The 1986 IU/GBL Excavations at the Stephan-Steinkamp Site (12Po33)

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The 1986 Indiana University/Glenn A. Black Laboratory of Archaeology archaeological fieldschool was held at the Stephan-Steinkamp site (12Po33) in southeastern Posey County, Indiana. This Mississippian site is located on a slight floodplain ridge approximately 300 feet (91.7 meters) north of the Ohio River. The site provided information on the relationship between surface artifact distributions and subplowzone contexts, produced an excavated collection of early Angel phase ceramics, and material from excavated contexts suitable for radiocarbon and thermoluminescence dating.

Earlier Surveys of the Site

The first recorded comments on 12Po33 were made by George and Francis Martin of Newburg, IN (GBL Site Survey Files). They noted that many pits had been washed out in 1963 and that the site was similar in size to another nearby Mississippian site, the Caborn site (12Po32). In 1964, Dr. James Kellar reported that 12Po33 was located on a slight rise in the floodplain and that plowing on the edge of an erosional depression was exposing material in context. Kellar also noted that there were differences in the shell-tempered ceramic assemblages of 12Po33 and 12Po32. A higher proportion of cord-marked pottery was present at 12Po33.

Noel Justice (GBL) and Charles Lacer (of Evansville, IN) surveyed the site in 1978 and recorded the presence of Yankeetown and Middle Woodland components. Justice confirmed the presence of these non-Mississippian components in 1979 when he examined a deflated area on the east end of the site.

The site was visited several times in 1985 by individuals from Indiana University and the University of Southern Indiana participating in an intensive survey of the Caborn site. Dark areas of soil indicated that features were being exposed by cultivation. Aerial photographs taken by Marcia Yockey, meteorologist at WFIE-TV, Evansville and Alan Coville, also of Evansville, IN, clearly showed a circular pattern of dark stains at the site. Other stains were also present outside this circular area.

Surface Collections

The 1986 investigations consisted of controlled surface collections of a portion of the site, and excavations within that portion. A north-south transect 60 ft (18.3 m) wide and 460 ft (140.2 m) long on the western edge of the Stephan property was leased, left unplanted, and sprayed with herbicide to control vegetation. The transect was divided into 20 ft x 20 ft (6.1 m x 6.1 m) surface collection units. All objects larger than 1 cm^2 in each 400 ft^2 (37.2m^2) surface collection unit were collected and all observed surface features were mapped. The limit of the surface scatter of shell-tempered sherds outside the transect was then defined and related to topographic contours and natural features.

The site boundary, as defined in the summer of 1986 by the surface distribution of shell-tempered sherds, is irregular (Figure 1), and encloses an area of 2.8 ha (6.92 acres). This is much larger than the 0.25 to 1.0 ha (.62 to 2.47 acre) estimate reported by Green (5). Justice and Lacer estimated site dimensions of 900 ft x 600 ft (274 m x 183 m) which yield an estimated area of 3.94 ha (9.74 acres), assuming an elliptical shape. The observed surface distribution of sherds is not an accurate indicator of sub-plowzone contexts, since the surface distribution of shell-tempered sherds is partially a product

