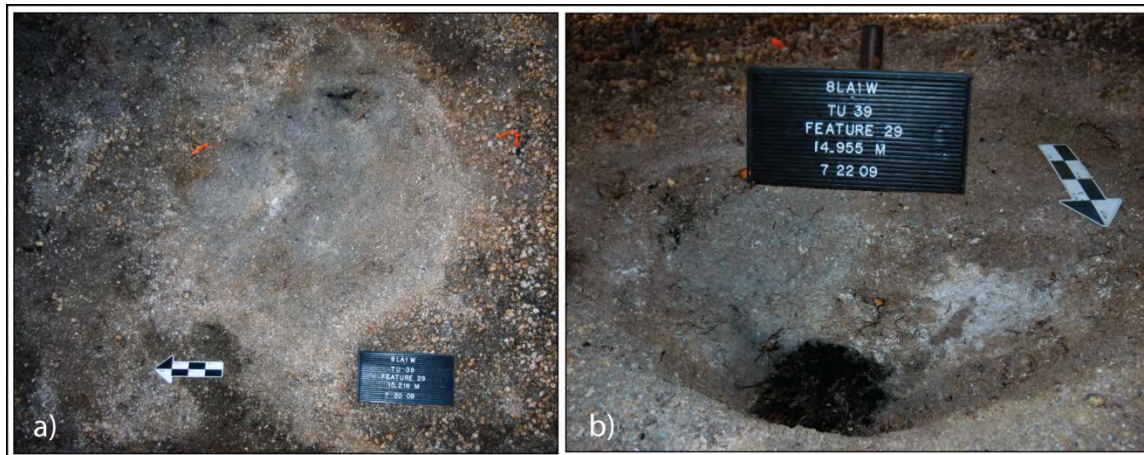


Figure 6-60. Photographs showing the a) plan view, and b) excavated cross section of Feature 29 (downgraded) in TU39, 8LA1W.

In profile, however, these burned anomalies tended to taper to a point and turn unpredictably, suggesting that they are actually a result of tree roots that penetrated shell deposits and burned in place. In fact, Feature 29 actually had a large charred root running through its bottom, further solidifying this secondary interpretation. In 2009, an unusual subrectangular feature (Feature 39) with sharp margins that connect at right angles was encountered in TU39 but was quickly recognized as a shovel test pit dug by field school students in 2007. And finally, excavation of TU57's upper deposits revealed an almost perfectly circular dark soil stain that persisted for approximately 30 cm before rounding off at its base. The feature's sharp margins, along with the large amount of apparently recent charcoal that it contains, led to its tentative interpretation as a modern disturbance of some kind, although its precise source is unknown.



*Summary and Discussion of Locus B Feature Assemblage*

Excavations at Locus B have uncovered a diverse assemblage of pit features that can be categorized into six basic types based on size and overall morphology. The horizontal and vertical distribution of these pit types has in part led to the identification of three distinct patterns of shell deposition at Locus B (discussed in the previous section), each of which corresponds to a fundamentally different use of this space during a particular time in the site's occupational history. The specific characteristics of individual pits and pit types offer clues as to the nature of these contrasting depositional patterns and their relationship to coterminous places throughout the region.

DP1 includes a wide variety of features including Type 1 small basins, Type 2 large basins, Type 3 small cylinders, and Type 6 isolated shell pockets. In all likelihood, this diversity of feature shapes and sizes reflects the diverse functions of pits involved in the many activities associated with sustained everyday living during the late preceramic period at Locus B. This interpretation is supported by the relative abundance of diverse tool types and vertebrate faunal remains within and surrounding DP1 pits. All of the DP1 pits with discernable origin points descend from a crushed shell surface near the base of Locus B's shell deposits. Given the stacked sequence of such surfaces found at the base of TU46, a series of successive preceramic occupations are most likely responsible for these features. Although precise functions are difficult to assign, the shapes, sizes, and contents of the features suggest their use in cooking and storage activities related to relatively small-scale domestic food production. The often heat-altered and concreted shell within most DP1 pits points to their probable role in the processing of shellfish. DP1 pits from Locus B are consistent in these respects with features associated with the slightly earlier Mount Taylor habitation component at 8LA1W's Locus A (Chapter 5 of this report), as well as those from roughly coterminous deposits at the nearby sites of Hontoon Island North (8VO202) (Sassaman et al. 2005), Blue Spring Midden B (8VO43) (Sassaman 2003b), and Thornhill Lake (8VO60) (Endonino 2010). These preceramic features are restricted to the southeastern quadrant of Locus B.

The most striking contrast between DP1 and DP2 involves the scale and frequency of pit digging across Locus B. This transition entailed a shift from the everyday use of a relatively small number of highly diverse pits to the repeated digging and infilling of countless remarkably large features across an expansive area of 8LA1W. The DP2 feature assemblage, while including a handful of Type 1 shallow basins, is dominated by massive Type 2 basins and Type 4 cylinders, several of which exceed 1 m in diameter and/or depth. Calculating precise diameters for most of these features is complicated because their size virtually ensures that they will intersect test unit walls unless large blocks are excavated. Nevertheless, for two of the pits that appear to most closely approach true cylinders, Features 51 and 36, respective volumes can be estimated using the formula  $V = \frac{\pi d^2 h}{4}$  to be 1500+ L and 800+ L, far beyond what would be expected if these were intended simply to address the short-term subsistence requirements of small kin-based groups.

Excavations at Locus B have currently extended to a sufficiently large area that some projections can be made as to the overall scale of pit digging and shellfish processing that took place there. Across the area highlighted in gray in Figure 6-61, 31 m<sup>2</sup> have been excavated within which 14 large DP2 pits were documented. Assuming that pits are present in the intervening areas between excavation units, projecting this pit density across the entire area encompassed by their known distribution results in an estimate of more than 310 massive pits at Locus B. Due to the fact that some pits could not be discretely defined because of their overlapping distribution and that these features are likely to extend beyond current excavation boundaries, this estimate should be considered conservative.

The contents of the pits may offer some clues as to the nature of the activities in which they were involved. As noted above, the bases of many, although not all, DP2 pits are marked by heat oxidized sand, charcoal, and lenses of burned, concreted bivalve. This, along with the conspicuous absence of vertebrate fauna and artifacts aside from a small amount of fiber-tempered pottery, suggest a specialized function for these massive features related to shellfish processing. Again, the scale of the pits, and correspondingly the quantity of shellfish they could have produced, is out of proportion with the everyday domestic needs of a small group. If looked at in the broader context of the Silver Glen Run complex, the Locus B pits may instead be speculated to have been a means for quickly producing large amounts of food needed for consumption at the large scale social gatherings hypothesized to have taken place at 8LA1E's U-shaped monument, less than half a kilometer to the east. The fact that new pits were frequently dug through preexisting ones does suggest intermittent pulses of intense pit-centered activities rather than long-term sustained occupation during this time.

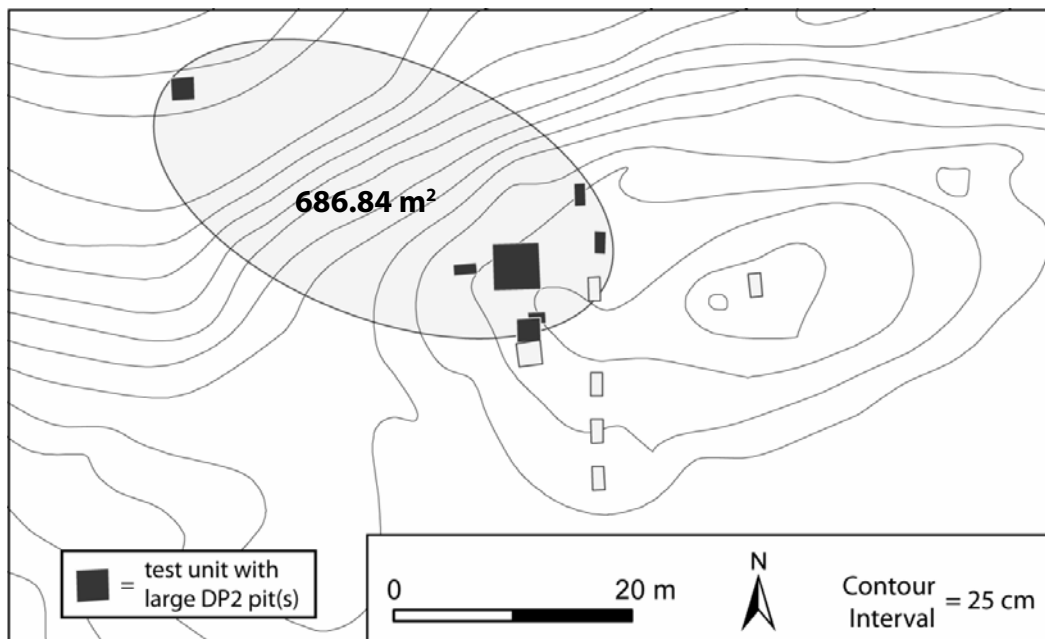


Figure 6-61. Map showing test units containing Type 2 and Type 4 pits associated with DP2 and the bounded area used to project the total number of these pits at Locus B.

Subsequently, the pits were infilled with various combinations of sand and shell, a process that at least occasionally involved multiple structured and intentional depositional acts. The resulting elaborately stratified feature cross-sections provide strong evidence that although many of these features may have begun as roasting pits, their significance extended beyond mere practical functionality. In fact, as time went by and pit excavation persisted, the encountering of old infilled pits must have become the expected outcome of, and perhaps even added motivation for, continued digging. Under these circumstances, sequences of pit fill may have come to be viewed by the Orange period inhabitants of Locus B similarly to the layering of shell above ground to form mounds, as a historical practice through which the past was accessed and the future could be anticipated (*sensu* Sassaman 2010, 2012). DP2 thus signals a major intensification of shellfish production at Locus B and perhaps a fundamental reworking of the way in which people accessed and related to their past.

DP3, for the most part at least, signals the end of large-scale pit digging at Locus B. Its historical connection to DP2, however, is unquestionable given that the distribution of DP3 shell seems to have been mapped onto the area containing DP2 pits. In some instances, it even appears to have filled in large open pits and evened out the Locus B surface. As noted above, shell “capping events” have been observed covering Mount Taylor domestic occupations and have been interpreted as signaling the “death” of these localities as places of inhabitation (Sassaman 2010:72). In this case, the capping of the DP2 pits may have similarly marked the death of these features or of the entire area as a place of ritualized shell processing and deposition.

## ARTIFACT ASSEMBLAGE

A total of 3704 artifacts were recovered from level excavations of Locus B test units during the 2007-2010 field seasons. This number does not take account material culture from features whose samples were not completely analyzed as of the writing of this report, nor does it include unmodified vertebrate fauna or marine shell. A large majority of all artifact types were recovered from Late Archaic Thornhill Lake Phase and Orange period contexts, although later prehistoric and historic objects are also represented. Results of the preliminary analysis of the Locus B ceramic assemblage and descriptions of all other artifact classes are provided below. A summary of all artifacts recovered by test unit is shown in Table 6-25.

### *Pottery*

Locus B excavations produced a total assemblage of 889 ceramic sherds, excluding crumb sherds. Of these, 603 have been classified as Orange, 281 as St. Johns, and five as generic sand-tempered pottery. While Orange sherds are found throughout the strata comprising DP2 and DP3 and in all Locus B test units, the other two types are largely restricted to the plow zone in this area 8LA1W. Consequently, their assemblages are highly fragmented and are assumed to have been displaced from their original depositional contexts in most cases. As a result, the pottery analysis that follows is

Table 6-25. Summary of Artifacts Recovered by Test Unit from Locus B, 8LA1W.

