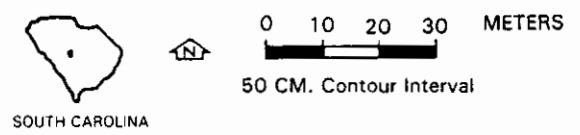
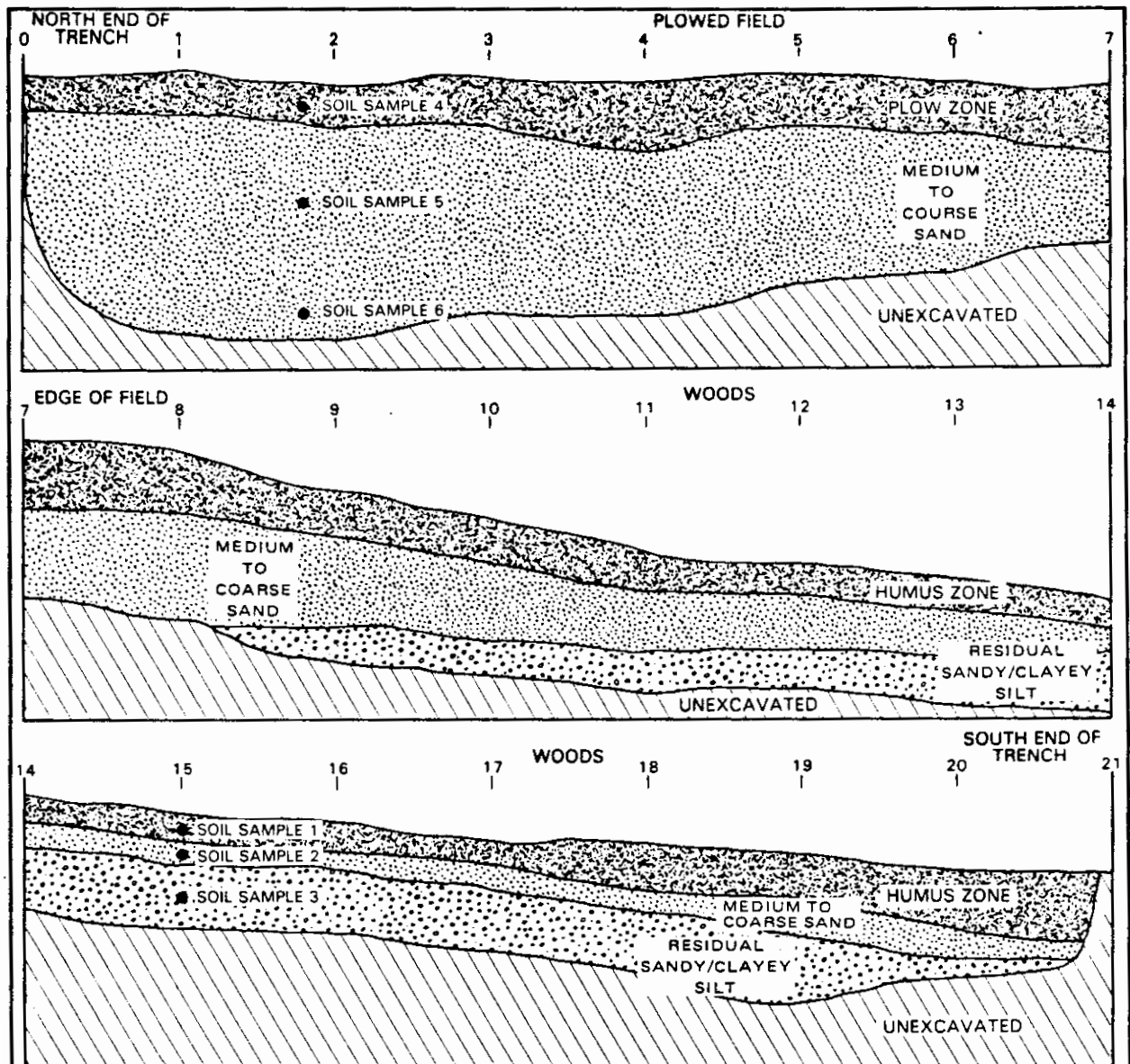


MAP SOURCE: C.A.I. Field Survey, 1978.
 NOTES: EU Denotes Excavation Unit.
 Circles Represent 4 Meter Diameter Controlled
 Collection Areas.



