EXCAVATION RESULTS

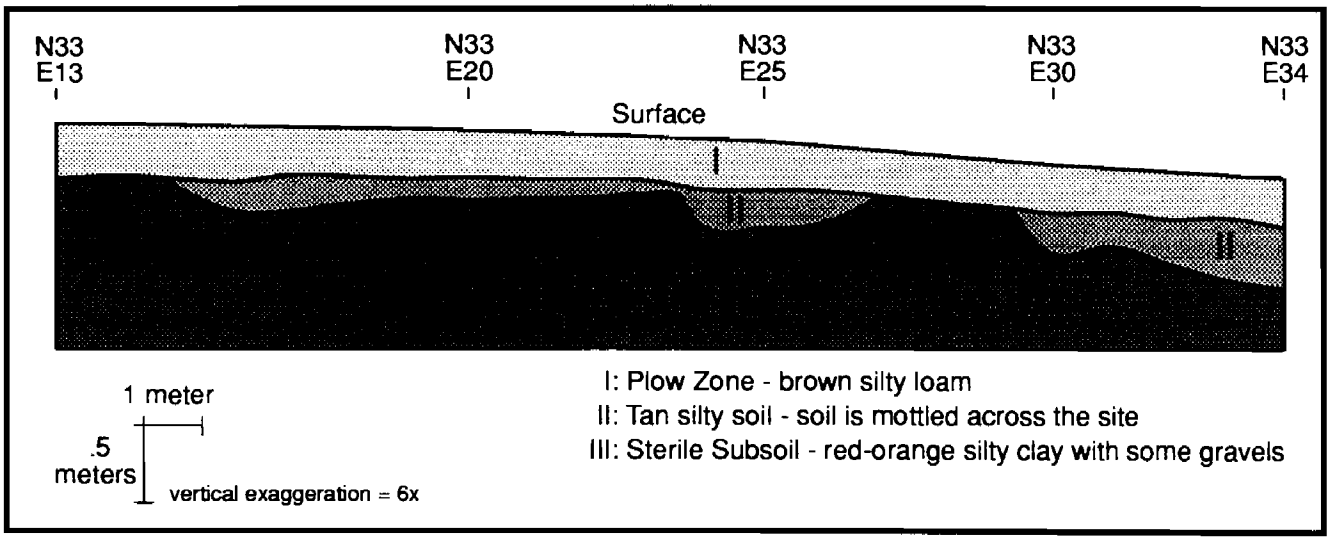
In our reporting of the results of final excavations at the Wrangle Hill Site, we have separated the presentation of the basic excavation results from our interpretations of these data. Although it is virtually impossible to provide an unbiased presentation of excavation data without some form of interpretations, we do feel that presentation of the raw data is important. The following section of this report presents the basic results of final excavations of the Wrangle Hill Site.

Stratigraphy

Three soil strata were identified at the Wrangle Hill Site (Figure 8). Stratum I was a brown silty plow zone that overlay the entire site area and corresponds to the eroded Matapeake silt loams described for the area by Matthews and Lavoie (1970). The contact between Stratum I and underlying deposits was sharp and easily discerned, and sometimes exhibits plow scars. The plow zone varied in thickness from 22-26 centimeters.

Stratum II was the creamy, tan silt soil discovered in test excavations of the site and initially designated as Feature 4 (Kellogg et al. 1994:40). Stratum II was discontinuous across the site, but was present as a clearly-defined lens of sediment ranging in thickness from 2-22 centimeters in the center of the core area of the site. Prehistoric artifacts were recovered from Stratum II; however, they were few and most likely intrusive. Only four out of 58 flakes were found deeper than five centimeters into Stratum II. Two quartz biface fragments found in Stratum II were associated with animal burrows and

FIGURE 8
Site Profile



the only other cultural material recovered from Stratum II were two small fragments of fire-cracked rock weighing a total of 132 grams (about one quarter of a pound). The few artifacts found within Stratum II were probably the result of root disturbance or animal burrowing including worm burrowing. No cultural material was found below Stratum II anywhere on the Wrangle Hill Site. The contact between Stratum II and underlying Stratum III was not as abrupt as the contact at the base of Stratum I. Extensive mottling was observed across the site suggesting that Stratum II may have covered the entire site in the past (Figure 8). The contact between Stratum II and Stratum III, however, is clear and represents a stratigraphic unconformity. There is no evidence of a preserved A-horizon soil on top of Stratum III.

