Feature 67

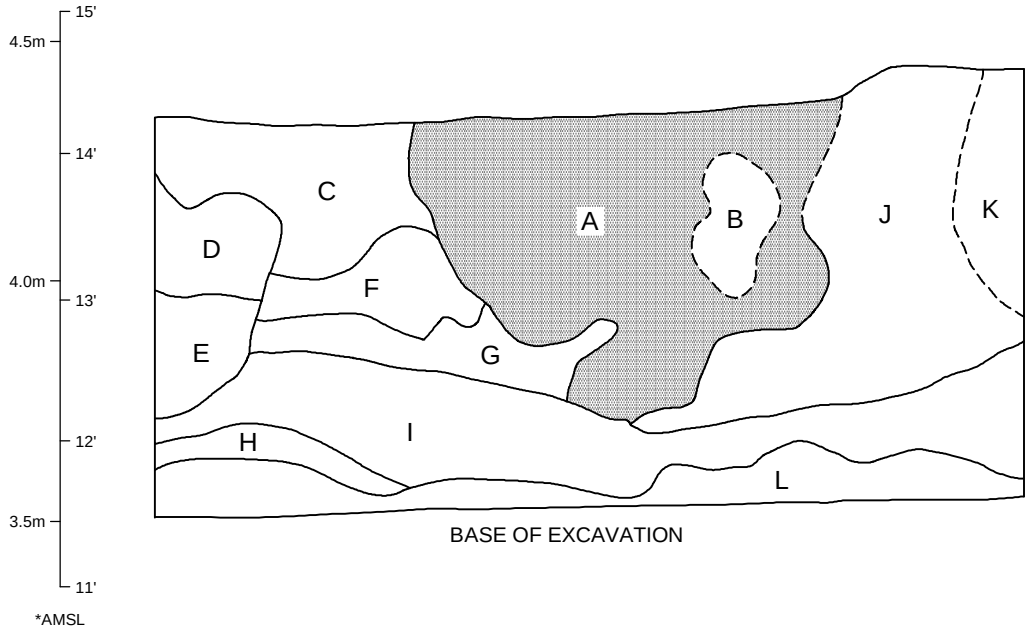
Location	*Artifacts*
Locus 1, Silo Pit area	1 tested cobble
Western edge of excavation	2 debitage:
Shape	1 chert
Plan: irregular semicircle	1 quartz
Profile: deep, irregular basin	1 quartzite
Dimensions	
Surface: 235x118 cm	
Depth: 68 cm	

Feature 67 was one of a group of semicircular or "D-shaped" features distributed along the western edge of the Silo Pit area. This group also included Features 70 to 73, 85, and 86. These features were thought to be natural disturbances, most likely tree throws; however, because they composed a distinctive group, it was thought appropriate to sample some of them. In addition to Feature 67, Feature 85 was also sampled from this group.

Only the southern half of Feature 67 was excavated. It was not stratified; the fill consisted of dark yellowish brown (10YR 4/6) sandy loam (Figure K-30). Three small pieces of debitage were recovered. The feature is still considered a natural disturbance.

Sample List for Feature 67

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	1-5	855	curated	Soil Chem.	A	1	882	curated
Flotation 2L	A	3	865	curated	Soil Chem.	A	2	883	curated
Flotation 2L	A	6	866	curated	Phytolith	A	3	865	curated
Flotation 2L	A	2	883	curated	Phytolith	A	6	866	curated
Soil Chem.	A	3	865	curated	Phytolith	A	2	883	curated
Soil Chem.	A	6	866	curated					



LEGEND

A	FEATURE STRATUM A: YELLOWISH BROWN (10YR 5/6) SANDY LOAM
B	RODENT DISTURBANCE: YELLOWISH BROWN (10YR 5/6) SANDY LOAM MIXED WITH LIGHT BROWNISH GRAY (10YR 6/2) SILT LOAM
C	SUBSOIL: REDDISH BROWN (7.5YR 6/6) COARSE SAND
D	SUBSOIL: BROWNISH YELLOW (10YR 6/8) SILT LOAM
E	SUBSOIL: YELLOW (10YR 7/6) LOAMY SAND
F	POSSIBLE RODENT DISTURBANCE: BROWNISH YELLOW (10YR 6/6) LOAMY SAND WITH CHARCOAL FLECKING
G	SUBSOIL: BROWNISH YELLOW (10YR 6/8) SAND
H	C-HORIZON: STRONG BROWN (7.5YR 5/6) COARSE SAND WITH 10 % GRAVELS
I	C-HORIZON: REDDISH YELLOW (7.5YR 6/8) SAND
J	B-HORIZON: REDDISH YELLOW (7.5YR 6/6) SANDY LOAM
K	REDDISH YELLOW (7.5YR 6/6) SANDY CLAY LOAM WITH 10 % GRAVELS
L	C-HORIZON: YELLOW (10YR 7/6) SAND

*ABOVE MEAN SEA LEVEL

FIGURE K-30: Stratigraphic Profile of Feature 67, Facing North

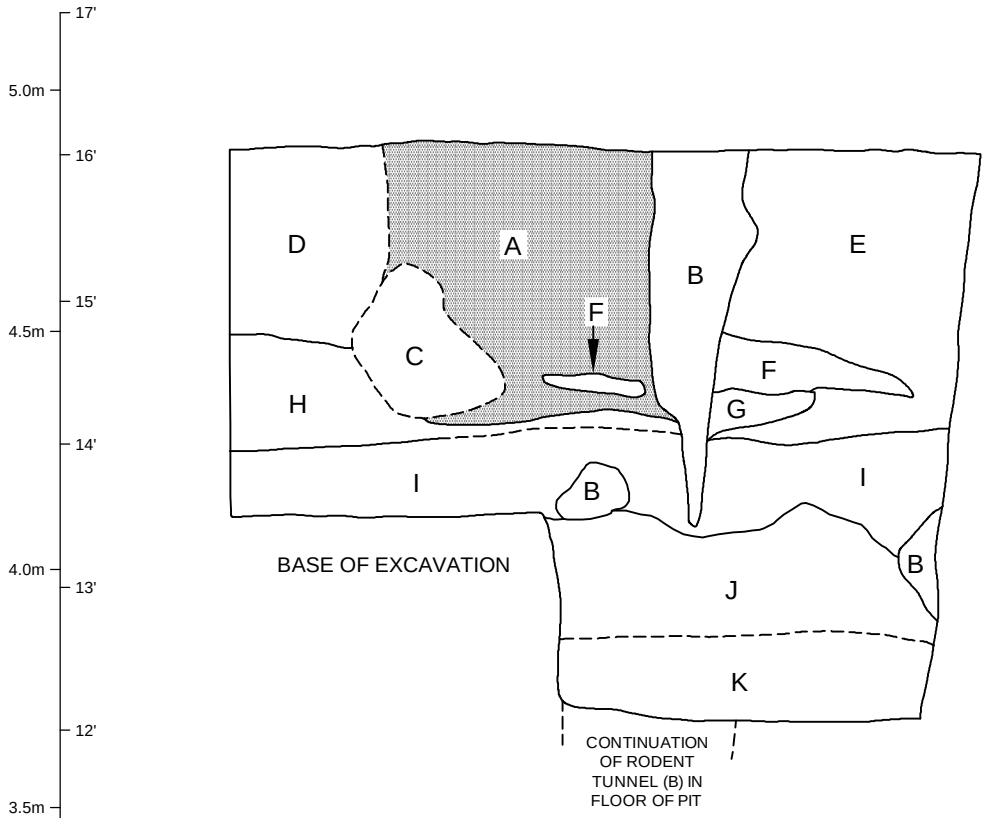
Feature 68

Location	*Artifacts*
Locus 1, Silo Pit area	1 small ceramic sherd, igneous rock temper, check-stamped exterior
12 m north of Main Pit Cluster	1 small ceramic sherd, crushed quartz temper
Shape	1 small ceramic sherd, no visible temper, cord-marked exterior
Plan: oval	5 small ceramic sherds, indeterminate temper
Profile: deep, irregular basin	1 chert debitage
Dimensions	
Surface: 120x102 cm	
Depth: 60 cm	

Feature 68 was a pit within Phase II Block 14. At the time it was excavated, a small group of ceramic sherds was visible on the surface, and excavation was begun with the hope that it would be a rich, cultural pit. However, rodent disturbance was also visible on the surface, and below the surface this disturbance expanded to take up most of the feature (Figure K-31). It appeared that the form of the feature at the time of the excavation had been created mostly by groundhog tunneling. A few more sherds were found, but because of the extraordinary degree of rodent disturbance, the second half of the feature was not excavated.

Sample List for Feature 68

Type	Strat.	Level	Cat. #	Status
Soil Chem.	A	-	563	curated



LEGEND

A	FEATURE STRATUM A: YELLOWISH BROWN (10YR 5/4) SANDY LOAM
B	RODENT DISTURBANCE: BROWN (10YR 4/3) SILT LOAM
C	RODENT DISTURBANCE: BROWN (10YR 4/3) SILT LOAM AND LARGE HOLLOW
D	B-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM
E	DISTURBED AREA: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM MIXED WITH STRONG BROWN (7.5YR 4/6) SANDY LOAM
F	POSSIBLE RODENT DISTURBANCE: YELLOWISH BROWN (10YR 5/8) LOAMY SAND
G	POSSIBLE RODENT DISTURBANCE: YELLOWISH BROWN (10YR 5/6) SANDY LOAM
H	B-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) COARSE SANDY LOAM
I	B-HORIZON: YELLOWISH BROWN (10YR 5/8) FINE LOAMY SAND
J	B-HORIZON: STRONG BROWN (7.5YR 5/8) LOAMY SAND
K	C-HORIZON: STRONG BROWN (7.5YR 5/8) SAND

0 1/4 1/2 FOOT

0 10 20 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-31: Stratigraphic Profile of Feature 68, Facing North

Feature 69

Location		*Artifacts*	
Locus 1, Silo Pit area		21 Selden Island ceramic sherds	
Western edge of excavation		47 Marcey Creek ceramic sherds	
Shape		35 unidentified ceramic	
Plan: irregular semicircle		52 possible FCR	
Profile: deep, irregular basin		57 debitage:	
Dimensions		30 jasper	
Surface:	320x190 cm	19 quartz	
Depth:	110 cm	4 chert	
		4 quartzite	

Feature 69 was one of two extremely problematic features in Locus 1 that appeared from their shapes and stratigraphies to be natural but contained large numbers of prehistoric artifacts. (The other was Feature 60.) Feature 69 was located near the western edge of the excavation. It appeared to be roughly semicircular in plan view, but it had been disturbed by so many rodent tunnels that much of its outline was obscured (Figure K-32). Much of what was excavated as the feature fill also appeared to be rodent disturbance. The remainder of the feature consisted of a mixture of fills and displaced subsoils, without a clear boundary along the east side (Figure K-33). In many ways the feature resembled a tree disturbance, but it was up to 100 centimeters deep and, for the most part, no more than 125 centimeters wide—unusual dimensions for a tree throw. The feature was completely excavated and produced more than 200 prehistoric artifacts, including more than 100 sherds of steatite-tempered pottery. The pottery included both cordmarked Selden Island and smoothed Marcey Creek sherds. The debitage was similar to that recovered from most of the site, but it was distinctive in subtle ways; it was slightly smaller on average, with less cortex (37% vs. 48%), and with a much lower percentage of chert (7% vs. 43%). The most likely interpretation is that there was some sort of prehistoric pit in this location; however, that pit was severely disturbed, and its original outline was obliterated. Groundhogs were certainly responsible for much of that disturbance, but perhaps a tree fall also contributed.

Marcey Creek and Selden Island are two of the earliest pottery types in the Middle Atlantic region, dating to 1200 to 800 BC. Even 800 BC is 900 years earlier than the radiocarbon dates obtained from the Main Pit Cluster. However, a date within the period when Selden Island pottery was made was obtained from Feature 41, in the northeast corner of the block, 30 meters away from Feature 69. Certainly this terrace location was used during more than one period of prehistory.

Sample List for Feature 69

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	-	739	curated	Soil Chem.	A	-	739	curated
Charcoal	B	-	1336	curated	Soil Chem.	A	-	1335	curated
Flotation 2L	A	-	1335	curated	Soil Chem.	B	-	1336	curated
Flotation 2L	B	-	1336	curated	Phytolith	A	-	1335	curated
Soil Chem.	A	3	565	curated	Phytolith	A	-	1336	curated

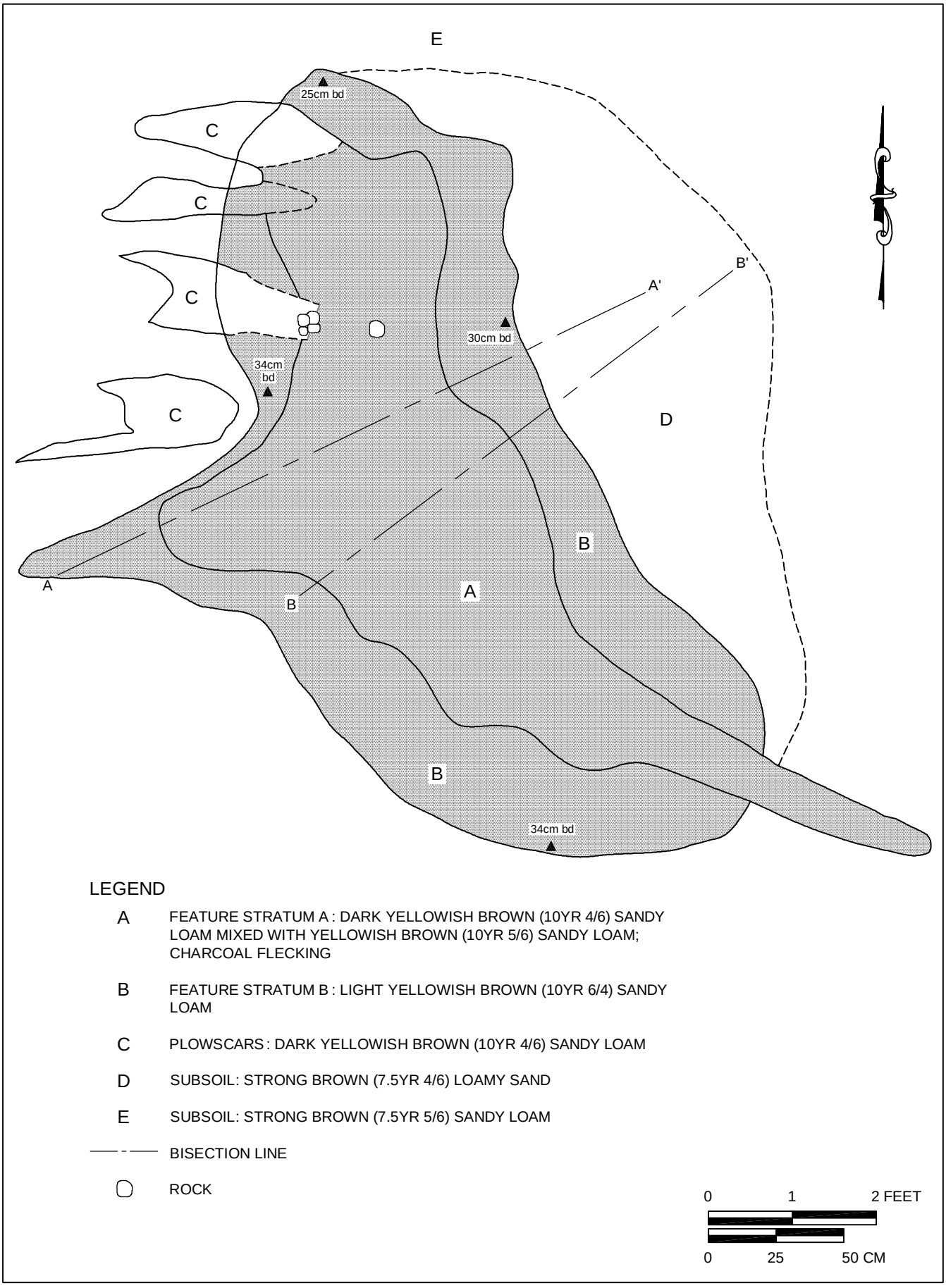
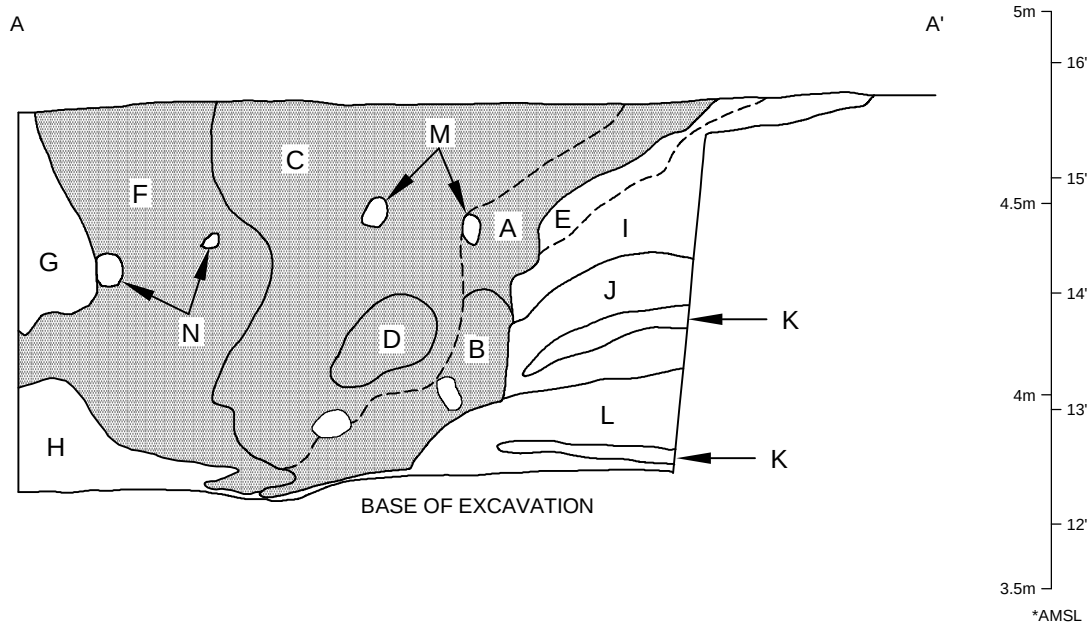


FIGURE K-32: Plan of Feature 69



LEGEND

A	RODENT DISTURBANCE, PART OF FEATURE STRATUM A: OLIVE BROWN (2.5Y 4/4) SANDY LOAM WITH CHARCOAL FLECKING
B	RODENT DISTURBANCE, PART OF FEATURE STRATUM A: DARK YELLOWISH BROWN (10YR 4/6) LOAM, MIXED WITH STRONG BROWN (7.5YR 5/8) SANDY LOAM
C	PART OF FEATURE STRATUM A: YELLOWISH BROWN (10YR 5/6) LOAM, MIXED WITH YELLOWISH BROWN (10YR 5/4) LOAM
D	RODENT DISTURBANCE, PART OF FEATURE STRATUM A: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM WITH LENSES OF STRONG BROWN (7.5YR 5/8) SAND
E	LEACHED AREA UNDER BURROW: BROWN (10YR 5/3) SANDY LOAM
F	FEATURE STRATUM B: STRONG BROWN (7.5YR 5/6) SAND
G	SUBSOIL: VERY PALE BROWN (10YR 7/4) SANDY LOAM
H	SUBSOIL: STRONG BROWN (7.5YR 5/8) SAND, MIXED WITH BROWNISH YELLOW (10YR 6/6) SANDY LOAM, 10% GRAVELS
I	SUBSOIL: YELLOWISH BROWN (10YR 5/8) LOAMY SAND
J	SUBSOIL: BROWNISH YELLOW (10YR 6/8) LOAM
K	SUBSOIL: STRONG BROWN (7.5YR 5/8) SAND
L	SUBSOIL: PALE BROWN (10YR 6/3) SILT LOAM
M	RODENT DISTURBANCE: YELLOWISH BROWN (10YR 5/4) LOOSE SAND
N	SMALL BURROW OR ROOT CAST, HOLLOW
	FIRE-CRACKED ROCK

0 1 2 FEET

0 20 40 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-33: Stratigraphic Profile of Feature 69, Facing South

Feature 85

Location		*Artifacts*	
Locus 1, Silo Pit area		2 small Marcey Creek ceramic sherds	
10 m west of Main Pit Cluster		1 small untyped ceramic sherd	
Shape		14 possible FCR	
Plan: irregular semicircle		10 debitage:	
Profile: deep, irregular basin		1 jasper	
Dimensions		8 quartz	
Surface:	250x120 cm	1 quartzite	
Depth:	74 cm		

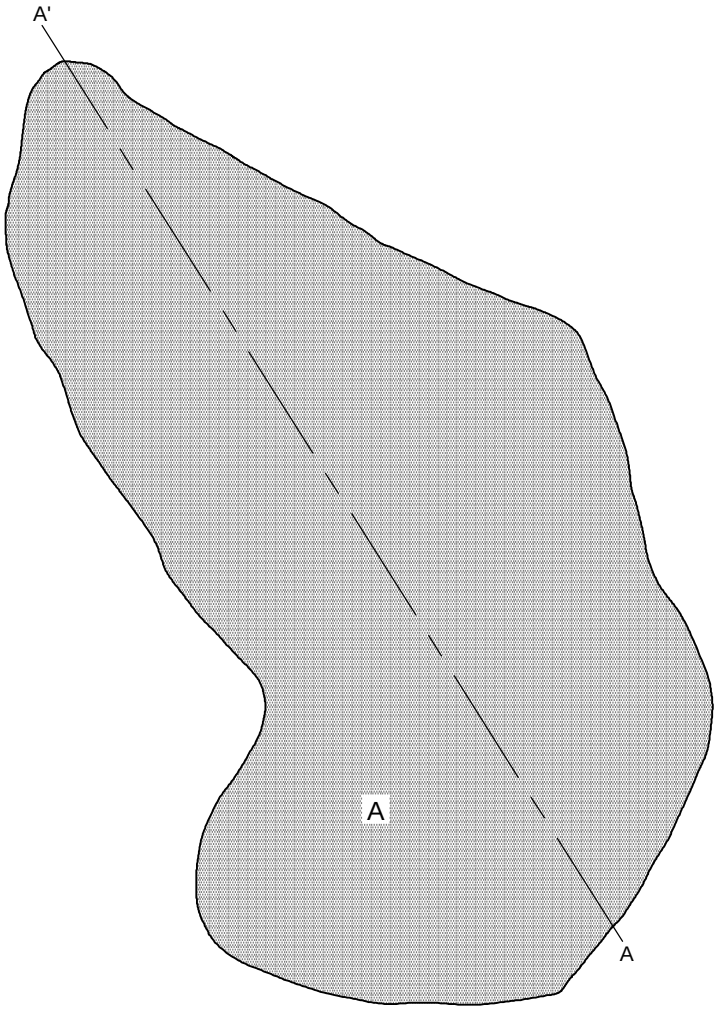
Feature 85 was one of a group of semicircular or "D-shaped" features distributed along the western edge of the Silo Pit area (Figure K-34). This group also included Features 67, 70 to 73, and 86. These features were thought to be natural disturbances, most likely tree throws; however, because they composed a distinctive group, it was thought appropriate to sample some of them. In addition to Feature 85, Feature 67 was also sampled.

Only the eastern half of Feature 85 was excavated. The feature contained two distinct fills. Most of the feature consisted of Stratum A, a yellowish brown (10YR 5/6) sandy loam with small inclusions of strong brown (7.5YR 4/6) and light yellowish brown (10YR 6/6) soil (Figure K-35). Beneath Stratum A was Stratum B, which was siltier and generally darker than Stratum A, with larger inclusions of strong brown (7.5YR 4/6) subsoil. The boundary of the feature was somewhat irregular.

A number of artifacts were recovered from the feature, including three small ceramic sherds and 14 pieces of FCR. The ceramic sherds were all steatite tempered, like the approximately 100 sherds recovered from Feature 69 nearby. Two of them were identified as Marcey Creek (the third was too small to type). Because of its shape and irregular boundary, Feature 85 is still believed to have been a natural disturbance.

