#### **Exploring Coles Creek Mound Site Activities Through Pit and Midden Features**

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**Abstract:** Ongoing excavations at Feltus, a Coles Creek period (AD 700-1100) mound center have revealed a cluster of large features in the plaza near Mound D. These features include siloshaped pits up to 2 m deep and midden-filled depressions over 6 m in diameter. By combining stratigraphic and spatial data with analyses of the pottery, plants, and animal bones recovered from these features, we explore how they were formed and what they indicate about the activities that took place at this and other Coles Creek centers.

Archaeologists generally interpret the central plaza areas of Coles Creek mound centers as "clean" areas devoid of archaeological evidence of the activities that once occurred there (Kidder 2004) [Slide 2]. While this is generally true, there is also plenty of evidence for activities along plaza margins. Special features, such as large post pits, a burned sweet-gum pit, and bathtub- shaped fire pits at sites such as Feltus, Smith Creek, and Greenhouse, among others, are all signs that plazas were the setting for all kinds of communal and ceremonial activities (Ford 1951; Kassabaum and Nelson 2016; Kassabaum 2015; Nelson and Kassabaum 2014; Steponaitis et al. 2015).

At Feltus, there is a large feature complex in the southern end of the plaza near the location of Mound D [Slide 3]. This feature complex consists of two types of deposits: (1) large pit features and (2) midden deposits overlying those pits. While we have known about these features for years, we have never quite understood their relationship to one another and to site use overall. In this paper, we will present a detailed exploration of these pit and midden features and our current understanding of what they represent.

We'll start by providing a brief background on the Feltus site [Slide 4]. From there we will explore each feature type — midden and pit. We will bring together temporal, stratigraphic, and artifactual data to describe each feature. Finally, we will tie this information together to answer: What are these features? How were they used? What do they indicate about site use over time?

Located in the Natchez Bluffs on the eastern edge of the Lower Mississippi Valley, Feltus is a Coles Creek mound center consisting of four mounds surrounding a central plaza [Slide 5]. The site's occupation spans AD 750-1100, almost the entire Coles Creek period. Across that site history, the people who used the site conducted a myriad of activities including feasting and post ritual, mound construction, and burial of the dead. The site has been the subject of excavations since 2006 under the direction of Vin Steponaitis and John O'Hear. Over the course of these excavations, the pit and midden features in the South Plaza have been investigated several times.

The feature complex was first encountered during a gradiometer survey in 2006 [Slide 6]. It appeared as two dark oblong circles [Slide 7]. A 1 x 2 meter unit was subsequently opened to reveal one of the midden deposits (Feature 4 midden) [Slide 8]. The next season, 2007, an L-shaped trench was opened to excavate more of this midden deposit. This excavation also revealed two of the pit features, 59 and 143, as well as the midden deposits over them. In 2012, Feature 143 and its overlying midden were more thoroughly explored. Finally, in 2018, in an attempt to excavate more of the Feature 4 midden deposit, we also discovered the underlying pit feature.

So, what are these features? Essentially what we have at the top of the pits are midden deposits (one feature type) that sit in a basin-like slump covering the pit features (the second feature type) [Slide 9]. The top of this feature complex very closely resembles the gradiometer picture — an L-shaped sheet midden. Beneath these midden deposits, nearly a meter down, are three pit features [Slide 10].

We have two different sets of temporal data for these features, (1) radiocarbon dates and (2) a ceramic seriation. We have four radiocarbon dates from the Feature 4 complex [Slide 11]: three from the midden zones and one from the bottom of the pit feature. We believe one of our radiocarbon dates, the AD  $700 \pm 40$  date, is faulty and we will not include it as part of our discussion. Our first date from the very top midden zone is AD 900, which is a late Ballina phase date. Our second date from a lower midden zone is AD 850, also Ballina phase. Our final date, from the bottom of the pit feature is AD 790, representing the Sundown phase.

Our ceramic seriation supports these dates [Slide 12]. In general, the pit and midden features seriate separately from one another. The pit features are dominated by earlier ceramic types, such as Alligator Incised *var. Alligator* and Larto Red *var. Larto* [Slide 13]. In contrast, the middens are dominated by several of the Coles Creek Incised varieties such as *Coles Creek*, *Phillips*, and *Stoner* [Slide 14]. Altogether, the temporal data indicates that the pit and midden features were not contemporary. The pit features were dug sometime during the Sundown phase and subsequently filled before the middens were deposited during the Ballina phase.

We will now describe each of these feature types, starting with the midden deposits. The middens are made of up multiple zones that sit within a basin-like area over each pit feature [Slide 15]. These basins were probably created naturally as surrounding deposits eroded into the open pits beneath them, rather than being deliberately dug. For the purposes of this paper, we have chosen to separate the middens spatially according to the pit feature on which it sits. Aside from the top zone, the midden deposits are mostly separate from one another because they slump into their respective pit feature basins. The deposits are quite big, ranging from 4 to 6 meters in diameter and from half a meter to 1 meter in depth. On average, each deposit contains about five distinct zones [Slide 16]. These zones were distinguished in the field based on color and artifact content. We believe some of these zones represent discrete events, and horizontal sherd clusters, likely in-situ pot breaks, indicate this. These events may have been separated by months or even years, which our radiocarbon dates indicate. However, some zones may actually have been part of the same event or separated by shorter intervals of time.