SOUTHEAST COLUMBIA BELTWAY PROJECT
 SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

SITE 38LX5 BASE MAP
ALL EXCAVATION UNITS
 FIGURE 7



SOURCE: C.A.I. Field Survey, 1978.
 SOILS ANALYSIS: Dr. Michael Katuna,
 Dept. of Geology, The College of Charleston

PARTICLE SIZE BREAKDOWN

SAMPLE	GRAVEL	SAND	SILT	CLAY
1	5.72%	85.15%	9.13%	
2	7.72%	86.85%	5.44%	
3	1.19%	24.47%	57.49%	16.85%
4	3.34%	93.06%	3.61%	
5	3.91%	93.26%	2.83%	
6	11.78%	84.44%	3.78%	

- S.S. 1 GRAY (10 YR 5/1) COARSE TO MEDIUM SAND
- S.S. 2 PALE YELLOW (2.5 Y 7/4) COARSE TO MED SAND
- S.S. 3 LIGHT GRAY (10 YR 7/2) SANDY-CLAYEY SILT
- S.S. 4 GRAYISH BROWN (10 YR 5/2) WELL SORTED COARSE TO MEDIUM SAND
- S.S. 5 VERY PALE BROWN (10 YR 7/3) WELL SORTED COARSE TO MEDIUM SAND
- S.S. 6 LIGHT YELLOWISH BROWN (10 YR 6/4) MEDIUM TO COARSE SAND

SOUTHEASTERN COLUMBIA BELTWAY PROJECT
 SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

SITE 38LX5 SOIL PROFILE

MAIN TRENCH, SOUTH END OF FIELD

FIGURE 8

floated to the top. Careful clearing of the frame and screen after each sample had been processed reduced the probability of contamination, although small seeds in the lake water might have been able to enter the bottom of the screen. The lake, a dammed up stream, had a slow current moving through it, removing previous sample materials from the immediate processing area. The ethnobotanist was informed of the flotation procedure, and analyses were directed to larger, carbonized remains that clearly derived from the samples.

THE DATA ASSEMBLAGE (Site 38LX5)

Over 9000 individual specimens were collected from 38LX5 between 1974 and 1978, the vast majority during the 1978 data recovery operations (Table 1). Major artifact categories recovered, and their percentage of the total assemblage, by count, included fire-cracked rock (27.6 percent), pottery fragments (22.6 percent), unmodified debitage and cores (30.5 percent), tools and other (unusual) specimens (4.6 percent), and unmodified ferruginous sandstone (14.7 percent). A small amount of fired clay (213.9 grams), and a number of charcoal, bone, soil, and flotation samples were also collected during the excavations. Detailed information on the occurrence of artifact and specimen categories, encompassing all of the proveniences recorded from 1974 to 1978, is provided in the appendix volume. The appendix volume also contains a series of 47 maps indicating the surface, plowzone, and subplowzone distributions of all major artifact categories recovered during the 1978 field program. In addition to summary data, the appendix also contains detailed descriptive and metric attributes for all of the formal tools recovered during 1978, and most of the tools collected during earlier seasons. In a few cases with the pre-1978 material it was not possible to accurately determine a date of collection, or where the artifact had been collected; these specimens were included in the summary tables, but are excluded from the more detailed analysis of individual artifact categories.

TEMPORAL ORDERING OF THE 38LX5 ASSEMBLAGE

The artifact assemblage from 38LX5 derives from extensive general and controlled surface collections, as well as from randomly dispersed and intuitively placed plowzone and subplowzone units. A considerable range of lithic and ceramic artifacts were recovered; these were used, employing typological analyses, to approximately date the assemblage. A number of features were detected in the subplowzone deposits, and radiocarbon age determinations were run on fill from four of them, providing a basis for absolute chronology.