Sample List for Feature 85

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Flotation 2L	A	2	1057	curated	Soil Chem.	B	4	1059	curated
Flotation 2L	A	6	1058	curated	Phytolith	A	2	1057	curated
Flotation 2L	B	4	1059	curated	Phytolith	A	6	1058	curated
Soil Chem.	A	2	1057	curated	Phytolith	B	4	1059	curated
Soil Chem.	A	6	1058	curated					



LEGEND

A FEATURE FILL: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM WITH CHARCOAL FLECKING

B SUBSOIL: STRONG BROWN (7.5YR 5/6) SLIGHTLY CLAYEY LOAM

—-— BISECTION LINE

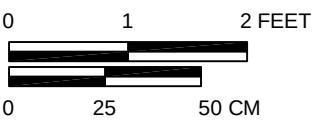
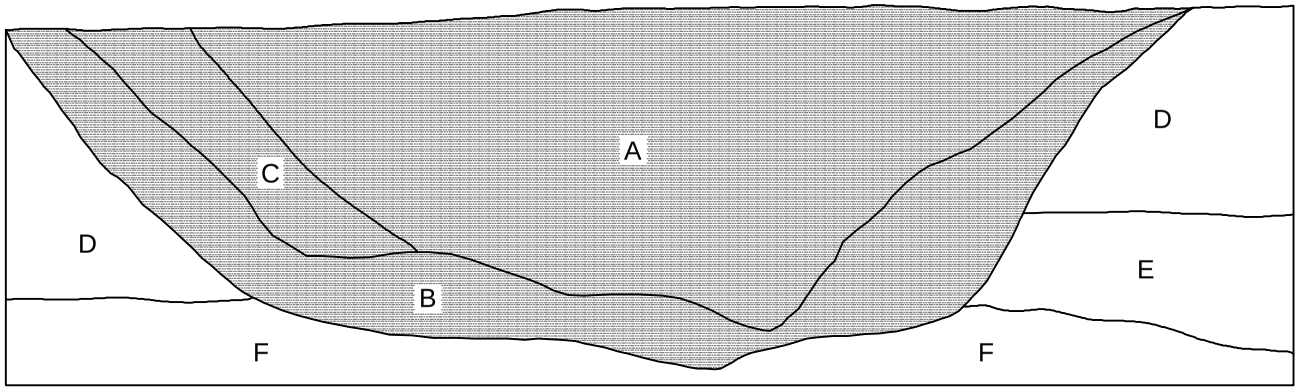


FIGURE K-34: Plan of Feature 85



BASE OF EXCAVATION

16'
15'
4.5m
14'
13'
4.0m
12'
3.5m
*AMSL

LEGEND

A	FEATURE STRATUM A: YELLOWISH BROWN (10YR 5/4) SANDY LOAM GRADING TO BROWN (10YR 5/6) SANDY LOAM WITH DEPTH, SOME CHARCOAL FLECKING
B	FEATURE STRATUM B: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM WITH POCKETS OF STRONG BROWN (7.5YR 4/6 AND 7.5YR 5/6) SANDY LOAM
C	MIXTURE OF FEATURE STRATA A AND B, EXCAVATED WITH B
D	B-HORIZON: STRONG BROWN (7.5YR 4/6) SANDY LOAM
E	B-HORIZON: STRONG BROWN (7.5YR 5/6) SANDY LOAM
F	C-HORIZON: STRONG BROWN (7.5YR 4/4) SAND, 10 % PEBBLES

0 1/2 1 FOOT

0 20 40 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-35: Stratigraphic Profile of Figure 85, Facing Southwest

Feature 98

Location
Locus 1, Silo Pit area
Main Pit Cluster
Shape
Plan: round
Profile: steep sides, flat bottom
Dimensions
Surface: 162x180 cm
Bottom Diameter: 66 cm
Depth: 118 cm
Volume: 1,122 L

Macrobotanical Remains
wood charcoal (not identified)
Artifacts
3 possible FCR
3 debitage:
2 jasper
1 quartzite

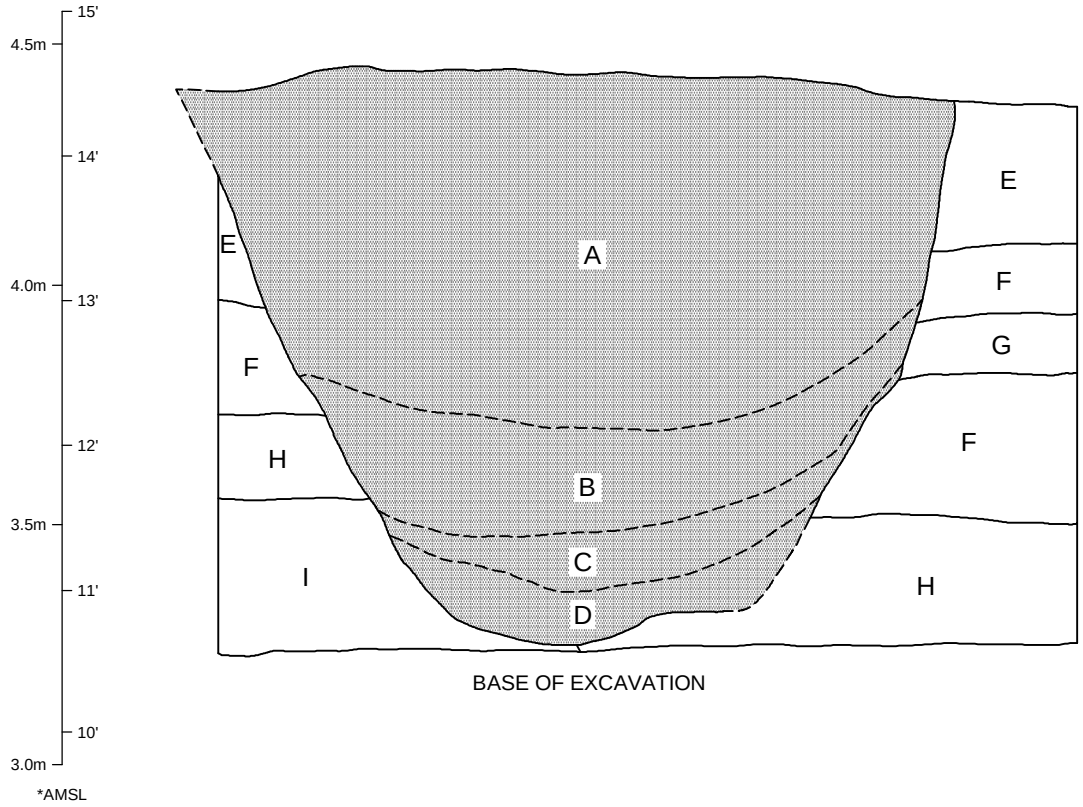
Feature 98 was a silo pit in the main cluster of Locus 1. It appeared on the surface to be an irregular disturbance running out of Feature 7B. However, this disturbance proved to be a very shallow stain masking a nearly round pit. This pit intersected with Feature 7B, and subsoil between them was not visible until the bottom of Level 4 (Figure K-36). Feature 98 was sectioned by extending the line dividing Feature 7; the western half of the feature was excavated first. The west and south walls of Feature 98 sloped in steeply, and the east and north walls were nearly straight.

Feature 98 contained four distinct layers. Stratum A was a yellowish brown (10YR 5/4) sandy loam. Stratum B appeared at the bottom of Level 4 as a pale ring around the outside of the feature; beneath Stratum A, at a depth of 80 centimeters, it filled the feature. It consisted of mixed yellowish brown (10YR 5/4) and brownish yellow (10YR 6/6) loamy sand. Beneath Stratum B was Stratum C, which was very similar to Stratum A. Stratum D was a darker layer in the bottom of the feature, described as dark yellowish brown (10YR 4/6) loamy sand. The few artifacts in the feature were all recovered from Stratum A. Analysis of the soil chemistry did not produce any strong evidence of human activity, although Stratum D did contain significantly more organic matter than was normal for either the features or the subsoil at that depth.

Stratum D of Feature 98 produced the only distinctive phytolith assemblage of the 15 samples analyzed from the features in the Silo Pit area of Locus 1. The sample from Stratum D, which was the very bottom of the pit, included many more panicoid grass phytoliths than the other samples, suggesting that the pit may have been lined with grass or baskets.

Sample List for Feature 98

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	6	1329	curated	Soil Chem.	B	8	1341	processed
Charcoal	A	2	1338	curated	Soil Chem.	D	10	1342	processed
Flotation 2L	A	2	1338	curated	Phytolith	A	2	1338	curated
Flotation 2L	B	8	1341	curated	Phytolith	B	8	1341	processed
Flotation 2L	D	10	1342	curated	Phytolith	D	10	1342	processed
Soil Chem.	A	2	1338	processed					



LEGEND

A	FEATURE STRATUM A : YELLOWISH BROWN (10YR 5/4) SANDY LOAM MIXED WITH DARK YELLOWISH BROWN (10YR 4/4), SOME CHARCOAL FLECKING
B	FEATURE STRATUM B : YELLOWISH BROWN (10YR 5/6) SANDY LOAM WITH POCKETS OF BROWNISH YELLOW (10YR 6/6) SAND
C	FEATURE STRATUM C : YELLOWISH BROWN (10YR 5/6) LOAMY SAND
D	FEATURE STRATUM D : DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND
E	B-HORIZON: YELLOWISH BROWN (10YR 5/6) SANDY LOAM
F	B-HORIZON: STRONG BROWN (7.5YR 5/8) SAND AND GRAVEL
G	B-HORIZON: YELLOWISH BROWN (10YR 5/4) SLIGHTLY LOAMY SAND
H	C-HORIZON: VERY PALE BROWN (10YR 7/3) SANDY SILT
I	C-HORIZON: STRONG BROWN (7.5YR 5/8) FINE SAND

0 1/2 1 FOOT

0 20 40 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-36: Stratigraphic Profile of Feature 98, Facing East

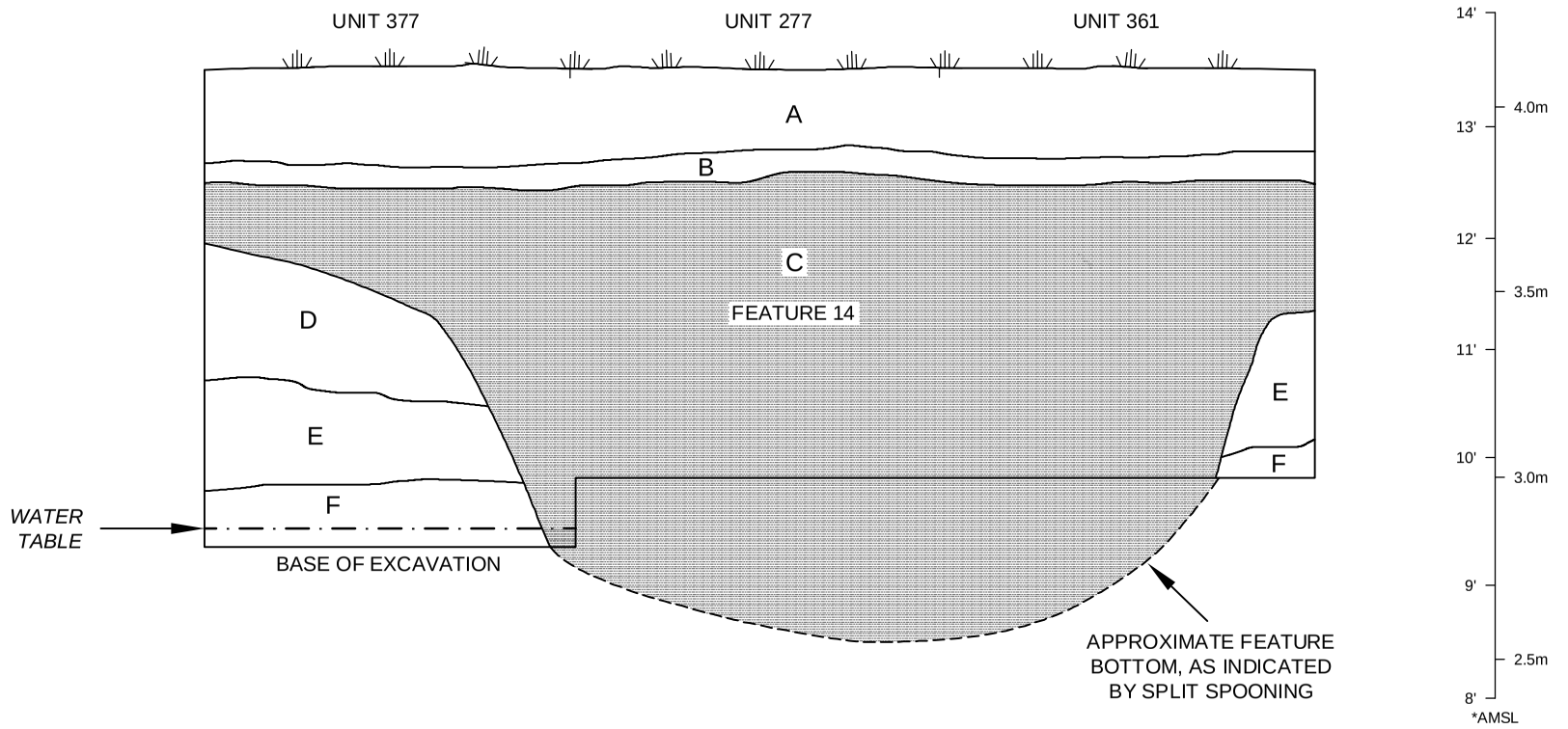
Feature 14

Location		*Artifacts*	
Locus 1, Buried Plowzone Area		1 quartz early-stage biface	
Units 277, 361, and 377		1 quartzite biface fragment	
Shape		7 possible FCR	
Plan: not fully exposed		36 debitage:	
Profile: irregular basin		13 chert	
Dimensions		10 quartz	
Surface:	250 by at least 100 cm	9 jasper	
Depth:	121+ cm	4 quartzite	
Radiocarbon Dates			
2,920±40 BP	Stratum C, Level 12		

Feature 14 was discovered in Unit 277, which was one of the units dug at 5-meter intervals to determine the extent of the buried plowzone. At the bottom of the plowzone the feature filled the entire unit, and its presence was not recognized; it consisted of yellowish brown (10YR 5/6) loamy sand very similar to the natural E-horizon in this area. At the bottom of Level C-5, an edge of the feature became visible in the northwestern and southwestern corners of the unit; the soil outside the feature, the natural B-horizon, was darker and more compact (Figure K-37). Level C-6 also contained seven prehistoric artifacts, whereas most of the nearby units were sterile by that depth. A feature was therefore defined.

The feature was followed down to a depth of 121 centimeters below the ground surface, at which point the water table was reached. At that depth the feature still occupied half of the unit. The feature was probed with a split spoon, and it seemed to extend a further 20 to 30 centimeters in depth. In order to further investigate the feature, two additional 1x1-meter units were dug, one north and one south of Unit 277. The feature was also present in these units. Overall, Feature 14 appeared to be basin-shaped, but with a shallower extension on the south side; the southern edge was not defined in the excavation. The feature also extended beyond the trench both to the east and west. One charcoal sample from the feature was processed, from Level 12 below the surface, and it returned a radiocarbon date of 2,920±40 BP, or about 1125 BC. Chemical analysis of the feature soils and an adjacent control column did not show any evidence of cultural activity; the levels of phosphorus, calcium, and strontium in the feature were all within the range of the control column.

The origin of the feature was not clear and was the subject of much debate. Pedologist Dr. Daniel Wagner believed that there was a deep, ancient, silty soil anomaly here, possibly related to the braided stream that occupied the Puncheon Run valley during parts of the Pleistocene epoch. However, he also identified a zone of younger soil that appeared to represent an excavation into the older silty anomaly. The boundaries he drew for this excavation, based on the degree of soil development, did not match the boundaries the archaeologists had established for Feature 14, nor did they match the artifact distribution. Artifacts were found below the excavation Dr. Wagner identified, in soils he believed were Pleistocene in age, and the date of 2,920 ± 40 radiocarbon years BP was also obtained from these ancient-looking soils. Dr. Wagner's view also required accepting that a feature of some kind, whether cultural or natural, happened to be formed right on top of the deep, silty anomaly—a striking coincidence that was later repeated at Feature 39 in the Silo Pit area.



LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM
B	BURIED PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM MIXED WITH LIGHT OLIVE BROWN (2.5Y 4/4) SANDY LOAM
C	FEATURE 14: LIGHT OLIVE BROWN (2.5Y 5/4) LOAMY SAND
D	B-HORIZON: LIGHT YELLOWISH BROWN (10YR 5/6) SANDY LOAM
E	B-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND, 10 % GRAVEL
F	C-HORIZON: LIGHT YELLOWISH BROWN (10YR 5/6) COARSE SAND, 10 % GRAVEL

0 1 2 FEET

0 25 50 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-37: Stratigraphic Profile of Feature 14, Facing East

It was clear that Feature 14 was older than the main occupation of this area. The basic vertical artifact distribution, with a peak in the buried plowzone and the top subplowzone level, was present across the top of Feature 14. Therefore, the radiocarbon date from deep in the feature helps to set a beginning date for that occupation. Artifacts were also present in the feature, down to 120 centimeters below the ground surface. These artifacts either date to an earlier occupation, or were somehow incorporated into the feature fill. Some of the artifacts in the feature were rather large, including a quartz biface, and these larger artifacts are less likely to have migrated substantial distances through the soil. Analysis of the soil chemistry of Feature 14 showed that the feature fills contained significantly less phosphorus and calcium than the surrounding subsoil, but slightly more organic matter.

Because the top of the feature did not have a clear edge, its shape could not be determined. For this reason, and because of the complexity of the feature's internal soil development, it is not possible to specify the origin of the feature. A cultural origin is possible, but far from certain.

Sample List for Feature 14

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	4	410	curated	Soil Chem.	Ap2		1409	processed
Charcoal	C	12	416	processed	Soil Chem.	E		1410	processed
Soil Chem.	A	2-3	1415	processed	Soil Chem.	BE		1411	processed
Soil Chem.	A	4-5	1416	processed	Soil Chem.	2BC1		1412	processed
Soil Chem.	A	2-3	1417	processed	Soil Chem.	2BC2		1413	processed
Soil Chem.	A	4-5	1418	processed	Soil Chem.	2C		1414	processed
Soil Chem.	Ap1		1408	processed					

VII. FEATURE DESCRIPTIONS FOR LOCUS 3

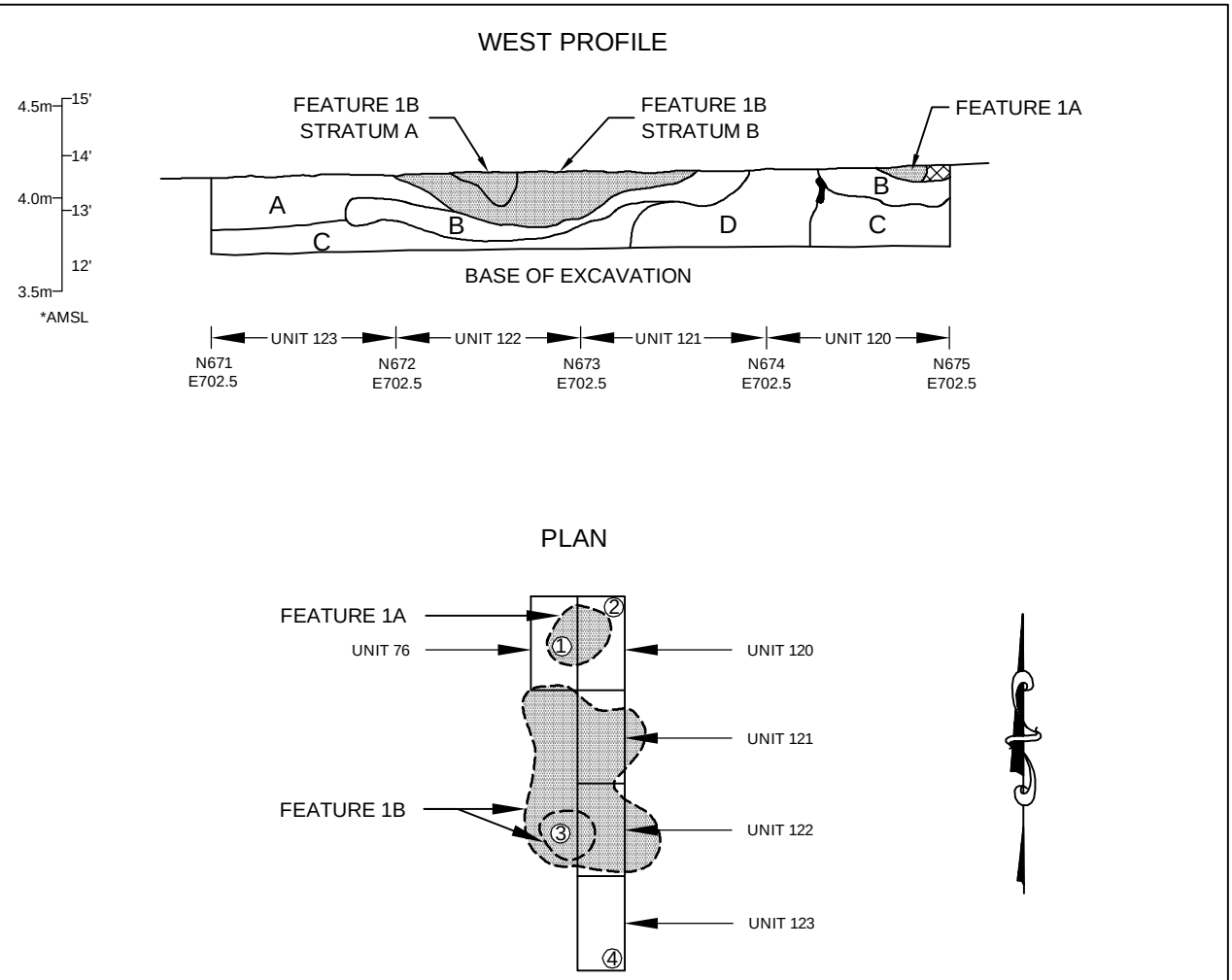
Feature 1

Location	*Macrobotanical Remains*
Locus 3, Block 4	charred hickory nutshell
Shape	wood charcoal (oak)
Plan: irregular	*Artifacts*
Profile: sloping sides, irregular bottom	1 possible FCR
Dimensions	1 chert debitage
Surface: 250x350 cm	
Depth: 15 cm	

Feature 1 was identified during the extended Phase II unit excavations in Block 4, and was more fully exposed during the mechanical removal of the plowzone. A machine-excavated extension to the northeast corner of Block 4 exposed the total extent of Feature 1, revealing an ovate stain approximately 3 meters across, flecked with carbonized floral remains and decayed bone. The bone fragments were too small to identify. Initially, Feature 1 was interpreted as a possible pit house feature. Closer examination during excavation, however, revealed two shallow basins (Features 1A and 1B), which contained the majority of the floral/faunal remains (Figure K-38). A shallow peripheral scatter associated with the shallow basins was also documented. It seems most likely that the feature was an animal den.

Sample List for Feature 1

Type	Strat.	Level	Cat. #	Status
Bone	A	1	61	curated



LEGEND

A	YELLOWISH BROWN (10YR 5/6) LOAMY SAND, 1 % BONE FLECKS; MINOR ROOT DISTURBANCE, VERY FEW GRAVELS/PEBBLES
B	YELLOWISH BROWN (10YR 5/4) LOAMY SAND MOTTLED WITH 30-40 % LIGHT YELLOWISH BROWN (10YR 6/4) LOAMY SAND; MINOR ROOT DISTURBANCE, VERY FEW GRAVELS/PEBBLES
C	YELLOWISH BROWN (10YR 5/6) LOAMY SAND, B-HORIZON, 1 % GRAVELS/PEBBLES, MINOR ROOT DISTURBANCE
D	YELLOW (10YR 7/8) LOAMY SAND, 5 % PEBBLES/GRAVELS, MINOR ROOT DISTURBANCE
F. 1A	BROWN-YELLOWISH BROWN (10YR 5/3-5/4) LOAMY SAND, 1-5 % CHARCOAL, ROOT/RODENT DISTURBED
F. 1B STRAT. A	STRATUM A: 50 % DARK YELLOWISH BROWN/50 % YELLOWISH BROWN (10YR 4/6 / 5/4) LOAMY SAND, CHARCOAL THROUGHOUT, NUMEROUS BONE FLECKS
F. 1B STRAT. B	STRATUM B: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND MOTTLED WITH 25 % YELLOWISH BROWN (10YR 5/4) LOAMY SAND, <19 % MINOR CHARCOAL, NUMEROUS BONE FLECKS

ROOT DISTURBANCE RODENT/ROOT DISTURBANCE

SOIL PENETROMETER TEST LOCATION

0 1 2 3 FEET

0 0.5 1 METER

*ABOVE MEAN SEA LEVEL

FIGURE K-38: Plan and Profile of Feature 1 (Locus 3)

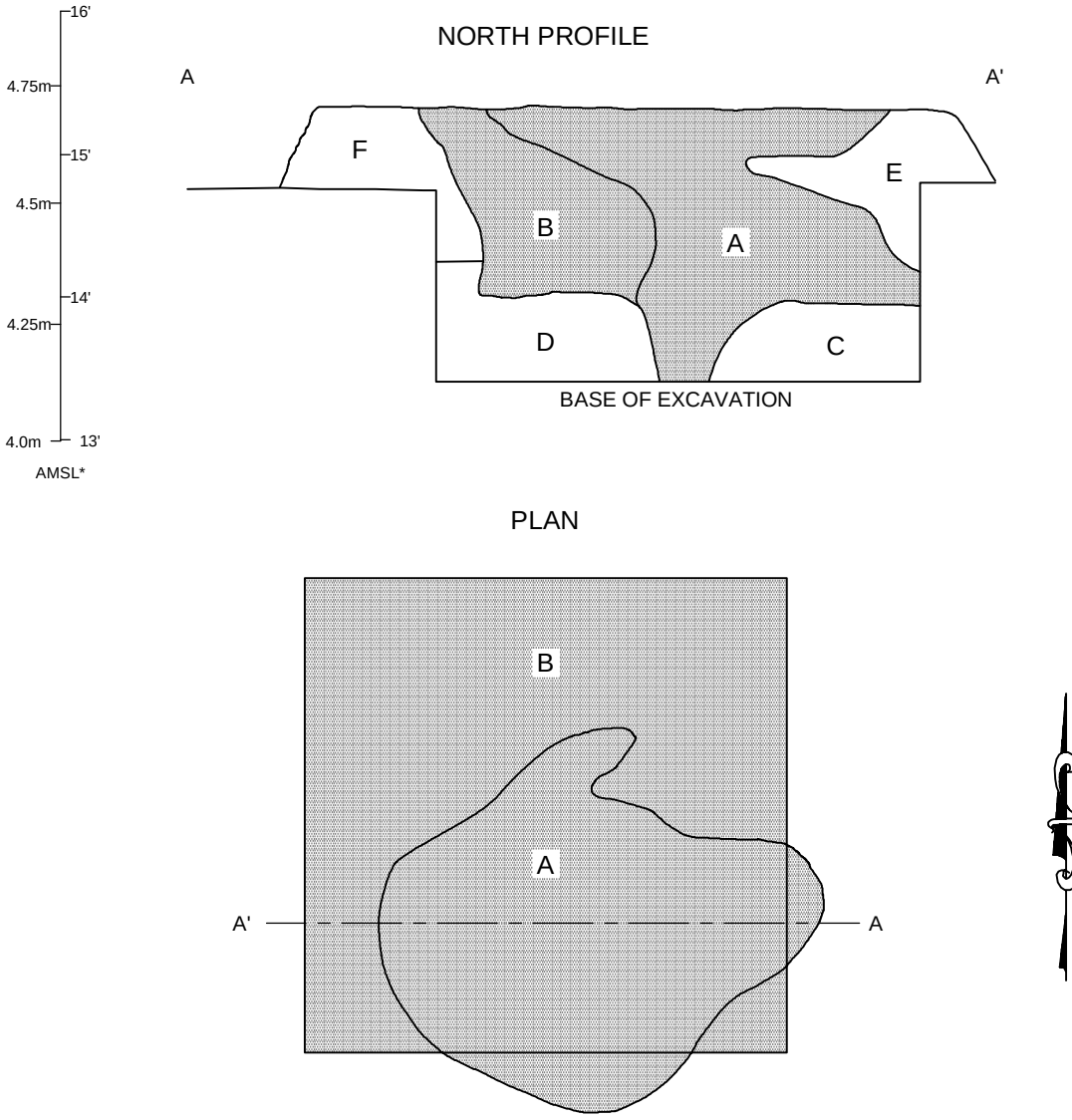
Feature 2

Location	*Artifacts*
Locus 3, Block 4	none
Shape	
Plan: irregular	
Profile: sloping sides, irregular bottom	
Dimensions	
Surface: 92x81 cm	
Depth: 68 cm	

Feature 2 was a small pit in Block 4 that has been interpreted as a tree disturbance. It was visible at the base of the plowzone, cutting through the E-horizon. It was somewhat irregular in plan view and quite irregular in profile (Figure K-39). It contained two fills. One was dark yellowish brown (10YR 4/6) loamy sand with charcoal flecking, and the other was a mixture of dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) loamy sand, also with charcoal. The boundary between the two fills was irregular. The feature was excavated by placing a 1x1-meter unit over its northern half. Both the feature fill and the surrounding subsoil were excavated, exposing a profile through the center of the feature. A column of soil samples was taken, the upper four from within the feature, and the lower two from the subsoil beneath it. Because the feature appeared to be a natural disturbance, the southern half was not excavated.