Artifactually, these middens are very rich [Slide 17]. Pottery was the primary material recovered, although many stone artifacts, daub fragments, animal bones, and plant remains were found. There were some differences in material prevalence based on deposit area. For instance, the Feature 143 midden had a large amount of animal bone, whereas the Feature 4 midden had very little. It is unclear why, because in general the Feature 4 midden had more material than the other two. This may represent a difference in depositional practices, event type, or soil conditions. Bone from the Feature 4 midden, when present, is generally very poorly preserved or burned (burned bone preserves better in soil), suggesting a difference in soil acidity. It is interesting to note that, within the Feature 143 midden, bone preservation is excellent at the southern end and worsens as one moves north. The Feature 4 midden may well be an extension of this progression.

Additional analyses have been conducted on the ceramic, animal, and plant material from these middens. In addition to being sorted by type, pottery sherds were studied for function. The assemblages were dominated by serving forms, particularly bowls [Slide 18]. Cooking forms, such as jars and restricted bowls, were the next most common form. Very few storage vessels were recorded. The emphasis on serving vessels indicates that eating events, where the food was mostly pre-cooked beforehand, were one of the major activities contributing to this midden deposit. Within the serving vessel assemblage, there is a predominance of large bowls (greater than 40 cm in diameter), which indicates that these were large communal consumption events.

The plant remains from the middens are dominated by just a few species [Slide 19]. Nuts, particularly acorn, were the primary plant group recovered. The starchy seeds of the Eastern Agricultural Complex comprised the second most commonly occurring plant-food group — mainly chenopod, knotweed, and maygrass. In contrast with other Coles Creek sites, very little fruit appears in these deposits.

Analysis of the faunal remains from the Feature 143 midden yielded several patterns [Slide 20]. Deer dominate the assemblage and are represented primarily by medium and especially high utility elements, such as front and hind legs, which would have provided large amounts of meat and marrow [Slide 21]. Fish were the next largest class represented, followed by smaller amounts of turtle, medium amounts of small mammals, and birds [Slide 22]. Taxa for the midden also included rare and dangerous species, including bear, cougar, and barred owl. One of the fragments of bear skull appears cut and polished, indicating a possible ritual use; there are additional fragments of at least one smoothed box turtle carapace, probably used as a bowl.

We interpret these midden deposits as coming from single-deposition events, like feasts, rather than representing accretional or secondary midden deposits [Slide 23]. We use several lines of evidence to come to this conclusion. First, as mentioned, the faunal remains show exceptional preservation. There is little to no evidence for weathering and very minimal amounts of carnivore or rodent gnawing on the bones, indicating the deposit did not sit open for very long. Deer remains show a focus on meaty and marrowy elements, which fits into documented patterns of feasting and provisioning across the Southeast (Jackson 2015). Bones, and other parts of the bear, cougar, and owl may have been prized for ceremonial regalia and activities (Jackson 2015; Pauketat et al. 2002). The plant remains also support a feasting interpretation. Nuts and

small seeds dominate the assemblages; both of these plant food types could have been easily amassed in large numbers. Emphasis on these types of resources has been cited as a characteristic of feasting deposits in the Southeast and elsewhere (Hayden 2001: Pauketat et al. 2002). Finally, the emphasis on serving vessels, particularly large ones, indicates a large-scale consumption event. The large size of the sherds recovered indicates pots were broken close by. The presence of two fawns and three migratory species of birds tells us that at least one of the feasting events probably took place in the fall, sometime around October or November.

They are 1-2 meters deep and silo-shaped, with wide openings 2 meters in diameter, vertical sides, and a slightly rounded bottom. Feature 4 has belling on one side that we believe is the result of erosion rather than intentional shaping. Each contains multiple zones of fill streaked with wash, indicating that the pits stayed open for a long while [Slide 25]. We believe that after the pits were used they were allowed to gradually fill in with soil.

Overall, very few artifacts were recovered from these pits [Slide 26]. Ceramics were the most numerous category, but in drastically lower amounts compared to the overlying middens. A handful of lithics and six pieces of fired clay were also recovered. No bones and very few plant remains were present. Overall size of ceramic sherds was smaller than the overlying midden, but functional analysis was conducted when it was possible. This small assemblage demonstrates no real pattern, with vessels of cooking, serving, and storage functions represented [Slide 27]. The density of charred wood and plant remains was lower in the pits than in the overlying middens [Slide 28]. The majority of plant remains are the small seeds of the Eastern Agricultural Complex, predominantly maygrass [Slide 29]. Altogether, the artifact data, or lack thereof, confirms our interpretation that these pits were filled in naturally and gradually by erosion after they were used.

We considered two broad use categories for these pit features: domestic and ceremonial [Slide 30]. Functionally, it was pretty easy to consider what these pits did *not* represent. They are unlikely to be storage pits, since their wide openings would lead to spoiling or scavenging [Slide 31]. Food processing or cooking is also doubtful. They are too deep to be acorn roasting pits and we have no evidence of burning as would be expected for a cooking pit [Slide 32]. We do not think they are borrow pits due to their relatively small size, particularly in light of the immense borrow pit just south of the former Mound D and adjacent to this feature complex [Slide 33].

