

SIUE 2016 FIELD SCHOOL

INVESTIGATIONS

AT 11MS99

Interim Report

Julie A. Zimmermann
Department of Anthropology
Southern Illinois University Edwardsville

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ABSTRACT

The SIUE archaeology field school took place on the SIUE campus in the summer of 2016. Excavations were focused on an area at the southern end of 11MS99 where field school excavations in 2009, 2013, and 2014 had revealed prehistoric features, including pits, posts, and a wall trench structure. Although our primary research interest is in the Middle Woodland occupation of the site, we have also encountered Mississippian features at the south end of the site, including the wall trench structure. In 2016 we excavated 77 square meters, connecting blocks excavated during previous summers. In addition, we re-excavated approximately 18 square meters to expose a newly identified wall trench structure which lay stratigraphically below units excavated in the summer of 2014. Other features excavated in 2016 included three pits which superimposed the wall trenches. The wall trench structure and those three pits presumably date to the Mississippian period. Three other pits excavated entirely or in part are possibly Late Woodland. In addition, several possible Middle Woodland posts were identified.

ACKNOWLEDGMENTS

Thanks first and foremost to SIUE Vice Chancellor Kenn Neher, who retired during the summer of 2016. We cannot say how much we appreciate his years of support for archaeology at SIUE: without it, this and previous field schools on the SIUE campus would not have been possible. This report is dedicated to you, Kenn! Thanks also to Rich Walker for his support: if anyone can fill Kenn's shoes, he can, and we are so happy that he is the new Vice Chancellor. Thanks to CAS Dean Greg Budzban and Anthropology Chair Jen Rehg for their support. Thanks also to Sheryl Lauth for her invaluable help with the graphics in preparing this report and to Keith Probst for continuing to dig up his memories of 11MS99. Thanks to Caleb Klingler for his help preparing tables, and to both Caleb and Maudie Knicley for helping supervise the excavation. Finally, the greatest thanks go to the field school students of 2016. They provided a needed distraction at a difficult time for me, and reminded me how much I love teaching... most of the time!

INTRODUCTION

The Anthropology Department of Southern Illinois University Edwardsville (SIUE) conducted an archaeological field school on the SIUE campus in Edwardsville Township, Madison County, Illinois, between May 16 and July 8, 2016. Field school investigations primarily consisted of excavations at the southern end of 11MS99. In addition, surface collections were conducted on the south end of the site when human bone was observed near our excavation units, and in the central part of the site when a tenant farmer “accidentally” plowed part of the site including a previously recorded burial. Julie Zimmermann, Professor of Anthropology, acted as field director and instructor of record. Caleb Klingler and Maudie Knicley, who had completed previous field schools at 11MS99, acted as undergraduate assistant supervisors for course credit. Thirteen students (Brandon Brindley, Sarah Finley, Chase Halsne, Luke Haun, Chris Johnson, Nigel Knutzen, Shannon Miller, Susie Oettle, Austin Sandberg, Shana Springman, Liz Storey, Quinten Voss, and Ken Yearout) enrolled full-time in the course and acted as field crew.

The primary goal of the SIUE archaeology field school is to teach students standard archaeological field methods. In addition, the field school offers research opportunities to SIUE anthropology faculty and also students, who are encouraged to do original research for their senior projects. Perhaps most importantly, the field school provides a means for recording endangered archaeological sites, which are rapidly disappearing due to development in Madison County. 11MS99, for example, has been severely impacted by decades of deep plowing and removal of artifacts by private collectors. The field school provides us with the opportunity to document archaeological resources on campus with the goal of protecting them, or excavating them if deemed necessary.

The field school achieved all of these goals. All students completed the course successfully and gained excavation experience. In terms of research, the data recovered from 11MS99 provide information about the Middle Woodland and Mississippian occupations at the Gehring site and more generally of the American Bottom. Two senior projects utilizing data recovered during the field school investigations at Gehring were undertaken during the 2016-17 school year (Halsne 2017; Haun 2017). In terms of the third goal, in 2012 SIUE removed 11MS99 from agricultural production as a result of our field school research.

This report summarizes results of the SIUE field school undertaken at 11MS99 on the SIUE campus in the summer of 2016. Excavations at 11MS99 were focused on an area at the southern end of the site where Middle Woodland and Mississippian features were excavated by the 2009, 2013, and 2014 field schools. Our 2016 excavations removed 77 square meters of plowzone, revealing six pit features, several posts, and a wall trench structure. The wall trench structure and three pits which superimposed it presumably date to the Mississippian period. Three other pits excavated might date to the Late Woodland period. Several posts are believed to date to the Middle Woodland period.