Sample List for Feature 2

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	1	270	curated	Flotation 2L	A	4	309	curated
Flotation 2L	A	2	307	curated	Flotation 2L	B	5	310	curated
Flotation 2L	A	3	308	curated	Flotation 2L	B	6	311	curated



LEGEND

A	FEATURE FILL: DARK YELLOWISH BROWN (10YR 3/4-4/4) LOAMY SAND WITH CHARCOAL
B	FEATURE FILL: DARK YELLOWISH BROWN (10YR 4/4) WITH YELLOWISH BROWN (10YR 5/6) LOAMY SAND AND SOME CHARCOAL
C	STRATUM C/D: LIGHT YELLOWISH BROWN (10YR 6/4) MEDIUM-GRAINED LOAMY SAND
D	B-HORIZON, STRATUM C: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
E	E-HORIZON, STRATUM B: LIGHT YELLOWISH BROWN (2.5Y 6/4) LOAMY SAND
F	E-HORIZON, STRATUM B: YELLOWISH BROWN (10YR 5/4) SANDY LOAM
—— - ——	BISECTION LINE

0 1/2 1 FOOT

0 20 40 CM

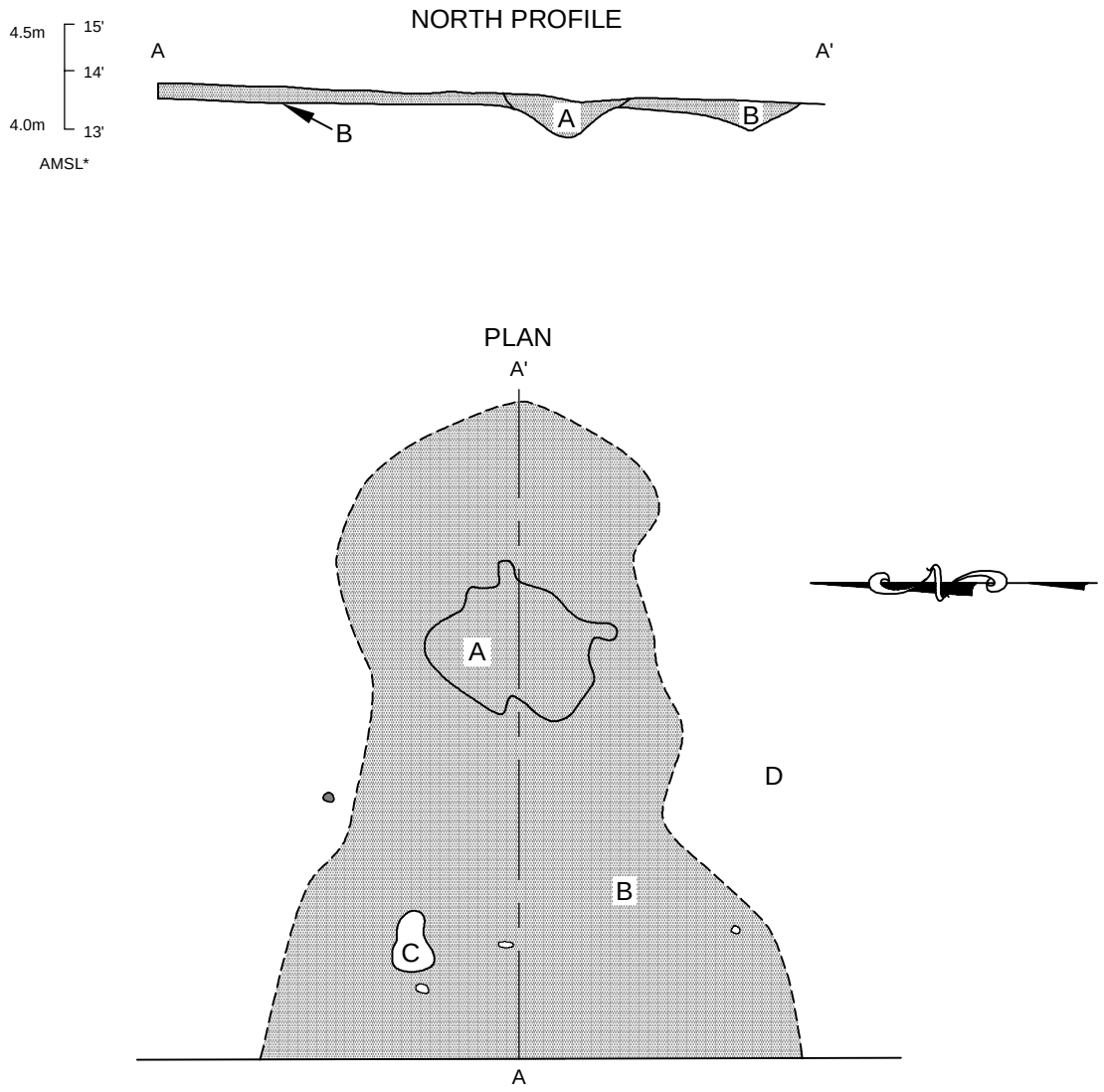
*ABOVE MEAN SEA LEVEL

FIGURE K-39: Plan and Profile of Feature 2 (Locus 3)

Feature 3

Location	*Artifacts*
Locus 3, Block 6	1 jasper projectile point base (stemmed)
Shape	1 quartzite tested cobble
Plan: irregular	20 possible FCR
Profile: sloping sides, irregular bottom	63 debitage:
Dimensions	40 chert
Surface: 350x250 cm	14 jasper
Depth: 15 cm	4 quartz
	4 quartzite
	1 rhyolite

Feature 3 was a large stain in Block 6 now considered to have been a rodent disturbance. It extended beyond Block 6 to the west, so its full extent is not known. The exposed portion measured 350x250 centimeters. This stain was sectioned east to west, and the southern half was excavated. The feature proved to consist of a small, well-defined pit designated Feature 3A, measuring 80x65 centimeters and 15 centimeters deep, surrounded by a smear of organic staining (Figure K-40). A shotgun shell was recovered from the pit fill. Because the feature was obviously a recent disturbance, the second half was not excavated and no samples were taken. The large number of artifacts recovered from the feature simply indicates that this portion of Block 6 was a lithic workshop of some kind; nearby units also had high debitage counts, and an anvil stone was visible at the plowzone-subsoil interface nearby.



LEGEND

A	FEATURE 3A: DARK YELLOWISH BROWN (10YR 4/4) AND YELLOWISH BROWN (10YR 5/6) MOTTLED WITH DARK YELLOWISH BROWN (10YR 4/4) LOAMY SAND
B	FEATURE 3B: DARK YELLOWISH BROWN (10YR 4/6) MOTTLED WITH DARK YELLOWISH BROWN (10YR 4/4) LOAMY SAND
C	BROWN (10YR 4/3) LOAMY SAND
D	YELLOWISH BROWN (10YR 5/6) LOAMY SAND
—— - ——	BISECTION LINE
	FIRE-CRACKED ROCK
	CHERT CORE

0 1 2 FEET

0 50 100 CM

*ABOVE MEAN SEA LEVEL

FIGURE K-40: Plan and Profile of Feature 3 (Locus 3)

Feature 4

Location
Locus 3, Block 6
Shape
Plan: round
Profile: single layer of debitage
Dimensions
Surface: 110x100 cm
Depth: 10 cm

Artifacts
3 quartzite early-stage bifaces
1 quartzite late-stage biface
1 quartzite bipolar core
2 chert freehand cores
4 quartzite tested cobbles
1 chert tested cobble
1 quartz tested cobble
1 possible FCR
516 debitage:
223 chert
170 quartzite
50 jasper
40 quartz
12 sandstone
3 ironstone
2 siltstone
16 other sedimentary

Feature 4 was a chipping cluster composed of cobbles, tested cobbles, and debitage. It was partially visible on the surface of Block 6 after the plowzone had been mechanically removed. The feature was initially interpreted as a small cluster of FCR; however, a 1x1-meter unit (Unit 118) was excavated over the cluster, revealing that it was actually composed primarily of tested cobbles and debitage (Figure K-41). Some cracked rock that might have been fire-cracked was also present. There was no soil staining or other evidence of a pit around the cluster. Because the cluster appeared to extend beyond Unit 118 to the southeast, three additional units were laid out and excavated; however, most of the cluster had been within the first unit. A majority of the artifacts were contained within a single 10-centimeter level, Level 2, but some were found in Levels 3 and 4 as well. Feature 4 is interpreted as the remains of a single knapping episode. A small amount of charcoal was found around the stones, and a flotation sample was taken from immediately beneath the feature; neither sample was processed.

Sample List for Feature 4

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	B	2	266	curated	Flotation 2L	B	2	266	curated

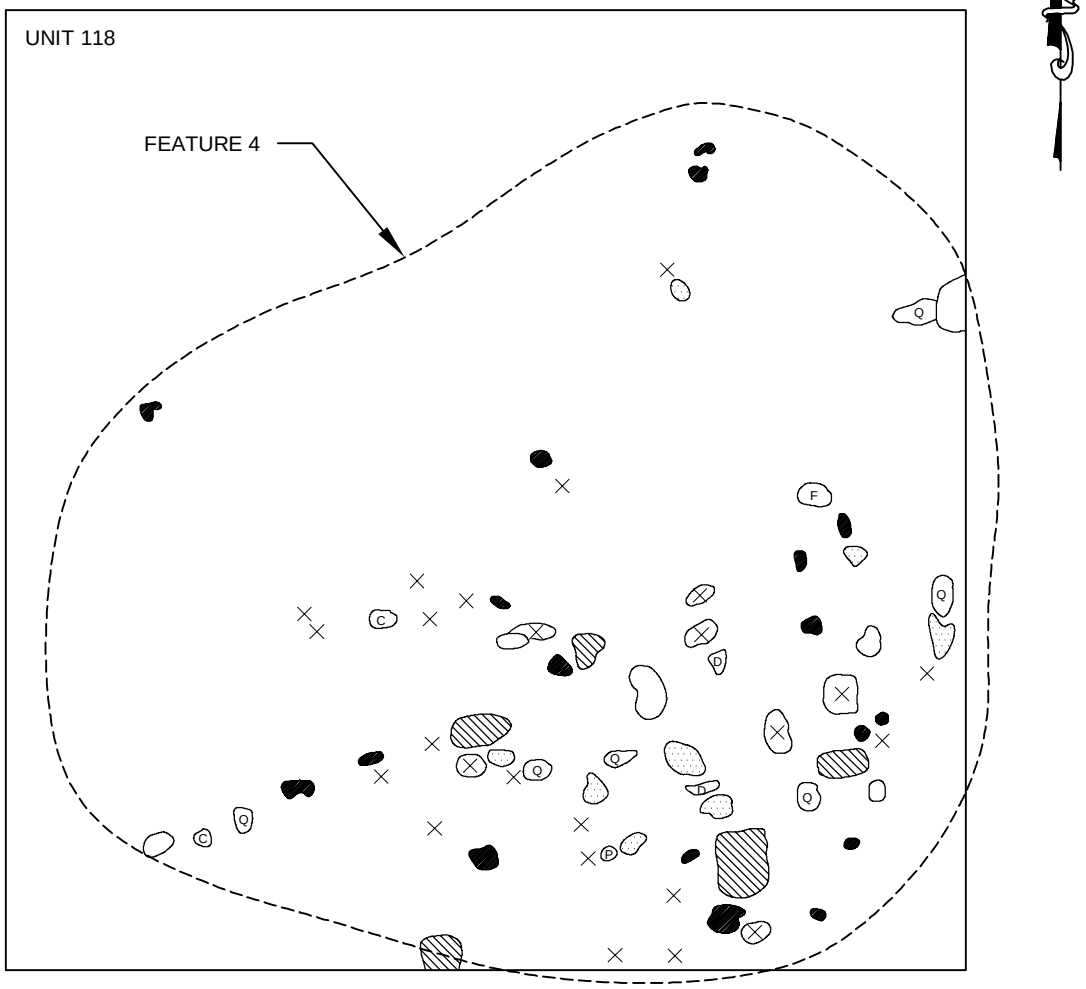


FIGURE K-41: Plan of Feature 4 (Locus 3)

Feature 7

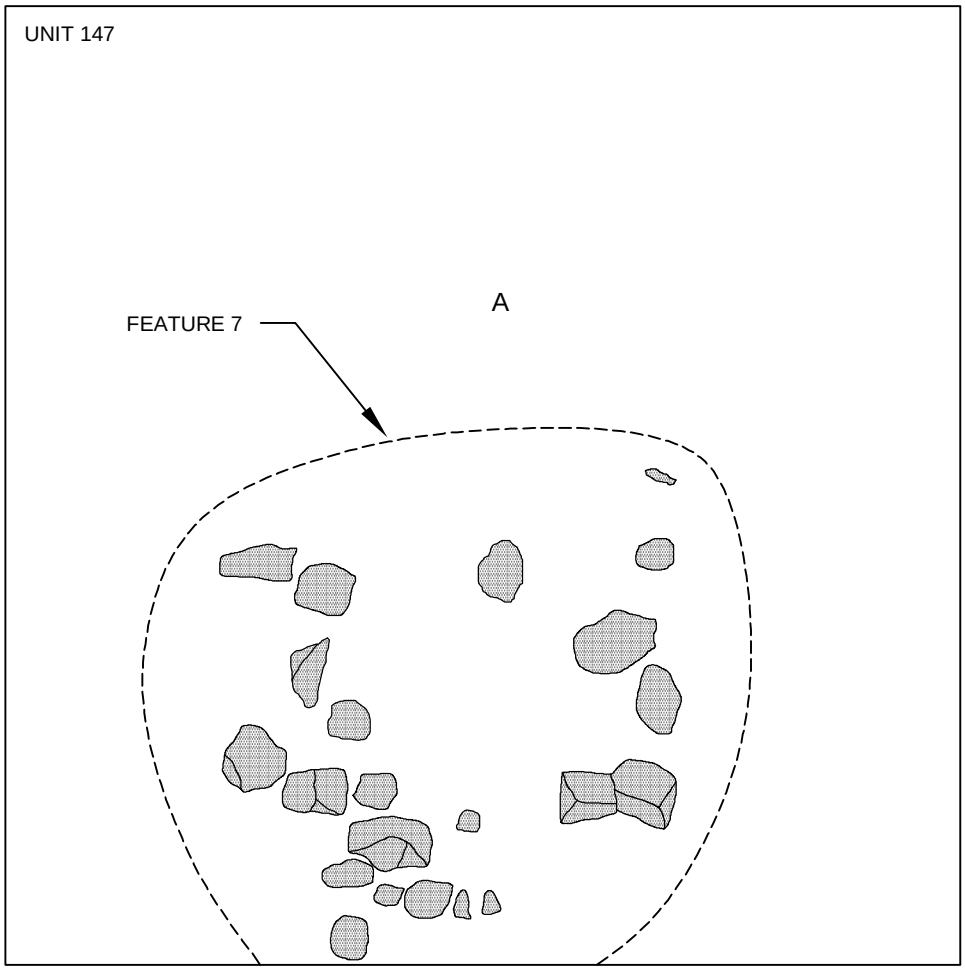
Location
Locus 3, Block 1
Shape
Plan: round
Profile: single layer of FCR
Dimensions
Surface: 45x45 cm
Depth: 5 cm

Macrofloral Remains
wood charcoal (oak, sweetgum, hickory)
Artifacts
26 possible FCR

Feature 7 was a small cluster of FCR in Block 1, one of several such clusters in this area (Figure K-42). It was visible on the surface of the block after the plowzone had been mechanically removed. There was no soil staining or other evidence of a pit around the cluster. The artifacts were contained within a single 10-centimeter level. The feature was mapped and excavated, and a flotation sample was taken from immediately beneath the feature. A small amount of charcoal, consisting of oak, sweetgum, and hickory, was found in this sample.

Sample List for Feature 7

Type	Strat.	Level	Cat. #	Status
Flotation 2L	B	2	384	processed



LEGEND

A LIGHT YELLOWISH BROWN (10YR 5/6) LOAMY SAND

FIRE-CRACKED ROCK

0 1/2 1 FOOT

0 10 20 CM

FIGURE K-42: Plan of Feature 7 (Locus 3)

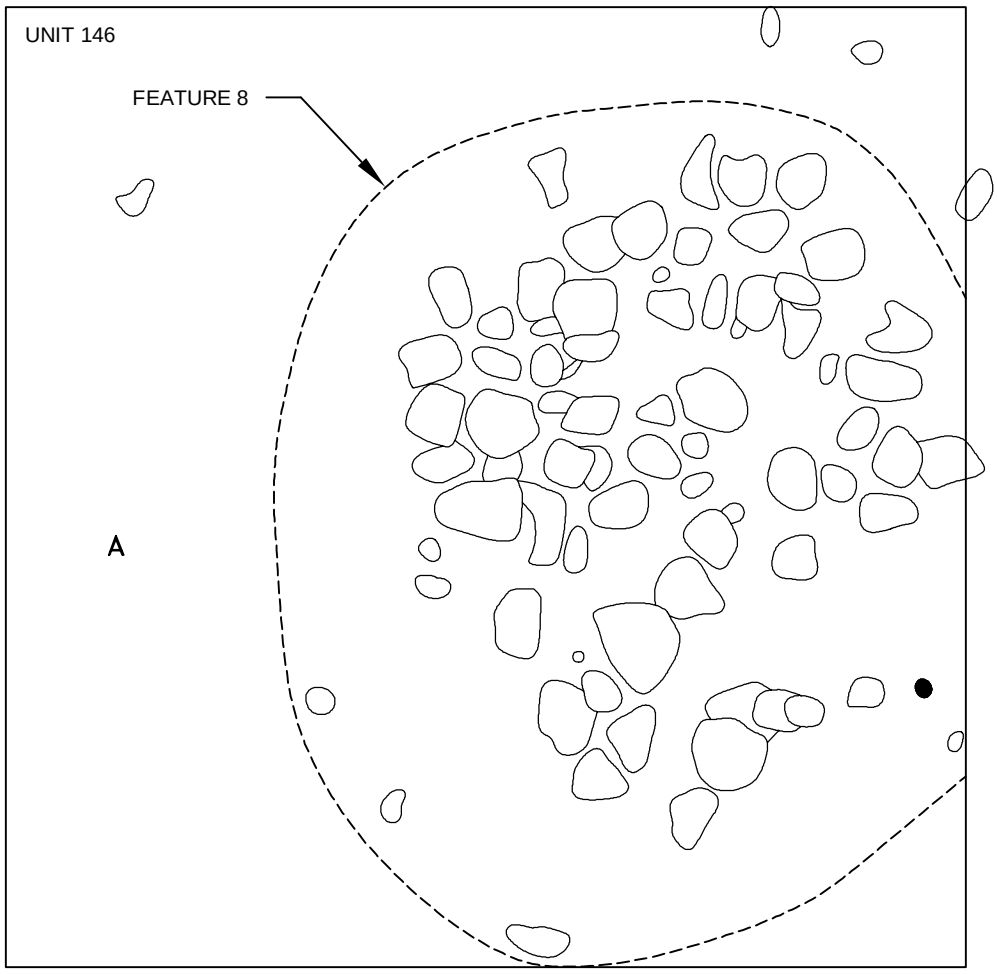
Feature 8

Location	*Macrofloral Remains*
Locus 3, Block 1	wood charcoal (oak, sweetgum, hickory)
Shape	*Artifacts*
Plan: round	1 quartzite freehand core
Profile: single layer of FCR	92 possible FCR
Dimensions	
Surface: 65x60 cm	
Depth: 5 cm	

Feature 8 was a diffuse cluster of FCR in Block 1, one of several such clusters in this area (Figure K-43). It was visible on the surface of the block after the plowzone had been mechanically removed. There was no soil staining or other evidence of a pit around the cluster. The artifacts were contained within a single 10-centimeter level. The feature was mapped and excavated, and a flotation sample was taken from immediately beneath the feature. A small amount of charcoal, consisting of oak, sweetgum, and hickory, was identified in this sample. A few fragments of decayed bone were also found, but they were too small to identify.

Sample List for Feature 8

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Flotation 2L	B	2	382	processed	Bone	B	2	382	curated



LEGEND

A YELLOWISH BROWN (10YR 5/6) LOAMY SAND

FIRE-CRACKED ROCK

JASPER FLAKE

0 1/2 1 FOOT

0 10 20 CM

FIGURE K-43: Plan of Feature 8 (Locus 3)

Feature 9

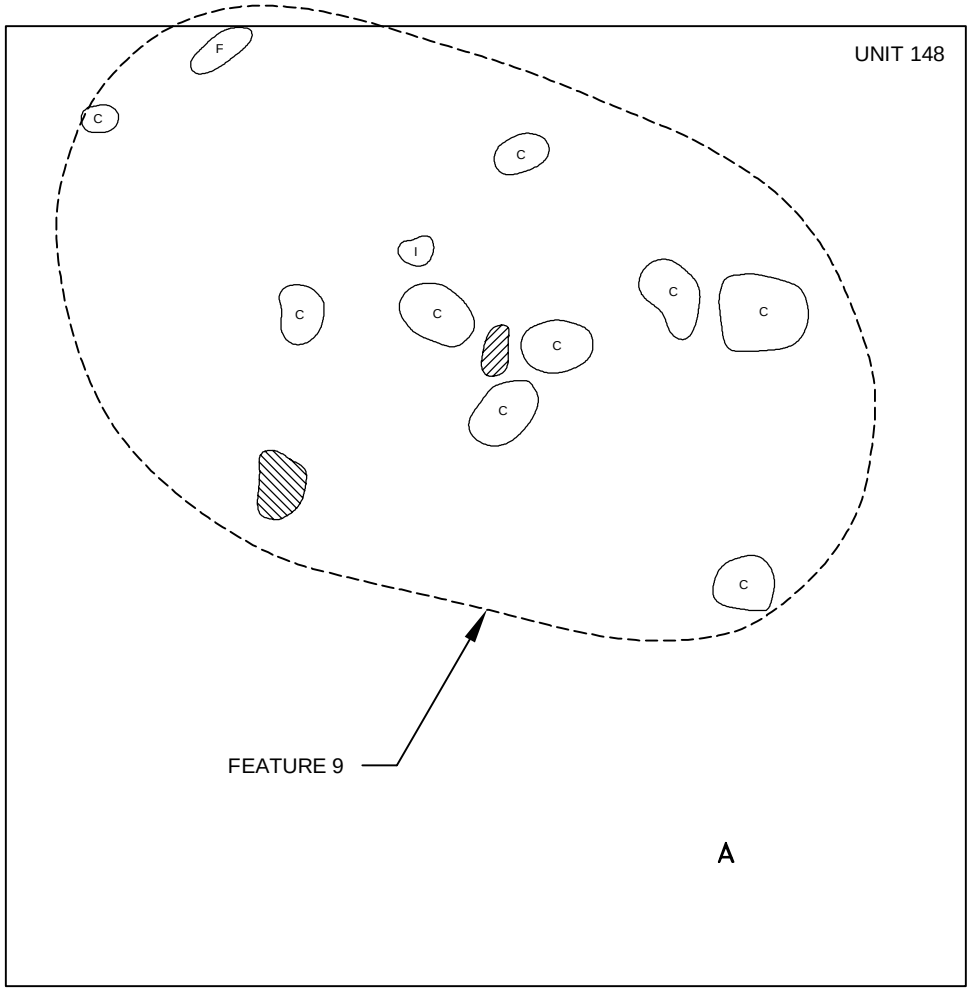
Location
Locus 3, Block 2
Shape
Plan: round
Profile: single layer of FCR
Dimensions
Surface: 80x45 cm
Depth: 5 cm

Macrofloral Remains
wood charcoal (oak)
Artifacts
5 possible FCR

Feature 9 was a small, very diffuse cluster of cobbles and FCR in Block 2, one of several such clusters in this part of the site (Figure K-44). It was visible on the surface of the block after the plowzone had been mechanically removed. There was no soil staining or other evidence of a pit around the cluster. The artifacts were contained within a single 10-centimeter level. The feature was mapped and excavated as part of the sample of such features from the site, and a flotation sample was taken from immediately beneath the feature. A small amount of oak charcoal was found in this sample.

