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Results of Deep Testing in Ocmulgee River Floodplain

by

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For the last year, ESI has been testing a 1, 275 acre parcel located along the western banks of the Ocmulgee River in Bibb County, Georgia. The project tract lies in a high probability area for archaeological site occurrence. The Ocmulgee National Monument is 7.5 km north/northeast of the project tract, while the Lamar Mounds site is 5.5 km to the northeast. Several sites have been recorded in or adjacent to the project tract. To fulfill the Section 106 objectives of a cultural resource assessment survey, we implemented a deep testing program which was successful in locating sites.

Since the era of the WPA, there have been three primary obstacles to archaeological testing in the floodplain of the Ocmulgee River **(SLIDE 1)**. The first of these obstacles is flooding. During the "Big Dig" (Nelson et al. 1974) of 1961-1962 test units were excavated over a period of six months, but flooding was determined to be too problematic for the project to continue. More recent surveys conducted for various routes of the Eisenhower Parkway have encountered flooding problems as well (Gardner 1995:ii)

The second problem is that archaeological components in most areas of the Ocmulgee floodplain are deeply buried by a sediment which dates to the historic period. Large quantities of this sediment, which is referred to as post-settlement alluvium (psa), eroded out of the piedmont of South Carolina, North Carolina, and Georgia in the 18th,

19th and 20th centuries due to the advent of widespread, intensive agriculture. The British geologist Charles Lyell witnessed these anthropogenic impacts in December of 1845 while traveling the Altamaha River and wrote the following account (Lyell 1849, in Bryant 1996:31): "As our canoe was scudding through the clear waters of the Altamaha, Mr. Couper mentioned a fact which shows the effect of herbage, shrubs, and trees in protecting the soil from the wasting action of rain and torrents. Formerly, even during floods, the Altamaha was transparent..... So as late as 1841, a resident here could distinguish on which of the two branches of the Altamaha, the Oconee or Ocmulgee, a freshet had occurred.... But no sooner had the Indians been driven out, and the woods of their old hunting ground begun to give way before the ax of the new settler, than the Ocmulgee also became turbid." In areas close to our project tract, the Ocmulgee River floodplain has reportedly been filled with psa to depths of one (Williams and Evans 1993:12) to 3.7 meters (Nelson et al. 1974). The net effect of psa is both to obscure, and protect, archaeological sites within floodplains.

The third problem is limited access due to sloughs **(SLIDE 2)**, thick vegetation, and the occasional obstacle **(SLIDE 3)**.

Based upon these factors, we reached several conclusions. First, we determined that the survey must be conducted during the dry season; a survey conducted when the tract was wet would result in a large number of "no digs". The problem of rainfall was avoided by scheduling the work around rainy periods, while Internet monitoring of a USGS river station no. 02213215 avoided the problem of river flooding. Second, we determined that only large and deep tests would suffice within the Ocmulgee floodplain. Attempts to dig such holes manually were not cost or time effective because the top forty

preserved since they did not have to hacked out of the clay with a shovel. Shovel tests were still utilized to provide precise depth of artifact recovery.

We also modified our field techniques. We replaced all the quarter inch hardware cloth in our screens with stainless steel mesh **(SLIDE 10)**. The strength of the steel mesh allowed clay to be manually forced through the screen and made it unnecessary to replace any screens throughout the project. We marked all tests with metallic tree tags which survived repeated floods **(SLIDE 11)**. We also used a March II GPS unit to digitally map all test locations. This use of GPS obviated the need for a mapping team, was more accurate ($\pm$1 m) than field mapping, and ensured that these targeted landforms were hit by their assigned tests.

In order to excavate one test unit within the project tract, it was necessary to remove an average of 85 cubic feet of psa overburden. We used the Bobcat to initially clear a step through the psa **(SLIDE 12)**, and then to actually cut down to our individual test units **(SLIDE 13)**. The near solid clay composition supported the weight of the Bobcat well **(SLIDE 14)**.

Water screening was essential for test unit excavation due to both the volume of the soil moved and its near-brick composition **(SLIDE 15)**; dry screening this matrix slowed excavation by more than 67 percent **(SLIDE 16)**. Multiple four inch and two inch pumps were used to move water by hose onto the sites; these pumps were linked by a series of retention pond/ lift stations, each with an approximate 5, 500 gallon capacity **(SLIDE 17)**. In some instances, water was transported for distances of up to 1,320 feet. Artifacts could also be washed and placed on drying racks in the field rather than the lab **(SLIDE 18)**.

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These efforts brought forth results. Before I continue, I would like to stress that analysis is ongoing and our results are preliminary at this point. I have also omitted all maps from this paper because we are less than ten miles from the project tract, and we have already had substantial trouble from determined looters. To summarize, approximately 900 tests have been systematically excavated within all areas of the tract. Testing was generally conducted on a linear grid system aligned to the orientation of the relict levees to be tested, or the water-filled sloughs to be circumscribed. Regardless of soil drainage, extensive areas of poorly drained, hydric lowlands were tested. All discrete rises within the floodplain were specifically targeted for testing. These locations were pinpointed by elevational data generated from an aerial laser system. Although no historic sites were discovered in the floodplain, Determinations of Eligibility (DOE) are being completed on two sections of historic railroad within the project tract. A *National Register* nomination is also being prepared for the historic, industrial facility within the tract. We have also worked with the *Advisory Council on Historic Places (ACHP)* regarding the boundaries of a Traditional Cultural Property (TCP), which will include portions of the project tract.

A total of nine prehistoric sites have been located, and the components recovered range from Early Archaic to Lamar. More than 10,000 artifacts have been recovered. To date, we have excavated test units in four sites, and I shall review the preliminary data from these sites.