Stratum III is a red-orange silty clay with some gravel, and varying amounts of sand. Some stratigraphic variability in Stratum III was evident in the walls of deep features and several of these features encountered sand lenses. Stratum III underlies the entire site area and is devoid of cultural material. Stratum III most likely represents a remnant soil horizon developed on Pleistocene-aged sediments of the Columbia Formation. The A-horizon and upper B-horizons have either been disturbed and mixed by plowing, and subjected to erosion by run-off, or were removed prior to the deposition of Stratum II. Hereafter, Stratum III will be referred to as the subsoil. Most of the features at the Wrangle Hill Site were defined on the basis of the contrast between feature fill and the surrounding subsoil.

The plow zone is probably a mixture of Stratum II and Stratum III sediments, with the admixture of organics and a weakly developed A-horizon soil associated with the sod. Stratum II was most likely much more extensive in the area and may represent the parent material for the Matapeake soils of the region. Stratum II sediments were probably deposited in the early Holocene by the action of winds which also may have removed the original surface of Stratum III.

In sum, there are no buried landscapes with intact archaeological deposits at the Wrangle Hill Site. The only artifacts in good context are those found in pit features, dug by the prehistoric inhabitants, that extend below the soils distributed by historic farming.

Excavated Artifacts

Table 2 shows a summary of the artifacts recovered from all excavations at the Wrangle Hill Site. Approximately 70 percent of the artifacts came from disturbed plow zone soils. Stratum II contained only two percent of the assemblage and features produced 28 percent. Debitage accounted for 81 percent of the assemblage and fire-cracked rock accounted for another 13 percent. Tools and ceramics constituted only six percent of the artifacts recovered. Thus, the Wrangle Hill artifact assemblage consisted primarily of non-diagnostic debitage from disturbed contexts.

Artifacts and Ecofacts from Flotation

Very few artifacts and ecofacts were recovered from the flotation of feature fill. As will be noted later in this report, there were 25 prehistoric cultural features at the site. Samples from seven features did not contain any artifacts or ecofacts at all. The only artifacts found in the flotation were debitage, and seven features contained these artifacts. None of these features had more than four flakes in them.

TABLE 2

Artifact Counts from All Excavations

ARTIFACT TYPE	CONTEXT			
	Plow Zone	Stratum II	Features	TOTAL
Flakes	1671	64	589	2324
Utilized flakes	19	1	9	29
Flake tools	5		2	7
Projectile points	13		4	17
Bifaces	31	1	11	43
Miscellaneous stone tools	5	2	4	11
Cores	4		2	6
Ceramics	2		38	40
Fire-Cracked rock	236	2	125	363
Ground stone tools	9		2	11
TOTAL	1995	70	786	2851

TABLE 3

Seeds from Flotation

COMMON NAME	GENUS/SPECIES
Lamb's-quarters	*Chenopodium album*
Noseburn	*Tragia urens*
Purslane*	*Portulaca oleracea*
Solomon's Seal	*Polygonatum commutatum*
Spurge*	*Euphorbia sp.*
Possoin Haw	*Crataegus sp.*
Widgeongrass	*Ruppia maritima*
Bayberry	*Myrica pennsylvanica*
Viburnum	*Viburnumsp.*
Ragweed	*Ambrosia sp.*
Poison Ivy	*Rhus radicans*
Tansy Mustard	*Descurainia pinnata manziesii*
Skullcap	*Scutellaria galericulata*
Panicum	*Panicum sp.*
Gilia	*Gilia sp.*
Swamp Rose Mallow	*Hibiscus palustris*
Sheep Sorrel*	*Rumex acetosella*
Buckthorn	*Rhamnus sp.*
Blue-Eyed Grass	*?*
Bulrush	*Scirpus sp.*
Flax	*Linum sp.*

* European varieties

Charred seeds were present in 16 features and consisted of individual seeds of each of the species listed in Table 3. Only a few features had more than one seed present. Of the 21 species present in the charred seed assemblage, four are European varieties that must have been introduced into the feature fill in recent times. The presence of the charred European varieties makes the context of the remaining seeds questionable. Therefore, given the sparse seed remains and the questionable context of the seeds, no further analysis is possible. Six charred nut hulls were recovered, but all were too small to identify.

