

Intrasite Patterning at a Late Precontact Piedmont Village Tradition Settlement in the Upper Yadkin River Valley

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Introduction
 This research examines the relative patterning of surface artifacts, plowzone artifacts, and intact features from the Late Precontact (1000–1500 CE) 31Yd173 site (Figure 1) in the upper Yadkin River Valley of the North Carolina Piedmont. The goals are 1) to determine if relationships between these remains can improve methods for locating intact settlement features—which are elusive in the Yadkin River Valley—at this site and others like it; and 2) to begin describing the intra-settlement patterns and activities at this site.

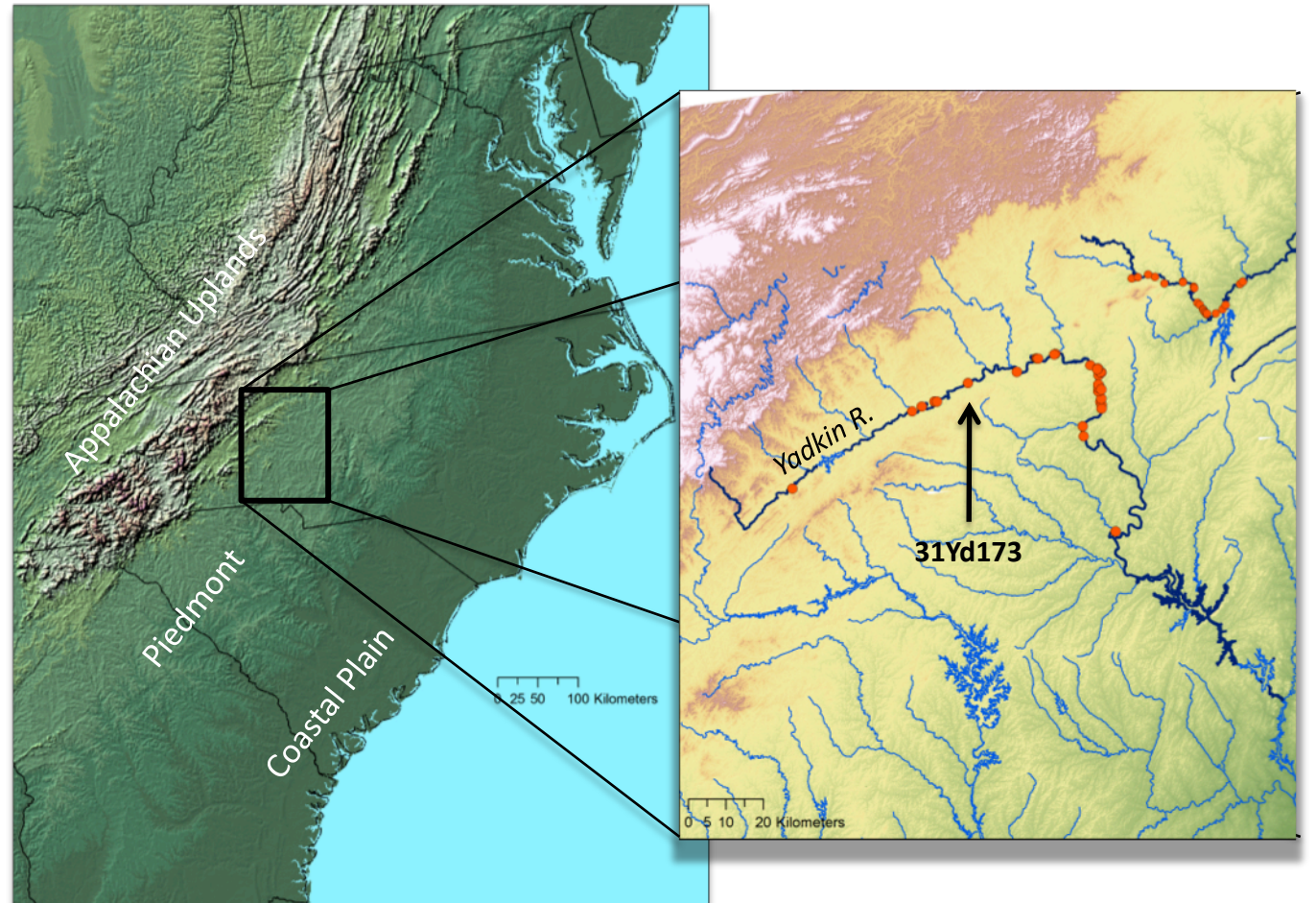


Figure 1. Location of the 31Yd173 site within the upper Yadkin River Valley and the wider Southeast.