	TU4	TU12	TU13	TU14	TU19	TU21	TU22	TU39	TU40	TU41	TU42	TU43	TU44	TU45	TU46	TU57	Total
Pottery Sherds																	
St. Johns	4	13	18	12	3	9	7	18	23	10	23	23	17	2	16	83	281
Orange sand-tempered crumb	109	2	4	2	18	15	64	134	46	68	28	30	38	8	1	36	603
				2								1			1	1	5
	295	106	176	100	31	41	140	408	146	210	125	149	96	20	58	375	2476
Flaked Stone	15	18	23	22	14	14	6	16	5	4	10	47	17	3	36	34	284
Bone Tool/Ornament	1	3		2		4	1	1	3	2		2	5		3	3	30
Marine Shell Tool/Ornament	1	1			2				2	1	1		1		1		10
Historic Artifacts	1	1	1						2			1			1	8	15
Total	426	144	222	140	68	83	218	577	227	295	187	252	175	33	117	540	3704

focused largely on the Orange pottery with brief descriptions offered for the St. Johns and sand-tempered varieties.

*Orange Fiber-Tempered Pottery.* Orange pottery, a low-fired earthenware defined by its distinctive temper consisting of Spanish moss and possibly palmetto fibers (Brain and Peterson 1971; Simpkins and Allard 1986), is the earliest pottery technology in Florida. First appearing along the state's northern Atlantic coast by at least 4200 rcbp (Russo 1993), it rapidly spread inland to the nearby St. Johns River Valley most likely via preexisting exchange networks (Sassaman 2003a, 2004). Orange pottery is frequently divided into three basic varieties based primarily on surface treatment (Griffin 1945; Bullen 1972; Milanich 1994): 1) Orange Incised, exhibiting primarily straight rectilinear incisions and occasional tick marks; 2) Tick Island Incised – displaying curvilinear spiral shaped incisions and round punctations; and 3) Orange Plain. Research over the past decade suggests that Orange Incised pottery occurs in the highest proportions at shell rings along the Atlantic Coast and at large shell mounds within the St. Johns River Valley, while Orange Plain vessels are most frequent at smaller non-mounded sites in both areas (Sassaman 2004; Saunders 2004a, 2004b). Little is known about the spatial distribution of Tick Island Incised pottery other than it appears to be largely restricted to a relatively small area within the Middle St. Johns River Valley (Griffin 1945).

In the middle part of the last century, Bullen (1955, 1972) argued that formal and stylistic differences in Orange pottery was primarily chronological and devised a ceramic chronology with five distinct periods based on this variation. The general trends noted by Bullen were a progression from plain pottery in early Orange times to decorated sherds in later periods, greater diversity in lip form through time, increased vessel size and wall thickness through time, and a movement from exclusively fiber-tempered pots to ones also containing sand and sponge spicules. Recent research, however (Cordell 2004; Sassaman 2003a; Saunders 2004a), effectively demonstrates that this entire range of variation actually overlaps temporally and should instead be evaluated with an eye toward concurrent functional and/or ethnic diversity.

Vessel Lots. A vessel unit analysis was conducted for Locus B's fiber-tempered pottery. Sherds were separated into vessel lots using a variety of criteria including surface treatment, temper, rim form and thickness, orifice diameter, and basic sherd shape (e.g., straight or curved). Provenience was not taken into account in assigning sherds to vessel lots, as all excavated proveniences at Locus B are within 50 m of each other and could conceivably contain sherds from a single vessel. Based on these considerations, a minimum of 98 fiber-tempered vessels are represented in the Locus B assemblage. These vessels were evaluated with regard to a number of stylistic and technological variables. Basic morphological and metric data associated with each of these variables are listed in Table 6-26.

Surface Treatment. Of the 98 vessels, 50 (51.0 percent) are plain, 33 (33.7 percent) have rectilinear incisions associated with the Orange Incised variety, 14 (14.3 percent) exhibit Tick Island style curvilinear incisions and/or punctations, and one vessel (1.0 percent) has a surface too eroded to determine surface treatment. Examples showing

Table 6-26. Data on Orange Fiber-Tempered Vessel Lots from Locus B, 8LA1W.

V #	# Sherds	Temper <sup>1</sup>	Surface Treatment <sup>2</sup>	Lip Form <sup>3</sup>	Lip Thk. (mm)	Rim Form <sup>4</sup>	Rim Thk. (mm)	Orifice Diam. (cm)
1	5	FAS	INP	RD	5.1	ST	9.3	28
2	17	FAS	INR	XF	3.9			22
3	2	FAN	INC					
4	7	FAS	INP	RD	7.6			
5	2	FMS	PL	RD	4.3			
6	2	FAS	INC					
7	1	FAS	INR					
8	1	FAS/S	INR					
9	1	FAS/S	INR					
10	4	FAS	INR	RE	3.0	ST		
11	1	FAS	PUN					
12	1	FAS/S	INR					
13	1	FAS	INR					
14	1	FAS/S	INR	RD	4.8	IN	6.6	
15	2	FAN	INR	RE	8.6			26
16	14	FAS	INP	RE	8.7	IN	8.9	30
17	1	FAN/S	INR	RE	6.4			14
18	2	FAS	INR	RE	6.4			
19	1	FAS	INR	RI	6.7	ST	7.5	
20	1	FAS/S	INR	RE				
21	3	FAS	INR	RD	4.5	ST		24
22	1	FAS	INP	RD	6.0	ST	8.9	
23	1	FAS	INP	XF/D	17.0	ST	8.8	30
24	1	FAS	INC					
25	3	FAS/S	PL	RE/T	6.6	ST	5.3	
26	17	FAS/S	PL	RE	5.2	ST	8.3	
27	1	FAS	PL	FI	6.4	ST	8.0	
28	2	FAS	PL	RD	4.6			
29	1	FAS	PL	XF	4.6			
30	2	FAS	PL	FI	3.8	ST	7.0	
31	2	FAS	PL	BE	4.0	IN	9.0	
32	1	FAS	PL	PR	2.2			
33	5	FAS	PL	XF	5.2	ST	6.2	34
34	1	FAS	PL	RE	2.9			8
35	1	FAS	PL	PR	2.1	ST		
36	1	FAS	PL	RE	5.2	ST		
37	1	FAS	PL	RI	4.6	EX		6
38	1	FAS	PL	BE	3.9			
39	1	FAS	PL	BE	5.5			
40	2	FAS	PL	BI	4.9	ST		
41	1	FAS	PL	RE	3.8			
42	1	FAS/S	PL	RE	3.6			6
43	2	FAS/S	PL	RE	5.0			
44	1	FAS	PL	RD	5.7			16
45	2	FAS/S	PL	FI	4.7	IN	9.7	
46	1	FAS/S	PL	RE	4.2	IN		
47	1	FAS	PL	RE	4.2			
48	1	FAS	PL	BE/T	7.8			
49	1	FAS	PL	XF/T	7.5	ST	5.9	
50	1	FAS/S	PL	FD/T				
51	1	FAS	PL	XF	4.5			
52	1	FAS	PL	RE	3.3	IN		
53	2	FAS	PL	FI	4.7	ST	7.4	20
54	2	FAS	PL	FI	5.7	IN	9.8	36
55	1	FAS	PL	BV	4.6	IN		
56	1	FAS	PL	FI/T	6.0			

(continued on next page)

Table 6-26. (continued)

V #	# Sherds	Temper	Surface Treatment	Lip Form	Lip Thk. (mm)	Rim Form	Rim Thk. (mm)	Orifice Diam. (cm)
57	3	FAS/S	PL	RD	5.6	ST	7.3	16
58	1	FAS/S	PL	RE	8.0			
59	2	FAS	PL	FI	2.5	ST	3.9	10
60	1	FAS	PL	RD	5.3	ST	7.3	
61	1	FAS	PL	FI/T	9.1	IN	6.1	
62	1	FAS	PL	BE	6.4			
63	4	FAS	PL	PR	3.9	IN	7.2	
64	4	FAS/S	PL	RE	4.9			
65	3	FAS/S	PL	XF	6.0			20
66	2	FAS	PL	XF	5.3			12
67	1	FAS	PL	RD	4.8			
68	2	FAS/S	PL	RD	4.3			
69	2	FAS/S	PL	RE	5.7			
70	1	FAS	INR	RD	6.0	IN		18
71	1	FAS	INR					
72	1	FAN/S	INC					
73	3	FAS	INC					
74	1	FMS/S	PUN					
75	1	FAS/S	INR					
76	1	FAS	INR	XF	6.2	ST		
77	3	FAS	PL	BE	6.0	ST	6.7	
78	1	FAS/S	PL	FE/T	17.9			
79	2	FAS/S	INR	XF	4.4	ST		
80	1	FAS/S	INR	BE	4.9	ST	8.7	
81	2	FAS	INR					
82	7	FAS	INR	XF	7.5	ST	7.8	16
83	1	FAS	INR	PR		IN	8.1	
84	1	FAS	INR	RE		ST		
85	1	FAS/S	INR					
86	1	FAS/S	INR					
87	1	FAS	INR	XF	5.4			
88	3	FAS/S	INC	RD	7.5	IN		24
89	1	FAS	INR					
90	1	FAS/S	INR	RD	5.3	ST		10
91	3	FAS	INC					
92	4	FAS/S	INR	FI/D	10.2	IN	7.6	
93	2	FAS/S	ER	RD	6.5	ST		
94	2	FAS	INR					
95	1	FAS	PL	RE	3.3	ST		
96	2	FAS	PL	RE	3.4			
97	4	FAS	INR	RD	7.6	IN	7.1	
98	17	FAS/S	INR	BE	9.1	ST	11.4	30

<sup>1</sup>Temper categories: FAN – fiber abundant, no visible aplastics; FAS – fiber abundant, visible aplastics; FMS – fiber trace, visible aplastics; /S – suffix indicating presence of sponge spicules

<sup>2</sup>Surface Treatment categories: INR – incised rectilinear; INC – incised curvilinear; INP – incised and punctuated; PUN – punctuated; PL – plain; ER – eroded

<sup>3</sup>Lip Form categories: XF – flat; RD – rounded; RI – rounded interior; RE – rounded exterior; PR – tapered; BV – beveled; BI – beveled interior; BE – beveled exterior; FI – flanged interior; FE – flanged exterior; /T – suffix added if thickened; /D – suffix added if decorated