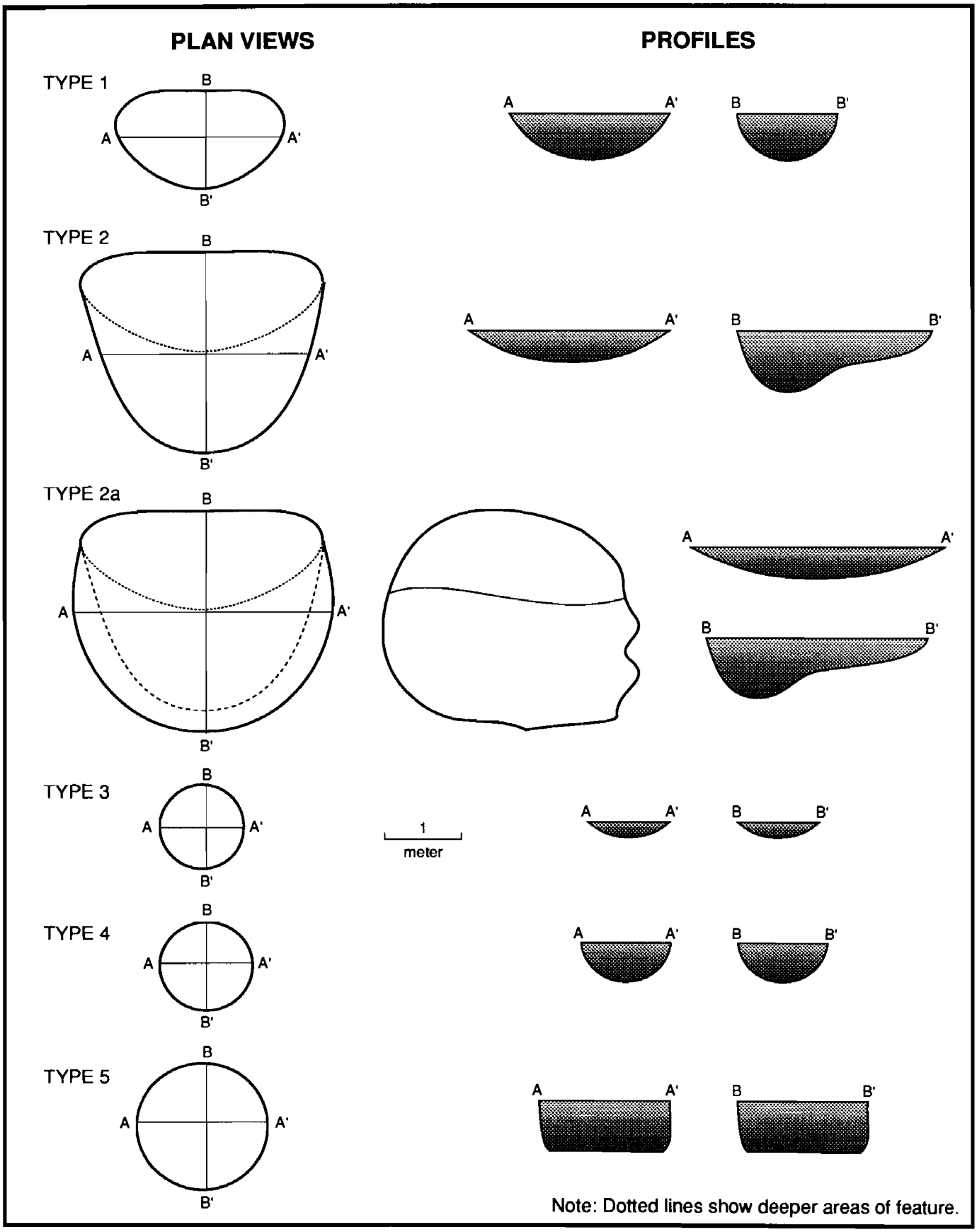
Excavated Features

A total of 89 features were identified during the excavations. Thirty-nine (44%) of the features were historic fence posts, 25 (28%) were natural disturbances such as rodent burrows and tree falls, and the remaining 25 (28%) were cultural features. Figure 9 shows the distribution of all features at the site.