TABLE 1
 SITE 38LX5 ARTIFACT ASSEMBLAGE
 SOUTHEASTERN COLUMBIA BELTWAY PROJECT
 DATA COLLECTED 1974 through 1978

<u>Category</u>	<u>Frequency</u>	<u>Weight</u>
Fire-Cracked Rock	2500	26,884.8g
Ferruginous Sandstone (Unmodified)	1332	12,934.7g
Fired Clay	-	213.9g
Pottery	2044	9,094.1g
Nondiagnostic	(822)	
Sand	(670)	
Coarse Sand/Grit	(314)	
Micaceous	(51)	
Sand/Red Clay	(122)	
White Clay/Grog	(65)	
Debitage and Cores	2756	2,989.4g
Quartz	(1217)	(1,759.7g)
Chert	(629)	(480.5g)
Rhyolite	(743)	(574.4g)
Quartzite	(94)	(128.1g)
Slate	(73)	(46.7g)
Tools and Miscellaneous		
Artifacts	413	-
Retouched Flakes	(107)	
Arrows and Darts	(81)	
Hammerstones	(39)	
Ferruginous Sandstone		
Abraders	(40)	
Other Formal Tools	(70)	
Miscellaneous (Unusual)	(76)	
Artifacts		
Total Artifacts	9045	52,116.9g ⁻¹

-1 Does not include tools and miscellaneous artifacts.

Typological analysis formed the principal method for dating the site assemblage and deposits; the radiocarbon determinations, reported in the next section describing the features, generally supported the typologically derived relative chronology. Most of the artifacts and features were recovered in the plowzone or the first subplowzone level, however, precluding the development of a detailed relative sequence based on artifact vertical placement. Some evidence for assemblage stratification was noted, however, in the plowzone/subplowzone distribution of temporally diagnostic biface and ceramic artifacts. The plowzone was found to contain Late Archaic through Mississippian remains, while the subplowzone levels were characterized by Middle and Late Archaic and Early Woodland remains. No evidence for Early Archaic components was observed, and most units had few artifacts below 20 cm in the subplowzone.

Even given some overlap, the differing ages indicated for the plowzone and subplowzone deposits permit some examination of the temporal occurrence of nondiagnostic artifact categories (Table 2). The random excavation sample, for example, indicates that pottery tends to be restricted to the plowzone. Fire-cracked rock, in contrast, occurs predominantly in the subplowzone deposits, suggesting different site use patterns, or different methods of making fires, during earlier periods. By weight a majority of the sample debitage and core assemblage occurs in the subplowzone, regardless of raw material. Most debitage raw material categories exhibit a modest occurrence in both zones, suggesting long selection. Quartz debitage appears overwhelmingly restricted to the subplowzone, however, suggesting that much of the site use of this material was during the Archaic. This general assemblage data, coupled with more sensitive (typological, radiocarbon) chronological measures, permit at least some examination of patterns of site use over time.

Temporally diagnostic ceramics recovered from 38LX5 included materials from the Thom's Creek, Deptford, Cape Fear, and Chicora ware groups (after South 1976:28-29). Over the 27 randomly dispersed one by two meter units, 68.2 percent of all pottery recovered by weight came from the plowzone, with 608.5 grams, or 31.8 percent, from the subplowzone levels (Table 2). The only evidence for stratification noted was an absence of Chicora (Mississippian period) pottery in the subplowzone; the other wares were proportionally fairly evenly distributed between the two zones. Totals for both count and weight were used, rather than solely count, to avoid inaccurate conclusions about the incidence of pottery in the two depositional zones; evidence exists from both this and other sites that average sherd size varies according to depositional environment, and additionally, by ware, reflecting

TABLE 2

PLOWZONE AND SUBPLOWZONE OCCURRENCE OF MAJOR ARTIFACT
CATEGORIES AT SITE 38LX5, EMPLOYING DATA FROM THE 27 RANDOM
SAMPLE EXCAVATION UNITS