Sample List for Feature 9

Type	Strat.	Level	Cat. #	Status
Flotation 1L	B	2	386	processed



LEGEND

A YELLOWISH BROWN (10YR 5/4) LOAMY SAND

FIRE-CRACKED ROCK / COBBLE

WORKED JASPER CORE FRAGMENT

PRIMARY CHERT FLAKE FRAGMENT

C COBBLE

F FIRE-CRACKED ROCK

I IRONSTONE FRAGMENT

0 1/2 1 FOOT

0 10 20 CM

FIGURE K-44: Plan of Feature 9 (Locus 3)

Feature 13

Location
Locus 3, Block 3
Shape
Plan: roughly triangular
Profile: irregular basin
Dimensions
Surface: 80x60 cm
Depth: 8 cm

Macrofloral Remains
wood charcoal (hickory, walnut, sweetgum)
Artifacts
1 chert debitage

Feature 13 was a small pit in Block 3 now believed to be a historical disturbance. In plan view it was roughly triangular (Figure K-45). The feature was sectioned east to west, and the southern half was excavated. The fill contained coal fragments, an oyster shell, and a single piece of debitage. Because the feature was historic in date, its second half was not excavated.

Sample List for Feature 13

Type	Strat.	Level	Cat. #	Status
Flotation 2L	A	1	403	curated

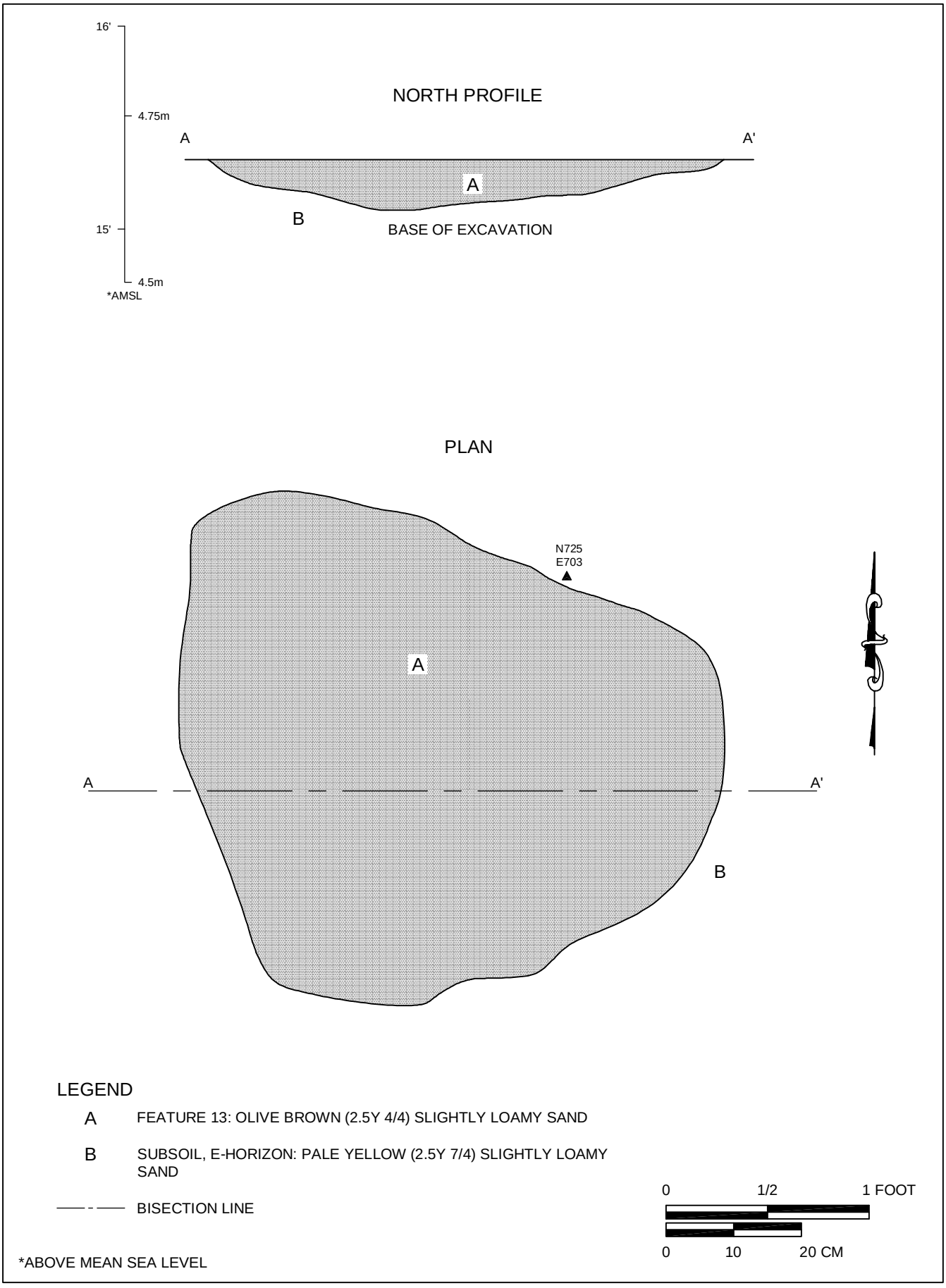


FIGURE K-45: Plan and Profile of Feature 13 (Locus 3)

Feature 16

Location		*Artifacts*	
Locus 3, Block 3		212 possible FCR	
Shape		39 unmodified cobbles	
Plan: two oval clusters		6 debitage:	
Dimensions		3 quartz	
Surface:	200x130 cm	3 quartzite	
Depth:	5 cm		

Feature 16 was a large cluster of FCR subdivided into two smaller clusters, designated Features 16A and 16B (Figure K-46). Feature 16A, the larger of the two, measured 130x75 centimeters; Feature 16B measured 60x50 centimeters. Both of these features were visible at the bottom of the plowzone, which was removed by machine. No evidence of a pit or of burning was observed, and the cracked rock was only one layer deep. Only a few artifacts other than FCR were recovered. These artifacts were pedestaled, mapped, and photographed, and were then left for sometime as a display piece for visitors to the site. At the close of the extended Phase II excavations, the feature was excavated and soil samples were taken from beneath each concentration.

Sample List for Feature 16

Type	**Feat**	**Level**	**Cat. #**	**Status**	**Type**	**Feat.**	**Level**	**Cat. #**	**Status**
Flotation 2L	16A	beneath	516	curated	Soil Chem.	16A	beneath	516	curated
Flotation 2L	16B	beneath	518	curated	Soil Chem.	16B	beneath	518	curated

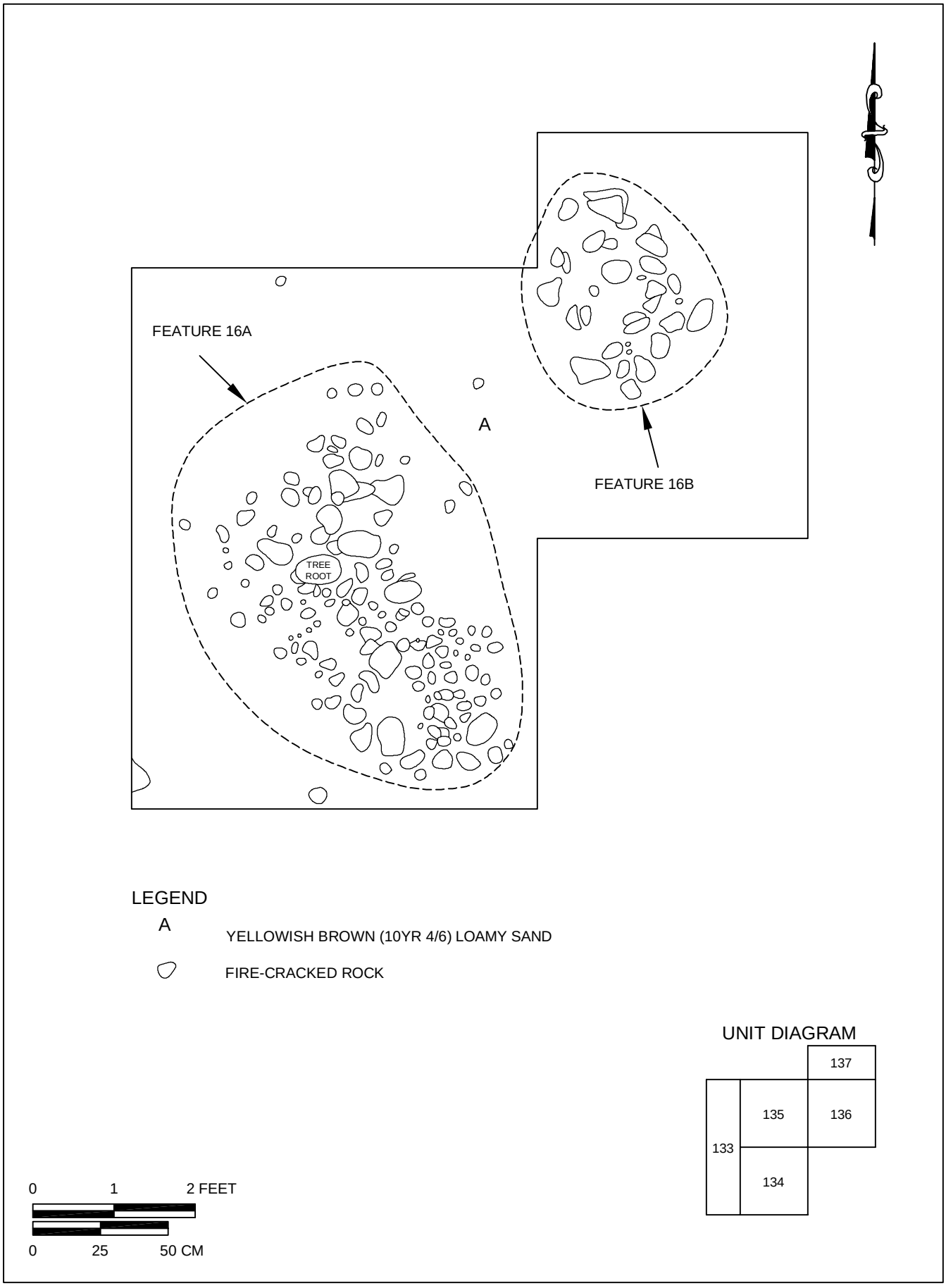


FIGURE K-46: Plan of Feature 16

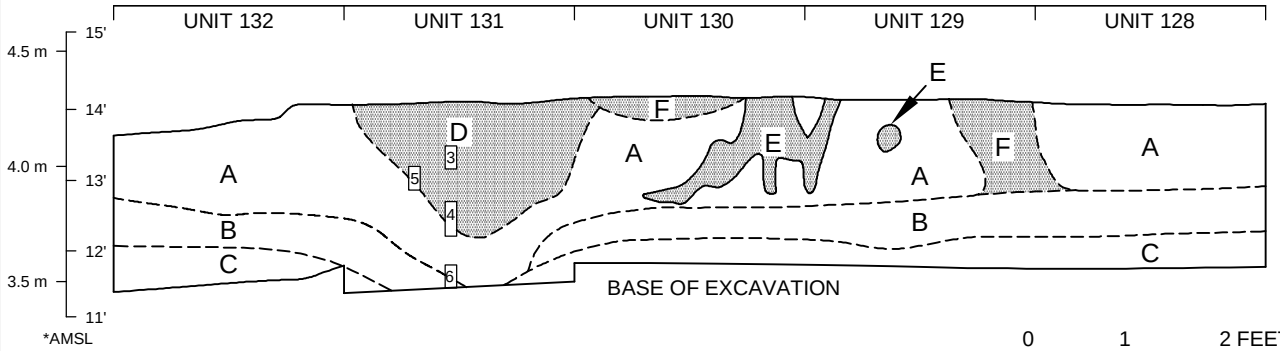
Feature 24

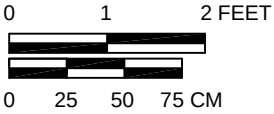
Location	*Macrobotanical Remains*
Locus 3, Block 4	charred hickory nutshell
Shape	wood charcoal (oak, maple)
Plan: irregular	*Artifacts*
Profile: sloping sides, irregular bottom	1 quartzite tested cobble
Dimensions	1 possible FCR
Surface: 100x135 cm	20 debitage:
Depth: 60 cm	14 quartzite
	4 chert
	2 jasper

Feature 24 was a pit, possibly cultural, located in Block 4, adjacent to Feature 26. The two features were initially thought to be a single large feature approximately 2.5 meters in length (Figure K-47). Because these features extended beyond Block 4 to the west, an extension was required to fully expose them. After the extension had been excavated, two distinct anomalies were recorded. A fairly clear pit in the southern part of the feature was defined as Feature 24, truncated by Feature 26 to the north. Feature 26 exhibited a ring-shaped outline in plan, with an organic stained interior and a leached circular zone around the perimeter. A preliminary series of five 1-meter by 50-centimeter units (Units 128-132) was laid north to south across both features. The trench was positioned to create a west wall section profile through the central portion of the features.

After the completion of this initial trench, the west wall profile indicated that Feature 24 had a well-defined pit-shaped outline. Feature 26, however, exhibited highly irregular boundaries and organic root staining; therefore, this feature was interpreted as a large tree disturbance. Feature 24 was investigated further with the excavation of an east-west unit which removed the northwest quadrant of the feature. The completed south wall profile of this excavation also exhibited a pit-shaped outline. Artifacts were recovered from the upper levels of Features 24 and 26 in relatively low densities as compared to adjacent plowzone excavations. Recovered artifacts included small quantities of lithic debitage and FCR. The lower levels from both features contained no cultural materials. Chemical analysis of the soil from Feature 24 showed that it had elevated levels of phosphorus, potassium, calcium, and strontium, well above the Locus 3 norms; however, so did Feature 26, the adjacent, apparently natural feature. The trace elements may, therefore, derive from animal activity. A few very small pieces of charred hickory nut hull were recovered during the flotation of samples from this feature, along with a small amount of charcoal.

WEST PROFILE





LEGEND

A STRATUM C, B-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND

B STRATUM D, C-HORIZON: BROWNISH YELLOW (10YR 6/6) LOAMY SAND

C STRATUM D, C-HORIZON WITH GRAVEL: BROWNISH YELLOW (10YR 6/6) LOAMY SAND

D FEATURE 24: YELLOWISH BROWN (10YR 5/6) LOAMY SAND

E FEATURE 26: DARK YELLOWISH BROWN (10YR 4/4) LOAMY SAND; INTERIOR OF FEATURE, DONUT HOLE?

F FEATURE 26: YELLOWISH BROWN (10YR 5/6) LOAMY SAND; RING OF FEATURE, DONUT?

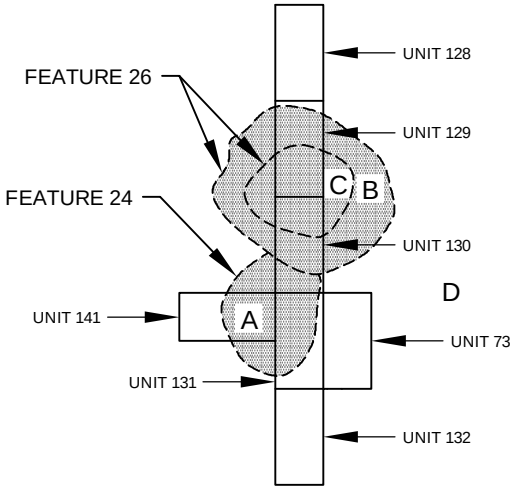
3 SOIL MICROMORPHOLOGY SAMPLE PR 97 3

4 SOIL MICROMORPHOLOGY SAMPLE PR 97 4

5 SOIL MICROMORPHOLOGY SAMPLE PR 97 5

6 SOIL MICROMORPHOLOGY SAMPLE PR 97 6

PLAN



LEGEND

A FEATURE 24 FILL: YELLOWISH BROWN (10YR 5/4) LOAMY SAND

B FEATURE 26 OUTER FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND

C FEATURE 26 INNER FILL: DARK YELLOWISH BROWN (10YR 4/4) LOAMY SAND

D SUBSOIL: YELLOWISH BROWN (10YR 5/6) SANDY CLAY LOAM

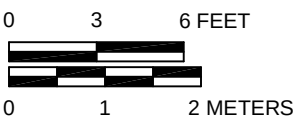


FIGURE K-47: Plan and Profile of Features 24 and 26

Sample List for Feature 24

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Flotation 2L	A	1	226	processed	Soil Chem.	A	3	233	processed
Flotation 2L	A	2	227	processed	Soil Chem.	A	4	283	processed
Flotation 2L	A	3	233	processed	Soil Chem.	A	5	295	processed
Flotation 2L	A	4	283	processed	Soil Chem.	A	6	300	processed
Flotation 2L	A	5	295	processed	Soil Chem.	A	7	305	processed
Flotation 2L	A	6	300	processed	Micromorph.			523	processed
Flotation 2L	A	7	305	processed	Micromorph.			524	processed
Soil Chem	A	1	226	processed	Micromorph.			525	processed
Soil Chem.	A	2	227	processed	Micromorph.			526	processed

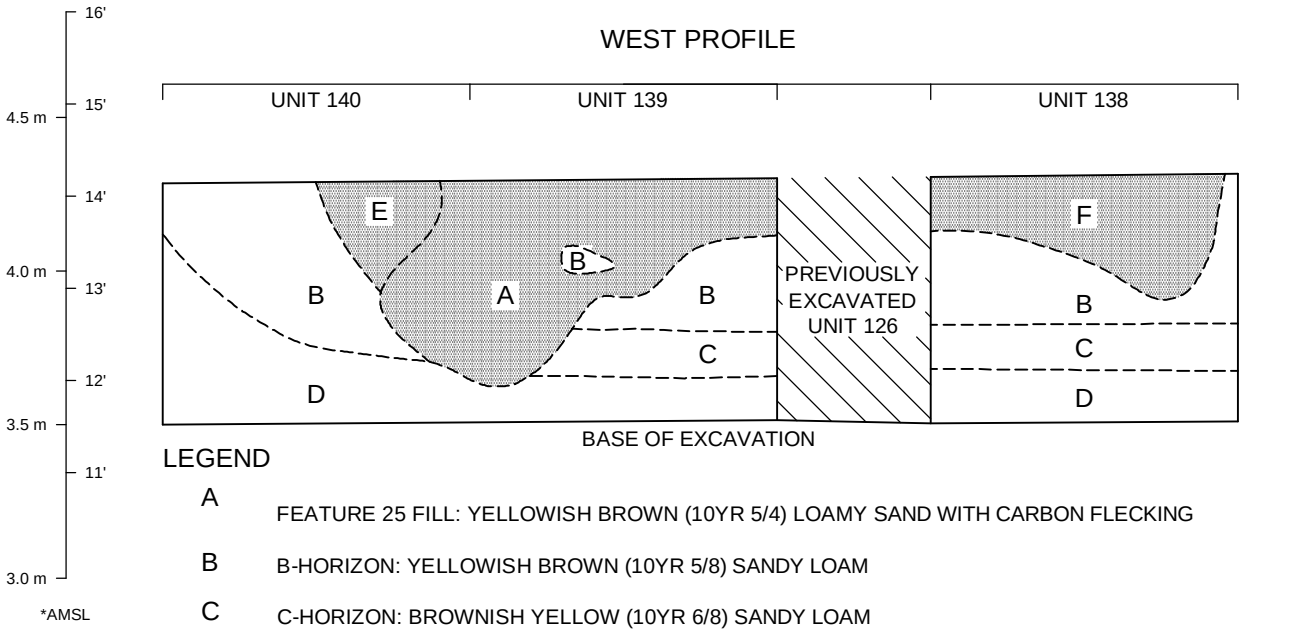
Feature 25

Location		*Macrobotanical Remains*	
Locus 3, Block 4		wood charcoal (hickory, oak, maple,	
Shape		sweetgum, persimmon)	
Plan: kidney-shaped		charred hickory nuts	
Profile: steep sides, rounded bottom		*Artifacts*	
Dimensions		1 quartzite middle-stage biface	
Surface:	275x260 cm	1 jasper tested cobble	
Depth:	65 cm	30 possible FCR	
Radiocarbon Dates		37 pieces burned clay	
3,440±110 BP	Stratum A, Level 3	58 debitage:	
		28 chert	
		20 quartzite	
		6 quartz	
		3 jasper	
		1 rhyolite	

Feature 25 was a pit in Block 4 that was investigated during the extended Phase II excavations as a possible cultural pit; however, it was eventually decided that the feature was probably an animal burrow (Figure K-48). In plan, Feature 25 was recorded as an irregular, roughly oval or kidney-shaped soil anomaly consisting of E-horizon-type feature fill intruding into undisturbed B-horizon matrix. Three lobes attached to the outside of the feature were also mapped as peripheral components of the feature. Excavation was begun with a 50-centimeter-wide test trench, composed of Units 124-127 and dug east to west across the anomaly. Artifacts were recovered in lower densities in the feature than in the plowzone. The lower levels of the feature contained no cultural material. Recovered artifacts included debitage, FCR, and a nondiagnostic biface. During the excavation, it was revealed that the feature pitched downward and increased in depth to the south. In the north wall profile of the trench only a shallow trace of the feature was visible. The south wall profile showed a pit-shaped outline with a substantial disturbance to the east of the feature.

Feature 25 was subsequently tested with a cross-trench excavated north to south across the center of the pit, as seen in the south wall of the preliminary trench. The second trench consisted of Units 139 and 140, placed south of the original trench, and Unit 138, place north of the original trench. During the excavation of the second trench, the boundaries of the feature increased significantly to the south and southwest, with areas of feature matrix undercutting layers of intact stratigraphy. The intact stratigraphy overlying parts of the feature is difficult to explain as an excavation made vertically from ground surface. In this respect the feature is more easily explained as a large animal burrow, diving and curving to the south and west. Areas where the feature was visible at ground surface may be the top of the burrow truncated by plowing, or, alternatively, portions of the burrow that collapsed.