<sup>4</sup>Rim Form categories: ST – straight; IN – incurvate; EX – excurvate

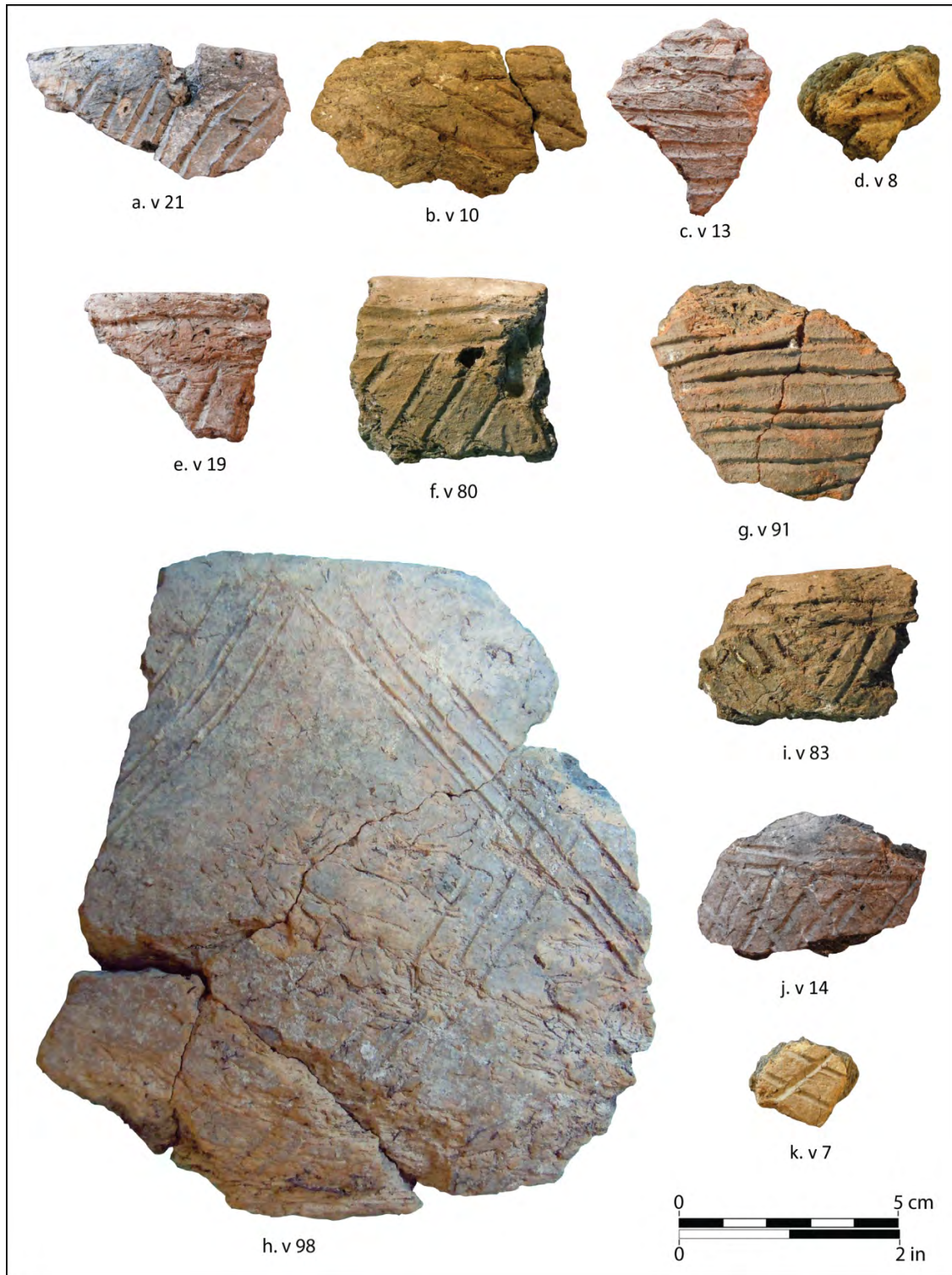


Figure 6-62. Examples of Orange Incised fiber-tempered vessels from Locus B, 8LA1W.



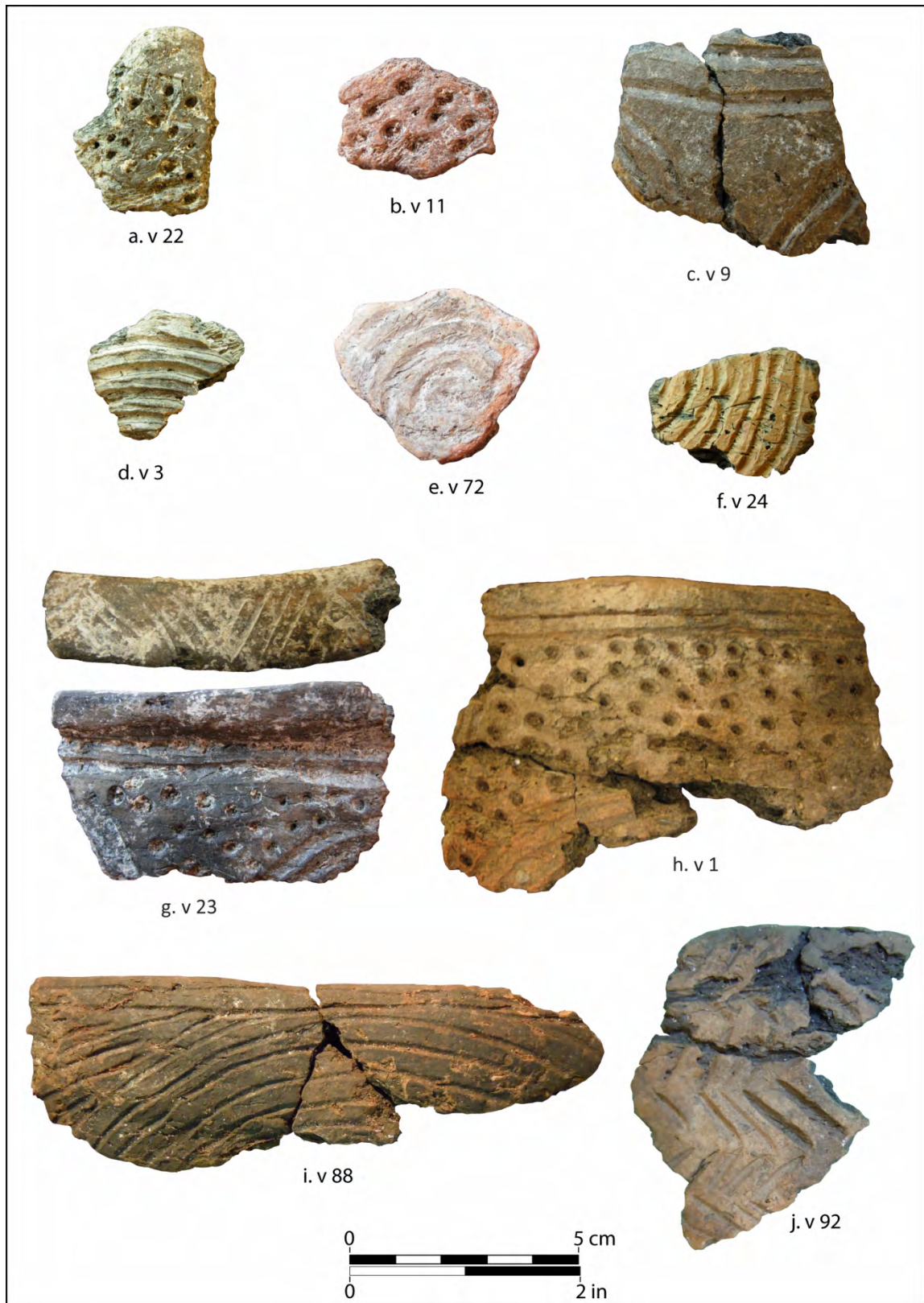


Figure 6-63. Examples of: a-i) Tick Island Incised vessels; and j) a fiber-tempered vessel with an unusual motif featuring elongated ticks.

the range of variation within the incised types are provided in Figures 6-62 and 6-63. Locus B's Orange Incised vessels display a diversity of motifs, a majority of which incorporate some combination of oblique and/or horizontal lines. Zoning is apparent in only a few examples, although the small vessel portions available in most cases may obscure larger zoned patterns. Two vessels have cross-hatched designs and seven have nested chevrons, with one of these, vessel 98 (Figure 6-62h), displaying a pattern of upward and downward pointing chevrons that cross each other on their margins. Tick Island motifs from Locus B are less variable and consist primarily of large spiral-shaped incisions surrounded by punctations. On all four of the Tick Island vessels for which a substantial portion of the rim is present, two straight horizontal incisions line the rim. Two of the Tick Island vessels also have paired vertical lines that divide their surfaces into distinct zones. Vessel 9 (Figure 6-63, c) is the only Locus B vessel that shows curvilinear incisions in the absence of punctations. In all but two cases, surface decorations are restricted to the exterior surfaces of vessels, the exceptions being Vessels 23 and 92, which both have incised lips.

Execution of the incisions is also variable with some exhibiting perfectly straight, evenly spaced lines while others are highly irregular. With only a few exceptions, both the rectilinear and curvilinear designs on Locus B pots consist of broad deep lines, apparently incised with a flat-tipped or rounded stylus. Many incisions exceed 2.5 cm in width. Punctuation diameters vary from 2-4.3 mm. The narrow ridges of clay built up on the edges of most incisions and punctations suggest that they were applied while the clay was still wet.

Temper. A small fresh break was made on sherds from each vessel lot in order to evaluate the constituents of their added temper(s). Sherds were examined under a stereoscopic microscope at 40X magnification. All but 2 of the 98 vessel lots were determined to contain abundant fiber as well as visible aplastic inclusions, primarily quartz sand. Of these, 32 (32.7 percent) also contain freshwater sponge spicules, the defining characteristic of St. Johns type pottery but also a common constituent of some Orange assemblages in the Middle St. Johns River Valley (Cordell 2004; Sassaman 2003a). At this point, it is still unclear the extent to which spicules were intentionally added to clay as a temper or were simply natural constituents of local clays (Borremans and Shaak 1986; Cordell 2004; Cordell and Koski 2003; Rolland and Bond 2003). Interestingly, unlike other sites in the region, spiculate pastes within the Locus B assemblage do not appear correlate with surface treatment (see Cordell 2004; Sassaman 2003b), as at least 14 (43.8 percent) of the vessels with spicules are plain. Of the remaining vessels with spiculate pastes, 14 (43.8 percent) have rectilinear incisions, three (9.4 percent) have curvilinear incisions and/or punctations, and one (3.1 percent) is eroded.

Morphology and Size. Morphological and metric data were gathered for each vessel with regard to a number of variables including lip form, lip thickness, rim form, rim thickness, orifice diameter, and basic vessel shape (round or rectangular). Lip and rim form were coded using the system developed by Sassaman (1993) for fiber-tempered pottery from Georgia and more recently utilized in the analysis of Orange pottery from

Blue Spring Midden B (Sassaman 2003b). Rim thickness was measured at a distance of 3 cm from the lip. Orifice diameter was estimated using a standardized rim chart for all vessels with five percent or more of the rim present. In addition, rim profiles were drawn for all vessels with at least 3 cm of the rim present (see Figures 6-64 and 6-65).