<u>Assemblage Category</u>	<u>Plowzone</u>	<u>Subplowzone</u>	<u>Total</u>
Quartz cores and debitage	72.2g (13.1 percent)	477.1g (86.9 percent)	549.3g (100.0 percent)
Chert cores and debitage	43.4g (35.3 percent)	79.5g (64.7 percent)	122.9g (100.0 percent)
Rhyolite cores and debitage	63.5g (30.6 percent)	143.8g (69.4 percent)	207.3g (100.0 percent)
Slate cores and debitage	13.8g (41.6 percent)	19.4g (58.4 percent)	33.2g (100.0 percent)
Quartzite cores and debitage	28.6g (34.3 percent)	54.7g (65.7 percent)	83.3g (100.0 percent)
Fire-cracked rock	1370.6g (21.1 percent)	5123.2g (78.9 percent)	6493.8g (100.0 percent)
Ferruginous sandstone	1382.4g (47.8 percent)	1510.6g (52.2 percent)	2893.0g (100.0 percent)
All pottery (count)	254 (73.4 percent)	92 (26.6 percent)	346 (100.0 percent)
All pottery (weight)	1305.2g (68.2 percent)	608.5g (31.8 percent)	1913.7g (100.0 percent)

differences in manufacture (Anderson 1978). At 38LX5 sherds from the plowzone (\bar{x} = 5.1g) tended to be slightly smaller, on the average, than sherds from subplowzone (\bar{x} = 6.6g), employing the data from the 27 randomly dispersed test units.

Eighty-one hafted bifaces and hafted biface fragments were recovered from 38LX5, of which 43 were identifiable, temporally diagnostic artifacts. Recognizable types included Morrow Mountain I and II (N=23), Savannah River Stemmed (N=1), Thelma (N=6), Otarre Stemmed (N=5), Yadkin (N=3), Uwharrie (N=1), Pee Dee Triangular (N=2), and Caraway (N=2) (Coe 1952, 1964; South 1959, Keel 1976). The hafted biface assemblage spans the Middle Archaic through the Mississippian, with Middle Archaic and Early Woodland forms the most prevalent. The comparatively high incidence of Morrow Mountain forms, however, is due in part to the discovery of a possible cache of 15 of these points (Feature 6).

Unlike the pottery, clear evidence for plowzone/subplowzone stratification was noted in the biface assemblage. Hafted bifaces morphologically characterized as arrows (cf. House 1975:60) were generally found in the plowzone (15 of 25, or 60 percent), while morphological darts and dart fragments were much more commonly found in the subplowzone levels (46 of 56, or 82 percent). Subplowzone forms included Morrow Mountain I and II (N=23), Thelma (N=4), Yadkin (N=2), and Otarre Stemmed (N=5). Identifiable bifaces found in the plowzone and on the surface included Savannah River Stemmed (N=1), Thelma (N=2), Yadkin (N=1), Uwharrie (N=1), Pee Dee Triangular (N=2), and Caraway (N=2).

The Caraway and Pee Dee Triangular forms fall within the range of variation of biface forms Taylor and Smith (1978:273), and others working in South Carolina, classify as "Mississippian triangular", to avoid the ethnohistorical connotations of Coe's (1964:49) types. A number of locally untyped stemmed forms were recovered in the units, mostly from the plowzone, suggesting a probable Woodland age (Figure 9:f,h,l-q). These stemmed forms, described in the appendix, include possible examples of Randolph Stemmed, Swannanoa Stemmed, Wade, and Hernando types (after Coe 1964, Keel 1976, Bullen 1968), although their local occurrence and morphological variation must be assessed through much larger samples before type designations can be confidently assigned.

Conclusions about component representation based on the biface assemblage at 38LX5 generally complemented those obtained through examination of the pottery. Early Woodland biface and pottery forms tended to be common, while materials dating to the Late Archaic and Mississippian periods were comparatively much less frequent. Taken together, the pottery and bifacial assemblages provide a good relative

chronology for the site deposits. A series of five radiocarbon determinations were also run on four subplowzone features, providing a basis for local absolute chronology (Table 3).