Flotation of soil from the feature resulted in the recovery of only a very small amount of wood charcoal. Chemical analysis of the feature fill was generally unremarkable, except that two samples taken near the bottom of the feature produced levels of strontium that were 8 and 10 times the Locus 3 average. Strontium is generally much more common in sea water than in soil, and it was thought that these anomalous values might represent the remains of anadromous fish caught in the St. Jones, which might still retain marine levels



LEGEND

A FEATURE 25 FILL: YELLOWISH BROWN (10YR 5/4) LOAMY SAND WITH CARBON FLECKING

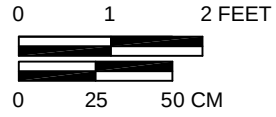
B B-HORIZON: YELLOWISH BROWN (10YR 5/8) SANDY LOAM

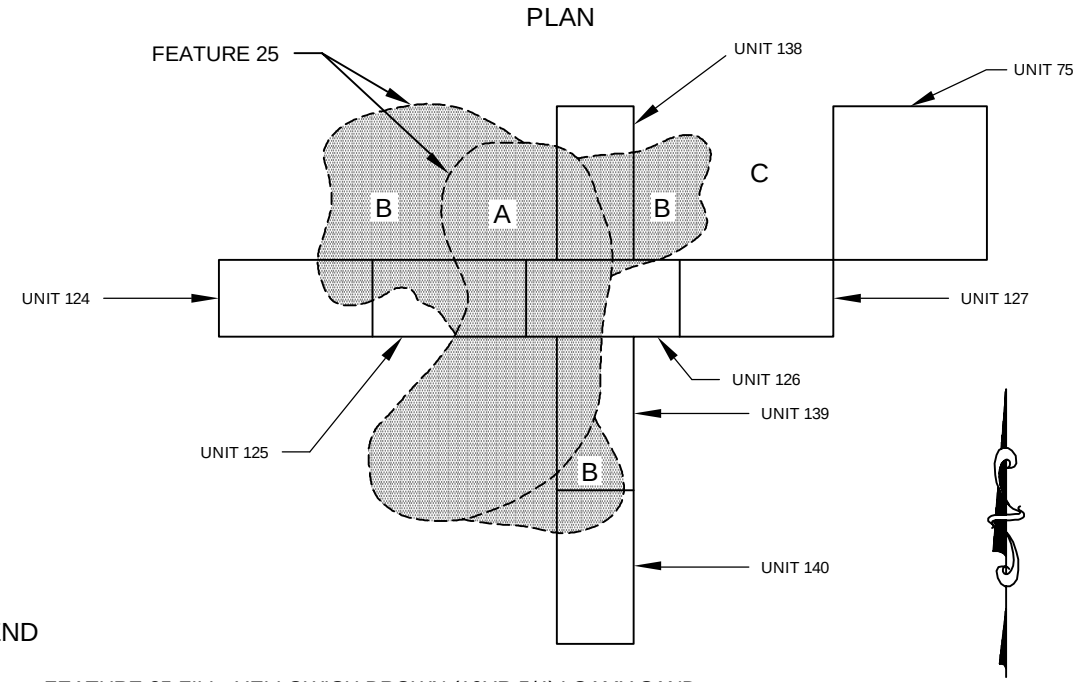
C C-HORIZON: BROWNISH YELLOW (10YR 6/8) SANDY LOAM

D C-HORIZON: BROWNISH YELLOW (10YR 6/8) SAND WITH GRAVEL

E FEATURE 25 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND

F FEATURE 25 FILL: BROWNISH YELLOW (10YR 6/6) LOAMY SAND



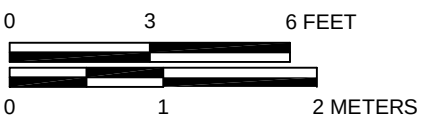


LEGEND

A FEATURE 25 FILL : YELLOWISH BROWN (10YR 5/4) LOAMY SAND WITH CHARCOAL FLECKING

B FEATURE 25 FILL: YELLOWISH BROWN (10YR 5/4) LOAMY SAND MIXED WITH YELLOWISH BROWN (10YR 5/6) LOAMY SAND

C SUBSOIL: YELLOWISH BROWN (10YR 5/4) LOAMY SAND



*ABOVE MEAN SEA LEVEL

FIGURE K-48: Plan and Profile of Feature 25

of strontium. However, since no other such high concentrations of strontium were identified during the Phase III excavations, this investigation was not pursued.

Sample List for Feature 25

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	3	351	processed	Bone	A	3	348	curated
Flotation 2L	A	1	197	curated	Bone	A	3	351	curated
Flotation 2L	A	1	206	processed	Bone	A	4	352	curated
Flotation 2L	A	2	207	processed	Bone	A	5	353	curated
Flotation 2L	B	3	208	processed	Bone	A	4	358	curated
Flotation 2L	B	4	209	processed	Soil Chem.	B	5	242	processed
Flotation 2L	B	5	210	processed	Soil Chem.	B	5	243	processed
Flotation 2L	B	6	211	processed	Soil Chem.	B	5	244	processed
Soil Chem.	A	1	197	curated	Soil Chem.	B	5	245	processed
Soil Chem.	A	1	206	processed	Soil Chem.	B	5	246	processed
Soil Chem.	A	2	207	processed	Soil Chem.	B	5	247	processed
Soil Chem.	B	3	208	processed	Soil Chem.	B	5	248	processed
Soil Chem.	B	4	209	processed	Soil Chem.	B	5	249	processed
Soil Chem.	B	5	210	processed	Micromorph.			521	processed
Soil Chem.	B	6	211	processed	Micromorph.			522	processed

Feature 26

Location
Locus 3, Block 4
Shape
Plan: circular stain with leach ring around the exterior
Profile: sloping sides, irregular bottom
Dimensions
Surface: 200x180 cm
Depth: 39 cm

Macrobotanical Remains
charred hickory nutshell
wood charcoal (oak, maple)
Artifacts
5 debitage:
3 jasper
1 chert
1 rhyolite

Feature 26 was a circular stain that was dark on the interior but had a pronounced leached ring around the exterior. This feature was in Block 4 and was apparently the result of a tree disturbance. Feature 26 was adjacent to Feature 24, and the two features were investigated together (see Figure K-47). A preliminary series of five 1-meter by 50-centimeter units (Units 128-132) was laid north to south across both features. The trench was positioned to create a west wall section profile through the central portion of the features. After the completion of this initial trench, the west wall profile showed that Feature 26 had highly irregular boundaries and consisted largely of organic root staining, indicating the feature was a large tree disturbance.

Sample List for Feature 26

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Flotation 2L	A	1	222	curated	Soil Chem.	A	1	222	processed
Flotation 2L	A	2	223	curated	Soil Chem.	A	2	223	processed
Flotation 2L	A	1	224	curated	Soil Chem.	A	1	224	curated
Flotation 2L	A	2	225	curated	Soil Chem.	A	2	225	curated
Flotation 2L	A	3	231	curated	Soil Chem.	A	3	231	processed
Flotation 2L	A	3	232	curated	Soil Chem.	A	3	232	curated

Feature 30

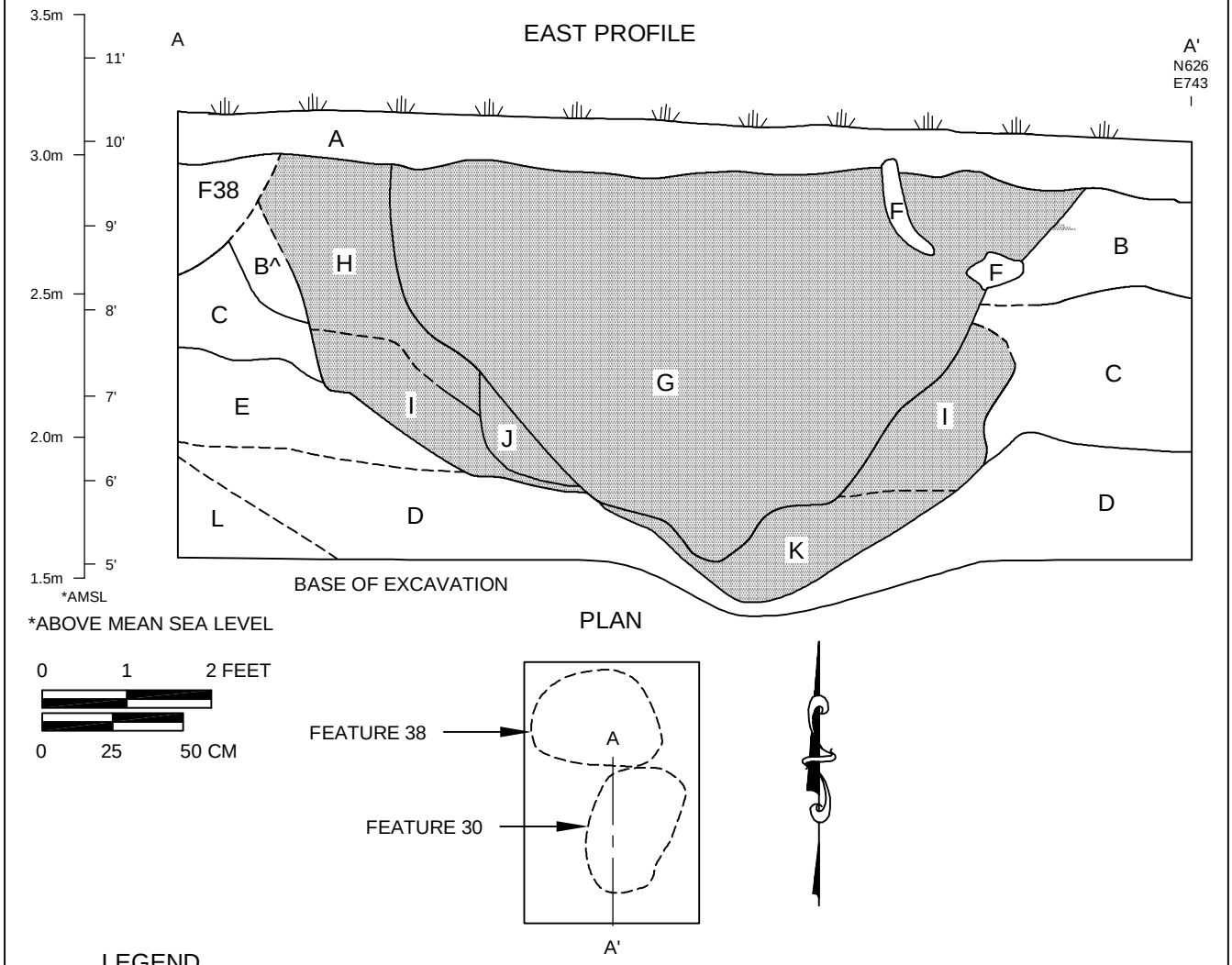
Location
Locus 3, Feature 30 Block
Shape
Plan: oval
Profile: stepped sides, rounded bottom
Dimensions
Surface: 300x190 cm
Depth: 165 cm
Volume: 3,900 L
Radiocarbon Dates
310±50 BP Stratum A, Level 3
4,610± 40 BP Stratum A, Level 8
4,480±60 BP Stratum A, Level 8

Macrobotanical Remains
wood charcoal (oak)
charred hickory nut fragments
Artifacts
1 rhyolite late-stage biface
2 broken argillite projectile points, one probably a triangle
1 chert endscraper
1 jasper utilized flake
1 sandstone hammerstone
1 sandstone anvil stone
1 broken chert biface
1 jasper tested cobble
1 quartz freehand core
1 jasper bipolar core fragment
1 chert freehand core
5 possible FCR
2 pieces burned clay or daub
118 debitage:
66 chert
13 jasper
15 quartz
12 quartzite
11 rhyolite
1 argillite

Feature 30 was first identified in extended Phase II Unit 156. In Unit 156, the feature took the shape of a flat-bottomed, steep-walled pit reaching about 130 centimeters below ground surface. Despite the limited aperture of the 1x1-meter unit, Feature 30 was interpreted as cultural based on the well-defined pit outline in profile, as well as the recovery of 15 pieces of debitage and an argillite biface base in the feature fill. In addition to the recovered lithics, the fill contained small fragments of calcined bone and charcoal flecking.

During the Phase III excavations, the feature was entirely excavated, along with a block of units around it (Figure K-49). Phase III excavation of the feature began with two 1x1-meter units, Units 320 and 336, which together with the original Phase II unit (Unit 156) formed a 3x1-meter trench oriented north-south, encompassing the entire western half of the feature. It proved difficult to discern the boundaries of the feature at the base of the plowzone. The feature fill was very similar in color to the natural E-horizon, and there was a high degree of root disturbance and other bioturbation in this area. The feature boundaries were clearly visible below the second or third level, as well as in the profile, but the mapped western boundary should be considered approximate. The first three units were excavated to a maximum depth of 175 centimeters below ground surface. The depth of the feature reached 165 centimeters.

After Units 156, 320, and 336 had been excavated, the feature profile was exposed (Figure K-50). The profile was notable for two reasons: 1) the uniformity of the organic-colored main feature fill; and 2) the



LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM
B	E-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND, ^ APPARENTLY DISPLACED
C	B-HORIZON: STRONG BROWN (7.5YR 4/6) SANDY LOAM MOTTLED WITH YELLOWISH BROWN (10YR 5/8) SANDY LOAM
D	C-HORIZON: BROWNISH YELLOW (1OYR 6/8) COARSE SAND
E	C-HORIZON: YELLOWISH BROWN (10YR 5/8) COARSE LOAMY SAND
F	YELLOWISH BROWN (10YR 5/8) LOAMY SAND, ROOT OR RODENT DISTURBANCE
G	FEATURE 30 FILL: BROWN (7.5YR 4/4) LOAMY SAND
H	FEATURE 30 FILL: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM
I	FEATURE 30 FILL: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND
J	FEATURE 30 FILL: YELLOWISH BROWN (10YR 5/6) COMPACT LOAMY SAND
K	POSSIBLE FEATURE 30 FILL: STRONG BROWN (7.5YR 5/8) SAND
L	C-HORIZON: YELLOW (10YR 7/8) COARSE SAND
—— - ——	BISECTION LINE

PLAN NOT TO SCALE

FIGURE K-50: Stratigraphic Profile of Feature 30, Facing East

symmetry of redeposited B-horizon soils along the exposed northern and southern edges of the feature. The main feature fill was a large mass of highly homogeneous brown (7.5YR 4/4) sandy loam that extended to a depth of 130 centimeters. Its boundaries were particularly well-defined against the backdrop of the displaced/redeposited B-horizon soils. Judging from the degree of organic leaching observed in other cultural pits on the Coastal Plain of central Delaware, the highly organic nature of Feature 30 suggests that this pit may date to no earlier than the Middle to Late Woodland periods.

The displaced soil masses outside of the main feature fill appeared to be too homogeneous, unmixed with organic soil, to likely represent natural slumping of soil into open or abandoned pits. This suggested that the rather loamy and compressible B-horizon soils may have been intentionally placed in the pit to form steps or ledges for storage shelves. The large size and depth of Feature 30 suggest that access into the pit would indeed have been facilitated by a series of steps, and since the unstable sand forming the lower portion of the profile is not itself capable of supporting steps (or ledges), it is reasonable to view the displaced B-horizon soils as a possible load-bearing feature. Indeed, log-supported shelving would have been an efficient and practical method of large-scale underground food storage. During the excavation of the second half of the feature, the possible lining was found to extend around the entire boundary of the feature; however, no further evidence of steps was found.

In total, more than 130 artifacts were recovered from the feature, including a rhyolite late-stage biface, two argillite projectile point bases (one of the two apparently a large triangle), another biface, an endscraper, a utilized flake, three cores, five pieces of FCR, and 118 pieces of debitage. The rather small amount of FCR found throughout the Feature 30 block distinguishes this area from the Metate block. Nearly 100 very small fragments of calcined bone were recovered from the feature fill, along with two small pieces of burned clay or daub. Analysis of some of the larger bone fragments showed that they came from small mammals.

Soil chemistry and particle size analysis of the feature fill suggested that it represents a blending of all the soil layers through which it was dug. Although the surrounding intact subsoil varied substantially from the surface to the depth of the feature bottom, the feature itself was highly consistent. Therefore, the pit seems to have been filled with the same soil that had been dug out of it, or out of a similar pit nearby; this soil became mixed in the process of being dug out and placed back in the pit, possibly on multiple occasions.

Three radiocarbon dates were obtained from Feature 30, but all seem improbable as dates for the feature's period of use. The first date, obtained from Level 3, was 310±40 BP, and probably represents the historical clearing of the area. Another date, 4,480±60 BP, was obtained from Level 8; this date is too early for the ceramics found in the feature. All of the dates were AMS dates obtained from very small samples. The discrepancies between these dates show the high degree of bioturbation around the feature and the amount that small objects can be moved by such forces in sandy soil.

Feature 30 seems to have been a large prehistoric storage pit, possible lined with loamy soil, possibly with earthen shelves around the north and south sides. An alternate interpretation of the feature is that it functioned as a burial or *chiacosan* pit. This function would also have made use of the displaced subsoil masses as ledge supports, in this case to store the dead. Thurman (1985) has referred to charnel pits found somewhere within the St. Jones River valley. Chiacosan was the practice, documented for Lenape and Nanticoke groups in the 1600s, of burying corpses for a period and then removing the bones from the grave. It would be difficult to identify direct evidence of this practice archaeologically. It should be noted, however, that no grave goods or other evidence reflecting mortuary behavior was recovered during the excavation of Feature 30.

Sample List for Feature 30

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	3	193	curated	Soil Chem.	A	2	263	curated
Charcoal	A	6	198	curated	Soil Chem.	A	6	265	curated
Charcoal	A	8	200	processed	Phytolith	A	1	955	curated
Charcoal	A	3	652	processed	Phytolith	A	5	957	curated
Charcoal	A	8	680	curated	Phytolith	A	7	971	processed
Charcoal	A	10	682	curated	Phytolith	A	2	270	curated
Flotation 2L	A	5	418	curated	Phytolith	A	6	271	curated
Flotation 1L	A	-	424	curated	Phytolith	A	10	272	processed
Flotation 2L	A	4	630	curated	Bone	A	4	417	curated
Flotation 2L	A	5	663	curated	Bone	A	5	418	curated
Flotation 2L	A	1	955	curated	Bone	A	6	420	curated
Flotation 2L	A	5	957	curated	Bone	A	7	421	curated
Flotation 2L	A	7	971	curated	Bone	A	8	422	curated
Flotation 2L	A	2	262	processed	Bone	A	1	628	curated
Flotation 2L	A	6	264	processed	Bone	A	1	650	curated
Flotation 2L	A	10	268	processed	Bone	A	2	651	curated
Soil Chem.	A	1	415	curated	Bone	A	3	652	curated
Soil Chem.	A	7	421	curated	Bone	A	4	653	curated
Soil Chem.	A	8	422	curated	Bone	A	3	757	curated
Soil Chem.	D	10	428	curated	Bone	A	4	769	curated
Soil Chem.	C	10	624	curated	Bone	A	7	772	curated
Soil Chem.	A	1	955	curated	Bone	A	8	773	curated
Soil Chem.	A	5	957	curated	Bone	A	9	784	curated
Soil Chem.	A	7	971	curated	Bone	A	1	167	curated
Soil Chem.	Ap		1448	processed	Bone	C	3	168	curated
Soil Chem.	BE		1449	processed	Bone	C	4	173	curated
Soil Chem.	Bt1		1450	processed	Bone	A	2	174	curated
Soil Chem.	Bt2		1451	processed	Bone	A	3	193	curated
Soil Chem.	BC1		1452	processed	Bone	A	5	197	curated
Soil Chem.	BC2		1453	processed	Bone	A	6	198	curated
Soil Chem.	C1		1454	processed	Bone	A	7	199	curated
Soil Chem.	C2		1455	processed	Bone	A	8	200	curated
Soil Chem.	2C		1456	processed	Bone	A	9	201	curated
Soil Chem.		1-2	1457	processed	Micromorph.	-	-	529	curated
Soil Chem.		3-4	1458	processed	Micromorph.	-	-	534	curated
Soil Chem.		5-6	1459	processed					
Soil Chem.		7-8	1460	processed					
Soil Chem.		9-10	1461	processed					
Soil Chem.		11-12	1462	processed					

Feature 31

Location		*Artifacts*	
Locus 3, Unit 328		1 jasper endscraper	
Shape		1 possible FCR	
Plan: not known		15 debitage:	
Profile: sloping sides, irregular bottom		9 quartzite	
Dimensions		3 jasper	
Surface:	100x180 cm	3 chert	
Depth:	40 cm		

Feature 31 was a possible prehistoric feature encountered in Unit 328, one of the initial Phase III excavation units in Locus 3. (Unit 328 was excavated to search for a hearth or other feature around which to place a block excavation). Feature 31 resembled a thickened E-horizon, and the only possible edge encountered was a shelf about 28 centimeters below the top of this horizon (Figure K-51). In this way the feature resembled Feature 32, the possible pit house identified by HRI. In the plowzone above Feature 31, and in the top level of the subsoil, substantial amounts of debitage were encountered (88 pieces in the plowzone, and 38 pieces in Level 2). Feature 31 was not defined until the bottom of Level 2, and in the feature artifact counts dropped off to about three per level. This feature was mostly likely a tree throw or some other natural disturbance. No samples were taken from Feature 31.

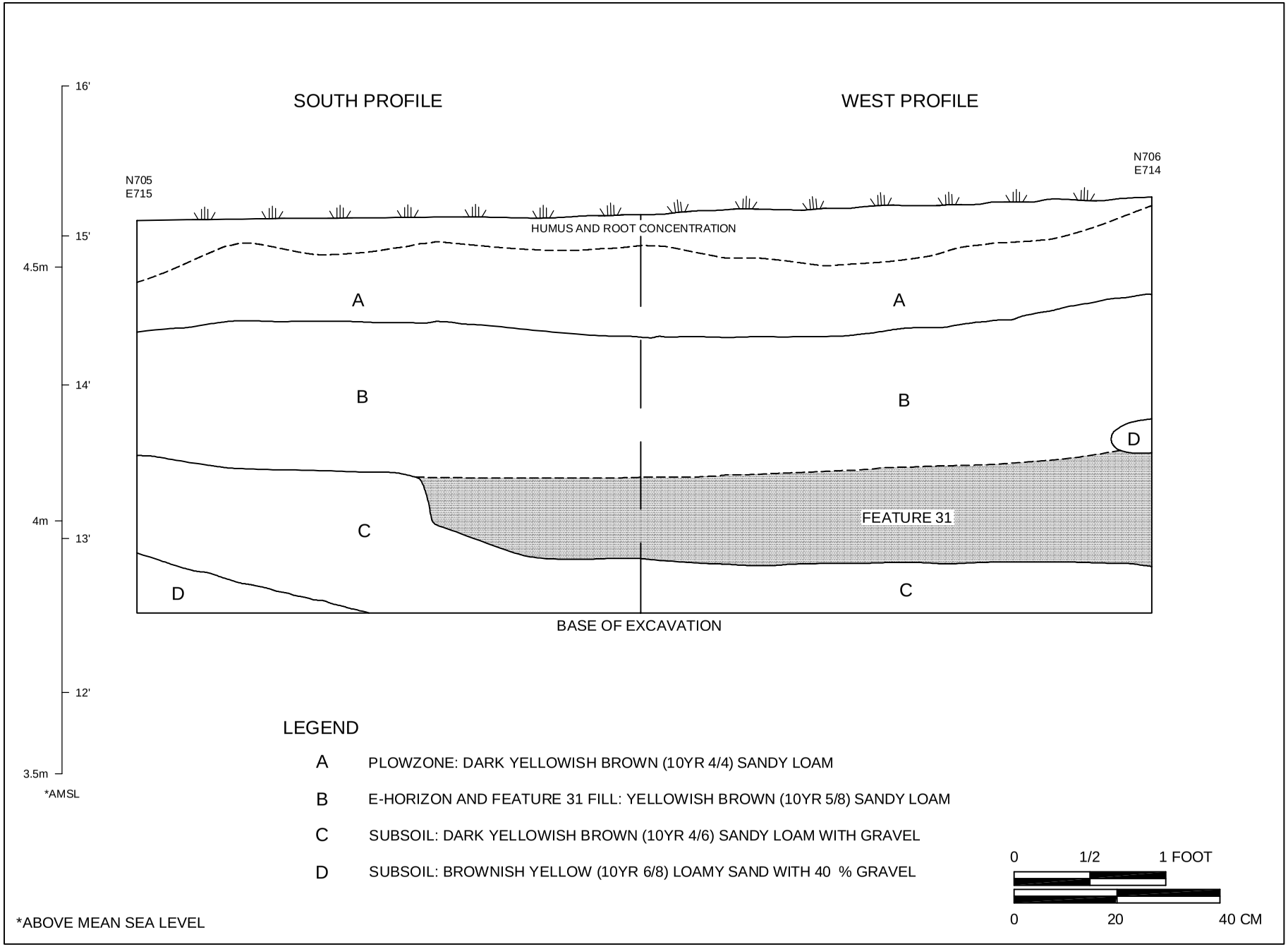


FIGURE K-51: Stratigraphic Profile of Feature 31

Feature 32

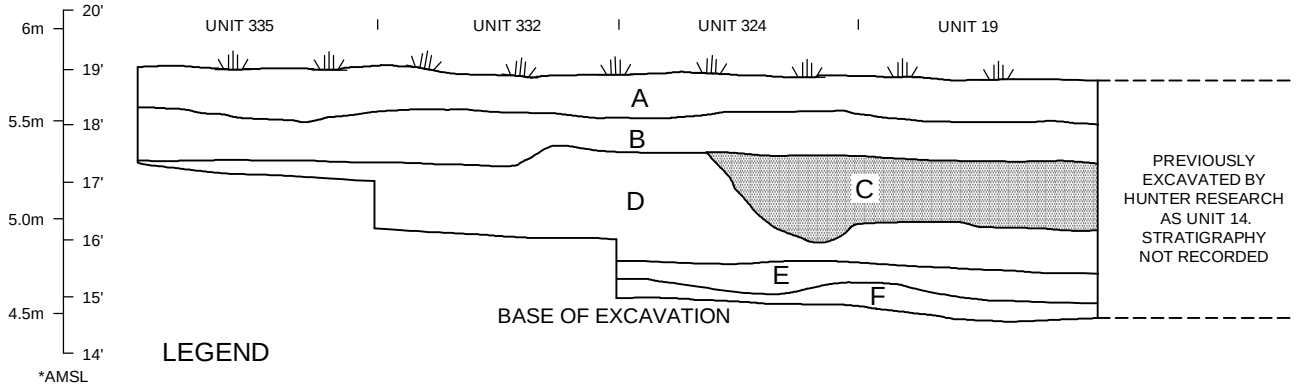
Location		*Artifacts*	
Adjacent to Block 3		3 small untyped ceramic sherds	
Shape		1 argillite point, possible Fox Creek	
Plan: roughly oval		1 jasper biface, 8.2 cm long	
Profile: steep to gradual sides, uneven bottom		1 quartz biface	
		1 jasper biface fragment	
Dimensions		196 possible FCR	
Surface:	300x230 cm	179 debitage:	
Depth:	50 cm	57 quartz	
		44 chert	
		40 jasper	
		25 quartzite	
		13 other	

Feature 32 was discovered by HRI and was identified as a possible pit house. HRI excavated four test units in this location (Units 14, 19, 20, and 21), and they recovered 503 artifacts. Of these, 284 came from the plowzone, and the remaining 219 came from subsoil contexts, primarily within Feature 32. A fair amount of historical material was found in the plowzone of these units, but none was recovered from subsoil contexts. The edges of Feature 32 proved difficult to define because the feature fill closely resembled the natural E-horizon and because there was heavy root disturbance in the upper subsoil levels. However, the base of the feature was clear at 20 to 40 centimeters below the bottom of the plowzone.