One possibility is that these were facilities for the collection and storage of rainwater. In this scenario, the large upper basins, later filled with midden, funneled rain for storage in the smaller, deeper, central pits. Feltus is located at the bluff edge above the Mississippi River floodplain, but unlike other Coles Creek mound centers such as Gordon, Mazique and Smith Creek, it is not adjacent to a creek. The only nearby source of surface water was in the Mississippi floodplain, requiring people to walk down a steep, 30-meter bluff (and back up!) to fetch water. The water-laid silt layers of the deep pits indicates there were many episodes of pooled standing water within the deep pits. Though they are half a state away and 1,000 years later in time, there are possible analogues at historic Chickasaw sites [Slide 34]. Living on ridges high above streams, Chickasaw families dug large (4-5 m diameter and 1-1.5 m deep) basin-shaped pits near their houses, likely for the primary purpose of obtaining clay for house

daub. These collected rainwater, and we know from contemporary accounts by James Adair (1775) and Bernard Romans (1775) that they were used as everyday water sources; some being large and deep enough that children learned to swim in them. The Chickasaw pits are well known archaeologically, with perhaps 20 examples investigated over the years, with some dating back to the 1690s. Returning to the situation at Feltus, the loess soils there would not hold water near as well as the heavy clays at the Chickasaw sites, but the loess can hold water as attested by the many modern dug or dammed ponds in the general area. In addition, the local soil surveys indicate that the soil at Feltus (Memphis silt loam) is suitable for farm ponds except for "seepage in some places" (Morris 1970: Table 4).

There are no other Southeastern archaeological analogs that we know of, but then again most southeastern sites are near a surface water source. It is doubtful that the features would have held water year-round, but they likely held at least some on a seasonal basis. Some water is better than no water. Since the "waterhole hypothesis" is best considered just that, we also considered possible ceremonial uses.

In particular, we were inspired by similar features reported from Marksville, a Middle Woodland site located in central Louisiana [Slide 35]. The site consists of a multi-part earthwork complex, including two to five earthen enclosures, eight mounds, and a series of smaller earthworks (McGimsey 2003). It is the smaller earthworks to which we want to draw attention here. Referred to as "rings," these earthworks consist of an outer ditch encircling a low embankment and central depression, which includes a deep pit feature sitting inside of a basin [Slide 36]. Three of these features have been well documented, although there are believed to be at least eight in all. The basins range from 5.5 to 7 meters in diameter and are nearly a meter deep. McGimsey describes the fill of these basins as "nearly devoid of artifacts" (2003:54). The pit features sit inside of the basins and are 2-4 meters in diameter, 1-1.5 meters deep, and with steeply sloped walls [Slide 37]. These pits are filled with a mix of wash and redeposited hearth debris; very few artifacts were recovered from the fill, though during original excavation screening was not done. The redeposited hearth material, as well as areas of baked earth on the sides of the pit, leads McGimsey to interpret the features as fire pits that sat open between uses (2003:54). No other Marksville-era sites have yielded features of this type. McGimsey considers the bathtub-shaped fire pits at Greenhouse and Goldmine, two other Coles Creek period sites, as potential analogs. These pits are similar in size and shape, and contain evidence, in the form of ash and charcoal layers and baked walls, that they were repeatedly used for fires (Belmont 1982; Ford 1951). However, the bathtub-shaped pits seem to have been used for a specific purpose, likely as cooking pits. In contrast, several features of the Marksville pits — the large size, the segregation of space by the surrounding embankment, and the paucity of artifacts lead McGimsey to conclude that the Marksville features are ceremonial, rather than domestic features (2003:59-60).

We see several similarities and differences in comparing our pits with those from Marksville [Slide 38]. They are of a similar size — around 2 meters in diameter and 0.5-1 meters in depth. Our pits also display zones of wash within the fill and have low artifact densities. However, our pits are not surrounded by the same ditch and embankment enclosure. We also do not believe our midden-filled basins are intentionally excavated. In contrast, the Marksville basins have few artifacts and McGimsey describes them as purposefully excavated, although he

provides little evidence for this. Finally, we do not have any evidence that the Feltus pits were used for fires, aside from a red rind on one side of Feature 4 that can only potentially be attributed to heat exposure.

While we do not believe our pits are exact analogs of the Marksville features, we do think it is possible that the Feltus pits had some ceremonial use. Adjacent to the pits is an area filled with large post pits [Slide 39]. These features have been radiocarbon dated to the Sundown phase (AD 750-850), which indicates they would have been contemporaneous with the pit features. During this time, the post pits would have held large standing posts. After use, the posts were pulled and the holes were often plugged with clean fill and/or special objects or linings, including human remains, bear bones, and ash, among other things (Kassabaum and Nelson 2016: 142). Kassabaum and Nelson argue that these post pits are the material remains from ceremonialism that would have served to connect this world to the upper and lower worlds. They draw on American Indian cosmology to discuss how post pit inclusions may be a way of gathering worlds. For instance, the upper world is associated with smoke and they argue that the appearance of ash within these features could be a link to that world (Kassabaum and Nelson 2016: 145). We have speculated whether the deep pit features may be connected to this post-pit ceremonialism. In Southern Indian cosmology, the lower world is connected with water (Reilly 2004; Riggs 2012) [Slide 40]. Deep pits that occasionally filled with water may have served as a connection to the lower world. At this point, this interpretation is just as speculative as our cistern idea. However, it has given us a framework with which to work as we continue to consider how these pits were used.