SITE 38LX5 FEATURES

During the 1978 excavations at 38LX5, nine features were recognized, all in the subplowzone deposits. Eight of these clearly reflected aboriginal behavior, and included five rock clusters (possible hearths or working floors), one charcoal (hearth?) stain, and two dense artifact clusters, one of pottery, and the other of Archaic (Morrow Mountain and/or Guilford) bifaces. The ninth feature was initially interpreted as a pit, but upon excavation turned out to be an old tree stump. A number of tree root stains were recognized in the floors and profiles of the various excavation units. These were not assigned feature numbers in the field, and are not reported here unless associated with (and important to the interpretation of) aboriginal features. Detailed information on all of the features reported here, including locational (piece-plot) data for most of the artifacts encountered, are to be found in the field notes on file at the Institute of Archeology and Anthropology at the University of South Carolina, and with the South Carolina Department of Highways and Public Transportation. These field notes also contain records of nonaboriginal (i.e. root or borrow) disturbances encountered in the units. Detailed measurements on all of the formal tools found with these features are included in the appendix volume.

Feature 1

Feature 1 was characterized by an arc of fire-cracked rock and ferruginous sandstone immediately adjacent a diffuse, circular charcoal stain in excavation Units 2 and 5 (Figure 10). Typologically diagnostic artifacts included two Otarré Stemmed-like points (Keel 1976), one within and the other just outside the fill from the stain. The charcoal stain was roughly circular, 50 cm in diameter, and was first observed at -30 cm, where it was faint, and was assumed to represent an old tree root. The tip and base of a stemmed rhyolite point (Figure 9:j) were found at -25 cm in EU5, immediately above the feature area, and appear to be more recent in age. A small (3.0 g) piece of plain pottery with coarse sand/grit paste was recovered from the upper portion of the stain, at -30 cm, a slightly lower depth than the two point fragments.