Pit features at the Wrangle Hill Site were classified into a series of categories based on size and shape. The classification system used was developed by staff of the University of Delaware Center for Archaeological Research for use in the Delaware Coastal Plain and has been successfully applied at other sites in the State Route 1 Corridor (Custer and Silber 1994; Custer, Hoseth, Silber, Grettler, and Mellin 1994; Custer, Riley, and Mellin 1994). Figure 10 shows the basic feature types used in the classification system. Six examples of Type 1 features, ten examples of Type 4 features, and nine examples of Type 5 features are present at the Wrangle Hill Site. Figure 11 shows the distribution of the varied feature types at the site.

FIGURE 10

Feature Type Plan Views and Profiles



Type 1 features are probably the eroded remains of semi-subterranean pit houses. Figure 12 shows a typical example of a Delaware pit house based on a well-preserved example excavated at the Snapp Site. (Custer and Silber 1994:43-52), and Figure 13 shows how erosion and plowing alter the house features to produce a Type 1 feature. Plate 5 shows a profile of Feature 80, a typical Type 1 feature.

Feature Types 4 and 5 are considered to be storage or processing features that may also have been used as refuse pits. The low numbers of artifacts in these features suggests that they were not used as refuse receptacles at the Wrangle Hill Site. Some of the soils of these features showed reddening from fires and they may have been used as earth ovens. However, earth ovens usually require the use of heated rocks, and the frequency of fire-cracked rock at the site is low. Plates 6-8 show plan views and profiles of samples of these feature types.