A concentration of FCR was noted at the surface of the feature in HRI Units 14 and 21, adjacent to where Berger later defined Feature 15, a large FCR cluster. Of the 219 artifacts recovered from below the subsoil in these units, 141 were fragments of FCR from the top subsoil level. An additional 178 pieces of FCR were recovered from the plowzone in these two units. HRI's report (Leibknecht et al. 1997) identified this "hearth" as one piece of evidence to suggest that Feature 32 was a pit house; however, since the FCR concentration actually spreads across the top of the feature, it must postdate the abandonment and filling of the feature. Even excluding this FCR concentration, the artifacts were concentrated at the top of the feature (41 in Level 1, 17 in Level 2, 11 in Level 3, one in Level 4), and very few were found on the feature floor. There is therefore little reason to associate the artifacts recovered from inside the feature with its creation or use. The artifacts that were found include a jasper biface, 8.2 centimeters long, three small ceramic sherds, an argillite point base possibly of the Fox Creek variety, and two other biface fragments.

Berger excavated five additional 1x1-meter units in and around Feature 32. Three of those units were placed in line with HRI's Units 14 and 19, creating a 5-meter-long trench through the feature (Figure K-52). The profile of this trench shows one possible edge to the feature. The description of the soil immediately below the plowzone was the same for all of these units: yellowish brown (10YR 5/4) loamy sand grading to brownish yellow (10YR 6/4). At the eastern end of the trench, in Unit 335 and most of Unit 332, this soil was about 25 centimeters thick. At about the boundary between Units 335 and 324, the bottom of this level dropped about 25 centimeters within a distance of 15 centimeters, making the overall thickness of the stratum roughly 48 centimeters. However, this was the only edge of the feature that was ever clearly defined, and this leads to difficulties and discrepancies when attempting to tally the artifacts associated with the feature. The northern edge, explored by Berger, was more gradual, and HRI's work showed that along its eastern edge

NORTH PROFILE



LEGEND

A PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM

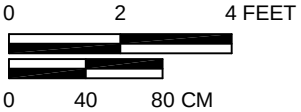
B EB-HORIZON: YELLOWISH BROWN (10YR 5/6) LOAMY SAND

C FEATURE 32 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND MOTTLED WITH LIGHT YELLOWISH BROWN (10YR 6/4) LOAMY SAND

D B-HORIZON: STRONG BROWN (7.5Y 4/6) LOAMY SAND WITH 10 % ROUNDED GRAVEL

E C-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) COARSE SAND WITH 20 % ROUNDED GRAVEL AND SMALL COBBLES

F C-HORIZON: BROWNISH YELLOW (10YR 6/6) COARSE SAND



*ABOVE MEAN SEA LEVEL

the feature seemed to merge imperceptibly into a thickened E-horizon. There was no evidence of a living surface on the feature floor; the floor was also not particularly flat.

Feature 32 was clearly some sort of soil disturbance or anomaly, but it was not obviously of cultural origin. Artifacts were found within the feature at depths of up to 40 centimeters below the base of the plowzone, whereas the units in nearby Block 3 were all sterile below the first subplowzone level. One clear, steep edge to the feature was defined. However, because the feature fill could not be distinguished from the natural E-horizon, no other edges could be found. There is, of course, no requirement that a cultural feature have steep sides. However, given the vague shape of the feature and the absence of a living surface, an interpretation of the feature as a pit house seems untenable, and an interpretation as a tree throw seems more plausible. Feature 32 clearly antedates the main occupation of the surrounding areas, which produced the large FCR concentrations in Block 3, since one of these FCR clusters extends across the top of Feature 32.

Sample List for Feature 32

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	2	283	curated	Soil Chem.	BC	-	1467	curated
Charcoal	A	2	325	curated	Soil Chem.	2C	-	1468	curated
Flotation 2L	A	2	1188	curated	Soil Chem.	Ap	-	1469	curated
Soil Chem.	A	2	1188	curated	Soil Chem.	A	1-2	1470	curated
Soil Chem.	Ap	-	1463	curated	Soil Chem.	A	3-4	1471	curated
Soil Chem.	E	-	1464	curated	Soil Chem.	Bt	-	1472	curated
Soil Chem.	Bt1	-	1465	curated	Soil Chem.	2C	-	1473	curated
Soil Chem.	Bt2	-	1466	curated	Phytolith	A	2	1188	curated

Feature 33

Location
Unit 337, between
Blocks 1 and 2
Shape
Plan: round
Profile: basin-shaped
Dimensions
Surface: 50x50 cm
Depth: 30 cm
Radiocarbon Dates
2,480±40 BP Stratum A, Level 2

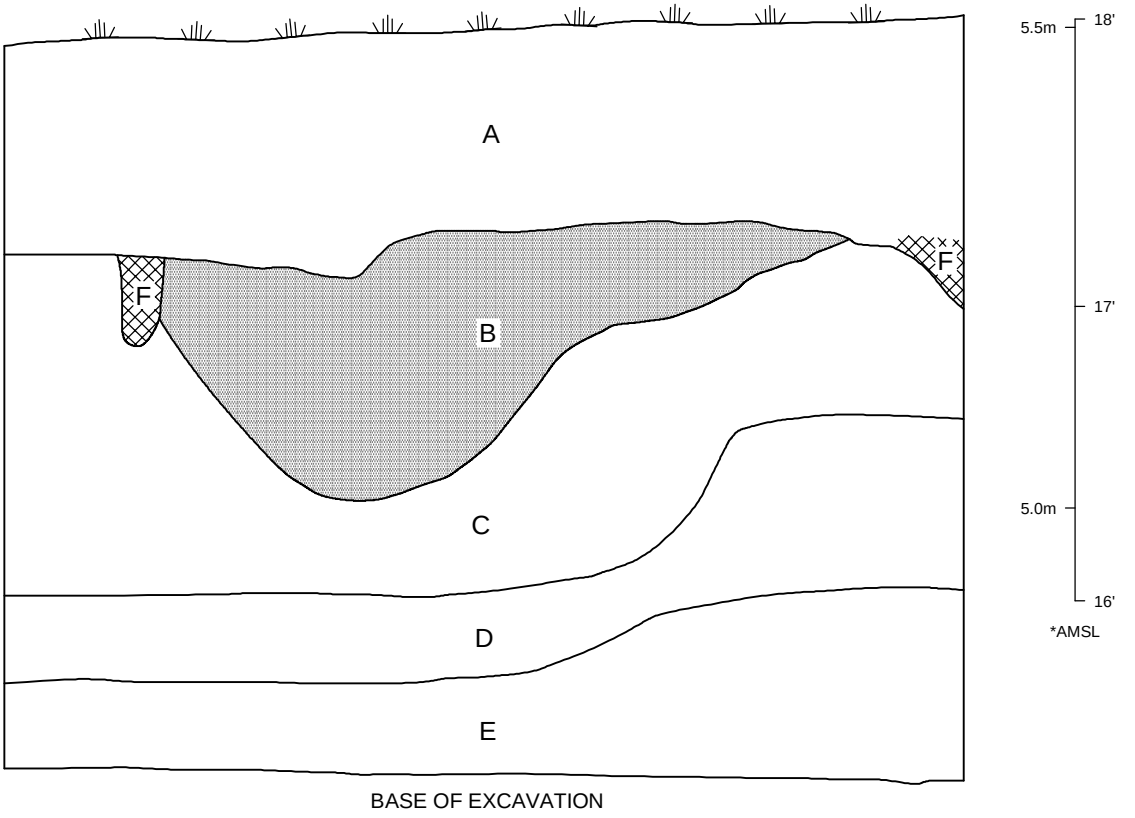
Artifacts
1 jasper stemmed projectile point
4 possible FCR
8 debitage:
5 quartz
2 chert
1 jasper

Feature 33 was a small, basin-shaped pit encountered in Unit 337, between Blocks 1 and 2, during the initial stages of the Phase III excavations (Figure K-53). The fill in the feature was an even yellowish brown (10YR 5/6) sandy loam, only slightly darker than the surrounding subsoil, but the edges of the feature were distinct and clearly visible. Although only a few flakes were recovered from the feature fill, a Puncheon pebble point was found at the base of the pit in association with a small charcoal sample, which returned a date of 2,480±40 radiocarbon years BP. The point yielded positive protein residue results for American eel, Bay anchovy, and deer (see Volume II, Appendix J). A concentration of debitage (N=182) was recovered from the two units surrounding the pit feature, apparently representing a single-use knapping station or a debitage dump.

Because of its shape and close association with the debitage concentration, Feature 33 is considered a cultural feature, possibly a small storage or processing pit.

Sample List for Feature 33

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	2	241	processed	Soil Chem.	A	1	329	curated
Flotation 2L	A	2	241	curated	Phytolith	A	1	329	curated



LEGEND

- A PLOWZONE: DARK YELLOWISH BROWN (10YR 3/4) SANDY LOAM
- B FEATURE 33 FILL: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM WITH CHARCOAL FLECKING
- C SUBSOIL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
- D SUBSOIL: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND WITH GRAVEL
- E SUBSOIL: STRONG BROWN (7.5YR 4/6) SANDY LOAM WITH GRAVEL
- F ROOT DISTURBANCE

0 1/2 1 FOOT

0 10 20 CM

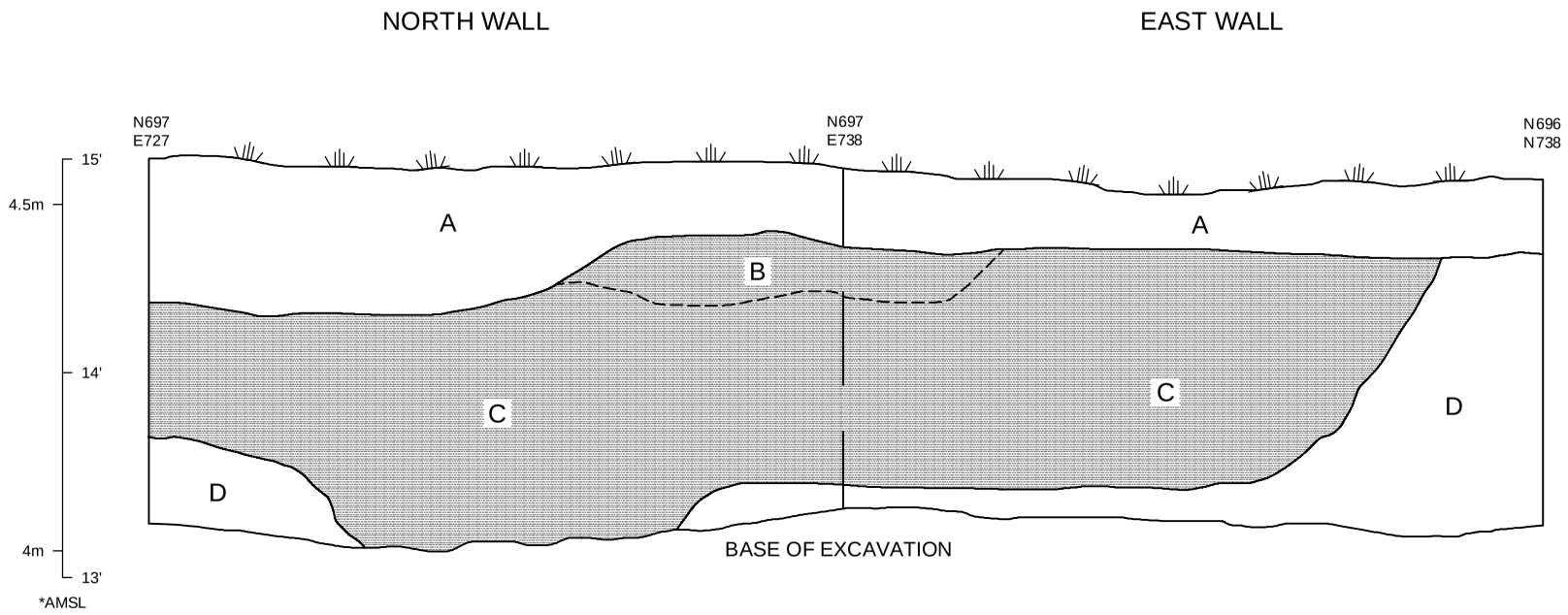
*ABOVE MEAN SEA LEVEL

FIGURE K-53: Stratigraphic Profile of Feature 33, Facing South

Feature 34

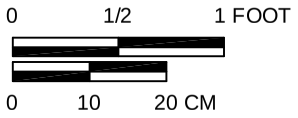
Location	*Artifacts*
Locus 3, Unit 341	none
Shape	
Plan: not known	
Profile: sloping sides, irregular bottom	
Dimensions	
Surface: 64x100+ cm	
Depth: 41 cm	

Feature 34 was a possible prehistoric feature encountered in Unit 341, one of the initial Phase III excavation units in Locus 3 (Figure K-54). The feature was visible as soil discoloration at the base of the plowzone. It was 41 centimeters deep, with steeply sloping sides and an irregular floor. The feature extended beyond the excavation unit. No artifacts were found in the feature, and only two (both debitage) were found in the unit as a whole. Because the pit was clearly visible so high in the profile, the excavators suspected that it was rather recent. The most likely interpretation is that the feature was some kind of natural disturbance, probably dating to historic times.



LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM
B	FEATURE 34 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND WITH CHARCOAL FLECKING
C	FEATURE 34 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
D	SUBSOIL: STRONG BROWN (7.5YR 6/4) LOAMY SAND



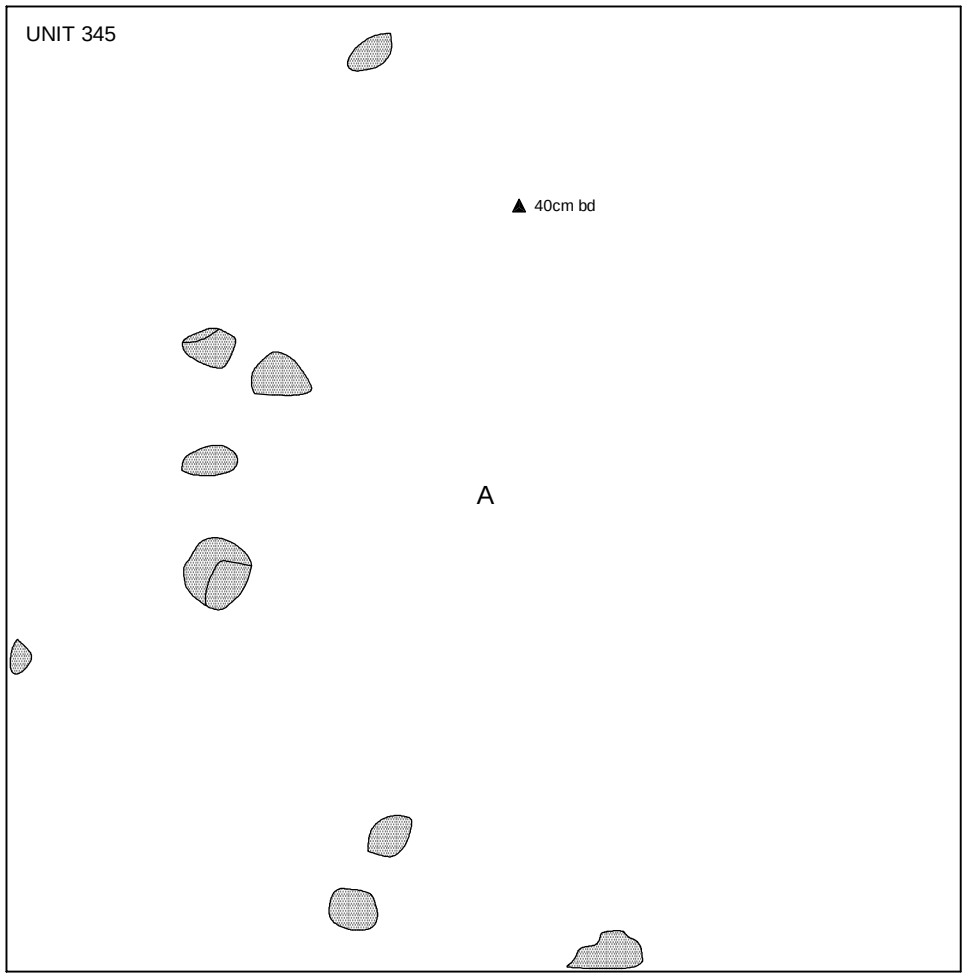
*ABOVE MEAN SEA LEVEL

FIGURE K-54: Stratigraphic Profile of Feature 34

Feature 35

Location		*Artifacts*	
Locus 3, Unit 345		11 possible FCR	
Shape		6 debitage:	
Plan:		2 jasper	
Profile: sloping sides, irregular bottom		2 chert	
Dimensions		2 quartzite	
Surface:	90x40 cm		
Depth:	10 cm		

Feature 35 was a diffuse scatter of FCR encountered in Unit 345, one of the initial Phase III excavation units in Locus 3 (Figure K-55). Unit 345 was located 10 meters southwest of Block 1, which contained two similar scatters. Feature 35 was visible at the base of the plowzone, and it was entirely contained within the top 10-centimeter level of the subsoil. There was no soil staining or any other sign of a pit, and very little charcoal was noted. It appeared that the feature extended beyond Unit 345 to the south; Unit 355 was excavated in that direction. However, no additional FCR was noted.



LEGEND

A DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM

FIRE-CRACKED ROCK

0 1/2 1 FOOT

0 10 20 CM

FIGURE K-55: Plan of Feature 35

Feature 36

Location
Unit 354, Metate Block

Shape
Plan: round
Profile: basin-shaped

Dimensions
Surface: 45x31 cm
Depth: 11 cm

Artifacts
1 large grinding stone

Feature 36 contained the metate around which the Metate block was excavated. The metate itself was a small boulder measuring about 45x31x11 centimeters, with evidence of abrasion on both faces. The stone weighed 31.8 kilograms. It appears to fall into the "flat/concave metate" category established by Adams (1999). Its base was resting in Stratum B, Level 3, the same depth as most of the nearby FCR clusters. This level was also rich in debitage. Neither flotation nor phytolith analysis of samples from the surrounding soil produced any evidence of plant processing, so the exact use of the metate remains unknown.

Sample List for Feature 36

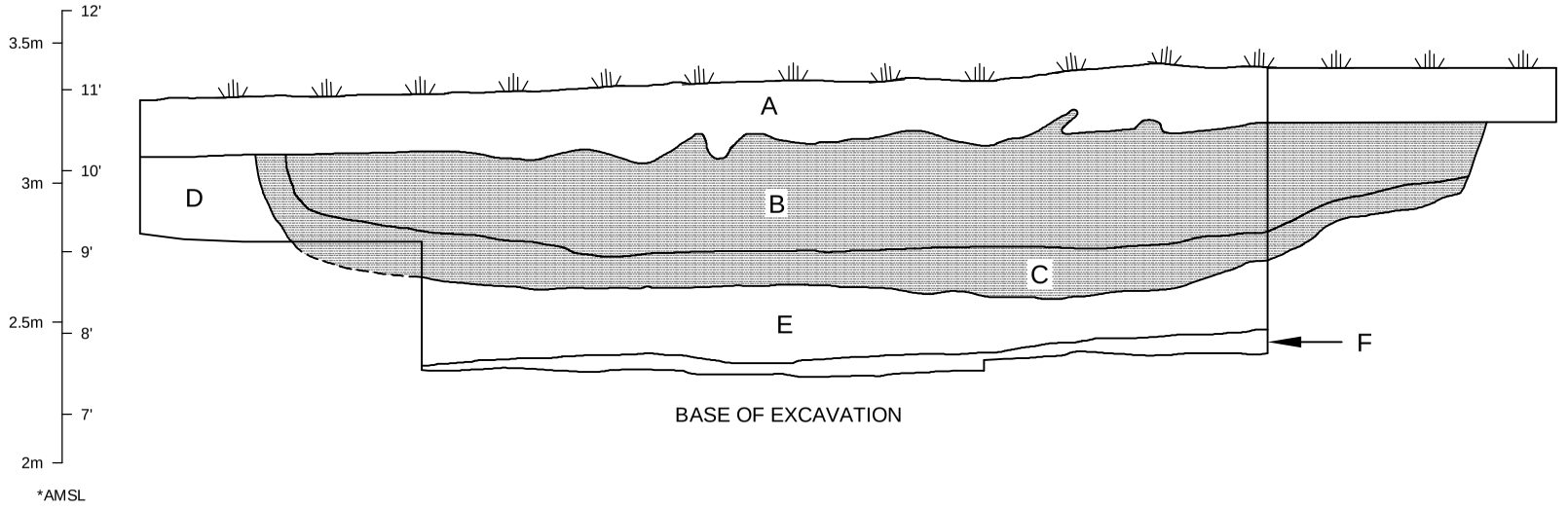
Type	Strat.	Level	Cat. #	Status	Unit	Type	Strat.	Level	Cat. #	Status	Unit
Charcoal	B	3	849	cur.	356	Soil Chem.	C	6	910	cur.	356
Charcoal	B	3	918	cur.	371	Soil Chem.	B	3	918	cur.	371
Charcoal	B	5	927	cur.	371	Soil Chem.	B	3	940	cur.	370
Flotation 2L	B	3	849	cur.	356	Soil Chem.	B	4	946	cur.	370
Flotation 2L	B	4	907	cur.	356	Soil Chem.	B	5	949	cur.	370
Flotation 2L	B	5	909	cur.	356	Soil Chem.	B	6	951	cur.	370
Flotation 2L	C	6	910	cur.	356	Phytolith	B	3	849	proc.	356
Flotation 2L	B	3	918	cur.	371	Phytolith	B	4	907	proc.	356
Flotation 2L	B	3	940	cur.	370	Phytolith	B	5	909	proc.	356
Flotation 2L	B	4	946	cur.	370	Phytolith	C	6	910	proc.	356
Flotation 2L	B	5	949	cur.	370	Phytolith	B	3	918	cur.	371
Flotation 2L	B	6	951	cur.	370	Phytolith	B	4	946	cur.	370
Soil Chem.	B	3	849	cur.	356	Phytolith	B	5	949	cur.	370
Soil Chem.	B	4	907	cur.	356	Phytolith	B	6	951	cur.	370
Soil Chem.	B	5	909	cur.	356						

Feature 37

Location
Locus 3, Feature 30 Block
Shape
Plan: roughly oval
Profile: steep sides, flat bottom
Dimensions
Surface: 400x300 cm
Depth: 45 cm

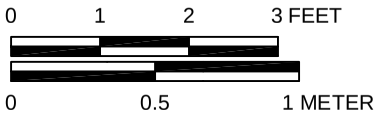
Macrobotanical Remains
charred hickory nutshell
wood charcoal (oak)
Artifacts
1 small ceramic sherd with clay/grog temper
1 quartz early-stage biface
2 chert endscrapers
2 jasper endscrapers
1 quartz endscraper
2 chert utilized flakes
2 hammerstones
1 quartzite freehand core
3 jasper bipolar cores
14 possible FCR
424 debitage:
133 chert
119 jasper
110 quartz
26 quartzite
7 rhyolite
12 argillite
4 siltstone
5 sandstone
8 other

Feature 37 was a large, somewhat amorphous pit discovered in Unit 380, one of the units excavated during Phase III to test the area around Feature 30. The fill in the feature resembled that in Features 30 and 38, including the presence of charred nut hulls and calcined bone; however, the feature was quite different in shape. In plan view it was pear-shaped, with the narrow end to the north, about 3 meters wide at its widest point and 4 meters long (see Figure K-49). It was rather shallow, mostly about 30 centimeters deep, with a flat bottom (Figure K-56). The southern and western sides were steep and well defined; however, to the east the feature sloped up gently, and a true edge could not be defined. Feature 37 was excavated in a series of 1x1-meter units. It contained more than 400 prehistoric artifacts, none of them diagnostic. Concentrations of debitage within parts of the feature were much higher than anywhere else in the Feature 30 block; one unit yielded 99 pieces of debitage. However, since the feature lacked a distinctive shape, its nature is not known, and it may have been either a natural disturbance or an anthropogenic pit. No postholes or other clear architectural remains were found, and unlike most of the pit houses that have been identified in Delaware, the feature had no deeper section that could have been an internal storage pit. The artifacts were distributed randomly through the fill rather than being concentrated on a clear floor. There was also no chemical evidence of human activity; the soil column within the feature had essentially the same chemical composition as a sample column taken from outside the feature.



LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 3/4) SANDY LOAM
B	FEATURE 37 STRATUM A: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM WITH CHARCOAL FLECKING
C	FEATURE 37 STRATUM B: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
D	E-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) SANDY LOAM
E	B-HORIZON: YELLOWISH BROWN (10YR 5/8) LOAMY SAND WITH GRAVEL
F	C-HORIZON: BROWNISH YELLOW (10YR 6/6) SAND WITH GRAVEL



*ABOVE MEAN SEA LEVEL

FIGURE K-56: Stratigraphic Profile of Feature 37, Facing West

The artifacts recovered from Feature 37 include seven unifaces—five formal endscrapers and two utilized flakes—an interesting concentration of this tool type. Microscopic edgeware analysis showed that all of the scrapers had been used to scrape hide or another soft material. The five endscrapers make up nearly half of the total number found on the site, and they suggest a specialized activity area.

Sample List for Feature 37

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	1	1192	curated	Soil Chem.	A	1	1290	curated
Flotation 2L	A	4	843	curated	Soil Chem.	A	2	1291	curated
Flotation 2L	A	1	1259	curated	Soil Chem.	A	3	1292	curated
Flotation 2L	B	2	1261	curated	Soil Chem.	Ap	1	1481	processed
Flotation 2L	A	3	1265	processed	Soil Chem.	E	2	1482	processed
Flotation 2L	A	1	1267	curated	Soil Chem.	BE	3	1483	processed
Flotation 2L	B	4	1269	curated	Soil Chem.	Bt	4-6	1484	processed
Flotation 2L	A	1	1273	curated	Soil Chem.	BC	7-8	1485	processed
Flotation 2L	A	2	1275	curated	Soil Chem.	C1	9	1486	processed
Flotation 2L	A	1	1277	curated	Soil Chem.	C2	10	1487	processed
Flotation 2L	A	3	1278	curated	Soil Chem.	A	4-6	1488	processed
Flotation 2L	A	1	1280	curated	Soil Chem.	Bt	7	1489	processed
Flotation 2L	A	2	1284	curated	Soil Chem.	BC	8	1490	processed
Flotation 2L	A	3	1286	curated	Soil Chem.	C	9	1491	processed
Flotation 2L	A	1	1290	curated	Phytolith	A	4	843	curated
Flotation 2L	A	2	1291	curated	Phytolith	A	1	1259	curated
Flotation 2L	A	3	1292	curated	Phytolith	B	2	1261	curated
Soil Chem.	A	4	843	curated	Phytolith	A	3	1265	curated
Soil Chem.	A	1	1259	curated	Phytolith	A	1	1267	curated
Soil Chem.	B	2	1261	curated	Phytolith	B	4	1269	curated
Soil Chem.	A	3	1265	curated	Phytolith	A	1	1273	curated
Soil Chem.	A	1	1267	curated	Phytolith	A	2	1275	curated
Soil Chem.	B	4	1269	curated	Phytolith	A	1	1277	curated
Soil Chem.	A	1	1273	curated	Phytolith	A	3	1278	curated
Soil Chem.	A	2	1275	curated	Phytolith	A	1	1280	curated
Soil Chem.	A	1	1277	curated	Phytolith	A	2	1284	curated
Soil Chem.	A	3	1278	curated	Phytolith	A	3	1286	curated
Soil Chem.	A	1	1280	curated	Phytolith	A	1	1290	curated
Soil Chem.	A	2	1284	curated	Phytolith	A	2	1291	curated
Soil Chem.	A	3	1286	curated	Phytolith	A	3	1292	curated

Feature 38

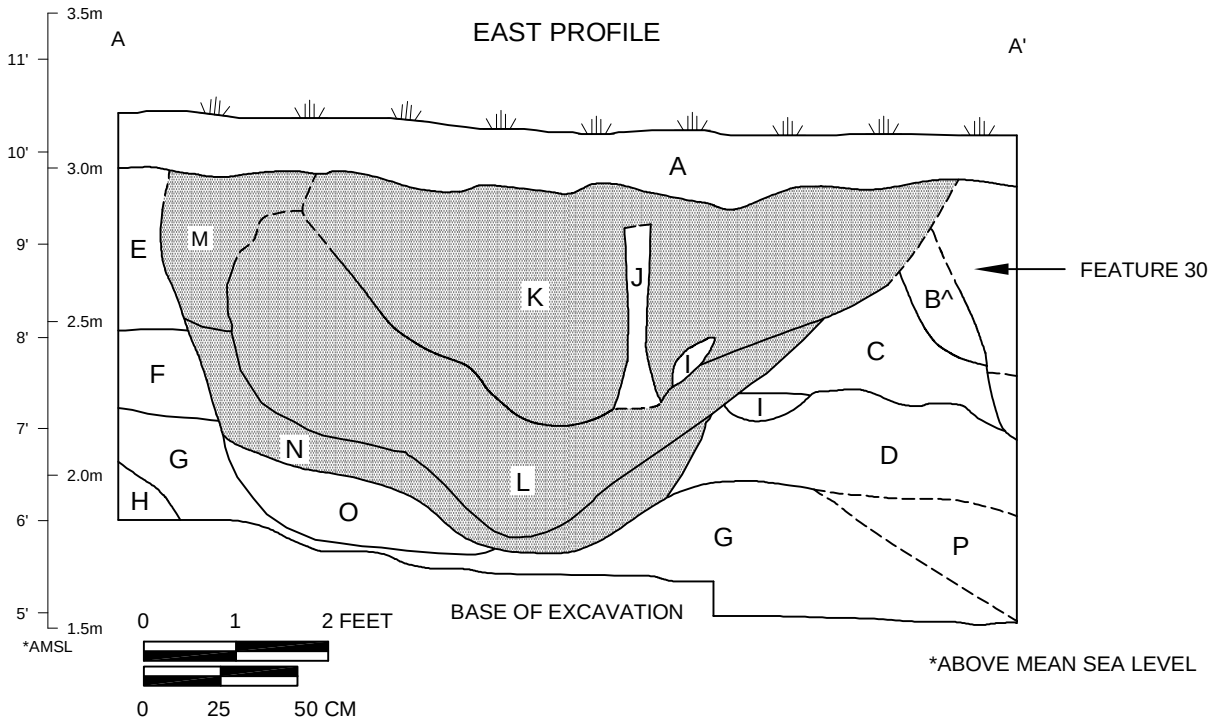
Location
Locus 3, Feature 30 Block
Shape
Plan: oval
Profile: steep sides, rounded bottom
Dimensions
Surface: 300x220 cm
Depth: 135 cm
Volume: 4,500 L
Radiocarbon Dates
1,300±80 BP Stratum A, Level 1

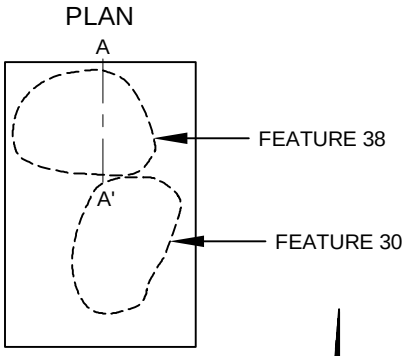
Macrobotanical Remains
charred hickory nutshell
wood charcoal (oak, tulip poplar)
Artifacts
1 small ceramic sherd, clay/grog temper
2 small ceramic sherd, quartz temper
1 small ceramic sherd, indeterminate temper
1 jasper Jack's Reef projectile point
1 jasper early-stage biface
1 hammerstone
1 jasper bipolar core
6 possible FCR
80 debitage:
43 jasper
19 quartz
11 chert
4 quartzite
1 rhyolite
2 indeterminate

Feature 38 was a large pit that intersected the northern edge of Feature 30. Feature 38 was as large and nearly as deep as Feature 30 (see Figure K-49). It measured 3 meters long, 2.2 meters wide, and 1.4 meters deep. The fill was very similar to that in Feature 30, and Feature 38 also appeared to have been lined (Figures K-57 and K-58). A thin layer of silty, B-horizon soil from near the top of the soil column was found on the sides and in the bottom of the pit. (The subsoil around the deeper parts of the pit was pure sand.) There was no evidence of steps or shelves. Analysis of the chemistry of the pit fill showed that it contained a concentration of phosphorus, approximately twice that found in natural soils outside the pit. Phosphorus, which is common in organic matter, is often a signature of human activity, and in this case it may derive from waste disposal. Since calcium levels in the pit soils were not elevated, the waste presumably did not contain much bone or shell. Artifacts found in the feature included four small ceramic sherds, a Jack's Reef projectile point, an early-stage biface, a hammerstone, and more than 80 pieces of debitage.

One radiocarbon date was obtained from charcoal found near the top of the pit. This date, 1,300±80 radiocarbon years BP, correlates fairly well with the Jack's Reef point and some of the artifacts found in the Feature 30 block, which included Fox Creek Lanceolate points and Hell Island ceramics.

Features 30 and 38 appear to have been large storage pits, although they may also have been burial or chiacosan pits (see discussion of Feature 30). If they were storage pits, they may have been used to store some material gathered in the nearby marshlands, such as roots.



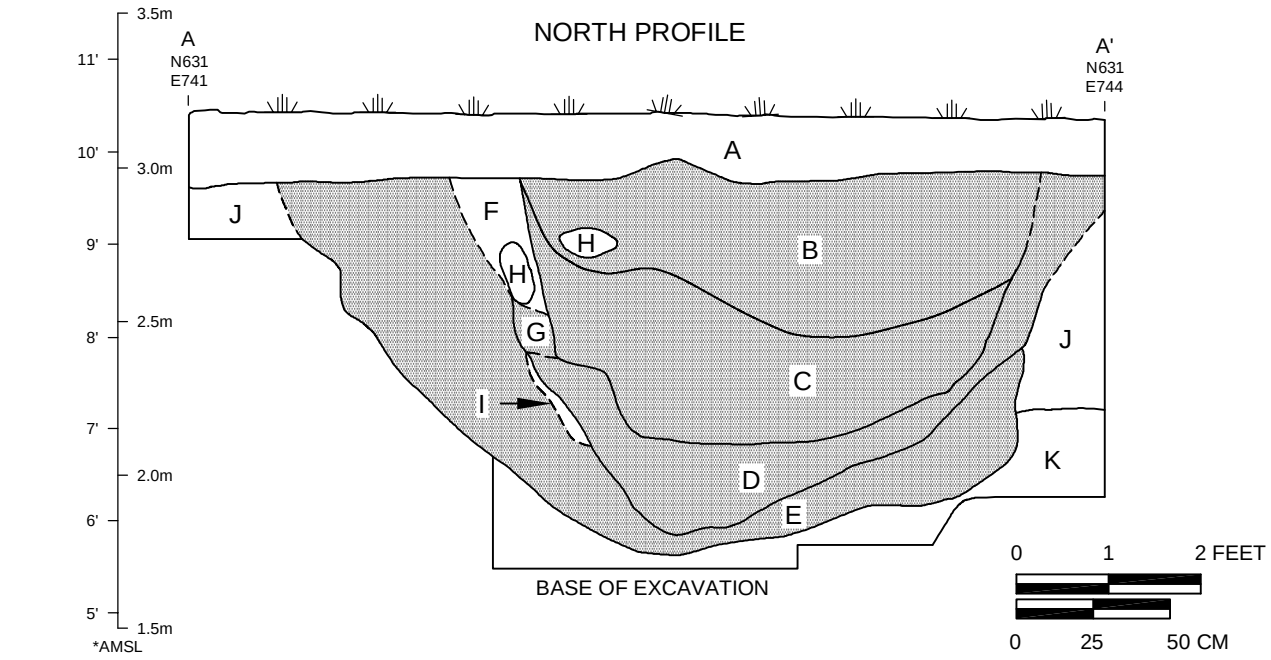


LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM
B	E-HORIZON: DARK YELLOWISH BROWN (10YR 4/6) LOAMY SAND, ^ APPARENTLY DISPLACED
C	B-HORIZON: STRONG BROWN (7.5YR 4/6) SANDY LOAM MOTTLED WITH YELLOWISH BROWN (10YR 5/8) SANDY LOAM
D	C-HORIZON: YELLOWISH BROWN (10YR 5/8) COARSE LOAMY SAND
E	E-HORIZON: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
F	B-HORIZON: STRONG BROWN (7.5YR 5/8) SANDY LOAM
G	C-HORIZON: YELLOW (10YR 7/6) COARSE SAND
H	C-HORIZON: YELLOW (10YR 7/8) COARSE SAND
I	YELLOWISH BROWN (10YR 5/8) LOAMY SAND, ROOT OR RODENT DISTURBANCE
J	YELLOWISH BROWN (10YR 5/6) SANDY LOAM, ROOT
K	FEATURE 38 FILL: BROWNISH YELLOW (10YR 6/6) SANDY LOAM
L	FEATURE 38 FILL: YELLOWISH BROWN (10YR 4/6) COMPACT SANDY LOAM
M	FEATURE 38 FILL AND B-HORIZON MIX: STRONG BROWN (7.5YR 5/6) LOAMY SAND
N	FEATURE 38 FILL: STRONG BROWN (7.5YR 5/6) LOAMY SAND
O	POSSIBLE FEATURE 38 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
P	C-HORIZON: BROWNISH YELLOW (10YR 6/8) COARSE SAND
—— - ——	BISECTION LINE

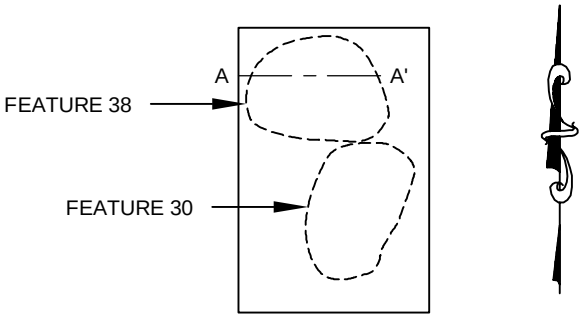
PLAN NOT TO SCALE

FIGURE K-57: Stratigraphic Profile of Feature 38, Facing East



*ABOVE MEAN SEA LEVEL

PLAN



LEGEND

A	PLOWZONE: DARK YELLOWISH BROWN (10YR 4/4) SANDY LOAM
B	FEATURE 38 FILL: YELLOWISH BROWN (10YR 5/6) SANDY LOAM
C	FEATURE 38 FILL: BROWNISH YELLOW (10YR 6/6) SANDY LOAM
D	FEATURE 38 FILL: YELLOW (10YR 7/6) SANDY LOAM
E	FEATURE 38 FILL: YELLOWISH BROWN (10YR 5/6) LOAMY SAND
F	POSSIBLE RODENT DISTURBANCE: YELLOWISH BROWN (10YR 5/6) SANDY LOAM MIXED WITH YELLOW (10YR 7/6) SANDY LOAM
G	FEATURE 38 FILL: BROWNISH YELLOW (10YR 6/6) SANDY LOAM MOTTLED WITH YELLOWISH BROWN (10YR 5/6) SANDY LOAM
H	PROBABLE RODENT DISTURBANCE
I	POSSIBLE DISTURBANCE: YELLOW (10YR 7/6) SANDY LOAM MIXED WITH YELLOWISH BROWN (10YR 5/6) SANDY LOAM
J	B-HORIZON: BROWNISH YELLOW (10YR 6/8) LOAMY SAND
K	C-HORIZON: BROWNISH YELLOW (10YR 6/8) SAND
—— - ——	BISECTION LINE

PLAN NOT TO SCALE

FIGURE K-58: Stratigraphic Profile of Feature 38, Facing North

Sample List for Feature 38

Type	Strat.	Level	Cat. #	Status	Type	Strat.	Level	Cat. #	Status
Charcoal	A	1	516	processed	Soil Chem.	Bt	6-7	1495	processed
Flotation 2L	A	1	789	curated	Soil Chem.	BC	8	1496	processed
Flotation 2L	A	6	810	processed	Soil Chem.	C1	9-10	1497	processed
Flotation 2L	A	3	937	processed	Soil Chem.	C2	11-13	1498	processed
Flotation 2L	A	7	984	processed	Soil Chem.	B	-	1499	processed
Flotation 2L	A	5	1030	curated	Soil Chem.	C	-	1500	processed
Flotation 2L	A	8	1032	curated	Soil Chem.	E	-	1501	processed
Flotation 2L	A	10	836	processed	Soil Chem.	F	-	1502	processed
Soil Chem.	A	1	789	curated	Soil Chem.	G	-	1503	processed
Soil Chem.	A	6	810	curated	Soil Chem.	H	-	1504	processed
Soil Chem.	A	3	937	curated	Soil Chem.	L	-	1505	processed
Soil Chem.	A	7	984	curated	Phytolith	A	1	789	curated
Soil Chem.	A	5	1030	curated	Phytolith	A	6	810	curated
Soil Chem.	A	10	836	curated	Phytolith	A	3	937	curated
Soil Chem.	A	8	1032	curated	Phytolith	A	7	984	curated
Soil Chem.	Ap	1-2	1492	processed	Phytolith	A	5	1030	curated
Soil Chem.	E	3	1493	processed	Phytolith	A	8	1032	curated
Soil Chem.	BC	4-5	1494	processed	Phytolith	A	10	836	curated

Feature 94

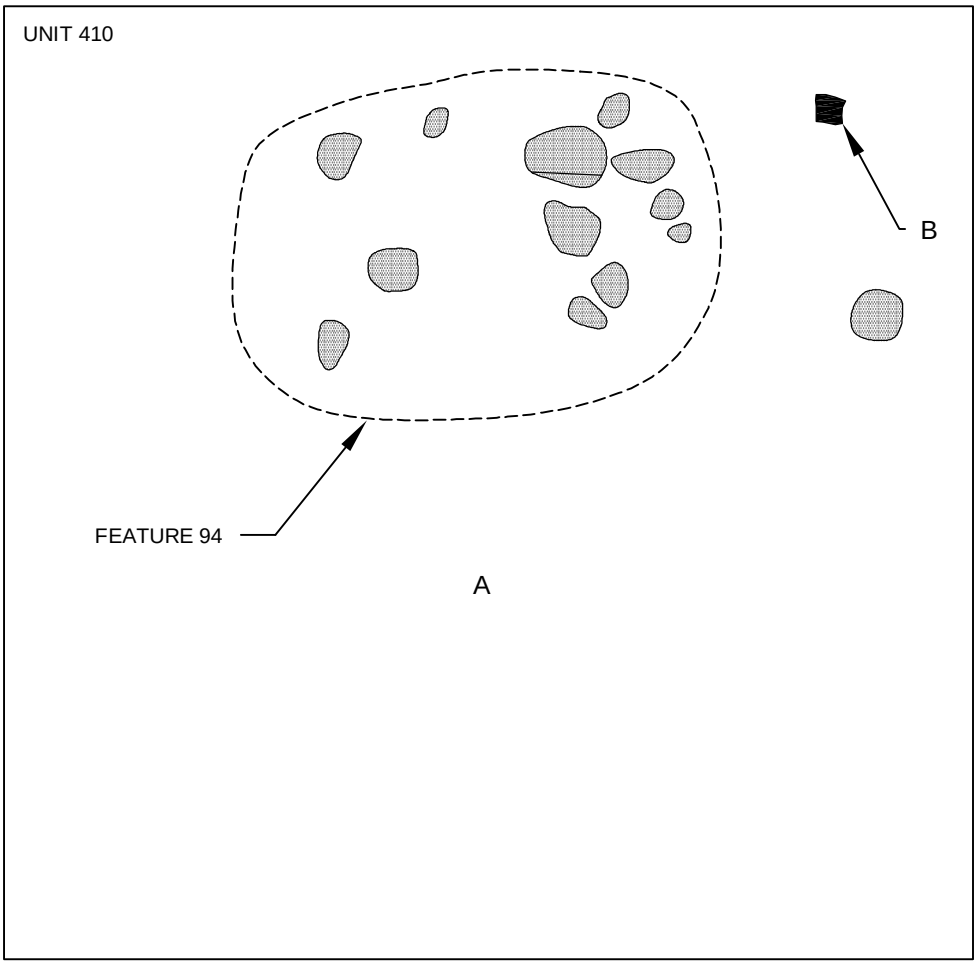
Location
Locus 3, Metate Block
Shape
Plan: oval
Profile: steep sides, rounded bottom
Dimensions
Surface: 40x25 cm
Depth: 10 cm
Radiocarbon Dates
2,960±50 BP Unit 410, Str. B, Lvl. 2

Macrobotanical Remains
wood charcoal (pine and oak)
Artifacts
1 jasper freehand core
20 possible FCR
94 debitage:
38 jasper
29 chert
12 rhyolite
10 quartz
1 siltstone
4 other sedimentary

Feature 94 was a small scatter of FCR in the Metate block, about 2 meters northwest of the metate (Feature 36) (Figure K-59). The scatter measured about 40x25 centimeters and was mostly contained within Unit 410. The FCR was found in both Levels 2 and 3, and was concentrated in Level 3, about 10 to 15 centimeters below the bottom of the plowzone. Charcoal was scattered throughout the feature, although in very minute quantities. There was no soil staining or any other sign of a pit around the FCR. A charcoal sample from this feature returned a date of 2,960±50 radiocarbon years BP.

Sample List for Feature 94

Type	Strat.	Level	Cat. #	Status	Unit	Type	Strat.	Level	Cat. #	Status	Unit
Charcoal	B	2	614	proc.	410	Soil Chem.	B	4	844	cur.	410
Flotation 2L	B	3	840	proc.	410	Soil Chem.	B	5	903	cur.	410
Flotation 2L	B	4	844	cur.	410	Phytolith	B	3	840	proc.	410
Flotation 2L	B	5	903	cur.	410	Phytolith	B	4	844	cur.	410
Soil Chem.	B	2	602	cur.	405	Phytolith	B	5	903	cur.	410
Soil Chem.	B	3	840	cur.	410						



LEGEND

A YELLOWISH BROWN (10YR 5/6) SANDY LOAM

B CHARCOAL SAMPLE: DEPTH 43cm bs

FIRE-CRACKED ROCK

0 1/2 1 FOOT

0 10 20 CM

FIGURE K-59: Plan of Feature 94

Feature 96

Location
Locus 3, Metate Block
Shape
Plan: oval
Profile: steep sides, rounded bottom
Dimensions
Surface: 300x200 cm
Depth: 10 cm
Radiocarbon Dates
3,330±60 BP Unit 164, Str. B, Lvl. 3

Macrobotanical Remains
charred hickory nutshell
wood charcoal (hickory, oak)
Artifacts
3 jasper stemmed points
2 quartz early-stage bifaces
1 quartz tested cobble
2 quartzite tested cobbles
1 pestle
148 possible FCR
22 pieces burned clay or daub
341 debitage:
104 quartz
101 jasper
81 chert
20 argillite
13 quartzite
7 rhyolite
2 sandstone
13 other sedimentary

Feature 96 was a large scatter of FCR in the Metate block, about 2 meters southeast of the metate (Feature 36) (Figure K-60). The scatter measured about 2x3 meters. The FCR was found in both Levels 2 and 3, and was concentrated in Level 3 about 10 to 15 centimeters below the bottom of the plowzone. A few pieces were also found in Level 4. Extended Phase II Unit 164 had been excavated over part of the feature, and the plowzone of that unit yielded 17 pieces of FCR, suggesting that some of the feature had been plowed away. A small amount of charcoal was scattered throughout the feature. There was no soil staining or any other sign of a pit around the FCR. A charcoal sample from this feature in Unit 164 returned a date of 3,330±60 radiocarbon years BP.

The feature did not have very clear boundaries, so in some cases the artifacts from entire units were included in the feature total, even though only part of the unit was really within the scatter of FCR.

Sample List for Feature 96

Type	Strat.	Level	Cat. #	Status	Unit	Type	Strat.	Level	Cat. #	Status	Unit
Charcoal	B	3	812	cur.	397	Soil Chem.	B	3	825	cur.	390
Charcoal	B	3	464	proc.	164	Soil Chem.	B	4	827	cur.	390
Flotation 2L	B	3	812	cur.	397	Soil Chem.	B	5	838	cur.	386
Flotation 2L	B	4	816	proc.	397	Soil Chem.	B	3	841	cur.	386
Flotation 2L	B	5	817	proc.	397	Soil Chem.	C	6	847	cur.	386
Flotation 2L	B	3	825	cur.	390	Soil Chem.	B	5	902	cur.	397
Flotation 2L	B	4	827	cur.	390	Phytolith	B	3	812	proc.	397
Flotation 2L	B	5	838	cur.	390	Phytolith	B	4	816	proc.	397
Flotation 2L	B	3	841	cur.	386	Phytolith	B	5	817	proc.	390
Flotation 2L	B	4	845	cur.	386	Phytolith	B	3	825	cur.	390
Flotation 2L	C	6	847	cur.	386	Phytolith	B	4	827	cur.	390
Flotation 2L	B	5	902	cur.	386	Phytolith	B	5	838	cur.	386
Soil Chem.	B	3	812	proc.	397	Phytolith	B	3	841	cur.	386
Soil Chem.	B	4	816	proc.	397	Phytolith	C	6	847	cur.	386
Soil Chem.	B	5	817	proc.	397	Phytolith	B	5	902	cur.	386
						Ochre	B	5	987	cur.	396

Feature 97

Location		*Artifacts*	
Locus 3, Metate Block		1 jasper middle-stage biface	
Shape		1 quartzite freehand core	
Plan: oval		27 possible FCR	
Profile: steep sides, rounded bottom		41 debitage:	
Dimensions		22 chert	
Surface:	35x20 cm	9 quartz	
Depth:	10 cm	8 jasper	
Radiocarbon Dates		2 quartzite	
3,820±70 BP	Unit 436, Str. B, Lvl. 3		

Feature 97 was a small scatter of FCR near the eastern end of the Metate block, about 6 meters from the metate (Feature 36) (Figure K-61). The scatter measured about 35x20 centimeters and was mostly contained within Unit 436. The FCR was found in both Levels 2 and 3, and was concentrated in Level 3 about 10 to 15 centimeters below the bottom of the plowzone. Only a very small amount of charcoal was found in the feature. No pit was visible around the pit, nor any sign of scorching or other staining in the soil. A charcoal sample from this feature returned a date of 3,820±70 radiocarbon years BP.