Background
 The Late Precontact UYRV was a critical environmental and sociopolitical location. It is one of the largest rivers in the Piedmont Southeast and formed the boundary between Mississippian societies of the Appalachian Uplands and non-Mississippian societies of the Piedmont and Coastal Plains. Thus, UYRV sites hold tremendous potential for understanding social, political, and economic interactions across this boundary as well as critical details about the Late Precontact (post 800 CE) non-Mississippian Southeast.

After 800 CE, the UYRV was inhabited by groups characterized by extensive agriculture, semi-sedentism, heterarchical social organization, and few or no Mississippian traits. 30 settlement sites have been identified and had surface remains described, and 6 sites have been excavated (Woodall 1984, 1990, 1999, 2009). This work identified significant variability in community size (Rogers 1995, Ward & Davis 1999, Woodall 1990). Jones et al. (2012) proposed categories of short-term, small long-term, and large-long term settlements.

Excavations at 31Yd173 have defined a new category: medium long-term settlement. This site has artifact densities similar to large long-term settlements but is significantly smaller. The UYRV has 10 similar sites. Thus, understanding the relationship between surface features and intact remains at 31Yd173 can help us better define this new category and guide future work at these sites.

Methods
Field Methods (Figure 2)
 Systematic pedestrian surveys were conducted at 31Yd173 in 2011 with 3m surveyor spacing. Every artifact type and location was recorded using a differential GPS. Shovel testing was conducted in 2012 to search for intact buried cultural remains. At least three cultural strata were identified over an area approximately 30m x 30m. Excavations began in 2013 in this area. Twenty-five 1m x 1m units were excavated to the bottom of the plowzone to expose this stratum. Four units were excavated to the second intact cultural stratum; one of those units was excavated to sterile sediments to obtain a site profile.

Disturbances and potential features were drawn and sediment colors and textures were recorded. 342 potential postmolds were identified, 74 were excavated, and 65 produced shapes consistent with wedge or conical shaped sharpened posts. However, diameters were small, averaging 5cm.



Figure 2. Clockwise from top left: pedestrian survey, shovel testing, excavating plowzone sediments in unit 16, excavating potential postmolds in unit 21.

Spatial Analyses
 The surface distributions, unit counts of plowzone artifacts (e.g. lithics, pottery, bone, FCR, and macrobotanical remains), and potential postmolds were digitized into ArcMap. We performed kernel density analysis on total artifact surface distributions and individual artifact classes to show the densest concentrations. For plowzone analysis, artifact data were represented as single points in the center of each unit and represented as graduated symbols to show patterns. Spatial patterning of potential postmolds was also examined using kernel density analysis in an attempt to discern a pattern. The comparison of this pattern to the plowzone artifact distributions and intact features was used to begin hypothesizing about functions of the potential structure.

Results
 Analysis of surface remains and shovel test finds allowed us to explore the large scale relationship between surface scatters and locations and extents of past human activity in Yadkin River floodplains (Figures 3 and 4).