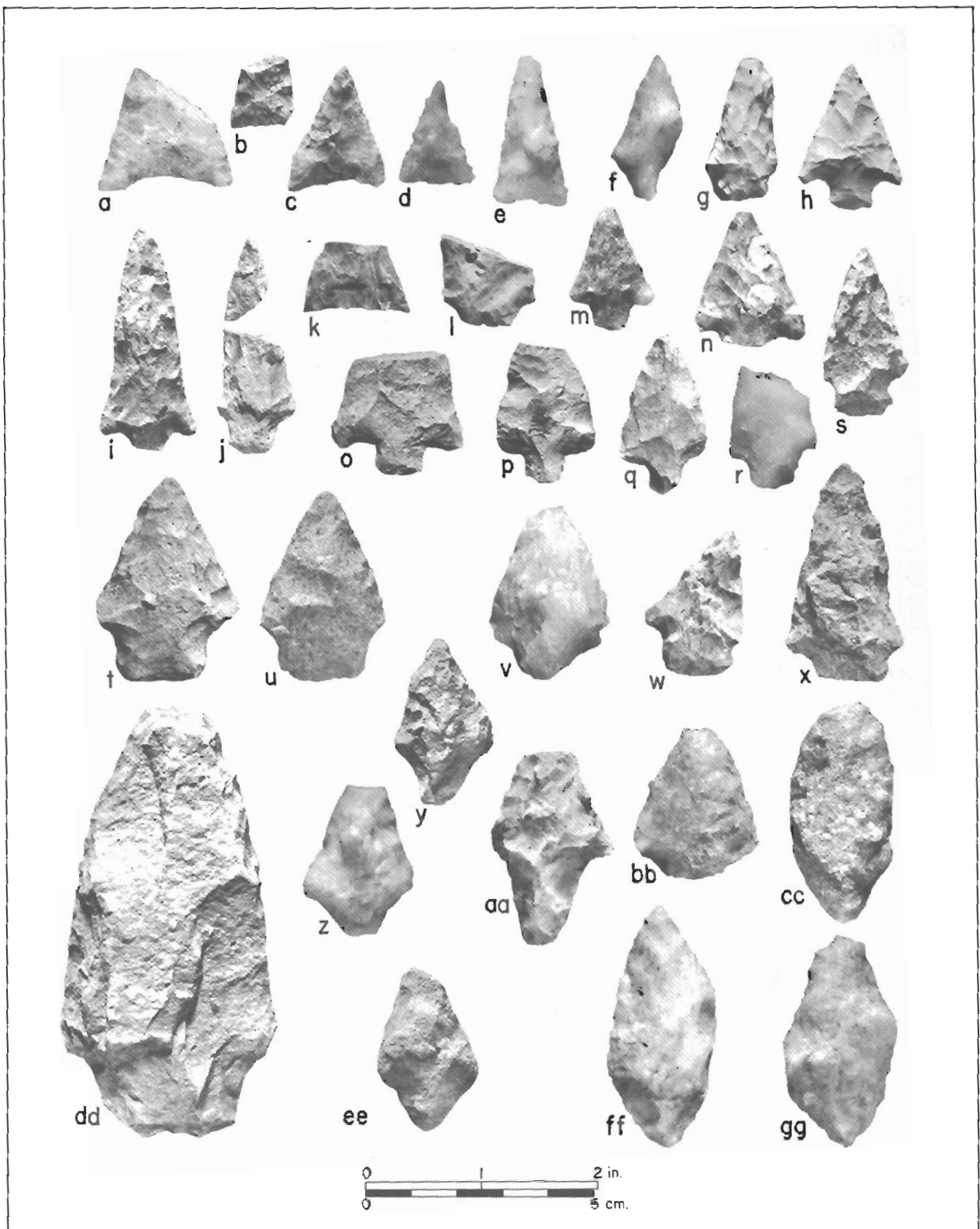


FIGURE 9 — Hafted bifaces from 38LX5. Considerable morphological variability is evident in the Middle Archaic through Woodland materials. a, c, k Yadkin Triangular-like; b, e Uwharrie Triangular-like; d Caraway Triangular; g, i, j, r, s Thelma-like; f, h, l-q untyped, probable Woodland stemmed forms; t-x Otarre Stemmed-like; y-cc, ee-gg Morrow Mountain-like; dd Savannah River Stemmed.

Proveniences: (a) EU35, plowzone (b) EU27, plowzone (c) Block 2, general surface (d) CSC41 (e) EU4, plowzone (f) EU16, -25cm (g) GS37 (h) GS39 (i) EU21, -34cm (j) EU5, -25cm (k) Block 4, general surface (l) EU2, 20-40cm (m) CSC28 (n) EU29, plowzone (o) EU7, 28-46cm (p) GS38 (q) EU34, plowzone (r) GS41 (s) EU41, F9 area (t) F1, -55cm (u) EU2, -50cm (v) EU35, 44-60cm (w) EU3, -22c, (x) Block 1, general surface (y) GS26, (z) EU3, -40cm (aa) EU33, 42-60cm (bb) EU26, -40cm (cc) EU3, -36cm (dd) general surface (ee) EU7, 28-46cm (ff) EU33, 22-42cm (gg) F2 area. (EU stands for Excavation Unit, GS for Grab Sample Collection Unit, F for Feature, and CSC for Controlled Surface Collection Unit.)

TABLE 3

SITE 38LX5 RADIOCARBON AGE DETERMINATIONS
SOUTHEASTERN COLUMBIA BELTWAY PROJECT, JULY - AUGUST 1978

<u>Radiocarbon, Ltd. Lab No.</u>	<u>Sample Provenience</u>	<u>Percent of Modern</u>	<u>Radiocarbon age, years, BP</u>	<u>MASCA corr. AD/BC Date</u>	<u>Associated Material Remains</u>
RL - 1034	38LX5, F1	69.2 ± 1.1	2960 ± 130	1240 BC ± 210	Otarre Stemmed- like biface (Figure 9:u)
RL - 1038	38LX5, F1	70.0 ± 1.1	2860 ± 130	1120 BC ± 190	Otarre Stemmed- like biface (Figure 9:t)
RL - 1035	38LX5, F2	79.2 ± 1.2	1870 ± 120	AD 80 ± 130	Crude preform (Figure 9:gg)
RL - 1036	38LX5, F6	55.7 ± 1.1	4700 ± 160	3520 BC ± 170	Morrow Mountain- like biface cluster (Figures 14,15, 16)
RL - 1037	38LX5, F9	72.2 ± 1.2	2620 ± 130	860 BC ± 120	Deptford Linear Check Stamped Pottery, plain pottery (coarse sand/grit) paste Thelma-like biface (Figure 9:s)

NOTE: The MASCA corrected dates are based on an analysis of tree ring dating made by the University of Pennsylvania Museum (Ralph, Michael, and Haw 1973).