Sample List for Feature 97

Type	Strat.	Level	Cat. #	Status	Unit	Type	Strat.	Level	Cat. #	Status	Unit
Charcoal	B	3	979	proc.	436	Soil Chem.	B	4	986	cur.	436
Flotation 2L	B	3	979	cur.	436	Soil Chem.	B	5	989	cur.	436
Flotation 2L	B	4	986	cur.	436	Phytolith	B	3	979	cur.	436
Flotation 2L	B	5	989	cur.	436	Phytolith	B	4	986	cur.	436
Soil Chem.	B	3	979	proc.	436	Phytolith	B	5	989	cur.	436

REFERENCES CITED

Affleck, Richard, Leslie Frucht, and Ingrid Wuebber
1997 *Class and Social Identity in St. Georges Hundred: Data Recovery Excavations at Locust Grove (7NC-F-13), State Route 1 Corridor, New Castle County, Delaware*. Draft report prepared for the Delaware Department of Transportation, Dover, by Louis Berger & Associates, Inc., East Orange, New Jersey.

Beatty, Susan W., and Earl L. Stone
1986 The Variety of Microsites Created by Tree Falls. *Canadian Journal of Forest Research* 16:539-548.

Custer, Jay F.
1984 *Delaware Prehistoric Archaeology: An Ecological Approach*. University of Delaware Press, Newark.

1989 *Prehistoric Cultures of the Delmarva Peninsula*. University of Delaware Press, Newark.

1994 *Stability and Culture Change in Prehistoric Delaware: The Woodland I Period (3000 B.C. - A.D. 1000)*. Prepared for the Delaware State Historic Preservation Office, Division of Historical and Cultural Affairs, Dover.

1996 *Prehistoric Cultures of Eastern Pennsylvania.* Anthropological Series No. 7. Pennsylvania Historical and Museum Commission, Harrisburg.

Custer, Jay F., and Jay Hodny
1989 *Final Archaeological Investigations at the Hockessin Valley Site (7NC-A-17), New Castle County, Delaware*. Delaware Department of Transportation Archaeology Series No. 75, Dover.

Custer, Jay F., and Barbara H. Silber
1995 *Final Archaeological Investigations at the Snapp Prehistoric Site (7NC-G-101), State Route 1 Corridor, Chesapeake and Delaware Canal Section, New Castle County, Delaware*. Delaware Department of Transportation Archaeology Series No. 122, Dover.

Custer, Jay F., Lynn Riley, and Glen Mellin
1996 *Final Archaeological Investigations at the Leipsic Site (7K-C-194A), State Route 1 Corridor, Kent County, Delaware*. Delaware Department of Transportation Archaeology Series No. 118, Dover.

Custer, Jay F., Scott C. Watson, and Barbara H. Silber
1996 *Final Archaeological Investigations at the Carey Farm Site (7K-D-3) and Island Farm (7K-C-13) Sites, State Route 1 Corridor, Kent County, Delaware*. Delaware Department of Transportation Archaeology Series No. 142, Dover.

DeBoer, Warren R.
1988 Subterranean Storage and the Organization of Surplus: The View from Eastern North America. *Southeastern Archaeology* 7(1):1-19.

de Rasieres, Isaack
1909 Letter of Isaack de Raisieres to Samuel Blonmaert, 1628 (?). In *Narratives of New Netherland 1609-1664*, edited by J. Franklin Jameson, pp. 102-115. Charles Scribner's Sons, New York.

George, R.L.
1974 Monongahela Settlement Patterns and the Ryan Site. *Pennsylvania Archaeologist* 44:1-22.

Goldberg, Paul, and Trina Arpin
1998 *Preliminary Micromorphological Observations of Samples from Puncheon Run, Delaware: Fieldwork and Examination of Polished Blocks.* Report submitted to Louis Berger & Associates, Inc., Washington, D.C., by the Department of Archaeology, Boston University, Boston.

Grettler, David J., George L. Miller, Wade P. Catts, Keith Doms, Mara Guttman, Karen Iplenski, Angela Hoseth, Jay Hodny, and Jay F. Custer
1996 *Marginal Farms on the Edge of Town: Final Archaeological Investigations at the Moore-Taylor, Benjamin Wynn (Lewis E), and Wilson-Lewis Farmsteads, State Route 1 Corridor, Kent County, Delaware*. Delaware Department of Transportation Archaeology Series No. 124, Dover.

Holmes, William H.
1893 Vestiges of Early Man in Minnesota. *American Geologist* 11. Geological Publishing Co., Minneapolis.

Ingold, Tim
1983 The Significance of Storage in Hunting Societies. *Man* 18:553-571.

Jacoby, Robert M., Charles H. LeeDecker, and Richard J. Dent
1997 *Excavation of the Whitby Branch Site (7NC-G-151), State Route 1 Corridor, New Castle County, Delaware*. Draft report prepared for the Delaware Department of Transportation, Dover, by Louis Berger & Associates, Inc., East Orange, New Jersey.

Johnson, Donald L.
1993 Dynamic Denudation Evolution of Tropical, Subtropical and Temperate Landscapes with Three Tiered Soils: Toward a General Theory of Landscape Evolution. *Quaternary International* 17:67-78.

Johnson, Donald L., and Donna Watson-Stegner
1990 *The Soil-Evolution Model as a Framework for Evaluating Pedoturbation in Archaeological Site Formation*. Geological Society of America Centennial Special Volume 4, pp. 541-560.

Kellogg, Douglas C., Robert Varisco, David J. Grettler, and Jay F. Custer
1994 *Phase II Archaeological Discoveries in the Chesapeake and Delaware Canal Section of the State Route 1 Corridor, New Castle County, Delaware.* Delaware Department of Transportation Archaeology Series No. 102, Dover.

Langohr, Roger
1993 Types of Tree Windthrow, Their Impact on the Environment, and Their Importance for the Understanding of Archaeological Excavation Data. *Helinium* 33(1):36-49.

LeeDecker, Charles H.
1998 Investigating the Taphonomy of Pit Features Along Delaware's State Route 1. Paper presented at the Annual Meeting of the Society for American Archaeology, Seattle, Washington.

LeeDecker, Charles H., Henry M.R. Holt, John C. Bedell, Justine Woodard McKnight, Daniel P. Wagner, Paul Goldberg, and Trina Arpin
1998 *Preliminary Management Report: Extended Phase II Archaeological Testing of the Puncheon Run Prehistoric Site (7K-C-51), Locus 3, Puncheon Run Connector, Kent County, Delaware*. Prepared for the Delaware Department of Transportation, Dover, by Louis Berger & Associates, Inc., Washington, D.C.

LeeDecker, Charles H., Robert M. Jacoby, Justine Woodard McKnight, and Daniel P. Wagner
1998 *Preliminary Management Report: Extended Phase II Archaeological Testing of the Puncheon Run Prehistoric Site (7K-C-51), Loci 1 and 2, Puncheon Run Connector, Kent County, Delaware*. Prepared for the Delaware Department of Transportation, Dover, by Louis Berger & Associates, Inc., Washington, D.C.

Liebknecht, William
1995 Recent Observations on Woodland I Pit houses in Delaware Along the St. Jones River. Paper presented at the Eastern States Archaeological Federation Conference, Wilmington, Delaware.

Liebknecht, William, Richard Hunter, Ian Burrow, Michael Tompkins, Patricia Madrigal, Brooke Blades, Glen Mellin, Frank Dunsmore, Susan Fehrenbach, Brian Seidel, and Joseph Schuldenrein
1997 *Puncheon Run Connector, Parent Agreement No.728, Dover, Kent County, Delaware, Phase I and II Archaeological Data Recovery (First Phase), the Puncheon Run Site (7K-C-51), the Hickory Bluff Prehistoric Site (7K-C-411), the Dawson House Site (7K-C-414), the Nixon Mill Site (7K-C-413)*. Draft report prepared for the Delaware Department of Transportation, Dover.

Moeller, Roger
1992 *Analyzing and Interpreting Late Woodland Features.* Occasional Publications in Northeastern Anthropology No. 12. Archaeological Services, Bethlehem, Connecticut.

Mueller, Raymond G., and John. C. Cavallo
1995 Multiple Working Hypotheses: An Analysis, Pit Houses or Tree Throws. Paper presented at the Eastern States Archaeological Federation Conference, Wilmington, Delaware.

Myers, N.L., and K. McSweeney
1995 Influence of Treethrow on Soil Properties in Northern Wisconsin. *Soil Science Society of America Journal* 59:871-876.

Nassaney, Michael S., and Neal H. Lopinot
1986 The Significance of a Short-Term Late Archaic Occupation in the American Bottom. In *Foraging, Collecting, and Harvesting: Archaci Period Subsistence and Settlement in the Eastern Woodlands*, edited by Sarah H. Neusius, pp. 201-224. Occasional Paper No. 6. Center for Archaeological Investigations, Southern Illinois University at Carbondale.

Petraglia, Michael, Dennis Knepper, John Rutherford, Philip LaPorta, Kathryn Puseman, Joseph Schuldenrein, and Noreen Tuross
1998 *The Prehistory of Lums Pond*. Archaeology Series No. 155. Delaware Department of Transportation, Dover.

Schaetzl, Randall, Scott F. Burns, Donald L. Johnson, and Thomas W. Small
1989 Tree Uprooting: Review of Impacts on Forest Ecology. *Vegetatio* 79:165-176.

Schiffer, Michael B.
1987 *Formation Processes of the Archaeological Record*. University of New Mexico Press, Albuquerque.

Schuldenrein, Joseph
1995 Pithouse Features in Delaware: "Is it Real or Is It Memorex?" Paper presented at the Eastern States Archaeological Federation Conference, Wilmington, Delaware.

Shaler, N.S.
1891 *The Origin and Nature of Soils*. Twelfth Annual Report, Part 1. United States Geological Survey, Washington, D.C.

Small, T.W., R.J. Schaetzl, and J.M. Brixie
1990 Redistribution and Mixing of Soil Gravels by Tree Uprooting. *Professional Geographer* 42(4):445-457.

Smith, Craig S., and Lance M. McNees
1999 Facilities and Hunter-Gatherer Long-Term Land Use Patterns: An Example from Southwest Wyoming. *American Antiquity* 64(1):117-136.

Stewart, Marilyn C.
1975 A Typology of Pits on the Englebert Site. Ph.D. Dissertation, State University of New York at Binghamton. University Microfilms, Ann Arbor, Michigan.

Strachey, William
1967 *The Historie of Travel into Virginia Britiania (1612)*. Works issued by the Hakluyt Society; Second Series, No. 103, London. Nendeln, Liechtenstein, Kraus Reprint.

Strauss, Alan E.
1978 Nature's Transformations and Other Pitfalls: Toward a Better Understanding of Post-Occupational Changes in Archaeological Site Morphology in the Northeast. *Bulletin of the Massachusetts Archaeological Society* 39(2):47-64.

Testart, Alain
1982 The Significance of Food Storage Among Hunter-Gatherers: Residence Patterns, Populations Densities, and Social Inequalities. *Current Anthropology* 23:523-537.

Thomas, Ronald A.
1995 Tree Falls or Aboriginal Cultural Features. File memo on file at MAAR Associates, Inc., Newark, Delaware.

Thomas, Ronald A., and Ted M. Payne
1981 *Archaeological Data Recovery at the Hollingsworth Farm Site (18CR29), Cecil County, Maryland*. Prepared for the Cecil County Commissioners by Mid-Atlantic Archaeological Research, Inc., Newark, Delaware.

Thurman, Melburn D.
1985 A Cultural Synthesis of the Middle Atlantic Coastal Plain Part I: "Culture Area" and Regional Sequence. *Journal of Middle Atlantic Archaeology*1:7-32.

1987 A Funny Thing Happened to Archaeological Data Coming Back from Delaware: Some Models for Middle Atlantic Archaeology. *Journal of Middle Atlantic Archaeology* 3:125-141.

Waters, Michael R.
1992 *Principles of Geoarchaeology: A North American Perspective.* The University of Arizona Press, Tucson.

Weslager, Clinton A.
1972 *The Delaware Indians: A History.* Rutgers University Press, New Brunswick, New Jersey.

ATTACHMENT A

FEATURE LIST

FEATURE LIST

Feature No.	Location	Interpretation	Description/Remarks
LOCUS 1			
Phase II			
1	Locus 1, Silo Pit Area	natural disturbance	ovoid in plan, basin-shaped cross section; one quarter excavated
2	Locus 1, Silo Pit Area	rodent burrow	oval, irregular basin; 180x220 cm; 140 cm deep; half excavated
3	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit, largest in Locus 1
4	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit; outer ring of different fill
5	Locus 1, Silo Pit Area	natural disturbance	irregular ovoid basin, intersected with Fea. 4 at top; probably natural but fill resembled nearby Feas. 3 and 4
6	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit; inner and outer fills
Phase III			
7A	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit, intersects with Fea. 7B
7B	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit, intersects with Feas. 7A and 98
9	Locus 1, Buried PZ Area	gravel deposit	excavated as possible hearth but became larger and denser with depth
10	Locus 1, Buried PZ Area	gravel deposit	excavated as possible hearth but became larger and denser with depth
11	Locus 1, Buried PZ Area	rodent disturbance	rodent disturbance in Unit 257
12	Locus 1, Buried PZ Area	historic post	
13	Locus 1, Buried PZ Area	historic post	
14	Locus 1, Buried PZ Area	natural anomaly	large, deep anomaly, three 1x1-meter units excavated
39	Locus 1, Silo Pit Area	possible silo pit	possible prehistoric storage pit, but with strange natural stratigraphy around it
40	Locus 1, Silo Pit Area	natural disturbance	irregular oblong stain, 150x165 cm
41	Locus 1, Silo Pit Area	possible silo pit	possible silo pit, but with jumbled stratigraphy
42	Locus 1, Silo Pit Area	tree throw	D-shaped stain, 200x150 cm, 80* cm deep
43	Locus 1, Silo Pit Area	natural disturbance	pocket of sand and gravel, 280x230 cm
44	Locus 1, Silo Pit Area	hearth	shallow basin, 200x170 cm, with two concentrations of cracked rock
45	Locus 1, Silo Pit Area	natural disturbance	pocket of sand, 200x90 cm, 10* cm deep

Feature No.	Location	Interpretation	Description/Remarks
46	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit, stratified
47	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit in main cluster, stratified
48	Locus 1, Silo Pit Area	silo pit	flat-bottomed, steeply sloped prehistoric storage pit in main cluster, inner and outer fills
49	Locus 1, Silo Pit Area	rodent burrow	amorphous stain, 260x100 cm, 50* cm deep
50	Locus 1, Silo Pit Area	cultural pit	basin-shaped pit, 150x150 cm, 55 cm deep, cultural, stratified, burned nut hulls recovered
51	Locus 1, Silo Pit Area	cultural pit	basin-shaped pit, 96x98 cm, 42 cm deep, cultural, stratified, burned soil
52	Locus 1, Silo Pit Area	natural disturbance	100x75 cm, vague boundaries, not excavated
53	Locus 1, Silo Pit Area	natural disturbance	pit with irregular shape and profile, 180x220 cm and 82 cm deep, completely excavated
54	Locus 1, Silo Pit Area	natural disturbance	vague boundaries, 140x140 cm, 35* cm deep
55	Locus 1, Silo Pit Area	natural disturbance	vague boundaries, 190x100 cm, 45* cm deep
56	Locus 1, Silo Pit Area	historic post	
57	Locus 1, Silo Pit Area	rodent burrow	dark, organic stain, 56x46 cm, 32 cm deep
58	Locus 1, Silo Pit Area	pit	“red-ringed” pit
59	Locus 1, Silo Pit Area	pit	“red-ringed” pit
60	Locus 1, Silo Pit Area	tree throw	crescent-shaped, 380x185 cm, with jumbled fills, 87 cm deep, distinct oxidation ring, half excavated
61	Locus 1, Silo Pit Area	pit	“red-ringed” pit
62	Locus 1, Silo Pit Area	tree throw	oblong stain, 160x190 cm, one quarter excavated, 40 cm deep
63	Locus 1, Silo Pit Area	rodent burrow	dark, organic stain with hourglass shape, 140x95 cm
64	Locus 1, Silo Pit Area	pit	largest “red-ringed” pit, distinct oxidation ring, Kirk point at bottom
65	Locus 1, Silo Pit Area	natural disturbance	amorphous sandy disturbance, 280x130 cm, 60* cm deep
66	Locus 1, Silo Pit Area	silo pit	silo pit in main cluster, slumped edges, organic fill, small sherds
67	Locus 1, Silo Pit Area	tree throw	oval or D-shaped disturbance, 235x118 cm, 68 cm deep, half excavated
68	Locus 1, Silo Pit Area	pit	possible prehistoric pit, but riddled with rodent tunnels, small sherds on surface, half excavated
69	Locus 1, Silo Pit Area	?	complex of rodent tunnels cutting through some kind of older disturbance, possibly a tree throw; excavated in section, yielded 100+ steatite-tempered sherds, possibly Marcey Creek and Selden Island, all from the rodent tunnels
70	Locus 1, Silo Pit Area	tree throw	D-shaped disturbance, 200x100 cm

Feature No.	Location	Interpretation	Description/Remarks
71	Locus 1, Silo Pit Area	tree throw	oval to D-shaped disturbance, 170x80 cm, 50* cm deep
72	Locus 1, Silo Pit Area	tree throw	oval disturbance, 280x120 cm, 60* cm deep
73	Locus 1, Silo Pit Area	tree throw	irregular, ovoid disturbance, 140x110 cm
74	Locus 1, Silo Pit Area	natural soil anomaly	amorphous deposit of yellower fill, 450x350 cm, probable remnant E-horizon
75	Locus 1, Silo Pit Area	historic post	
76	Locus 1, Silo Pit Area	historic post	
77	Locus 1, Silo Pit Area	natural disturbance	irregular disturbance, 210x120 cm, with gradual boundaries
78	Locus 1, Silo Pit Area	rodent burrow	dark, organic stain, hourglass shape, 110x100 cm
79	Locus 1, Silo Pit Area	natural disturbance	irregular disturbance, 200x140 cm, 90* cm deep, seems to be burrow intruding into a tree throw
80	Locus 1, Silo Pit Area	natural disturbance	light-colored stain, round, shallow, half excavated, 90x90 cm, 10 cm deep
81	Locus 1, Silo Pit Area	rodent burrow	irregular disturbance, 360x120 cm
82	Locus 1, Silo Pit Area	tree throw	D-shaped disturbance, 250x110 cm
83	Locus 1, Silo Pit Area	tree throw	D-shaped disturbance, 280x80 cm
84	Locus 1, Silo Pit Area	historic post	
85	Locus 1, Silo Pit Area	tree throw	irregular disturbance, vaguely D-shaped, 250x120 cm, 74 cm deep, half excavated
86	Locus 1, Silo Pit Area	tree throw	crescent-shaped disturbance, 140x85 cm
87	Locus 1, Silo Pit Area	natural disturbance	irregular disturbance, roughly oval, 240x130 cm
88	Locus 1, Silo Pit Area	rodent burrow	dark, organic fill, 80x60 cm
89	Locus 1, Silo Pit Area	rodent burrow	dark, organic fill, 45x25 cm
90	Locus 1, Silo Pit Area	natural disturbance	oval pocket of gravelly fill, 250x110 cm
91	Locus 1, Silo Pit Area	natural disturbance	amorphous stain with vague boundaries, 170x150 cm
92	Locus 1, Silo Pit Area	rodent burrow	dark, organic fill, 90x25 cm, 45* cm deep
93	Locus 1, Silo Pit Area	tree throw	D-shaped stain, 290x125 cm
95	Locus 1, Buried PZ Area	rodent disturbance	
98	Locus 1, Silo Pit Area	silo pit	prehistoric storage pit, overlaps with Fea. 7B, stratified
LOCUS 3 *Phase II*			
1	Locus 3, Block 4	natural disturbance	two shallow basins, designated 1A (60x50 cm) and 1B (190x50 cm), 15 cm deep, with a smear of fill around them; half excavated

Feature No.	Location	Interpretation	Description/Remarks
2	Locus 3, Block 4	tree throw	small pit (92x81 cm, 68 cm deep) with irregular, asymmetrical profile and jumbled fills; half excavated
3	Locus 3, Block 6	rodent disturbance	small pit (3A) surrounded by smear of mixed fill, 250x350 cm; shotgun shell in pit; half excavated
4	Locus 3, Block 6	chipping cluster	rock cluster composed of cobbles, tested cobbles, and debitage
5	Locus 3, Block 5	FCR cluster	80x60 cm
6	Locus 3, Block 5	tree throw	pit, 82x116 cm, 78 cm deep, with irregular profile and mixed fills, half excavated
7	Locus 3, Block 1	FCR cluster	45x45 cm
8	Locus 3, Block 1	FCR cluster	65x60 cm
9	Locus 3, Block 2	FCR cluster	80x45 cm, very diffuse
10	Locus 3, Block 2	FCR cluster	120x100 cm, diffuse, not excavated
11	Locus 3, Block 2	FCR cluster	48x24 cm, not excavated
12	Locus 3, Block 2	FCR cluster	20x20 cm, not excavated, small
13	Locus 3, Block 3	historic pit	roughly triangular pit, 80x60 cm, 8 cm deep, contained coal fragments, half excavated
14	Locus 3, Block 3	rodent disturbance	not excavated
15	Locus 3, Block 3	FCR cluster	95x65 cm, adjacent to Fea. 32, which was identified as a pit house by HRI
16	Locus 3, Block 3	FCR cluster	200x130 cm, divided into two parts, 16A and 16B
17	Locus 3, Block 7	noncultural	circular stain, 90x76 cm
18	Locus 3, Block 9	noncultural	circular stain, 48x38cm; not excavated
19	Locus 3, Block 9	noncultural	circular stain, 29x26cm; not excavated
20	Locus 3, Block 10	tree throw	semicircular anomaly with mixed soils, 230x120 cm; not excavated
21	Locus 3, Block 1	natural soil anomaly	part of a zone of patchy natural soils
22	Locus 3, Block 2	pit	soil anomaly in Unit 64
23	Locus 3, Block 2	pit	soil anomaly in Unit 65
24	Locus 3, Block 4	pit	oval pit, 100x135 cm, 60 cm deep, cut by Fea. 26 tree disturbance
25	Locus 3, Block 4	animal den	kidney-shaped pit, 275x260 cm, 65 cm deep, undercuts subsoil
26	Locus 3, Block 4	tree disturbance	ring-shaped stain, 200x180 cm, 39 cm deep
27	Locus 3, Block 10	tree disturbance	sandy pit with high organic content, 120x70 cm, not excavated
28	Locus 3, Block 3	old test unit	square, recent pit, 2.5x2.5 ft
29	Locus 3, Block 3	rodent disturbance	charcoal concentration in Unit 163, 40x40 cm, 33 cm deep

Feature No.	Location	Interpretation	Description/Remarks
30	Locus 3, Unit 156 (Fea. 30 Block)	storage or burial pit	large pit with possible internal lining and stepped sides 300x190 cm, 165 cm deep
Phase III			
31	Locus 3, Unit 328	pit	Possible prehistoric pit feature, more likely a natural disturbance
32	Locus 3, Block 3	pit	identified as a pit house by HRI. Large, irregular pit, 300x230 cm, 50 cm deep, probably natural.
33	Locus 3, Unit 337	pit	small, round, basin-shaped pit with pebble point at the bottom, 50x50 cm, 30 cm deep
34	Locus 3, Unit 341	pit	irregular pit feature, no artifacts
35	Locus 3	FCR cluster	very diffuse FCR cluster, 11 pieces in 90x40-cm area
36	Locus 3, Metate Block	metate	small boulder with wear on both sides, apparently from grinding
37	Locus 3, Fea. 30 Block	pit	large, flat-bottomed pit of uncertain origin, 400x300 cm, 45 cm deep
38	Locus 3, Fea. 30 Block	storage or burial pit	large prehistoric storage pit, lined, 300x220 cm, 135 cm deep
94	Locus 3, Metate Block	FCR cluster	40x25 cm
96	Locus 3, Metate Block	FCR cluster	300x200 cm
97	Locus 3, Metate Block	FCR cluster	35x20 cm
LOCUS 2			
Phase II			
1	Locus 2, Block 18	rodent disturbance	

*depth determined with split spoon