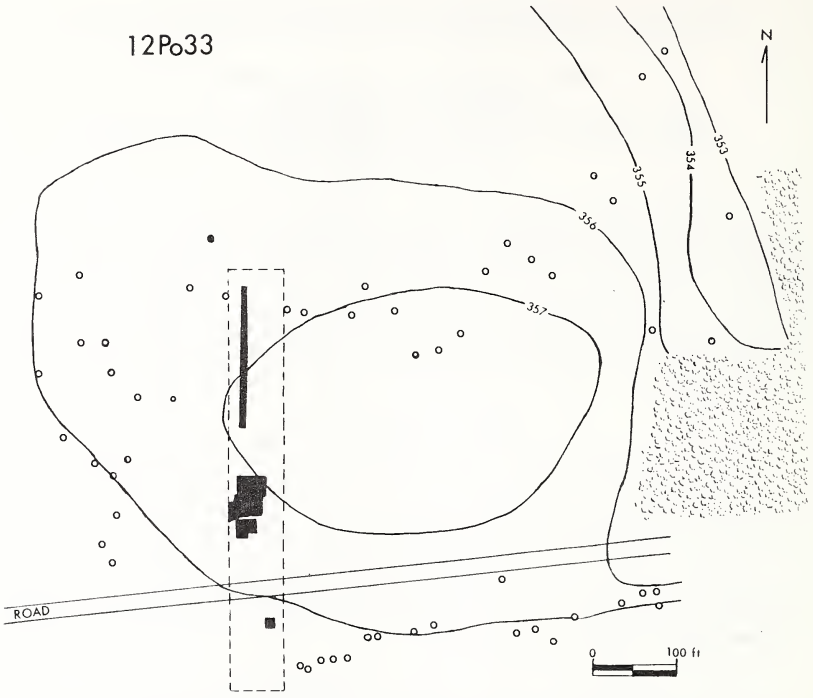

FIGURE 1. Site Map. The dotted line encloses the transect, the black areas indicate excavated blocks and the backhoe trench, and the open circles indicate the limits of the surface distribution of shell-tempered pottery.

of cultivation and erosional exposure and transport. It may also represent the overlapping of two or more temporally discrete Angel phase occupations. The limitations of surface surveys have been recognized as complicating factors in studies of Mississippian settlement patterns in the area (6).

The relationship between the surface density of shell-tempered sherds and subplowzone deposits in the transect is shown in Figure 2. The transect contained 21 surface collection units along its north-south axis by 3 surface collection units along its east-west axis. The average masses of shell-tempered sherds for each set of three surface collection units on an east-west axis (except for those containing the road) are represented by the bars of the histogram. The mean mass of sherds for all units ($\overline{X}$) and one standard deviation (s) on either side of the mean are shown in the right margin. The limits of the surface distribution of shell-tempered sherds ("sherd limits") and the location of the feature exposed by the backhoe trench which may represent a stockade ("stockade?") are shown at the bottom of the histogram.

If the surface distribution of sherds across the site follows a Poisson distribution, then it would be reasonable for the limits of the surface distribution of shell-tempered pottery to correspond to the point where the mean sherd mass is less than $\overline{X}$-s, since $\overline{X} = s^2$ for a Poisson distribution. It would also be reasonable for a stockade line to correspond to the point where the sherd mass drops below $\overline{X}$. These conditions seem to hold true for the transect survey. Though a Poisson distribution can strictly be applied

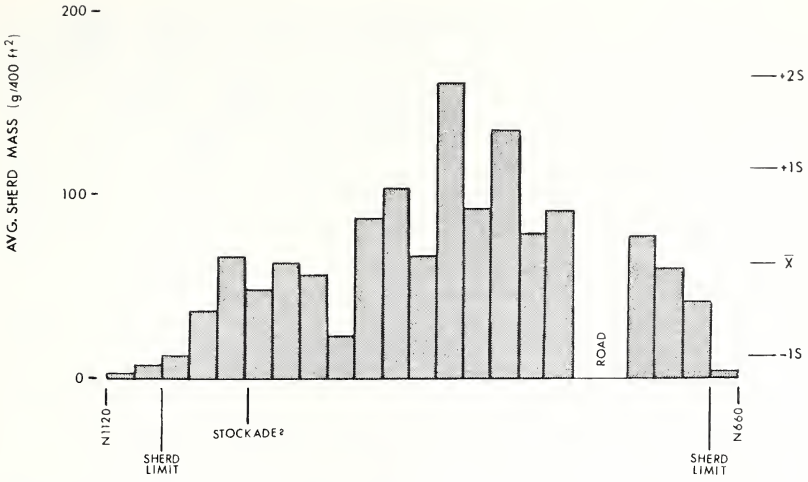

FIGURE 2. Distribution of the average masses of shell-tempered sherds by surface collection unit along the north-south axis of the transect.

only to discrete variables, and mass is a continuous variable, the distribution of sherd mass across the site may approximate a Poisson distribution because sherd mass is a function of the *number* of sherds and sherd mass was measured to the nearest whole gram.