The close analysis of these features may not have provided us with definitive answers to how they were used, particularly in the case of the pit features. However, it has allowed us to construct a narrative for their use history and relationship to one another. The deep pit features were dug during the Sundown phase for some ceremonial or domestic purpose. At the same time, groups were performing post rituals nearby [Slide 41]. The pits were allowed to fill in gradually sometime during or right after the Sundown phase. It is unclear why they are not more purposely filled, and this may hint at brief discontinuation of site use. After the pits had partly filled, middens were deposited during the Ballina phase. These middens were placed in basin-like depressions that formed as the upper portions of the pits slumped and eroded into the lower portions. It is possible that the placement of the middens in this spot was deliberate. Filling these low spots would have leveled the plaza in this area. There is evidence from other Coles Creek sites, such as Raffman and Smith Creek, of groups deliberately terraforming plaza areas in order to achieve level surfaces (Kidder 2004; Kassabaum et al. 2014). However, other than this possibility, we do not believe there is a connection between the pit and midden features aside from the obvious spatial one. We believe the middens are the result of multiple feasting events. French accounts of the Natchez describe monthly feasts, and it is possible that these deposits represent something similar. This idea is something we'd like to explore in the future through more detailed artifact analyses and comparisons. At the same time communities were holding these feasts, they were also constructing and adding on to mounds, burying their dead within some of those mounds, and conducting various other feasts and ceremonies across the Feltus landscape.

Our work at Feltus continues to generate insights into the activities of Coles Creek groups at this and other contemporary mound sites [Slide 42]. As our paper today has detailed, many of these activities is occurred off the mounds themselves. While there are innumerable instances of off-mound midden deposits — including likely feasting deposits — at Coles Creek mound sites across the region, our pit features do not seem to have a contemporary analog. Continued work at other Coles Creek mound centers in the region — particularly in plaza areas — is needed to determine whether the Feltus pit features are anomalous or representative of a broader pattern of activity.

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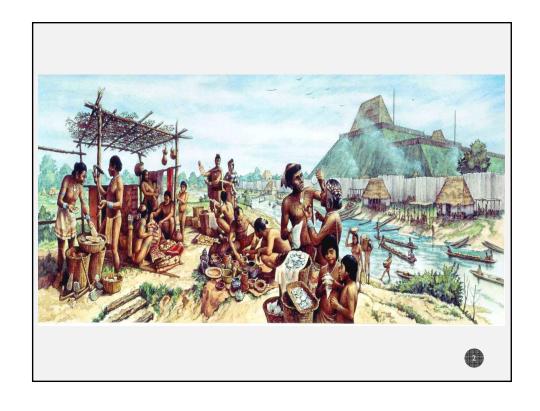
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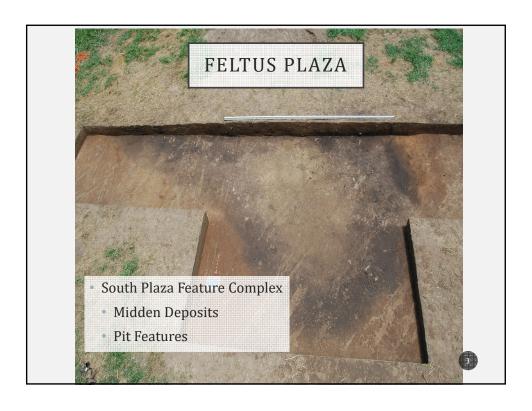
# EXPLORING COLES CREEK MOUND SITE ACTIVITIES THROUGH PIT AND MIDDEN FEATURES

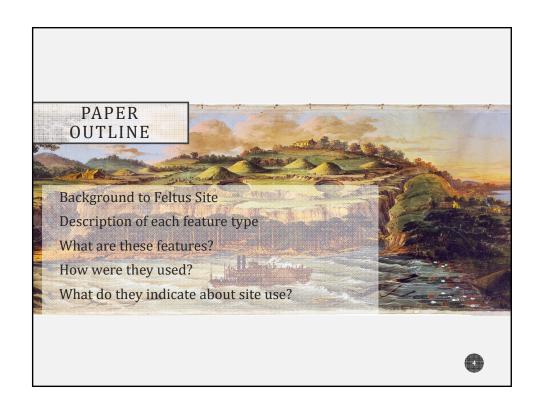
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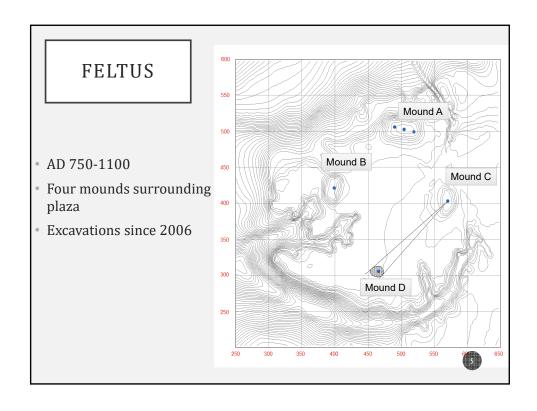