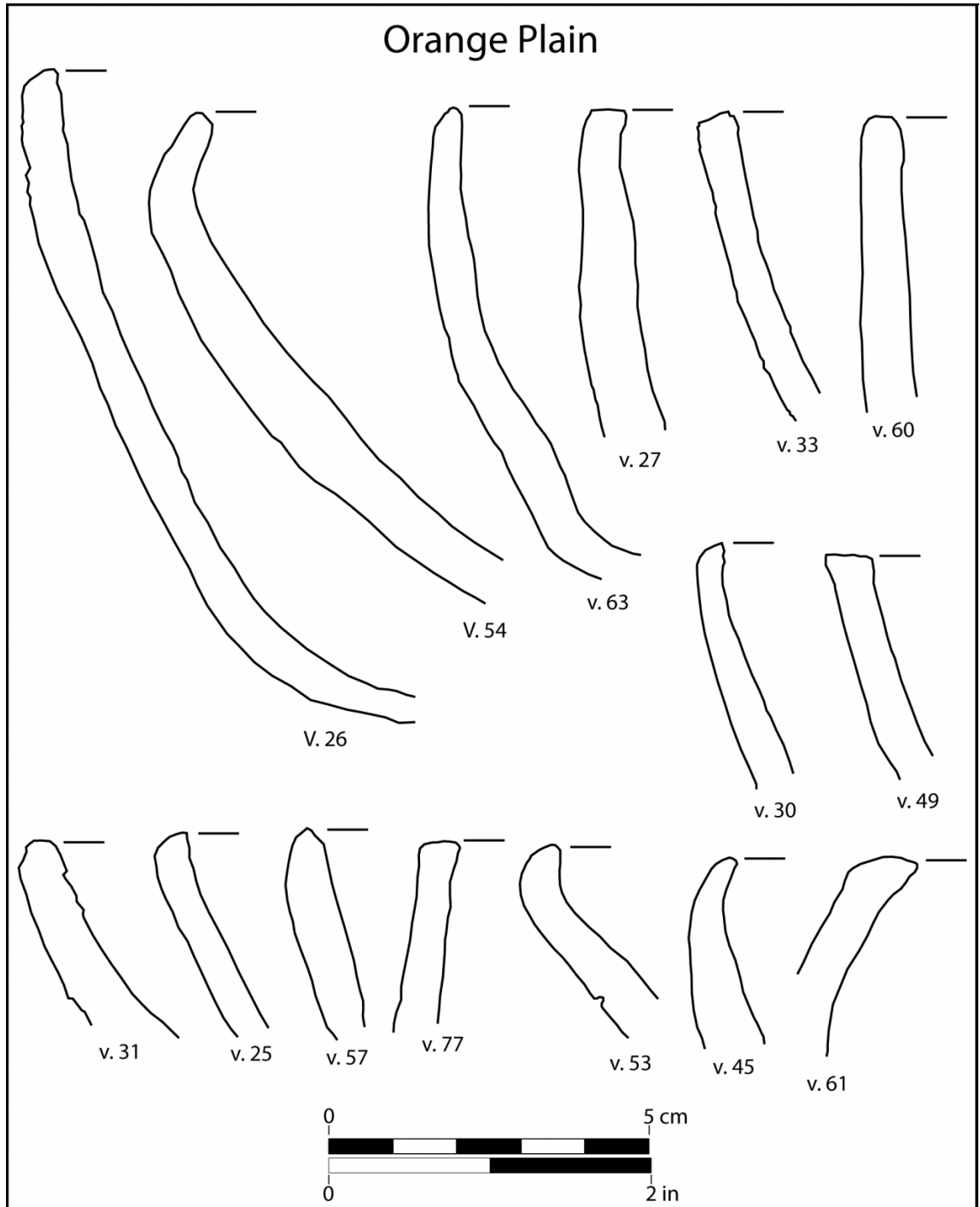


Figure 6-64. Profiles of rim portions of select Orange Plain vessels from Locus B, 8LA1W.

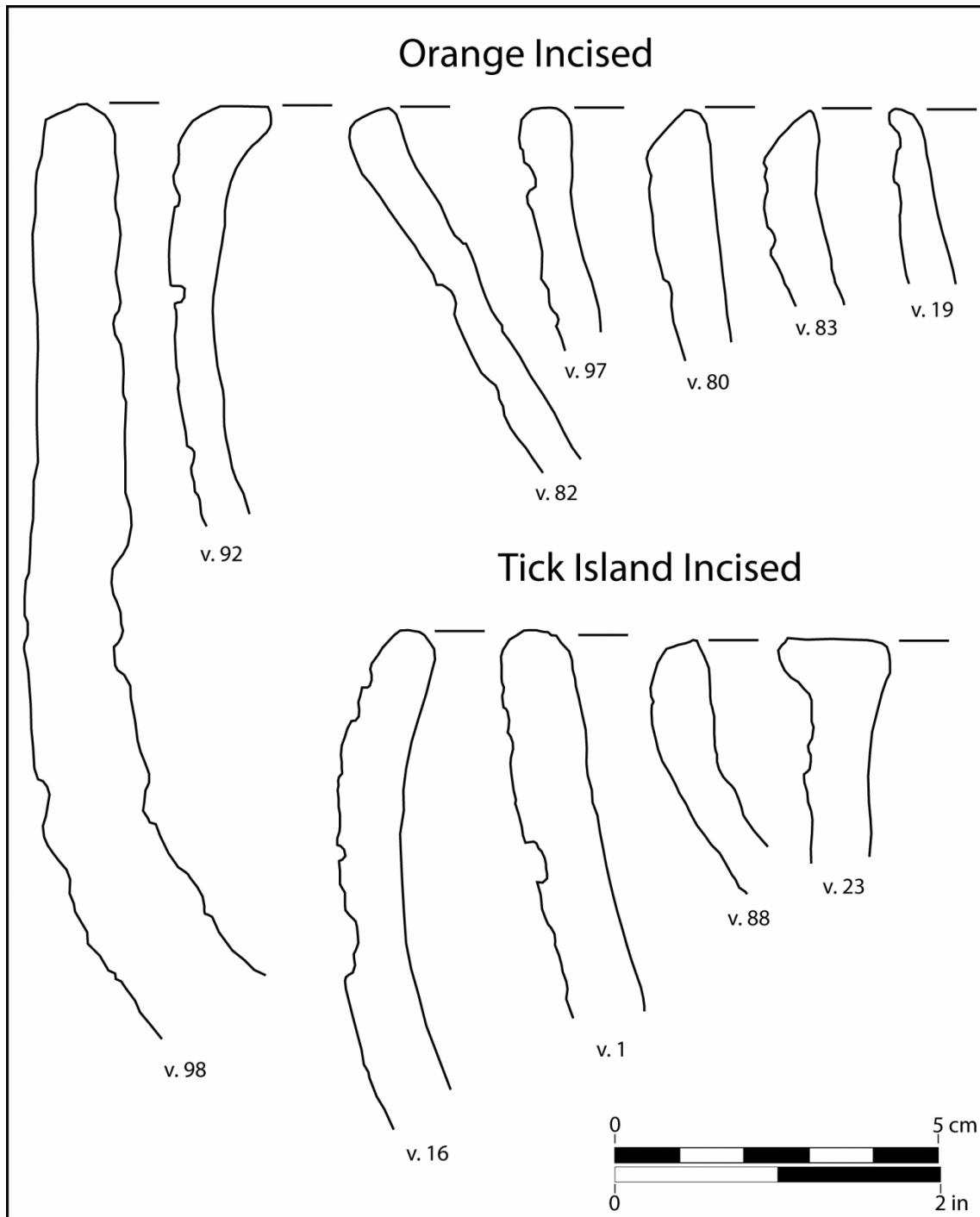


Figure 6-65. Profiles of rim portions of select Orange Incised and Tick Island Incised vessels from Locus B, 8LA1W.

A broad diversity of lip forms are represented among Locus B Orange vessel lots, likely bespeaking the lack of standardization present during this period that was also

noted by Sassaman (2003b:115) at Blue Spring Midden B. A majority of rims are straight and outward sloping, resulting in broad open vessel profiles, although a handful of rims are incurvate near the lip and must have had somewhat restricted openings. Rim thickness is also highly variable, ranging from 3.9-11.4 mm, as is estimated orifice diameter with a range of 6-36 cm. There is a strong positive correlation between rim thickness and vessel size as estimated by orifice diameter (Pearson correlation coefficient = 0.642), suggesting that thicker walls may have been necessary to prevent larger vessels from collapsing in on themselves during the manufacturing process (Espenshade 1983). There also appears to be some connection between vessel size and surface treatment, as the mean diameters are 16.73 cm for plain vessel lots and 22.67 cm for incised vessels, although this difference is not statistically significant ( $t$  value = -1.644; probability = 0.115).

Only a few different vessel types can be inferred from the Locus B assemblage. A large majority of vessel lots for which vessel shape can be surmised appear to be round or oval bowls with straight or slightly incurving rims and flat bottoms. Two of the largest reconstructible vessel portions from Locus B both conform to this description. Vessel 26 (Figure 6-66) is an Orange Plain roughly circular bowl with thin walls that round into a flat base. It measures 11.3 cm in height and has an 8.3-mm thick rim gauged at 3 cm below its flattened lip. Its exterior surface is extremely friable and it shows significant thermal attrition on its base. Vessel 16 (Figure 6-67) is a large, elaborately decorated Tick Island Incised bowl with thick, incurving walls and a lug handle projecting out of its rim. The vessel's rim measures 8.9 cm in thickness and it has an estimated orifice diameter of 30 cm. Rim sherds from six vessel lots show no apparent horizontal or vertical curvature and probably come from rectangular vessels. Of these, four are plain, one has rectilinear incisions, and one is eroded.

Chronology. The stratigraphic distribution of the different types of fiber-tempered pottery at Locus B provides important clues as the chronological relationships between them. These relationships, while repeated within virtually all excavated Locus B contexts, are perhaps most clearly visible in the pottery data from the 2009 excavation block. Figure 6-68 is a backplot showing the vertical locations of all piece-plotted fiber-tempered sherds in front of the north profile of the 2009 block. What this figure demonstrates is that the lowermost and hence earliest pot sherds at Locus B are primarily plain, while decorated sherds (including both Orange Incised and Tick Island incised) arrive on the scene relatively late and are associated with the DP3 shell layer capping the area's massive pits. The only exceptions to this pattern are a few fiber-tempered incised sherds visible near the center of the profile in Figure 6-68 that were all recovered from Feature 38. This feature is exceptional in that it is the only large Locus B pit to contain incised pottery, including Tick Island Incised sherds. This pattern is corroborated by extensive radiocarbon data that date pits containing plain pottery to between  $3970 \pm 40$  and  $3590 \pm 40$  rcybp and the one pit containing incised pottery to the very end of this range at  $3590 \pm 40$  rcybp (see complete radiocarbon data in Appendix B of this report).

This sequence of plain fiber-tempered pottery followed by incised vessels with Tick Island designs is the same one observed by Bullen (1955, 1976; Bullen and



Figure 6-66. Partially reconstructed Orange Plain vessel from Locus B, 8LA1W.



Figure 6-67. Partially reconstructed Tick Island Incised vessel from Locus B, 8LA1W.