Excavations

The surface collections were washed and sorted in the field, and choropleth and surface feature maps were prepared. Excavation units were then placed to evaluate both high densities of surface artifacts and some observed surface features. A total of 1000 ft² (99.9m²) were opened by hand and an additional area 800ft² (74.3 ²) was stripped of plowzone by backhoe and mapped.

The excavated blocks uncovered portions of at least four houses (Fea. 8, 9, 17, and 18), two associated pits (Fea. 2 and 3), and a dog burial (Fea. 4) (Figure 3). One large bath tub-shaped pit (Fea. 2) produced wood charcoal from a hardwood log which gave a radiocarbon date of 1230 + 60 BP, Beta-17509 (AD 625 - 895, corrected after (9)). Two shell-tempered sherds from a globular jar from this same pit yielded thermoluminescence dates of 940 + / − 160 BP, AD 1010 (Alpha-3085) and 860 + / − 230 BP, AD 1090 (Alpha-3086)); this gives a mean date of AD 1050 with a pooled variance of +/− 280.

Charred botanicals were well preserved. The grain structure of wooden timbers, a fragment of reed mat, and a corn cob were clearly observed in-situ. Bone preservation was generally poor, except for a pit (Fea. 3) which contained large quantities of mussel shells. Only the most durable parts of the dog burial were recovered intact.

Artifact Assemblage

The non-ceramic artifacts recovered from excavated contexts are generic Mississippian types. The chipped stone assemblage includes Madison points (13), simple flake tools, and debitage of local pebble cherts. Hoe flakes of imported Mill Creek and Dover cherts were also recovered. Ground stone artifacts from the excavated units are restricted to fragments of sandstone slabs, although two discoidals were recovered during the site boundary survey.