FIGURE 12

Reconstructed Pit House

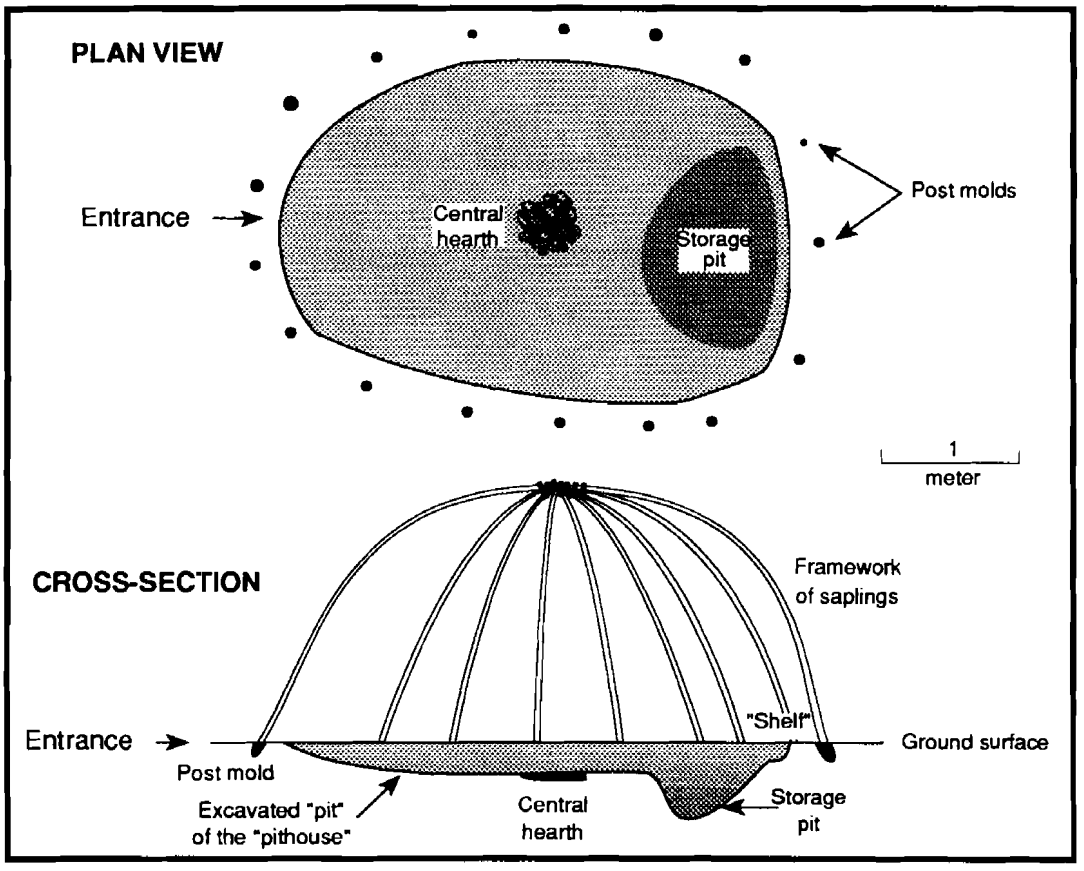


FIGURE 13

Taphonomy of Pit House Features

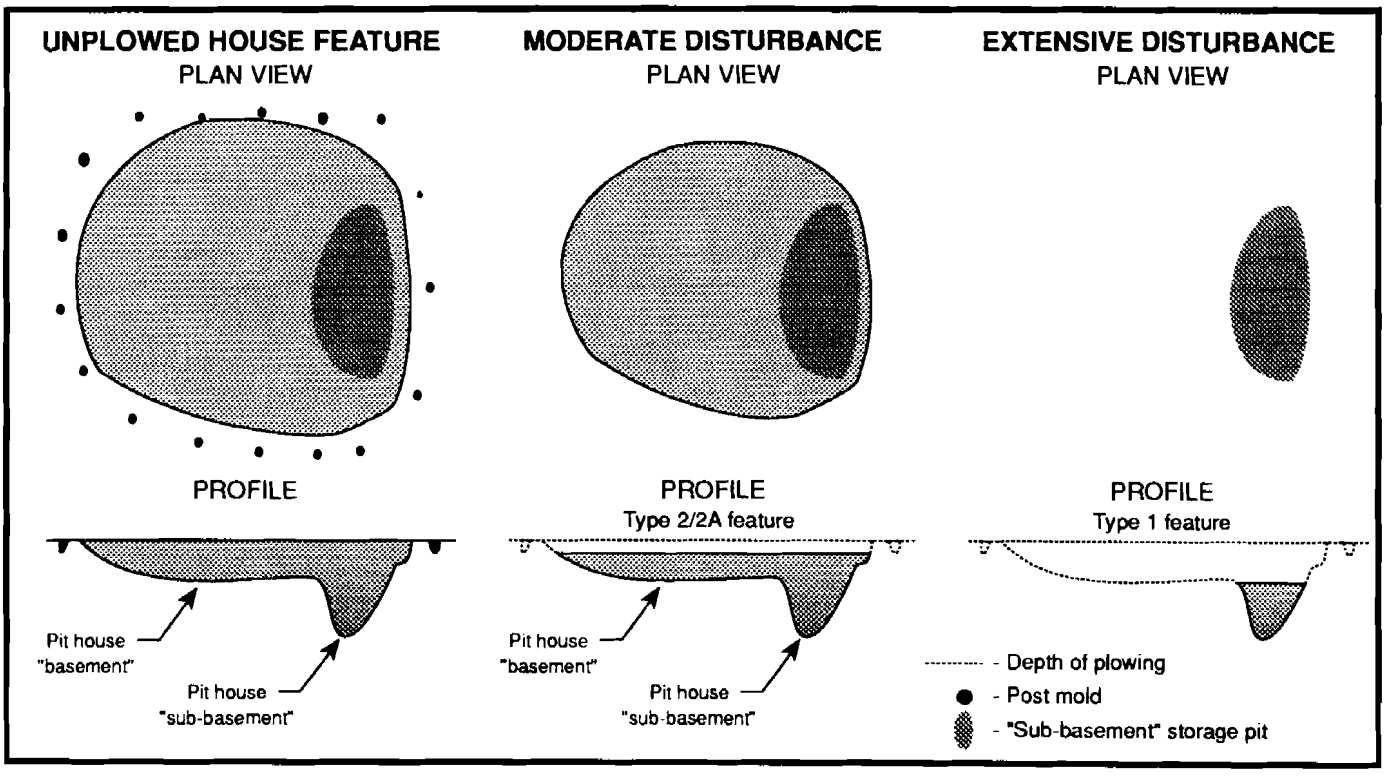


PLATE 5