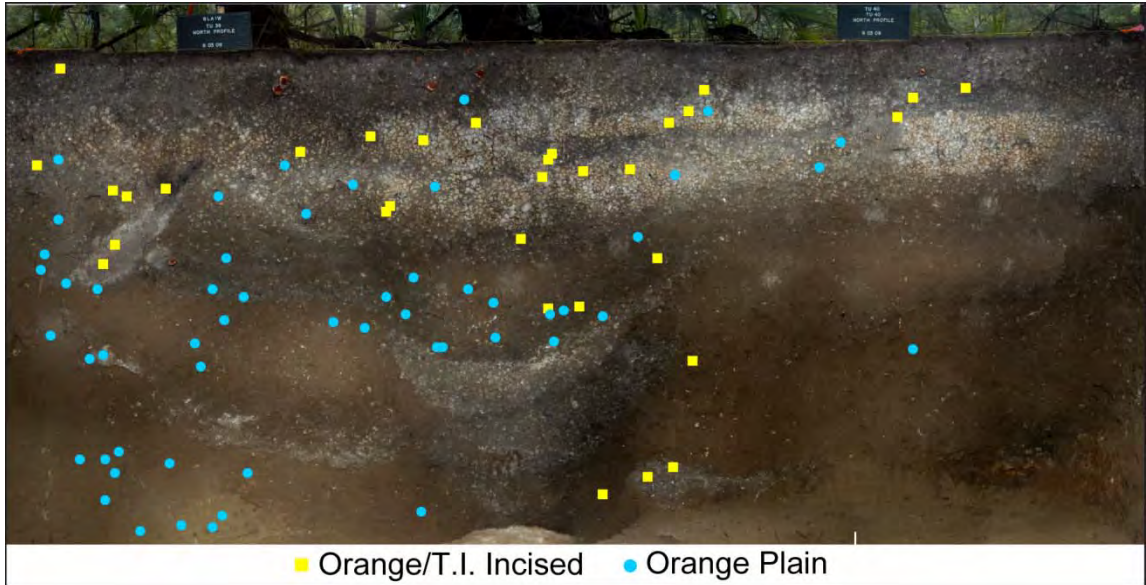


Figure 6-68. Backplot showing vertical stratigraphic distribution of Orange/Tick Island Incised vessels and Orange Plain vessels in the 2009 excavation block at Locus B, 8LA1W.

Stoltman 1972) at the Bluffton (8VO22) and Palmer (8SO2A) sites that largely provided the basis for his Orange 1 and Orange 2 subperiods. In Bullen's chronology, these pottery types were thought to be characteristic of the Orange Period's earliest manifestations. He argued that these were subsequently replaced by pots with more elaborate straight-line motifs in the Orange 3 subperiod, which were in turn succeeded by vessels with simpler designs and chalky pastes by Orange 4. As noted above, this chronology has been largely invalidated by subsequent research that has demonstrated contemporaneity between these different styles of Orange pottery (Cordell 2004; Sassaman 2003a; Saunders 2004a). Data from Locus B further corroborates this research by demonstrating the use of Orange 1 and Orange 2 vessels during a period hundreds of years later than dates obtained by Sassaman (2003a) for Orange 3 and Orange 4 vessels at the Mouth of Silver Glen Run (8LA1E) and other sites in the region. Importantly, Locus B research has also resulted in the first securely dated context containing Tick Island Incised pottery. The date of  $3590 \pm 40$  rcybp ( $3980-3830$  cal BP) for Feature 38 contrasts with Bullen's chronology by firmly placing this relatively rare variety of fiber-tempered pottery late in the Orange Period, centuries after the initial appearance of the classic Orange Incised variety.

Comparisons to Orange Incised Pottery from 8LA1E. In 2009, a technofunctional analysis was conducted of 146 vessel lots collected from the north ridge of the 8LA1E mound as a part of a class project (Gilmore 2009). Radiocarbon assays obtained from soot on sherds from this massive U-shaped monument range from  $4070 \pm 40$  to  $3680 \pm 60$  rcybp (Sassaman 2003a) and thus overlap with Orange Period dates from Locus B, indicating that use of the respective fiber-tempered pottery assemblages from the two areas was coeval. With this in mind, there are a number of interesting stylistic and technological differences apparent between the two contexts.

As at Locus B, a majority of the 8LA1E pots for which vessel type can be inferred are shallow open bowls, perhaps best suited as serving containers. However, whereas just under half (49 percent) of the vessel lots from Locus B have some kind of surface decoration, more than 75 percent of those analyzed from 8LA1E are decorated. This pattern parallels the one noted by Saunders (2004a) between shell rings and contemporary non-mounded sites along the Florida's Atlantic coast but occurs instead as an intrasite arrangement at Silver Glen Run.

Comparing Locus B's Orange Plain vessels to the incised pots from the mound also reveals a number of additional differences, beyond those related to surface treatment. First, a large majority of north ridge vessel lots have chalky, spiculate-rich pastes, while spicules were observed in less than one third of Locus B's plain vessel lots. These plain vessels are also smaller and thinner-walled than their incised counterparts from the mound with an average orifice diameter of 16.7 cm and rim thickness of 7.2 mm compared to 25.8 cm and 10.0 mm for the 8LA1E pots. Other differences relate to the manner in which the pots were actually utilized. While heat attrition is observable on the exteriors of vessels from both assemblages, only vessels from 8LA1E have soot preserved on their surfaces, perhaps indicating that they were suspended over open flames while Locus B pots were placed directly onto smoldering coals. In addition, while six 8LA1E vessels have holes drilled into them for mending, no Locus B vessels show evidence for the repair of broken vessels.

Interestingly, the decorated vessels from Locus B bear more technological and stylistic resemblance to the plain pots from the same location than they do the Orange Incised vessels from the 8LA1E mound. First, while the rectilinear motifs between the two areas are similar, a much higher proportion (29.8 percent as compared to 7.1 percent) of Locus B vessels exhibit the curvilinear incisions and/or punctations characteristic of Tick Island style pottery. Importantly, the rectilinear incisions on Locus B pots, which form similar overall motifs to the Orange Incised vessels from 8LA1E, more closely resemble the thick and sometimes irregular Tick Island incisions than they do the mostly thin, precise lines on their counterparts from the 8LA1E shell mound. The 8LA1E designs also lack the thin ridges of clay lining the margins of incisions, perhaps indicating that their lines were applied at a later stage in the drying process. In terms of size and thickness, the decorated Locus B vessels are actually intermediate between that area's plain pottery and the incised pots from the mound with an average rim thickness of 8.4 mm and orifice diameter of 22.1 cm.

Given that these intrasite differences in fiber-tempered pottery can no longer be attributed to simple chronological succession, other factors including functional specialization and/or ethnic diversity must be considered (Sassaman 2003a). Differences between Locus B pottery and that from the mound at 8LA1E may be explained in terms of the social scale of the respective events orchestrated at these two areas. The relative size of vessels is commonly used to deduce the size of the groups being served (e.g., Blitz 1993; Mills 1989) and can also inform on the physical distance between the pots and the people intended to view them (Mills 2007). Moreover, stylistic elements of pots, including surface decorations, often encode messages regarding group affiliation



(Pikirayi 2007; Weissner 1983; Wobst 1977) or status (Hayden 1995; Russo 2004; Russo et al. 2002). These messages are recognized by both sender and receiver and become increasingly important as interaction occurs between groups that are more socially distant (Wobst 2007). Although the relationship between style and identity are likely more complex than generally portrayed (Gosselain 1998; Hegmon 1992; Stark et al. 2000), high frequencies or exaggerated forms of pottery surface decorations may be indicative of their use in socially diverse contexts. With this in mind, the large, elaborately decorated vessels from 8LA1E suggest relatively large-scale and possibly multi-ethnic social events in line with the regional-scale feasts suggested by some to have occurred at Orange period shell rings (Russo 2004; Russo et al. 2002; Saunders 2004a, 2004b). The smaller and predominantly plain vessels associated with the huge roasting pits at Locus B, on the other hand, are probably indicative of more socially restricted, although not necessarily less ritually charged, activities. Given their close spatial proximity and contemporaneous use, these two places, in all likelihood, functioned in concert as coordinating parts of the same ritual landscape. The seemingly sudden appearance of Tick Island Incised vessels late in the site's Orange period history must signal a significant transformation in the social conditions surrounding Locus B's use, although the circumstances surrounding that shift and its larger scale significance are not currently well understood.

*Post-Archaic Pottery.* The remaining pottery is composed entirely of post-Archaic varieties with most belonging to the St. Johns sponge-spiculate tradition (Figure 6-69). Not including crumb sherds, a total of 281 St. Johns pottery sherds were recovered, including three St. Johns Incised, 240 St. Johns Plain, 30 St. Johns Check Stamped, and eight eroded. St. Johns Incised pottery is diagnostic of the St. Johns I subperiod (ca. 2800-1300 cal BP) while St. Johns Check Stamped is characteristic of St. Johns II (ca. 1300-500 cal BP) (Milanich 1994:247). By far the most numerous variety at Locus B, St. Johns Plain, is found throughout both subperiods. Unfortunately, as noted above, the St. Johns component at Locus B is contained almost entirely within the plow



Figure 6-69. Examples of: a) St. Johns Check Stamped; and b) St. Johns Incised sherds from Locus B, 8LA1W.

zone, resulting in small fragmentary sherds that largely prohibit any meaningful, context-dependent interpretations. The only other pottery type identified is sand-tempered plain, of which 6 undecorated sherds were recovered. These were found in the same stratigraphic contexts as the St. Johns pottery and could date to any post-Archaic period.

### *Flaked Stone*

A total of 284 flaked stone objects were recovered from level excavations at Locus B between 2007 and 2010, including 17 formal tools and preforms (Table 6-27). A large majority of both tools and debitage were found within the preceramic Thornhill Lake Phase component. Flaked stone is especially sparse within the site's Orange period deposits and is in fact virtually absent from the many large roasting pits constituting DP2, perhaps adding supporting evidence to the hypothesis that Locus B was a special-use site rather than a place of residence during this time.

*Hafted Bifaces.* Among the formal lithic tools recovered from Locus B, all but two exhibit bifacial flaking. Three of these have basal stems presumably related to hafting and can be classified within the broad Florida Archaic Stemmed (FAS) category. One of these hafted bifaces is a classic Newnan type with a broad excruciate blade and long contracting stem (Figure 6-70, k). It is mostly complete except for the tip that was removed by a transverse break and the corners of the shoulders, which were slightly damaged during excavation. Like most FAS points, this example is asymmetrical and has relatively steep edge angles, probably indicating its use as a sharpened cutting implement rather than a projectile point. Two other Locus B bifaces have similar contracting stems and probably started out as FAS points. One of these (Figure 6-70, i) exhibits the contracting stem and right-angled shoulders that are characteristic of Newnan points. Its blade, however, has undergone repeated lateral sharpening, resulting in a cruciform drill shape probably representing the tool's final stage of reduction. The other contracting-stem biface appears to be a FAS point that experienced a perverse fracture along its long axis and was subsequently recycled into a smaller hafted cutting tool. Its stem remains largely intact, while the curved broken edge of the blade has been sharpened via the removal of several flakes at a steep angle. The tool has a thick irregular cross-section, perhaps indicating it was not yet complete at the time of the original break. All three FAS tools were found within the preceramic component at Locus B.

The only hafted biface that cannot be classified as a FAS implement is a Kirk Stemmed/Serrated point found near the bottom of TU19 (Figure 6-70, m). It has a square stem, straight shoulders, and slightly incurvate blade margins. The blade exhibits broad flake scars across most of its width and was serrated through the removal of a series of short, deep flakes along both edges. A transverse break removed the tip of the point, but the specimen is otherwise intact. It is composed of chert that is heavily patinated, indicating an advanced age. Serrated Kirk Stemmed tools have been interpreted as knives and are thought to date to the Early-Middle Archaic between 8500 and 7000 cal BP (Shroder 2002:76). The fact that this specimen was recovered from a Late Archaic stratigraphic context at Locus B suggests that it was picked up and perhaps utilized long after its initial manufacture and deposition.

Table 6-27. Attributes and Metric Characteristics of Flaked Stone Artifacts Recovered from Test Units at Locus B, 8LA1W.