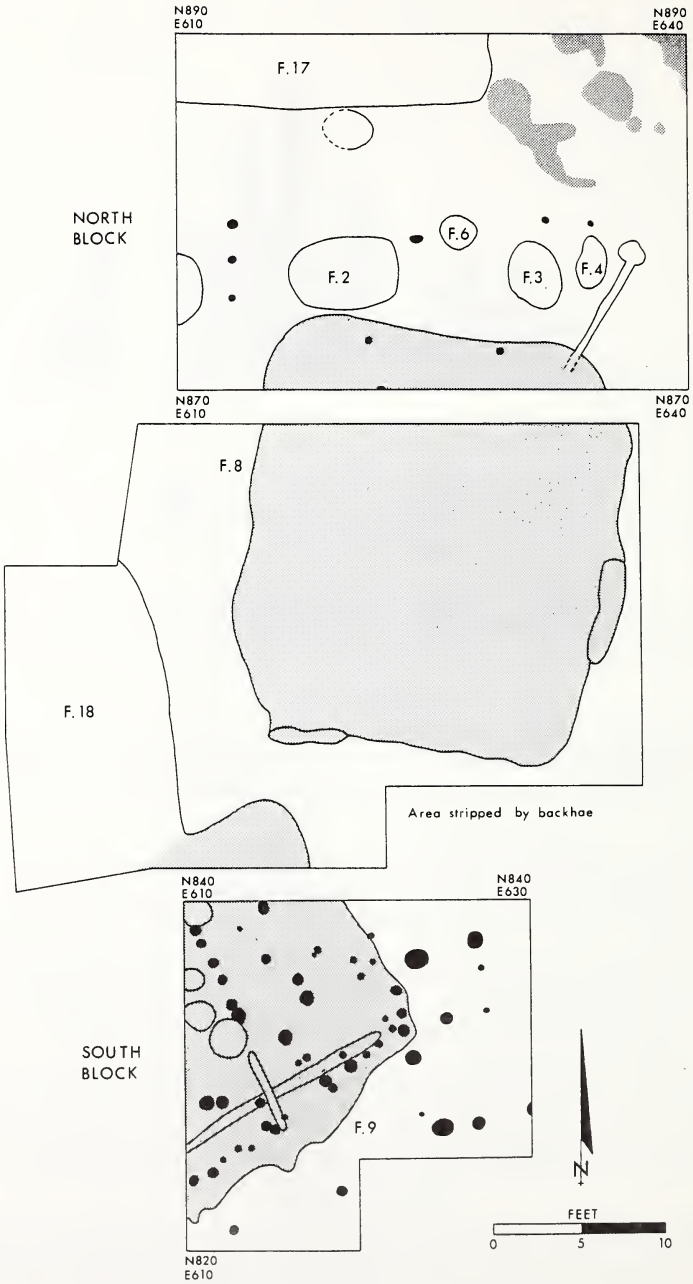

FIGURE 3. The excavated blocks at 12Po33 showing tested house basins (Fea. 8 and 9), portions of two other house basins (Fea. 17 and 18), and other features (Fea. 2, 3, 4, and 6). Solid black circles denote postholes.

The diagnostic characteristics of the ceramic artifacts can be used to place the site more precisely within the Mississippian period. Sherds less than ¼ inch (0.64 cm) in diameter and those on which the exterior is no longer intact were excluded from this analysis. Percentages in the following discussion are based on total weight in grams, rather than on count, and on the excavated collection.

The Mississippian shell-tempered pottery sherds make up approximately 99.1% of the total excavated ceramic assemblage. The remainder of the assemblage consists of grog-tempered sherds, the diagnostic sherds of which are Yankeetown incised and bar-stamped. These grog-tempered sherds appear to represent a Yankeetown occupation of the site area (2).

The paste of the shell-tempered ceramics varies, but it generally contains sufficient sand and/or grit to give the sherds a slightly to moderately sandy feel. It seems unlikely that the sand/grit is a deliberate inclusion as temper, but probably instead reflects the type or quality of the clay used in pottery manufacture. The shell temper varies from moderately fine to coarse, conforming to typical Mississippi Plain ware, and does not approach the quality of Bell Plain (10, 11).

Diagnostic aspects of the Mississippian assemblage include: relative proportions of different surface treatments; and other vessel treatments which include additions of handles, nodes and lugs, lip notching, and color. From the earliest surface surveys of the site, the occurrence of significant quantities of cord-marked body sherds (in addition to the usual plain and fabric-impressed) has been regarded as important. In the total excavated collection, cord-marked body sherds represent approximately 4.6% of the collection; when the plain, fabric-impressed, and cord-marked *body sherds* are compared, the cord-marked sherds make up approximately 5.7% of the total body sherds, the fabric-impressed 4.9%, and the plain 89.4%. These percentages differ somewhat in North Block as compared to South Block (Figure 4), but these differences do not appear significant.

One of the recognizable vessel forms is the standard Mississippian globular jar with a constricted neck, everted or out-flaring rim, and squared-off lip. Cord-marking, when it occurs, begins on the shoulders of such jars, just below the neck. This is why comparisons of the proportion of cord-marked sherds must be restricted to body sherds. While the type designation is not being used here, these cord-marked jars are generally similar to Cahokia Cord-marked vessels (7, 14). Other recognizable vessel forms include the fabric-impressed "salt pan" and a variety of plain-surfaced, straight to out-flaring rimmed bowls.

Other vessel "treatments" are less common but still very important for characterizing the Mississippian ceramic assemblage. These include the nodes/lugs, handles, notched bowl lips, and red-slipping.

Sixteen examples of nodes and lugs were recovered by excavation. All but one of these represent the addition of single clay nodules to the exterior of the rim at or just below the lips of bowls and jars. A single example represents a line of three nodes on an outflaring jar rim. Other noded sherds are too fragmentary to determine whether these occur singly, in pairs, or in larger multiples.

Two loop handles attached to out-flaring jar rims are diagnostically important. These handles have cylindrical cross-sections and are attached at the top of the lip and at just below the neck constriction. At least one of these two jars was cord-marked. There are also portions of two detached strap handles. One of these appears to be plain, but the other has a wide, shallow groove running vertically along the exterior of the strap.