All samples were processed by Mr. Charles S. Tucek, Radiocarbon LTD,
Route 2, Box 21E, Lampasas, Texas 76550

The arc of rock occurred at a depth of from -55 to -60 cm, and included a quartz hammerstone (104.6g) with three battered areas, three pieces of fire-cracked quartz (10.5 g), 13 pieces of unmodified ferruginous sandstone (1214.3 g), and seven possible ferruginous sandstone abrader fragments (987.3 g; Figure 19:b,d). A quartzite Otarre Stemmed-like biface (Figure 9:u) was recovered 50 cm ENE of the rock cluster at a depth of -50 cm. Although this point was found outside of and slightly higher in the deposits than Feature 1, their overall proximity argues for an approximate contemporaneity. The fill from around the rock cluster was gathered and the entire sample, approximately two gallons, was floated. A deliberate effort was made, during the collection of this flotation sample, to avoid mixture with the diffuse charcoal stain to the south, which was assumed to be a tree root. Five grams of small charcoal flecks were recovered, four of which were submitted for radiocarbon dating (Table 3). The date obtained, 1240 BC \pm 210 (RL - 1034) is compatible with dates for Otarre Stemmed forms from the Appalachian Summit (Keel 1976:210), assuming that this point is indeed of approximately the same age as the feature. One gram was also submitted for ethnobotanical analysis (Sample 1 from 38LX5; Chapter 8), and was identified as coniferous wood charcoal.

The circular stain noted at -30 cm continued to a depth of slightly over a meter before fading out, and was initially interpreted as a tree tap root stain. From 50 to 60 cm the fill was rich in charcoal, although below this depth only a diffuse stain with a small amount of charcoal was observed. At -65 cm a second Otarre Stemmed-like biface (Figure 9:t) was found, at the edge of the stain. Because the feature boundary was indistinct at this depth, it was not possible to definitely state that the point was within the disturbance. Approximately 20 grams of charcoal were hand picked from the fill from around the biface, with half submitted for ethnobotanical identification and the remainder sent for radiocarbon dating. The ethnobotanical analysis results (Sample 2 from 38LX5; Chapter 8) indicate that the sample was pine, with possibly other coniferous wood charcoal also present. The radiocarbon determination 1120 BC \pm 190 (RL - 1038), is in close agreement with the date obtained from the rock cluster, and ties in well with the apparent biface type (Otarre Stemmed) found in the fill.

Feature 1 is tentatively interpreted as an Early Woodland hearth that may have been intruded by a later tree. A large quantity (152.45 grams) of charcoal that was hand-picked from the general fill of the stain (Sample 3 from 38LX5; Chapter 8), from 40 to 60 cm in depth, was identified as pine upon analysis.



FIGURE 10 – Feature 1, Test Unit 5, at 38LX5. A stemmed projectile point in the fill of this feature was radiocarbon dated to three thousand years before the present (1240 B.C. \pm 210, RL-1034; 1120 B.C. \pm 190, RL-1038).



FIGURE 11 – Feature 2, Test Unit 10, at 38LX5. The fill of the feature (outlined in center) produced a radiocarbon date of A.D. 80 \pm 130 (RL-1035).

Feature 2

Feature 2 was characterized by a 2 meter diameter scatter of fire cracked-quartz, ferruginous sandstone, debitage, hammerstone fragments and three crude quartz bifaces (one intact and two fragments) centered on a shallow, oval shaped charcoal and ash (hearth?) stain occurring from 22 to 27 cm in depth in excavation units 10, 17, and 20 (Figure 11). Feature 3, a tight cluster of fire-cracked rock and ferruginous sandstone 40 cm in diameter, was located one meter southeast of the ash stain in Feature 2, at a depth of -26 to -30 cm, and may have been associated.