Prov.	Fig. 6-70 letter	Description	Condition	Max. Length (mm)	Max. Width (mm)	Max. Thickness (mm)	Wt. (g)
TU13C	d	biface	tip	18.9	13.1	5.3	0.8
TU14E	k	hafted biface	missing tip	62.1	40.2	7.9	16.0
TU14H	c	biface preform	tip	24.1	17.8	6.6	2.1
TU19G	f	biface	fragment	21.9	20.8	9.1	3.4
TU19I	m	hafted biface	missing tip	60.7	34.4	8.9	17.7
TU19L		biface	complete	34.9	30.9	10.7	11.5
TU21F	j	hafted biface	recycled/ complete	41.7	20.0	10.6	5.7
TU21H	i	hafted biface-drill	complete	41.8	31.1	7.9	5.4
TU39-F.38	a	uniface-expanding base microlith	complete	16.7	10.0	2.8	0.2
TU40G	g	biface	recycled/ distal	43.2	29.2	13.9	17.5
TU41H		biface	fragment	32.2	20.8	11.7	6.9
TU43G		biface preform	tip	20.2	17.2	7.2	1.2
TU46B		biface preform	medial	24.1	18.4	9.2	4.2
TU46G	b	uniface-expanding base microlith	complete	26.7	13.6	4.3	1.0
TU46I	h	wedge	complete	31.6	29.1	8.6	8.8
TU57B	e	biface preform	distal	30.1	26.2	9.25	6.2
TU57B		biface preform	medial	22.5	17.1	5.8	3.2
TU57H	l	biface – drill	complete	66.9	42.9	8.3	12.5

*Preforms.* Five flaked stone objects from Locus B were classified as preforms because they appear to be at a late stage of reduction but do not exhibit the extent of edge retouching and shaping expected of finished tools. Three of these consist of tips or distal portions that appear to have been detached via transverse breaks (Figure 6-70, c-e). The other two examples are medial fragments, one with roughly straight parallel margins and the other with contracting edges that may reflect its original location near the base of the

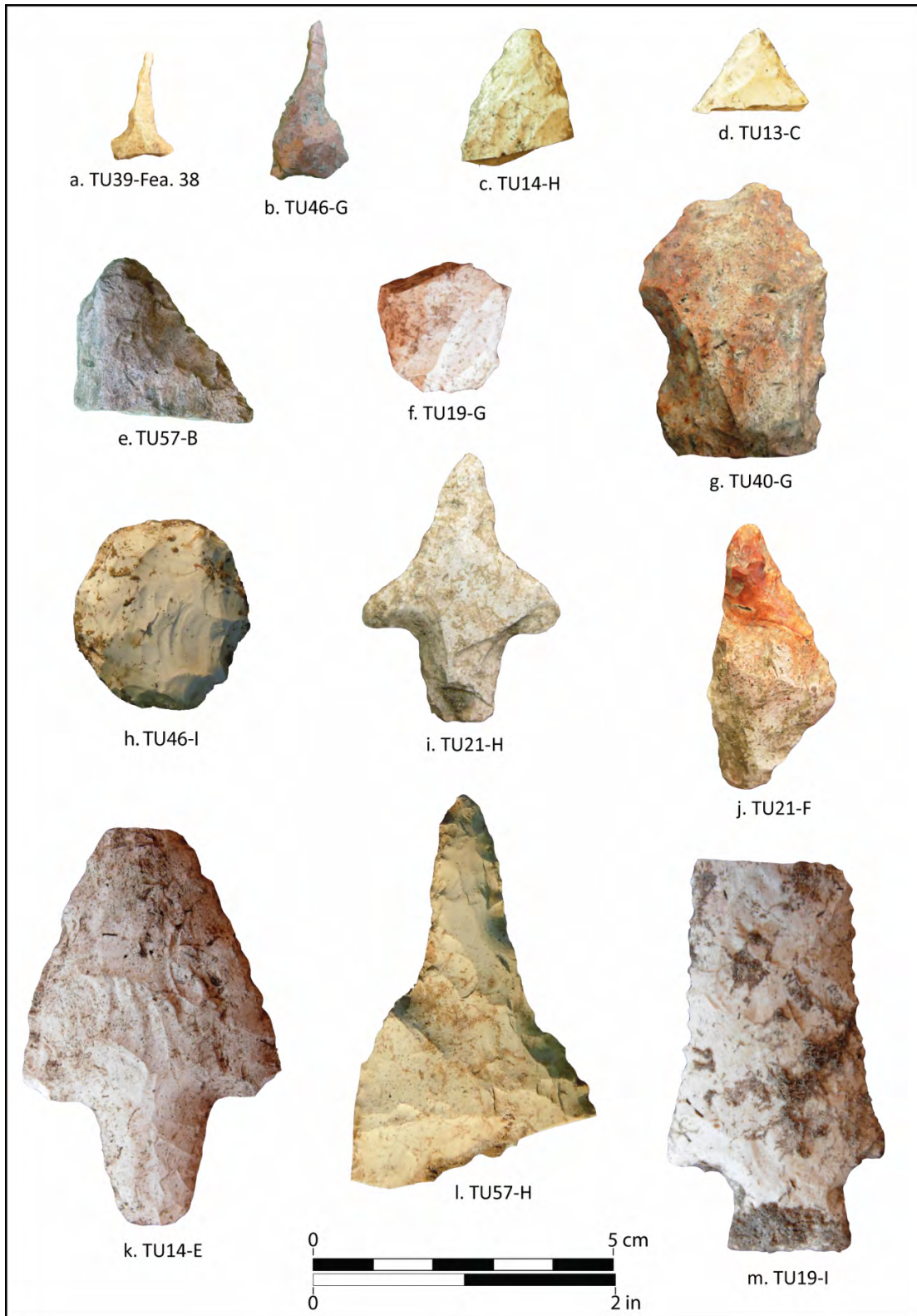


Figure 6-70. Select flaked stone artifacts from test units at Locus B, 8LA1W.

tool. Both of these have thick biconvex cross-sections and little evidence of fine edge retouch. Because of their fragmentary condition, inferences regarding the intended final form or planned use of Locus B preforms are not possible.

*Other Bifacial Tools.* One of the bifaces from Locus B has been classified as a “wedge” (Figure 6-70, h). It is roughly circular in shape and has steeply retouched edges running along its entire perimeter. The presumed distal end of the tool has a number of small step fractures, apparently a result of repeated battering. The tool was found within a preceramic stratum within TU46 and likely belongs to the Mount Taylor Thornhill Lake Phase component. An almost identical tool was found across the spring run at the Silver Glen Springs site (8MR123) that was interpreted as a possible woodworking implement (Randall et al. 2011:144).

Another flaked stone object from Locus B has been classified as a “drill” (Figure 6-70, i). This bifacial tool has undergone a great amount of lateral edge retouch so that its margins curve inward forming a thin elongated blade. The tool terminates proximally in a straight transverse break, although it is unclear whether this is its original base or whether it has been truncated. In its present condition, there is no evidence of a hafting element. The drill is made of chert and is heavily patinated, again suggesting an advanced age. Assigning it a cultural affiliation is difficult, as it was found within preceramic deposits but near the edge of a large Orange period pit (Feature 54/55).

Various other bifacially flaked fragments were also recovered whose irregularity and/or condition prevent classification into a formal category. One of these (Figure 6-70, g) is a thick, chunky biface that appears to have been recycled from a larger tool. Although small flake scars with feather terminations are visible on both sides of the biface, its edges exhibit evidence of large irregular flake removal. The proximal end of the original tool is missing, although it is impossible to tell whether this break occurred before or after the tool’s secondary modifications. It is one of the few examples of a lithic tool that can be confidently attributed to the Orange period component at Locus B.

*Microliths.* Microlithic tools have been recovered from a number of prehistoric contexts in Florida, including multiple middle St. Johns River Valley sites such as Lake Monroe Outlet Midden (8VO53) (ACI and JR 2001) and the Thornhill Lake Complex (8VO58-60) (Endonino 2010:292-294). Several examples have also recently been unearthed at other locations within the Silver Glen Run Complex including both the Silver Glen Springs site (8MR123) (Randall et al. 2011) and the Mouth of Silver Glen Run (8LA1E) (Chapter 3, this report). Two flaked stone objects from Locus B have been classified as microlithic tools (Figure 6-70, a-b). Both of these are whole with maximum respective lengths of 16.7 mm and 26.7 mm. In shape, they conform closely to the category of “expanded base microliths,” as described by Randall et al. (2011:155) based on specimens from 8MR123. They have broad flat bases that contract rapidly into elongated distal shafts and terminate in relatively dull points. Both Locus B examples appear to have been manufactured from bifacial thinning flakes and were formed via unifacial flaking at an extremely high angle (ca. 90 degree) along the length of the shaft. While Randall et al. (2011:151) suggest a possible connection between this tool type and

the production of marine shell beads, their true function(s) remains poorly understood and could include drilling, perforating, and/or incising.

### *Bone Tools and Ornaments*

Thirty modified bone objects were recovered from test unit excavations at Locus B (Table 6-28). An additional bone tool was recovered from Feature 54/55 in TU57 and is included in Table 6-28 but was not counted in the inventory presented in Table 6-25. Unlike the flaked stone tools, which were mostly found within Locus B's preceramic DP1 component, modified bone appears to be less patterned stratigraphically and was found within Thornhill Lake and Orange deposits, as well as within the upper St. Johns Period component. All modified bone was classified according to the categories outlined by Sassaman et al. (2011) based on the assemblage from Salt Springs (8MR2322). Identified artifact classes include bone pins, bone awls, bone splinters, and miscellaneous cut bone and antler. Representative examples of each class are pictured in Figure 6-71. Measurements of each specimen were included in Table 6-28 regardless of condition.

Bone pins are defined as highly polished items retaining little of the bone's cortical surface or medullary cavity and generally exhibiting roughly circular cross-sections (Sassaman et al. 2011:57). Two bone pin fragments were recovered from Locus B, one from the preceramic component of TU22 and the other from near the base of ceramic-bearing deposits of TU44. The example from TU22 (Figure 6-71, a) is a proximal fragment of a pin that is well-polished and has a round cross-section. Its proximal end tapers almost to a point and features five thin parallel lines incised around its circumference, resulting in a rattlesnake-like appearance. It is the only decorated bone object from Locus B. The other specimen in this category (Figure 6-71, b) is a small medial fragment from a thinner, undecorated pin.

Bone awls are by far the most common modified bone objects recovered from Locus B test units, comprising 76.7 percent of the assemblage. Awls are here defined as pointed tools retaining some element(s) of original bone morphology, usually a portion of the medullary cavity (Sassaman et al. 2011:60). A majority of the Locus B awls have relatively thick, almost triangular cross-sections and comparatively blunt working ends (see examples in Figure 6-71, c-k). At least six awls, however, have somewhat thinner flattened cross-sections, are more highly polished, and exhibit exceedingly sharp and symmetrical pointed ends (Figure 6-71, l-q). Other modified bone types include one bone splinter that has been sharpened to a point on one end (Figure 6-71, r) along with a deer metapodial fragment and antler tine, both of which were cut straight across perpendicular to their long axis (Figure 6-71, s and t). Apparent damage to the point of the tine suggests that the antler may have been used as a flaking tool.

Two tubular bone beads were also recovered from Locus B. One of these (Figure 6-71, u) measures 20.1 mm long, has a diameter of 5.4 mm, and appears to have been made by scoring and snapping off the ends of a small mammal or bird long bone. It is similar in both size and morphology to beads recovered from Groves Orange Midden (8VO2601) in nearby Volusia County (Wheeler and McGee 1994). The other bead is

Table 6-28. Attributes and Metric Characteristics of Bone Artifacts from Test Units at Locus B, 8LA1W.