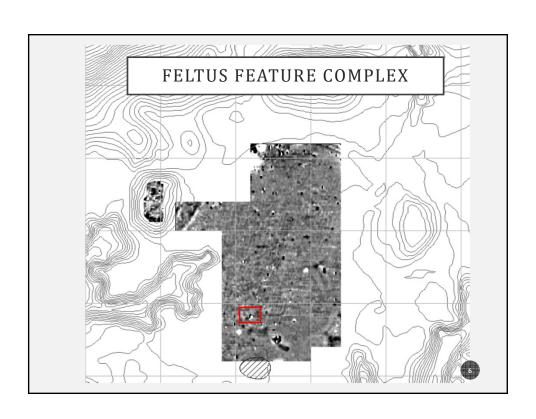


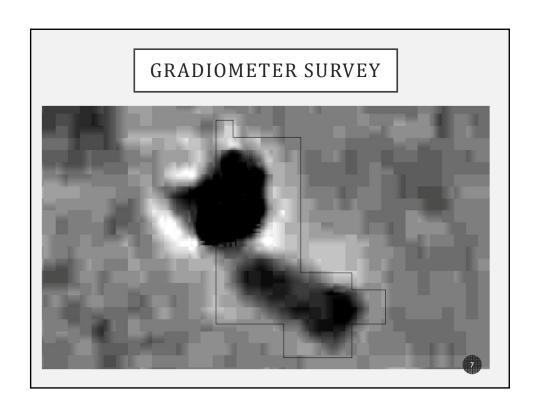


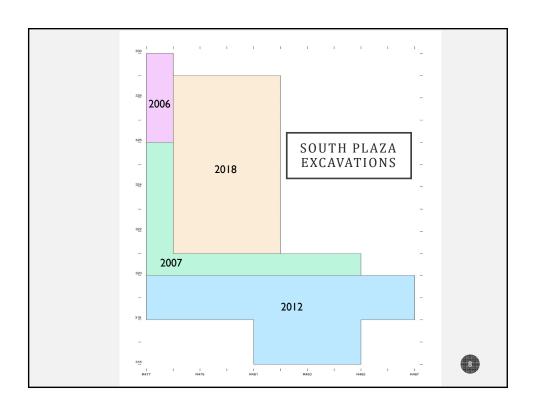




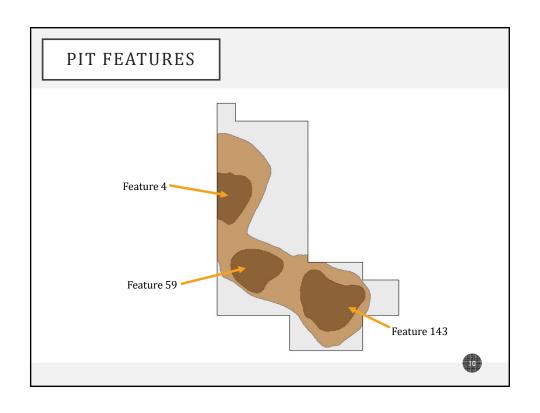


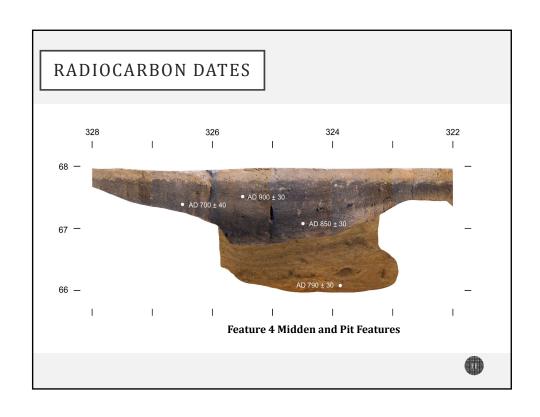


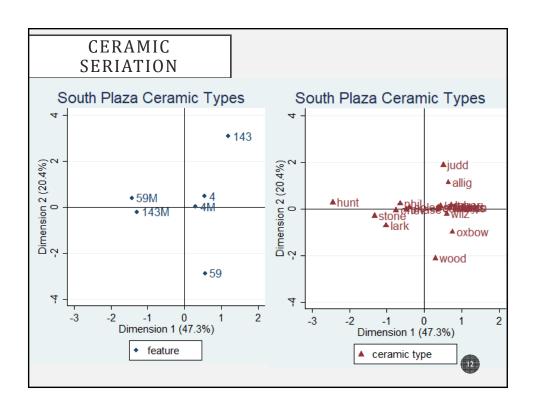


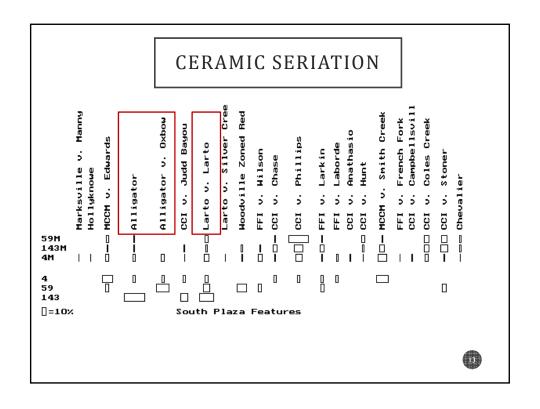


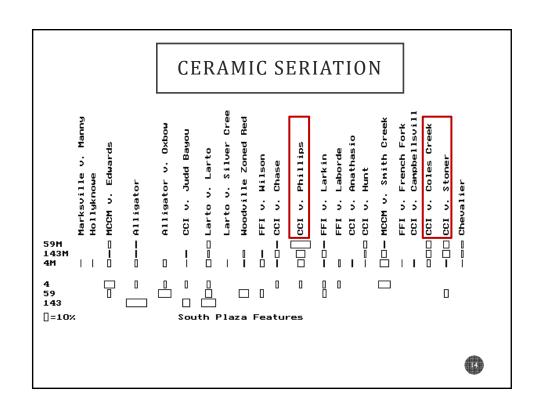




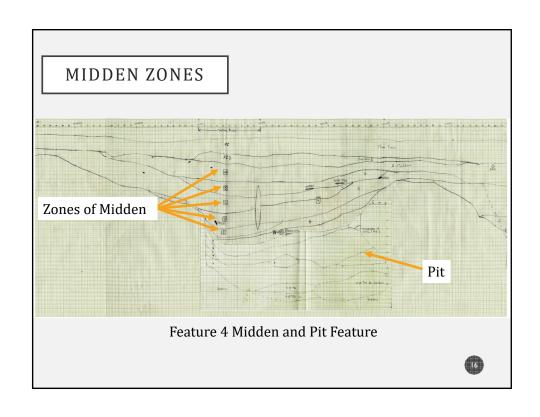