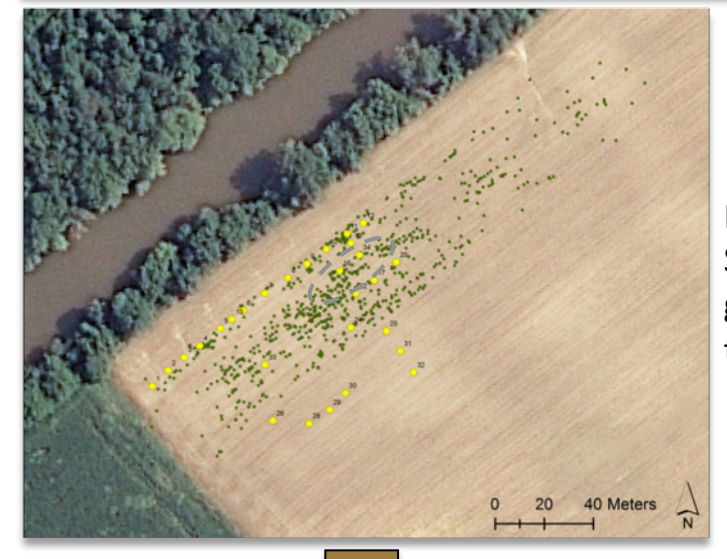


Figure 3. Distribution of surface artifacts and STP locations from 2011 and 2012 surveys. The gray dotted line represents the highest area of the levee.

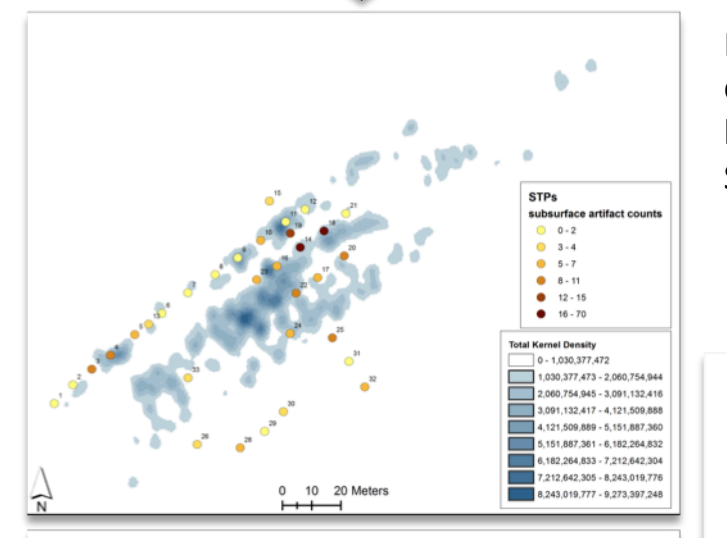
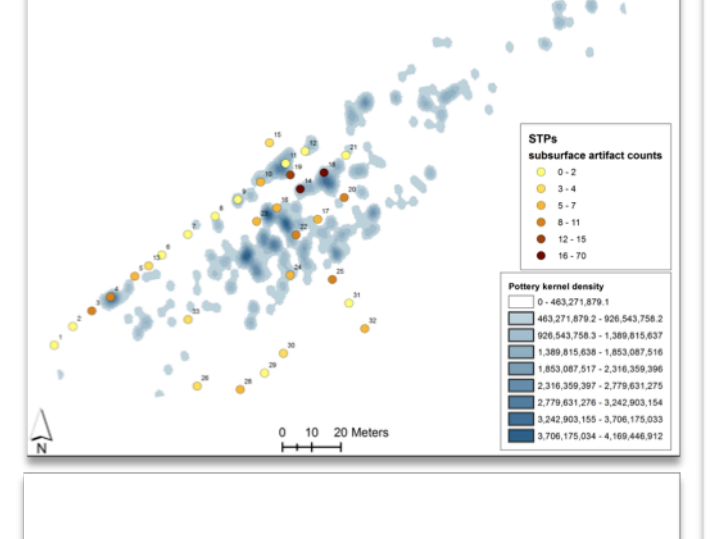
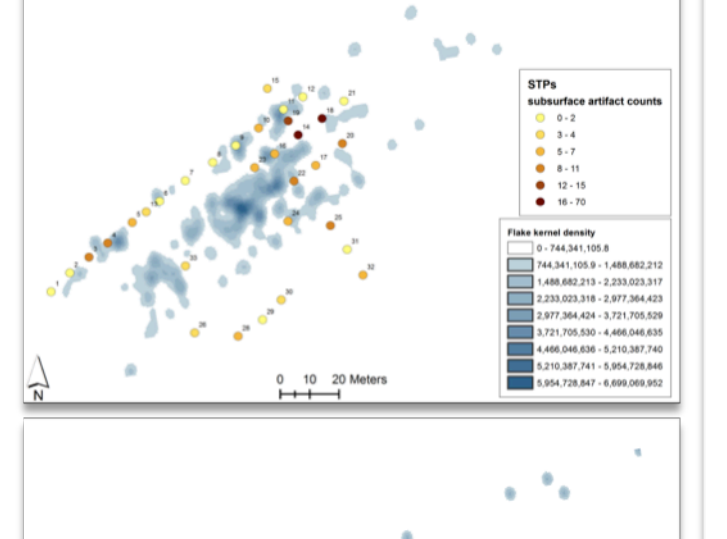