Prov.	Fig. 6-71 letter	Description	Condition	Max. Length (mm)	Max. Width (mm)	Wt. (g)
TU4-IV		awl	distal fragment	29.8	4.5	0.8
TU4-VII		awl	distal fragment	33.5	9.8	1.1
TU12F	l	awl	distal fragment	45.0	8.2	1.4
TU12F	t	cut antler		34.3	8.7	1.2
TU12G	g	awl	distal fragment	56.0	11.7	4.5
TU14F	u	bead	complete	20.1	5.4	0.4
TU14G	k	awl	distal fragment	29.3	7.6	1.1
TU21C	c	awl	medial fragment	64.8	11.0	5.3
TU21D		awl	medial fragment	35.4	10.6	1.8
TU21D		awl	medial fragment	37.0	9.5	1.6
TU21I	v	bead	complete	15.8	17.0	1.8
TU22O	a	incised pin	proximal end	44.5	4.7	1.0
TU40-PZ		awl	medial fragment	31.2	7.5	1.6
TU40I		awl	medial fragment	28.5	7.1	1.2
TU40I	e	awl	missing proximal end	134.5	9.3	8.1
TU40J	o	awl	distal fragment	33.0	6.8	0.7
TU41F	d	awl	missing proximal end	142.2	11.2	10.9
TU41J	m	awl	distal fragment	44.8	8.2	1.4
TU44G		awl	medial fragment	71.9	9.9	3.9
TU44G		awl	distal fragment	73.5	10.17	4.5
TU44G	b	pin	medial fragment	25.19	3.6	0.3
TU44H	n	awl	distal fragment	42.3	11.0	2.2
TU44H		awl	medial fragment	23.4	8.0	0.6
TH44H		awl	medial fragment	27.33	7.6	0.9
TU44I	h	awl	distal fragment	50.2	9.8	3.5
TU46E	s	cut bone	fragment	46.9	17.3	3.5
TU46G	q	awl	distal fragment	45.7	8.0	1.4
TU46G	i	awl	distal fragment	48.5	12.6	4.1
TU57D	r	splinter		44.9	8.7	1.4
TU57D	p	awl	distal fragment	63.4	8.3	2.0
TU57-Fea 54/55*	q	awl	complete	83.7	16.9	4.6

\*not included in Table 6-25 artifact inventory



Figure 6-71. Select bone tools and ornaments from Locus B, 8LA1W including: a-b) bone pins; c-q) bone awls; r) bone splinter; s) cut bone; t) cut antler; u-v) bone beads.



shorter (15.8 mm in length) and much broader (17.0 mm in diameter). It is also made of bird bone and has an almost perfectly circular cross-section. Both beads have polished exterior surfaces.

### *Modified Marine Shell*

A total of 10 modified marine shell objects were recovered from test unit excavations at Locus B, not including items recovered from features. Six of these came from secure preceramic contexts while at least one of the others is likely preceramic in age but was recovered from near the interface between Thornhill Lake and Orange Period components. Overall, the stratigraphic distribution of marine shell (both modified and unmodified) within Locus B largely mirrors that observed with regard to flaked stone. It is by far most common in preceramic contexts, becoming much sparser in the deposits of subsequent periods. Marine shell tool type determinations were made using the classification scheme provided by Wheeler and McGee (1994) based on the Groves Orange Midden assemblage. Representative examples of the different types identified at Locus B are shown in Figures 6-72 and 6-73.

Most of the modified marine shell objects from Locus B are made from large marine gastropods (*Busycon sp.*). Two of these are lightning whelk (*Busycon contrarium*) shells that have been modified for use as containers that have been variously referred to as shell “receptacles” (Wheeler and McGee 1994:365) or “vessels” (Sassaman et al. 2011:61). These vessels, which are common in Mt. Taylor contexts throughout the St. Johns River Valley (e.g., ACI 2001; Sassaman 2003; Sassaman et al. 2011; Wheeler and McGee 1994), are hollowed out via removal of their columnella. One of the examples from Locus B (Figure 6-73) is complete aside from a large whole that has been burned through the bottom of the vessel, presumably a result of heating its contents. It measures 256 mm in length, 152 mm in width, and is approximately 90 mm tall. The other Locus B shell vessel (Figure 6-72, c) is a broken fragment of the whelk’s outer whorl with clear evidence for removal of the columnella. Sassaman et al. (2011:61) point to the relatively small capacities offered by even the largest of these shell vessels in suggesting that they were probably special use containers rather than everyday cooking utensils, perhaps employed in the preparation of medicines or poisons.

The other *Busycon sp.* tools from Locus B are all cutting implements. Two tools (including the one pictured in Figure 6-72, e), also fashioned from *Busycon contrarium*, fall into the adze/gouge category. These are triangular sections of the lower outer whorl that have been sharpened on their broad end. Generally these tools are beveled on the interior in order to produce a unifacial cutting edge, although the working edges are missing on both of the Locus B examples. Another Locus B marine shell implement is a knobbed whelk (*Busocyon carica*) cutting edge tool (Figure 6-72, d). It is similar to the Type X tools described by both Goggin (1952:115) and Wheeler and McGee (1994:365) in having a beveled bit formed by grinding the siphonal canal but this specimen lacks the shoulder perforation thought to be necessary for hafting. The only other Locus B cutting tools include two *Strombus gigas* celt fragments (including Figure 6-72, f). Wheeler and McGee (1994:361) group all of these various cutting tools within the Mt. Taylor

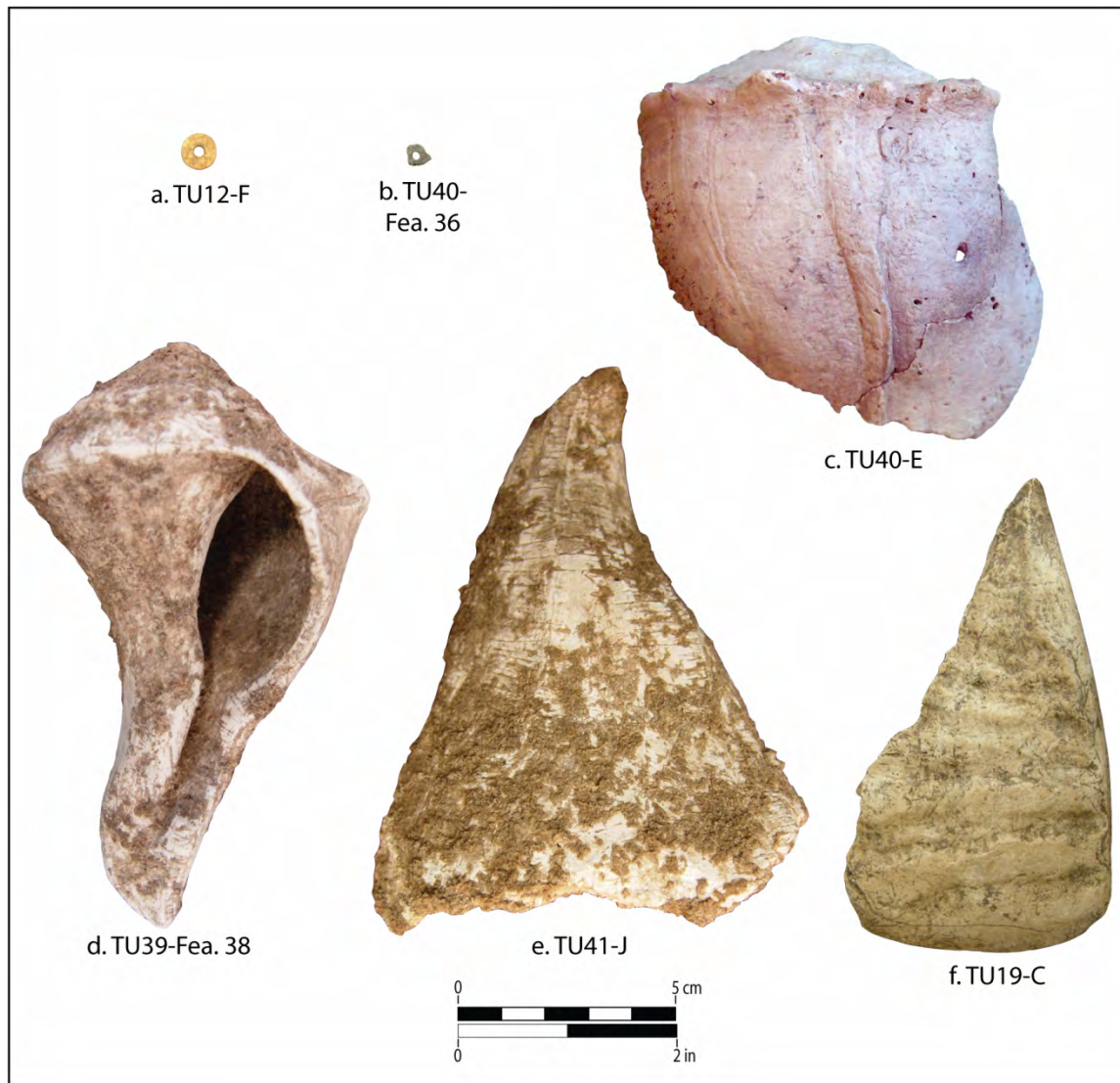


Figure 6-72. Select marine shell tools and ornaments from Locus B, 8LA1W including: a-b) disk beads; c) *Busycon contarium* vessel fragment; d) *Busycon carica* cutting edge tool; e) *Busycon contrarium* adze/gouge; f) *Strombus gigas* celt. Working edges are oriented downward for all cutting tools.

woodworking complex, hypothesized to have been geared toward the reduction and carving of wood.

Three marine shell objects from Locus B fall into Wheeler and McGee's (1994:365) "personal adornment complex" and have been classified as disk variety beads (Figure 6-72, a-b). All three consist of small flat fragments of marine shell with holes drilled through the middle from one side. The largest was recovered from Level F of TU12, near the interface between late preceramic and early Orange period deposits. It



Figure 6-73. Burned-out vessel made of lightning whelk (*Busycon contrarium*) recovered from TU19 at Locus B, 8LA1W.

measures approximately 7.0 mm in diameter and is 2.1 mm thick and has smoothed sides and rounded edges. The others were both found in fill from Feature 36, a large DP2 pit dating to the Orange period. They are both smaller and more irregular, with snapped edges that have not been rounded off. Determination of the shellfish taxa utilized for these beads was not possible.

#### DISCUSSION AND CONCLUSIONS

Four seasons of stratigraphic testing at Locus B have yielded a tremendous amount of information regarding the extent, structure, and archaeological significance of the area's cultural deposits. A combination of topographic mapping, auger testing, and a total of 45 m<sup>2</sup> of test unit excavations were conducted between 2007 and 2010. Initially, these investigations were geared toward the elucidation of Late Archaic domestic practices and broad-scale community patterning. As work has progressed and new data have accumulated, however, a picture has gradually emerged of Locus B not as a fixed

and stable “village,” but rather as a historically volatile place whose functions and meanings frequently shifted with changing local and regional conditions. As a result, more recent research has focused on investigating the *various* manners in which Locus B was inhabited prehistorically, along with the events and processes through which the place was transformed.