The charcoal and ash stain measured 50 cm (N/S) by 35 cm (E/W), was irregular in outline, and roughly basin shaped in cross section. Total depth was 5 cm. All of the fill was retained and floated, forming three two gallon samples which were submitted, together with several larger pieces of charcoal hand-picked from the fill, for ethnobotanical analysis (Samples 4-7, 28-30 from 38LX5; Chapter 8). Six grams of charcoal from Sample 4 (flotation) were submitted for radiocarbon analysis, and yielded a date of AD 80 - 130 (RL - 1035). The ethnobotanical analysis indicated that both acorn and hickory nut fragments were present, together with pine, oak, and hickory wood charcoal.

Artifacts recovered included one slate interior flake (0.4 g) in the fill of the stain, and three quartz flakes (3.9 g) about it. Three quartz hammerstone fragments, all exhibiting one or more areas of battering, were also found within one meter of the stain, together with one possible ferruginous sandstone abrader fragment, 18 pieces of fire-cracked quartz (631.8 g), and two pieces of unmodified ferruginous sandstone (28.5 g). One crude, intact dart-like biface (Figure 9:gg), and two biface fragments, one a possible dart tip and the other a nondiagnostic bifacially worked piece, were found from 27 to 31 cm in depth; all are of quartz and appear to be general purpose tools. The feature is tentatively interpreted as a hearth and associated working floor. Assemblage contemporaneity is tentatively assumed given the close spatial proximity of the various artifacts and features, although it should be cautioned that considerable temporal variation is possible given the shallow site deposits. The low overall incidence of clustered artifacts in most of the site subplowzone units, however, argues for a single period of origin when clusters like F2 are encountered. The age of Feature 2 may be Early Woodland, as indicated by the radiocarbon date, although the absence of pottery around the feature, and the vaguely Morrow Mountain II appearance of the intact biface, also suggest a Middle Archaic age.

Feature 3

Feature 3 was characterized by a cluster of fire-cracked rock (5 pieces, 233.0 grams), unmodified ferruginous sandstone (4 pieces, 397.3 grams), one quartz hammerstone fragment (172.4 grams), and two possible ferruginous sandstone abrader fragments (176.0 grams, 195.4 grams) in a tight 40 cm diameter cluster at a depth of from 26 to 30 cm in EU20 (Figure 12). Feature 2 was located one meter to the northwest at a depth of 22 to 27 cm, and may be associated. No charcoal was recovered from a two gallon flotation sample taken from the surrounding fill, and the cluster is tentatively interpreted as either an old, weathered hearth, or else an intentional cluster of materials.

Feature 4

Feature 4 was characterized by an extensive concentration of ferruginous sandstone, roughly a meter in diameter, from 42 to 48 cm below the surface in excavation Units 25, 28, and 30 (Figure 13). The concentration included 34 pieces of unmodified ferruginous sandstone (2716.2 grams), one piece of fire-cracked quartz (47.1 grams), two retouched flakes, and six possible ferruginous sandstone abrader fragments. A two gallon flotation sample taken from about the main concentration of ferruginous sandstone yielded 1.83 grams of charcoal (Sample 8 from 38LX5; Chapter 8), which was found to contain acorn and hickory nut fragments, together with pine, oak, hickory, and unidentifiable conifer wood charcoal. The two retouched flakes recovered included a blocky, igneous scraper (?) weighing 64.3 grams (Figure 18:a), and a blade-like tool on a quartz secondary decortication flake, weighing 5.1 grams (Figure 18:g). The six possible ferruginous sandstone abrader fragments ranged in weight from 50.3 to 282.6 grams, and exhibited a diversity of possible working surfaces, including flat, U - and V - shaped facets (Figure 19:c). The feature is tentatively interpreted as a Middle Archaic hearth and working floor, principally because of its depth and the absence of pottery.

Feature 5

Feature 5 was characterized by a 75 cm diameter cluster of ferruginous sandstone, fire-cracked rock, quartz and quartzite debitage, and two fragments of gneiss located at from 42 to 51 cm in excavation Units 33 and 35. The cluster includes two pieces of fire-cracked rock (24.8 grams), ten pieces of unmodified ferruginous sandstone (312.4 grams), one quartzite primary decortication flake (10.5 grams), one quartz FBR (0.2 grams), one quartz primary decortication