Profile of Feature 80 (Type 1)

PLATE 6

Plan View of Feature 88 (Type 4)

PLATE 7

Profile of Feature 69 (Type 4)

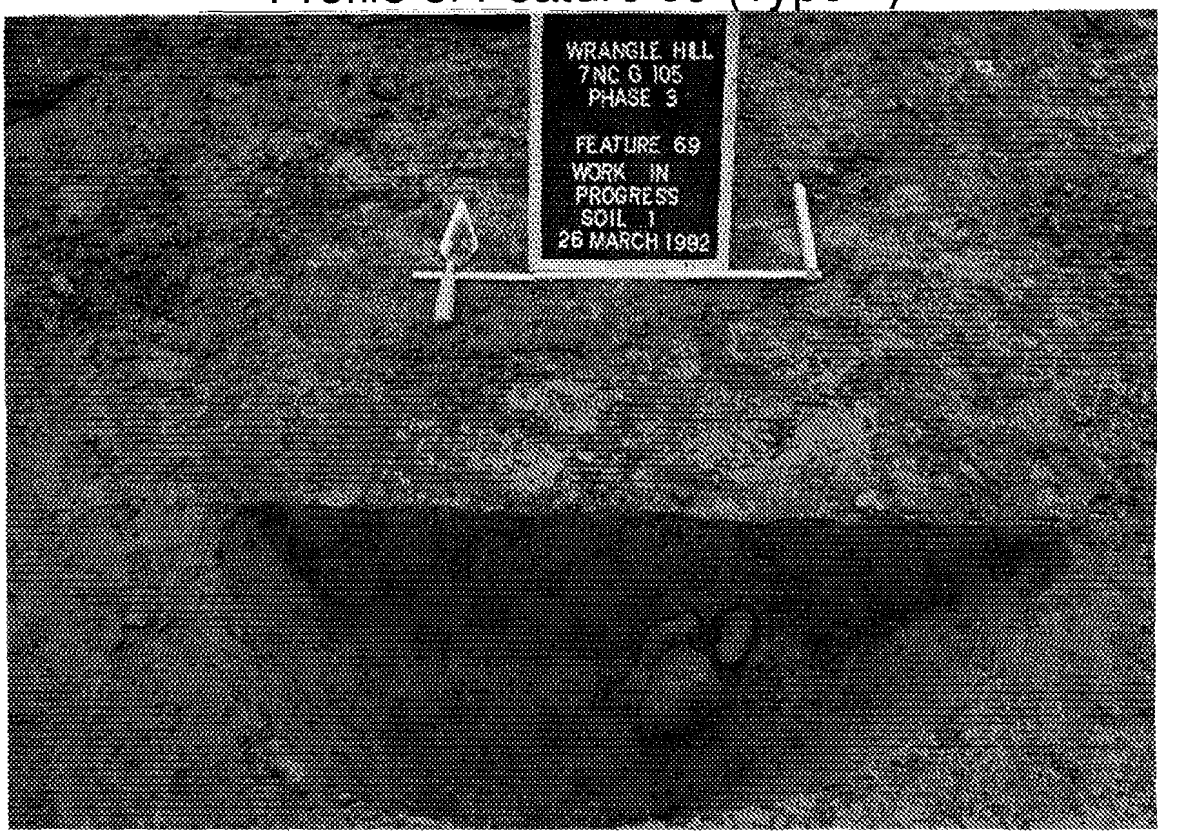


PLATE 8

Profile of Feature 71 (Type 5)