Information gleaned from auger tests and test unit excavations indicates that Locus B’s modern surface topography is largely a result of anthropogenic processes involving the deposition of shell and sand. Radiocarbon data suggest that most of this landscape modification occurred during the Late Archaic (ca. 5740-3830 cal BP) when the site underwent at least three successive and fundamentally distinct “patterns” of deposition. The earliest of these, Depositional Pattern 1 (DP1), was undertaken during the late preceramic Thornhill Lake Phase. Centered on an area in the southeastern part of Locus B, DP1 resulted from a series of small-scale domestic settlements and abandonments. These settlements are evidenced first by the stacked sequence of thin, horizontal lenses of crushed shell and intervening layers of dark organic sand most clearly visible near the bottom of TU46. In this test unit, as well as the 2010 block, DP1 deposits are composed primarily of bivalve and *Pomacea* shell containing a broad range of artifact types and debitage generally associated with the activities of everyday living. A number of pit features exhibiting various sizes, morphologies, and fills also support the interpretation of DP1 as resulting primarily from routine domestic practices.

The composition and structure of the DP1 deposits at Locus B are comparable in most ways to other late preceramic Archaic sites in the Middle St. Johns Valley. The lithic, shell, and bone artifact assemblages associated with DP1 are all entirely consistent with existing outlines of Mount Taylor period technology (e.g., Randall 2010; Wheeler and McGee 1994; Wheeler et al. 2000). Similarly, the range of pit features and sequence of stacked shell-lined surfaces from Locus B are also largely duplicated at other coterminous sites in the region (e.g., Endonino 2010; Sassaman 2003b, Chapter 3 of this report; Sassaman et al. 2005). Like Locus B, these other sites have been interpreted as places of residence during the Mount Taylor and/or Thornhill Lake Phases.

By ca. 4600 cal BP, Locus B appears to have been abandoned or perhaps utilized only sparingly for a time, as evidenced by a gap in the radiocarbon data and the presence of a persistent and extensive buried A-horizon positioned directly above the most recent DP1 deposits. Following this period of disuse, Locus B was transformed from a place of sustained residence to a place of periodic, intensive activity. Depositional Pattern 2 (DP2) began during the Orange period by ca. 4500 cal BP and involved the excavation and infilling of hundreds of massive pits across an expansive swath of Locus B. In terms of scale, these DP2 pits far exceed any that either preceded or followed them within the Silver Glen Run complex. Many of them overlap each other, apparently having been dug one on top of another as a part of intermittent pulses of intense activity. The charcoal, oxidized sand, and concreted bivalve shell found lining the bases of several pits suggest that they may have served as large-scale mussel processing facilities, geared toward the rapid production of large amounts of food. While the pits’ size and number seem to preclude a domestic subsistence-focused explanation, Locus B’s proximity to the

contemporaneously utilized U-shaped shell mound at 8LA1E suggests the interesting possibility that the processed shellfish may have been consumed at the large-scale ritualized gatherings hypothesized to have taken place there.

Regardless of where the shellfish ended up, however, the significance of Locus B's DP2 pits undoubtedly extended beyond their practical functionality as processing tools. This is made abundantly clear by the complex, highly structured deposits through which the pits were infilled. Virtually none of the DP2 pits contain a substantial quantity of artifacts or vertebrate fauna that would indicate their use as refuse containers. In fact, DP2 deposits are largely devoid of most classes of material culture save for small amounts of plain fiber-tempered pottery. Instead, pits are filled with various combinations of shell and/or earth that, in several cases, form elaborate stratified sequences of deposition reminiscent of those composing the countless shell mounds found throughout the region. It is possible that Locus B's infilled DP2 pits were essentially inverted, subterranean versions of these above-ground monuments. If so, their layered deposits were likely a means of inscribing particular histories into the landscape. While unlike traditional mounds these deposits were at least initially hidden from view, their frequently overlapping distribution means that earlier DP2 pits are likely to have been cut into and exposed by later ones, a fact of which the Locus B pit diggers themselves must have been aware.

Whereas DP1 at Locus B is replicated at a number of coeval sites throughout the region, DP2 is virtually unique among known Orange period sites, although the data available for comparison is relatively limited. The best information regarding Orange period domestic practices comes from Blue Spring Midden B (8VO43) (Sassaman 2003b) in the St. Johns valley and from Summer Haven (8SJ46) (Janus Research 1995) on the adjacent Atlantic coast. In both cases, excavations revealed relatively artifact-rich deposits, abundant vertebrate fauna, and diverse assemblages of small domestic features, all of which contrasts with the dearth of material culture and the specialized, hypertrophic pits found at Locus B. A more comparable depositional history may actually have occurred at the Bluffton site (8VO22/23) approximately 25 km to the south of Silver Glen Run. There, Bullen (1955:3) describes a large cooking hearth, "some 16 feet across" that was characterized by mussel shells that were "cemented together by heat" and a base that displayed a "pink area, eight inches across, which contained nineteen lumps of red ochre-cemented sand." This hearth was overlain by a thick layer of "relatively clean, loose shells." It is likely that what Bullen actually observed was the burned base(s) of one or more large Orange period pits and that the "red ochre" was in reality heat-oxidized sand. His recognition of individual pits may have been hampered by the relatively restricted view offered by the narrow trench excavation that he was overseeing. The data from Bluffton suggest, not surprisingly, that the depositional practices at Locus B were not unique or isolated but were instead implicated in broader, regional scale processes of shell-centered "history-making" during the Late Archaic.

While the precise events triggering the transition from DP1 to DP2 remain poorly understood, it is clear that this shift took place in a context of regional-scale spatial and social transformation. Although traditional archaeological consensus has long been that,

beyond the introduction of pottery technology, the onset of the Orange Period came with few, if any, significant changes in the lifeways of Florida's Archaic hunter-gatherers (e.g., Milanich 1994:86), that position is no longer tenable given current archaeological data. In terms of material culture, the beginning of the Orange period in the St. Johns is characterized by a marked reduction in the number nonlocal objects, including bannerstones, marine shell, and chipped stone artifacts, when compared to the preceding Thornhill Lake Phase (Randall 2010). It is possible that pottery replaced some of these other materials in maintaining extralocal relationships but even if this were the case, the size of the exchange network appears to have been constricted to a large degree. The scant evidence we have for Orange period settlement layout indicates a transition to circular, or perhaps semicircular (e.g., Randall et al. 2011; Sassaman 2003b) arrangements of houses, a pattern that stands in stark contrast to the mostly linear settlements of the prior period. It has been suggested that this shift may be related to an influx of people and ring-centered ideologies from the Atlantic coast into the interior St. Johns region (Sassaman 2012).

Perhaps the most drastic transformation, however, involved an apparent shift in historical consciousness from Mount Taylor times when past and present existed side-by-side, to the Orange period when the past was kept at a distance from everyday life. One area in which this is most clearly manifested is that of mortuary practices. There is currently no indication that the long-lived Mt. Taylor tradition of burying the dead in shell or sand mounds near settlements continued into the Orange Period. In fact, virtually no Orange burials have been encountered in the Middle St. Johns region (in either domestic or ceremonial contexts), suggesting that whatever Orange people did with their dead, it involved separating their remains from contexts of everyday living. In addition, whereas Mt. Taylor communities repeatedly settled in the same locations, constructing conspicuous material histories in the form of tell-like mounds of debris, the few known Orange settlements in this area appear scattered and relatively ephemeral. And while Orange components are sometimes found within a few tens of meters of Mt. Taylor mounds, the mounds themselves appear to have been actively avoided in all but four known cases, one of these being the Silver Glen Run complex (Randall 2010).

Based on their huge quantities of large elaborately decorated ceramics and massive deposits of shell, these four Orange period mound centers are thought by many to have served as regional gathering places during the Orange Period where ritual feasts and other ceremonies were conducted. At Silver Glen Run, and at least two of the other sites, Orange mounds were constructed directly atop preexisting Mt. Taylor mortuaries (Aten 1999; Randall 2010). Thus, in direct contrast to Orange settlements, where the past was intentionally avoided, practices in these specialized ceremonial locations seem to have been geared explicitly toward drawing on the power of the past, probably as a source of ritual legitimacy. In this context, by exposing older deposits, the excavation of Locus B's DP2 pits would have provided yet another means by which the past could be accessed and exploited at Silver Glen Run. By infilling pits in structured, meaningful ways, particular histories were literally constructed by actors cognizant of the fact that they would eventually be uncovered by future digging.

Shortly following the cessation of large-scale pit digging at Locus B, a massive amount of largely undifferentiated, whole *Viviparus* shell was deposited across the entire area encompassed by the DP2 pits. This mantle of shell (constituting Depositional Pattern 3 [DP3]) contains Tick Island Incised pottery, a style that contrasts dramatically with those that preceded it, and little else. It appears to have been laid down in a single depositional event in some areas, while in others it is broken up by thin lenses of crushed bivalve shell, perhaps indicating a multi-staged depositional process. In either case, the paucity of artifacts, vertebrate fauna, and crushed shell point to the intentional, rapid emplacement of shell. DP3 completely obscured any evidence of the underlying DP2 features, transforming the Locus B landscape from what must have been an unusually rough and pocked surface into a smooth and unremarkable one.

As noted above, the practice of “capping” places in clean shell at the end of their use lives as a symbol of renewal or transition was a common practice during the preceramic Mount Taylor period. DP3 may simply be an Orange period manifestation of this long-lived regional tradition. Alternatively, multiple lines of evidence, including Locus B’s position back away from the spring run and its elaborate, yet buried “mounds” of shell, suggest that the ritualized practices associated with DP2 may have intentionally been kept hidden from view. It is possible then that during the Orange Period Locus B served as a secluded “back-region” (*sensu* Giddens 1984) where relatively socially restricted rites were conducted in conjunction with the larger-scale, more inclusive activities carried out at the nearby mound. This would help to explain the contrasts in pottery style observed between Locus B and the north ridge of the mound at 8LA1E. In this scenario, DP3 may actually have been a final step in efforts to conceal all material traces of DP2 pit digging. Regardless of its specific meaning, though, DP3 clearly marks yet another major transformation in the Late Archaic use of Locus B.

At some point subsequent to DP3, Locus B was once again occupied in a materially conspicuous manner—this time by people utilizing spiculate-tempered St. Johns pottery. This component has unfortunately been heavily disturbed by modern activities including historic plowing and gopher tortoise burrowing. Consequently, aside from confirming its existence at Locus B, excavations have revealed little about the nature of this area’s St. Johns occupation or its historical relationship to underlying deposits.

Four seasons of excavations at Locus B have thus shown it to be a significant, and possibly unique, archaeological resource. The data gathered during these investigations are vital not only for illuminating the Late Archaic occupation of the Silver Glen Run complex but also for achieving a better understanding of the larger regional-scale historical processes and events that shaped this dynamic period of Florida’s past. Ultimately, however, research at Locus B is an ongoing process and important questions remain unanswered. It is still not clear what the range of actual practices was that contributed to each of the depositional patterns discussed above. In addition, what were the events that triggered the seemingly rapid and sweeping transitions between these patterns of use? And finally, what was Locus B’s actual role in the creation and perpetuation of larger scale social networks and historical transformations that

characterize the Late Archaic in the surrounding region? The investigations outlined in this chapter provide a sound basis for delving deeper into these and other issues. Future research, which has already begun with additional test unit excavations in 2011 and my own dissertation-focused analyses, will be geared toward addressing these questions in an even more complete and meaningful manner.