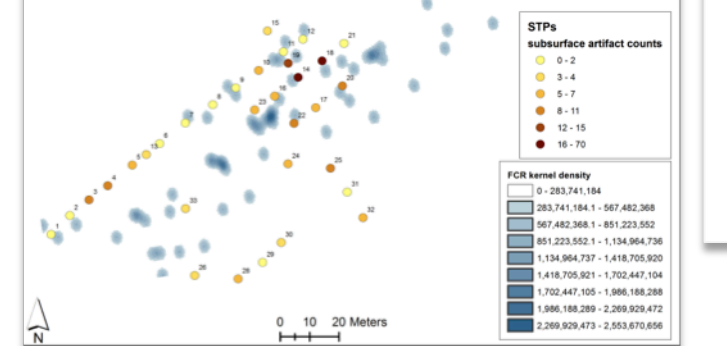
Figure 4. Kernel density of surface artifacts compared to artifact counts from STPs. The highest area of the levee is under the line of STPs from #23 - #18.



Large scale analysis of the comparative spatial patterning of surface artifacts and subsurface STP finds shows that overall artifact density is a reasonable indicator of sub-plowzone, intact artifact concentrations on top of the levee. However, surface remains are clearly moving downslope off of the levee, both toward and away from the river.



When the surface scatter was divided into artifact types, pottery distributions—again, on top of the levee—show the closest correlation with STP sub-plowzone concentrations. In fact, surface pottery distributions correlate better than the total surface distribution. Surface flake and FCR patterns do not correlate well. This pattern is slightly different than results produced by Ward (1980) in the Dan River Valley that identified both pottery and flakes as good indicators of intact feature locations.



The densest surface areas were not tested once subsurface remains were found in order to prevent unnecessary destruction of intact features. This area will be a focus of future excavation, which will help to evaluate the relationships recognized here.

Analysis on the smaller scale allows us to explore the relationship between plowzone artifact patterns and intact artifact and feature patterns.