The Prima Donna site is a large, generally diffuse, multi-component site with a dense Middle Archaic component **(SLIDE 19)**. This Middle Archaic component is dense, very discrete, and located under 40 cm of psa **(SLIDE 20)**. Excavations yielded

several thousand chert artifacts. Feature 3 was a lithic production tool kit, with an anvil, hammerstone, and a discarded projectile point **(SLIDE 21)**. Feature 2 was an adjacent flake discard or cache area **(SLIDE 22)**. Several cores, numerous projectile points, and atlatl production failures were recovered **(SLIDE 22)**. Based upon discarded, exhausted, quartz and rhyolite projectile points as well as infrequent Ridge and Valley chert flakes, this site appears to have functioned as a lithic replenishment station for groups moving out of the piedmont in the latter part of the Middle Archaic period. Curiously, there does not appear to be an adjacent chert outcrop, and Early and Late Archaic components are lacking. This site was located deep within the floodplain, hundreds of meters from the Ocmulgee River.

The Four Oaks site was also located several hundred meters from the Ocmulgee River. One basally ground, non-thermally altered, Kirk corner notched point was recovered at 115 cmbs **(SLIDE 25)**. Several patinated tools and very thin, final stage, projectile point performs of cryptocrystalline chert were also recovered. Excavations also revealed a Late Archaic assemblage above the Early Archaic component. Excavations were continued below the water table to search for Paleoindian and pre-Clovis components **(SLIDE 26)**, but no earlier components were identified.

Laser data was particularly useful in examining the floodplain directly adjacent to the river; our first, five primary targets in this area turned out to be aboriginal mounds. The Adele site is a large, Late Mississippian site consisting of 13 associated aboriginal mounds. The ceramics analyzed so far indicate the site is a classic Lamar site with cultural material predominantly from the Cowart's Phase. Mound A is a very large mound that has been extensively looted and impacted by natural forces **(SLIDE 27)**.

Mound B **(SLIDE 28)** and Mound C **(SLIDE 29)** have not been impacted and appear to be paired house mounds. Ten additional mounds were discovered, and they vary considerably both in size and elevation. Stratigraphy within the various mounds is quite striking. Some of the mounds exhibit, complex zebra-stripe stratigraphy indicative of episodic habitation **(SLIDE 30)**. Other mounds appear to be thick accumulations of "pure midden", so called accretional mounds **(SLIDE 31)** (Williams 1992:15). Other mounds exhibited thick bands indicative of construction stages **(SLIDE 32)**. The area surrounding the mounds, which are more or less contiguous, also produced artifacts. Artifacts recovered include ceramic pipe fragments and numerous Lamar Incised sherds, and are generally indicative of the Cowart's Phase..

The Great Wolf site was discovered during testing along a well defined slough in the interior floodplain; this slough is a relict meander or oxbow of the Ocmulgee River. The densest part of the site was initially believed to be upon a pronounced rise, but test units revealed that the entire rise was a large, dense midden **(SLIDE 33)**. This dark brown, organic midden was capped by 50 cm of psa, and features were discovered at the base of the midden **(SLIDE 34)**. Once profiled, the features were evident as a row of posts **(SLIDE 35)**. This midden has produced cultural material from the Lamar period through the Late Archaic period, and the occupational sequence appears fairly continuous.

The Caleb site was discovered in the only upland portion of the project tract. Numerous chert artifacts were recovered from this site **(SLIDE 36)**. Unfortunately, the high elevation of the site made it suitable for mechanical agriculture in the 1960s and 1970s. Test units excavated within the relict field furrows of this site revealed plow scars

in the basal subsoil of the site. The primary occupational sequence within this site appears to be from the Middle to Late Archaic periods. One additional site, site D, was also logged and farmed extensively within the project tract.

The remaining sites within the project tract were fully tested with 15 or 12.5 m interval tests but not subjected to test unit excavation. Large numbers of artifacts **(SLIDE 37)** from the Middle Archaic through Mississippian periods were recovered during this testing.

In addition to these newly discovered sites, several previously recorded sites thought to be within the project tract. The most notable of these sites is the Mossy Oak site (9BI11), which was excavated during the WPA in 1936 by A. R. Kelly, and 1937 by Gordon Willey (Kelly 1938). On the first day of ESI field operations, the plotted site location of the Mossy Oak site was gridded and tested at 30 m intervals. No positive tests were encountered within the plotted peripheries of the site, or within 700 feet to the south or west; the typical signs of WPA excavations were also absent. Based upon these results, the current plotted location of the Mossy Oak site appears incorrect. However, a close examination of the original WPA documents and aerial laser topographic data has indicated a suspected location of the site, which has yet to be field checked.

The Drawbridge Site (9BI22) is also currently plotted within the project tract at the point where the CSX rail line crosses the Ocmulgee River. ESI tested this site location extensively, and with the exception of two sherds, no cultural material was recovered. However, all the site locational data lacks any indication of whether the site is located at the eastern or western crossing of the railroad bridge. Archival records (Walker 1971:15) also depict the location of this site as being at the eastern side of the railroad

crossing, opposite its current GASF plotted location. Based upon the results of our testing, this is probably the case. Regardless of its exact location, substantial railroad construction and modification may have destroyed the site.

One recently recorded site also lies within the tract, but the property owners have no record of granting permission for collecting on its property, so the provenience of this material is unclear. The site location has been "unknown since the great flood of 1994." No positive shovel tests were encountered in this plotted site location.

Following completion of Phase I and II analysis and write-up, ESI will be returning to the floodplain to mitigate the Great Wolf site, the Prima Donna site, and the Four Oaks site. Most of the remaining sites, including the Adele mound site, are to be placed in protected buffer zones. Thank you for your time, and if anyone would like to talk to me about these sites after this session, I would welcome the opportunity.

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