Two more purely decorative treatments were identified. Two rim sherds exhibit notching on the vessel lip; one of these appears to be an out-flaring bowl. There are also a few red-slipped sherds from vessels of unknown form.

The Site within the lower Ohio Valley

The termoluminescence dates from this site suggest that this ceramic assemblage

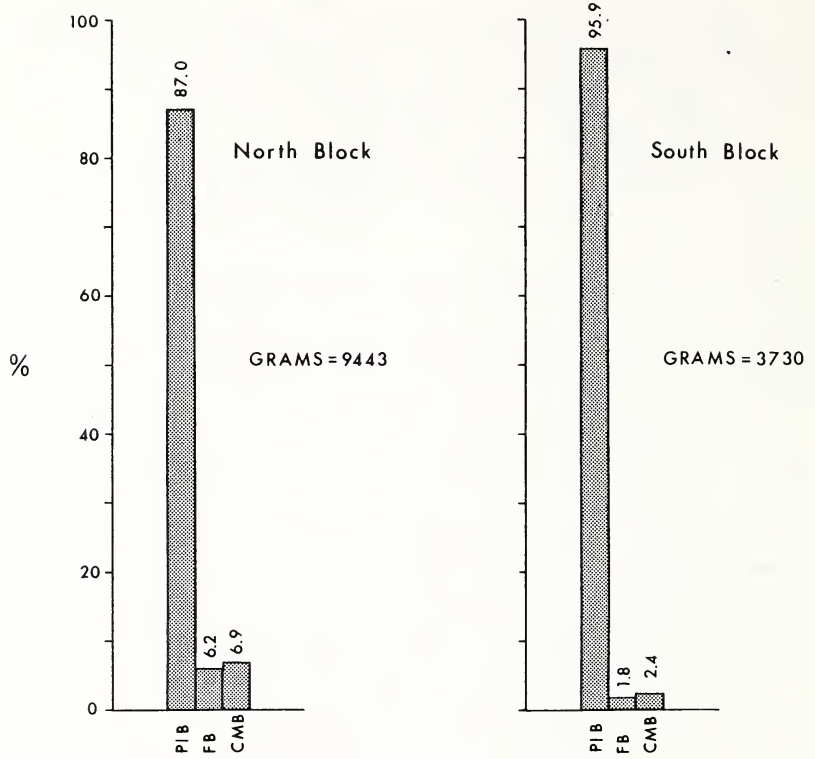

FIGURE 4. Relative proportions of the three primary surface treatments by excavation block (P1B = plain body sherds, FB = fabric-impressed body sherds, CMB = cord-marked body sherds).

dates to the 11th century AD. This placement is corroborated by the assemblage's general similarities to those which have been assigned to the Jonathan Creek phase in the lower Tennessee-Cumberland drainage in western Kentucky. This phase is also tentatively placed in the 11th century AD (3, 12, 15 esp. Figures 42-46). The Jonathan Creek phase ceramic assemblage has been described as extremely plain, as it does not include the incising, engraving, punctating and negative painting so well known for the lower Ohio Valley Mississippian sites. The Jonathan Creek phase assemblage is characterized by fabric-impressed "salt pans" and vessel surfaces which are primarily plain but with limited quantities of cord-marking and red-slipping. The common, recognized vessel forms are relatively small globular jars with loop handles.

The sites of the Jonathan Creek phase seem to represent the earliest Mississippian occupations in the lower Tennessee-Cumberland and adjacent portions of the Ohio Valley; similarily 12Po33 probably represents the earliest Mississippian occupations within the Angel phase (8) of the southwestern Indiana portion of the Ohio Valley. The Jonathan Creek phase and the as-yet unnamed phase represented here by 12Po33 are also similar in that their relationships to the later Kincaid (4) and Angel (1) sites, respectively, are unclear. Certainly, later in time, Kincaid and Angel's political hegemony would encompass each respective area.

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