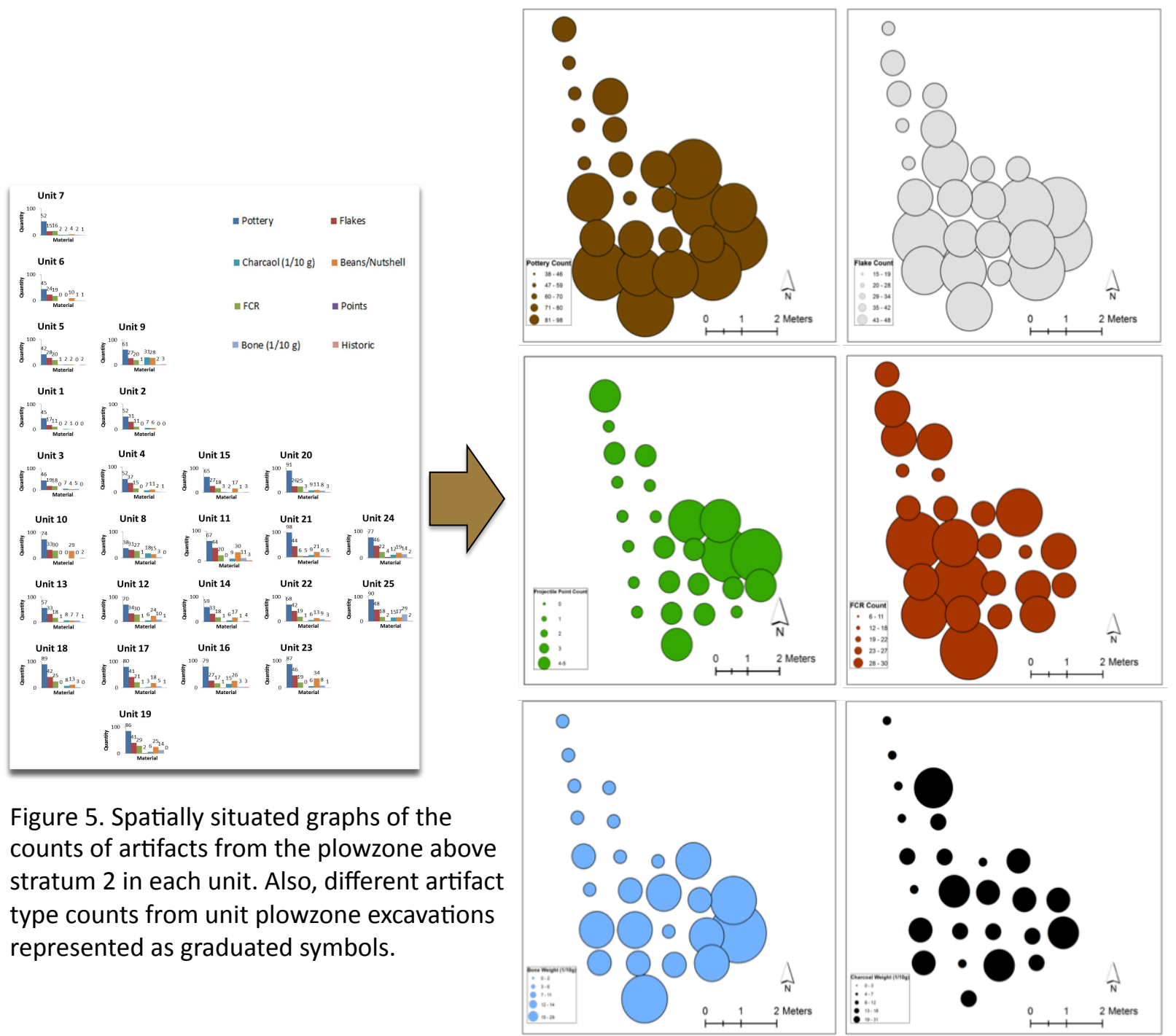


Figure 5. Spatially situated graphs of the counts of artifacts from the plowzone above stratum 2 in each unit. Also, different artifact type counts from unit plowzone excavations represented as graduated symbols.