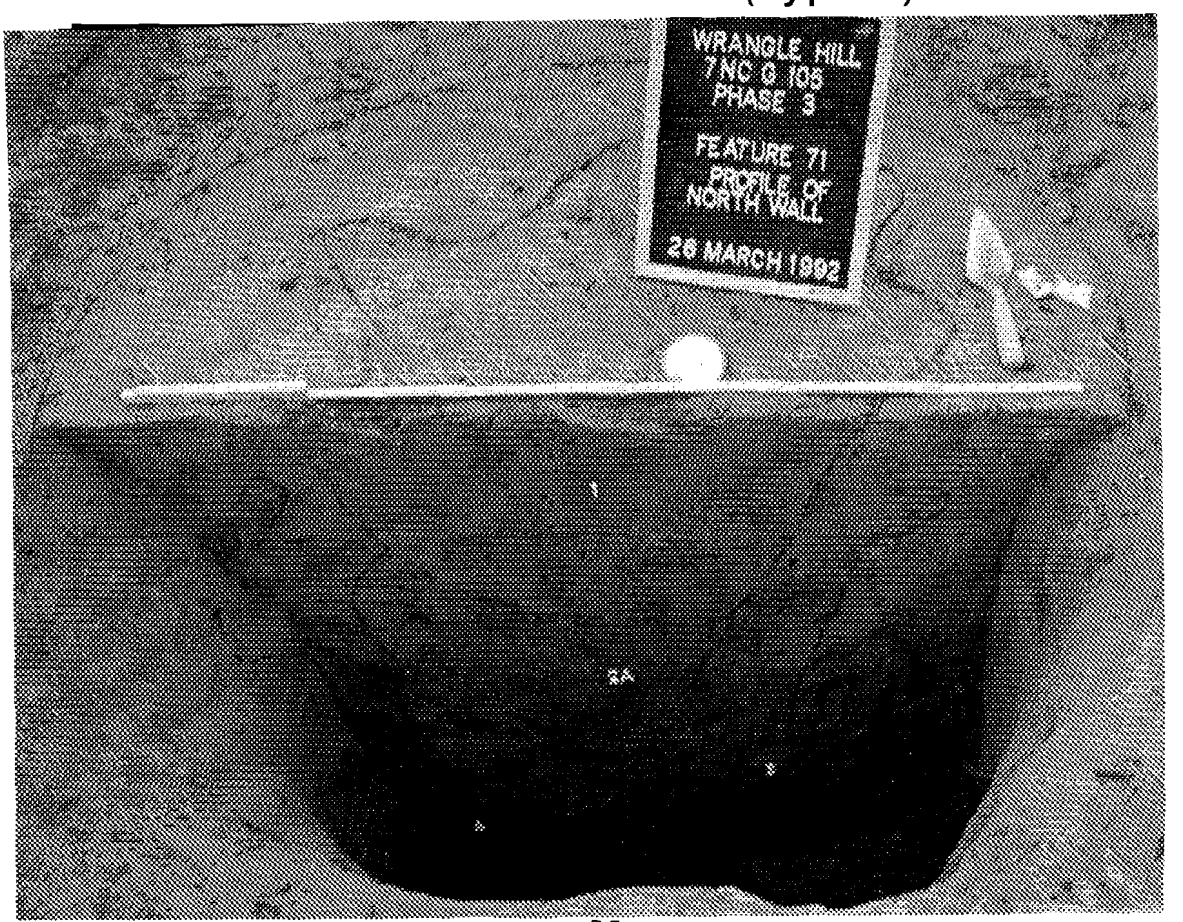
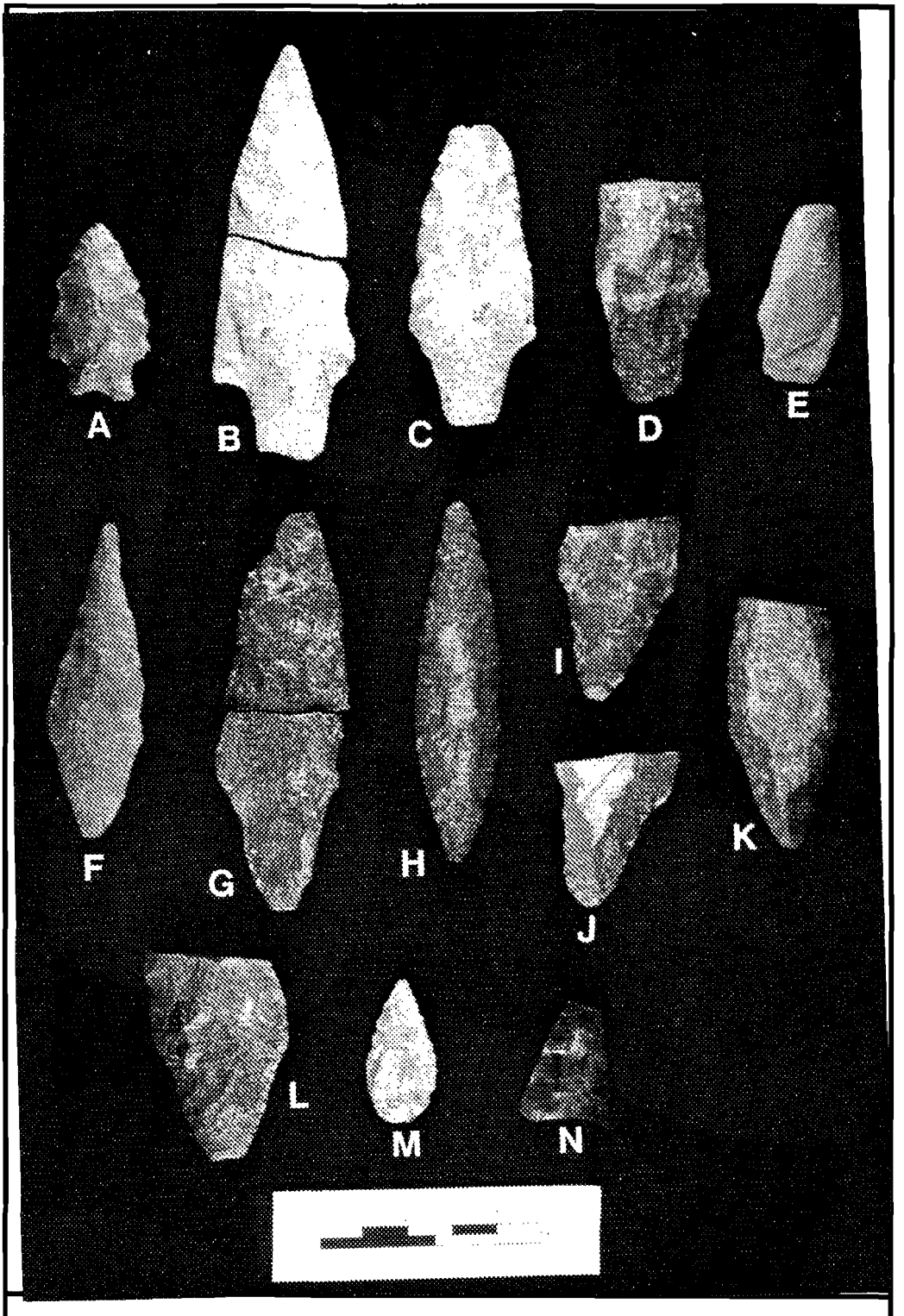


PLATE 9

Projectile Points from Plow Zone Soils



A: 91-3-29 (jasper)
B: 92-192-32/27 (argillite)
C: 92-192-156 (quartzite)
D: 92-192-160 (ironstone)
E: 91-3-"S" (argillite)
F: 92-192-115 (ironstone)
G: 92-192-133 (ironstone)
H: 92-192-0 (ironstone)
I: 92-192-111 (ironstone)
J: 92-192-149 (ironstone)
K: 92-192-0 (ironstone)
L: 92-192-124 (ironstone)
M: 92-192-3 (jasper)
N: 92-192-145 (chert)