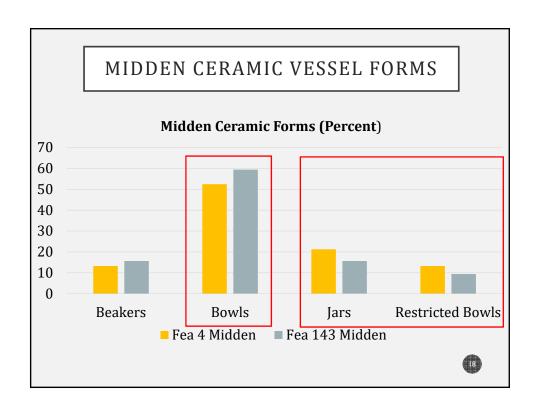


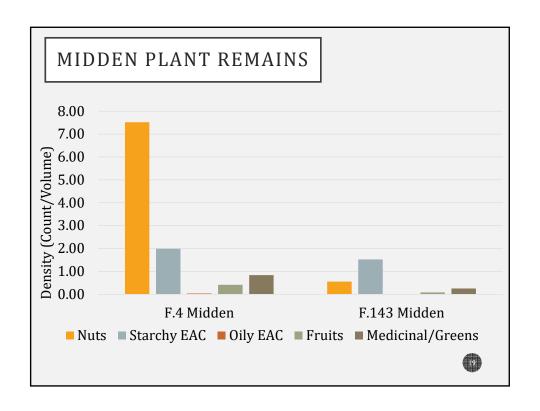


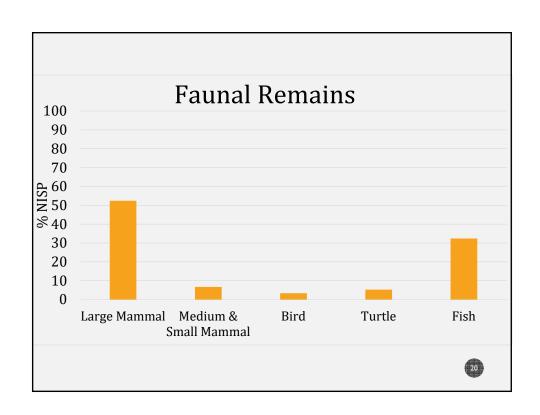


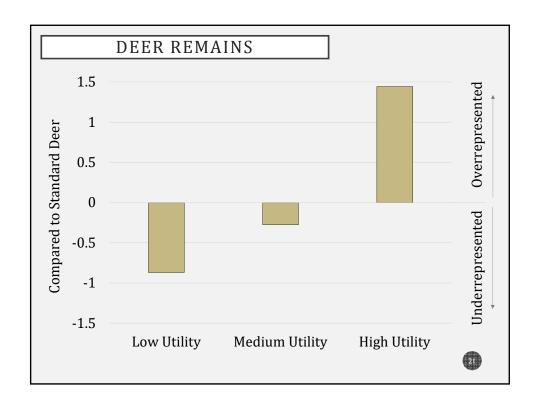


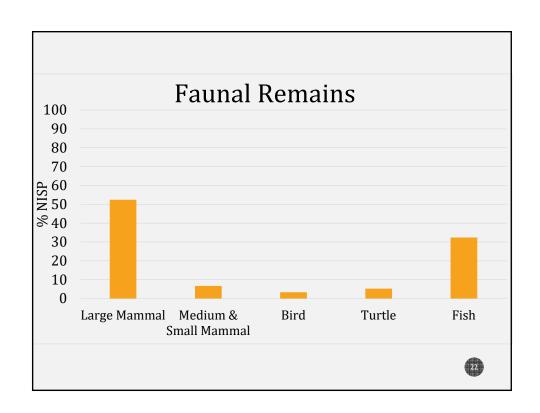
MIDDEN MATERIAL				
	Lithics	Animal Bones	Fired Clay	Ceramics
Feature 4 Midden	689	223	1962	12485
Feature 59 Midden	83	532	120	1409
Feature 143 Midden	250	1888	258	6900
All data are counts from ½" screen only				