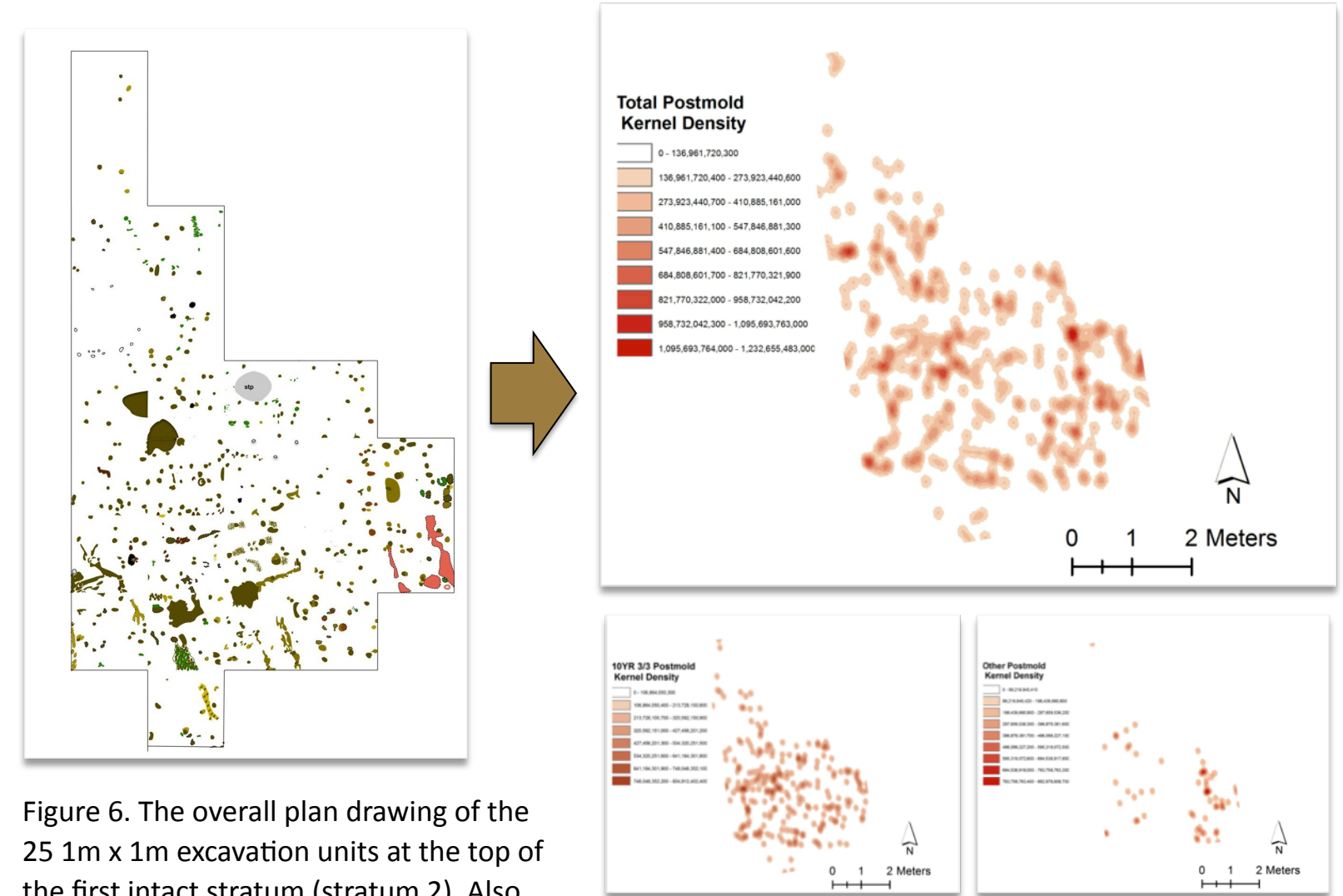


Figure 6. The overall plan drawing of the 25 1m x 1m excavation units at the top of the first intact stratum (stratum 2). Also, kernel density analysis of all potential postmolds and the two dominant sediment color categories.

Discussion
 At the smaller scale, postmold patterns observed within the intact layers of the excavation area are suggestive of the presence of a structure. The clearest outline of a wall appears between the eastern edges of the excavated area. Unlike the other artifact concentrations recorded in the plowzone, the largest concentrations of the FCR recovered fall within the interior boundaries of this possible structure, suggesting it may be domestic in nature.

The vast majority of the artifacts recovered cluster on the outside the eastern line of potential postmolds. These artifacts include pottery, flakes, projectile points, and burned bone. These concentrations are also found to be proximal to burned sediment within the intact layer in this same area. The density of artifacts in association with the burned features may be indicating a work area that existed just outside the walls of the possible structure. Pottery densities in particular appear to approximate the interior/exterior boundary of the structure proposed above. Patterns of pottery and FCR concentrations in the plowzone are interpreted to be good predictors of intact features.

Conclusions
 Overall, the distribution of pottery appears to be the most informative line of evidence as to the presence of subsurface cultural remains at both large and small scales. On the surface of the levee, pottery concentrations correlate with subsurface artifact densities. Meanwhile, within the excavation area, pottery recovered in the plowzone is indicative of the presence of intact features below. Therefore, it might be beneficial in the future to use pottery concentrations—particularly those on levee formations—to locate subplowzone remains at Late Woodland medium long-term settlements found in the Upper Yadkin River Valley. Future excavations, particularly those in the areas of the highest surface artifact densities, examining the intact cultural strata will help to clarify these relationships and help improve this predictive model.

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