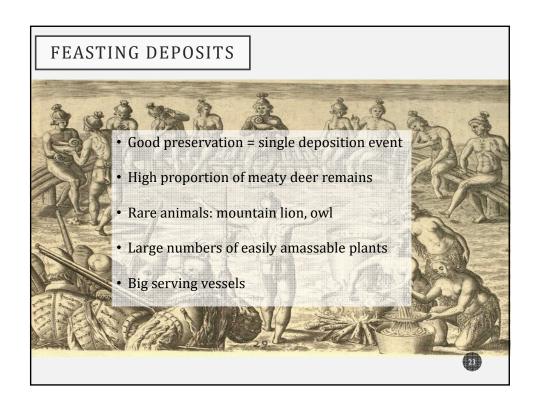


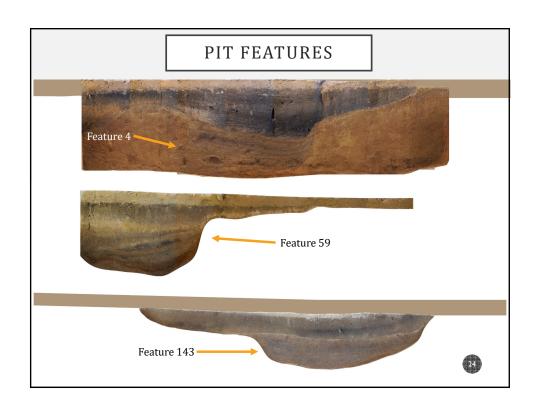


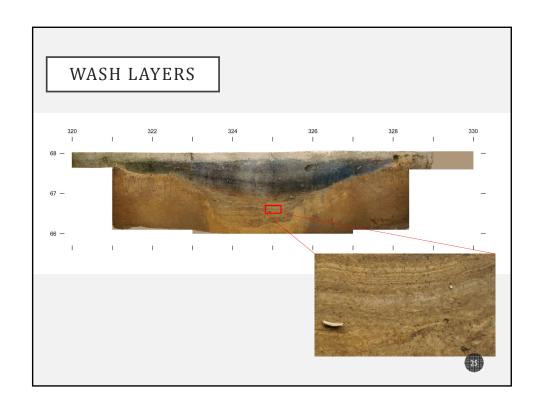


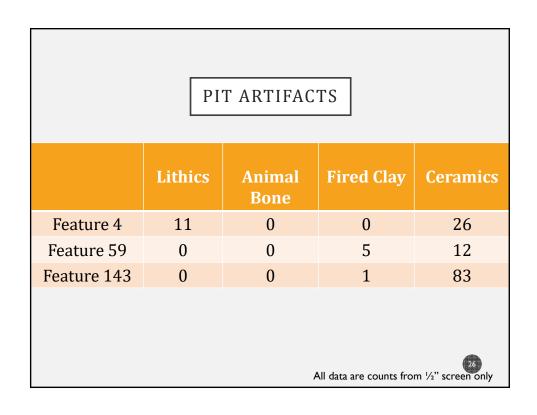


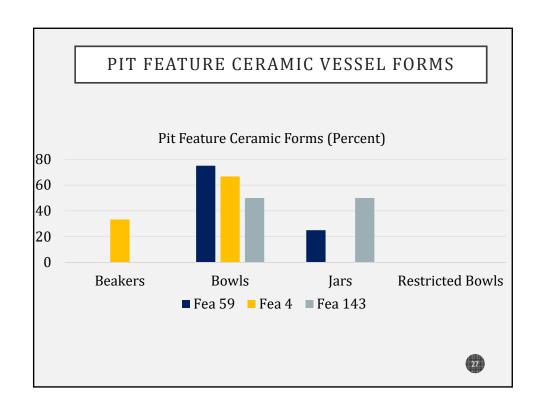


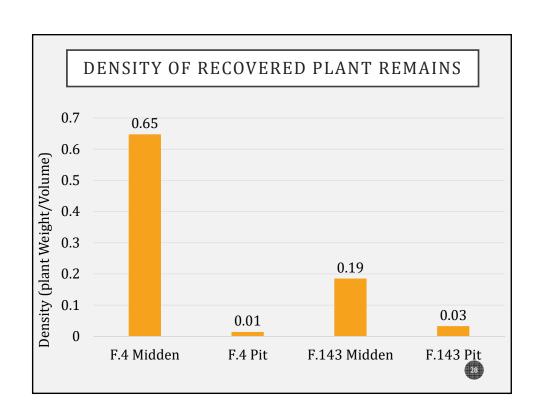


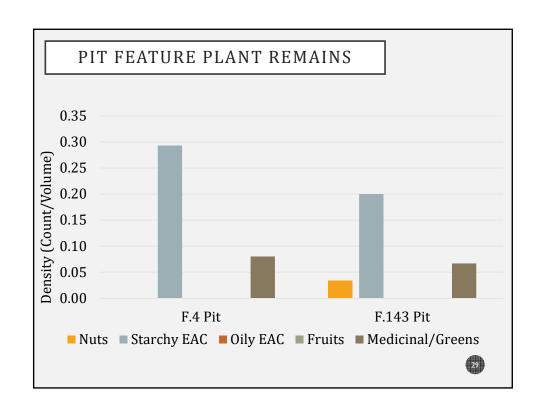














## DOMESTIC OPTIONS

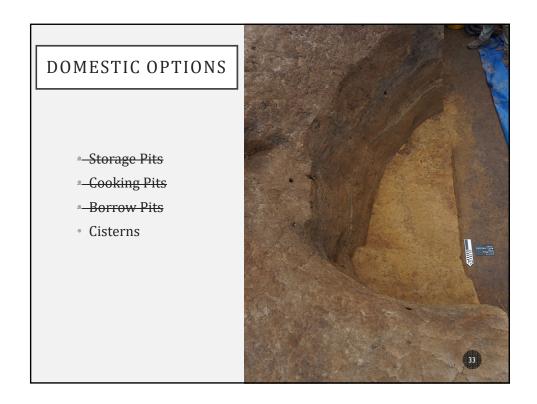
- Storage Pits
- Cooking Pits
- Borrow Pits
- Cisterns



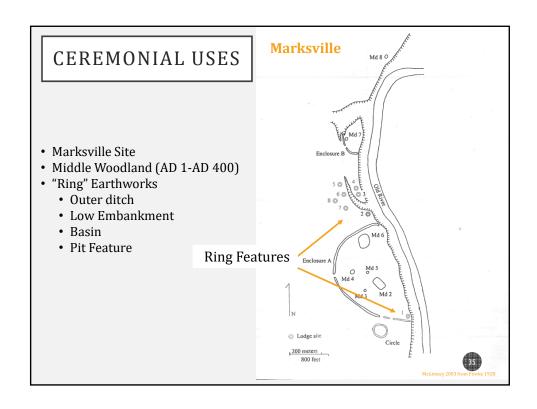
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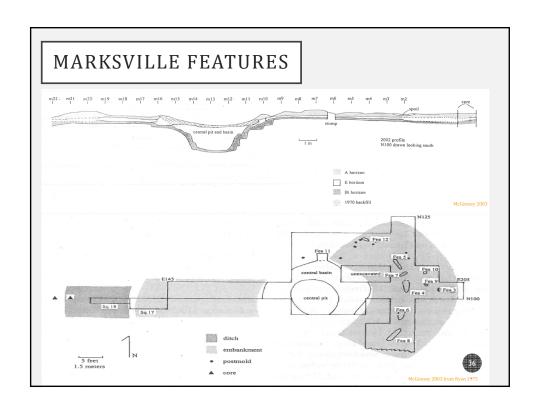
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- Cisterns

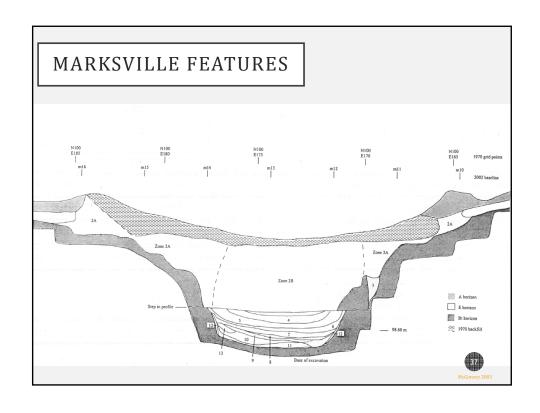


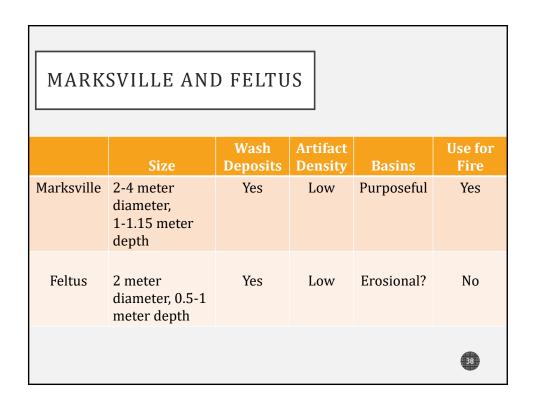












### POST PITS

- Post pits in South Plaza
  - Adjacent to pit and midden complex
- Large standing posts
- Postholes with special inclusions
  - Bear bones
  - · Human remains
  - Ash
  - Clay plugs