This report will begin with a description of the project setting and a summary of previous investigations in the area. The bulk of the report will focus on our excavation methods and results at 11MS99. As of this writing, analysis of the artifacts collected at 11MS99 is still ongoing. When the analysis of these artifacts is complete, a final report will be written which will compare our findings with data from the greater American Bottom. Certainly, it is clear that the people who inhabited 11MS99 from the Late Archaic period through the Mississippian period were engaged in the social arena of the greater American Bottom.

SETTING AND PRIOR RESEARCH

The archaeological record of the American Bottom is rich. Although best known as home to Cahokia, largest archaeological site north of Mexico, thousands of archaeological sites have been recorded in the American Bottom and in the adjacent uplands. In the uplands, these include sites dating from the Paleoindian period through the historic period; in the floodplain, sites are known dating from the Early Archaic through historic periods. The region was attractive to prehistoric and historic settlers alike for its rich resources in both floodplain and uplands, including both forest and prairie habitats (e.g., see White et al. 1984).

The area located around modern Edwardsville, including the SIUE campus, exemplifies the American Bottom in the richness of its natural resources and in the corresponding richness of its archaeological record. The SIUE campus is situated along the bluff edge and bluff base of the northern American Bottom, just south of where Cahokia and Indian Creeks exit the uplands and then merge. Cahokia Creek would have meandered along the base of the bluff on the western edge of campus on its way south to Cahokia, a distance of just ten miles (16 km), and from there on to the Mississippi River beyond. The gentle slope of the bluff here would have given inhabitants easy access to resources of both floodplain and upland. The 1815 GLO map shows that most of what is now the SIUE campus was forested at that time, although prairie was located nearby on both the floodplain and in the uplands (Illinois Secretary of State 2009; see Figure 1). In the early 1800s a backwater lake was located in the American Bottom just 3.5 miles (six km) west of the bluff that crosscuts the campus, and the Mississippi River itself was approximately twice that distance. Through time the exact boundaries of forest and prairie would have shifted, the river and creeks would have meandered, and floodplain lakes would have swelled and shrunk, but local resources would have been abundant regardless of these fluctuations.

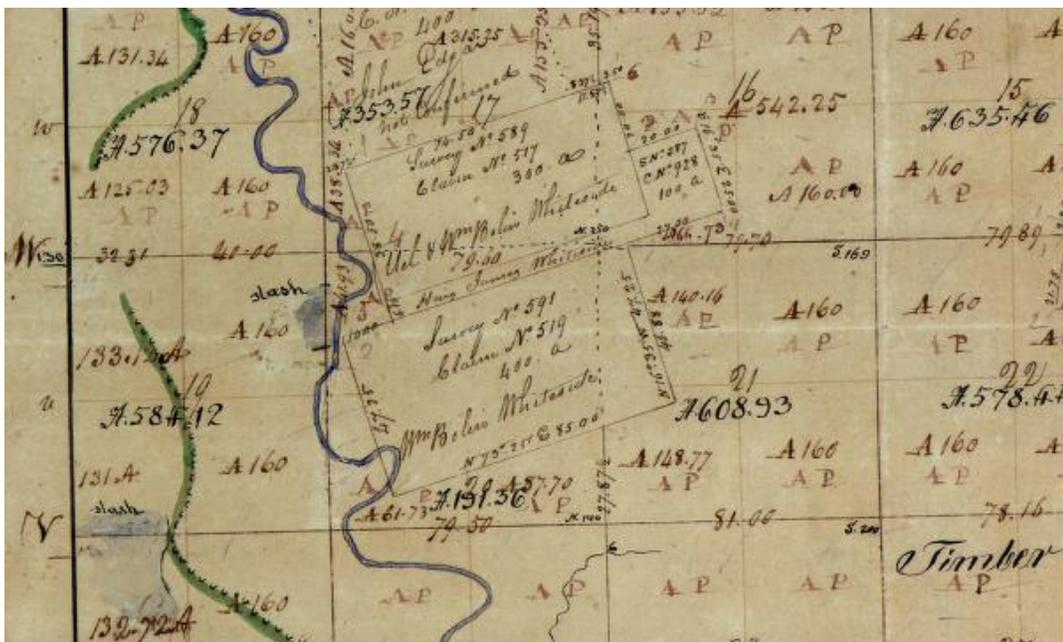


Figure 1. 1815 GLO map (Illinois Secretary of State 2009).

The richness of the local natural resources has produced an equally rich archaeological record. Munson and Harn (1971) surveyed portions of the SIUE campus as part of a larger archaeological survey of the American Bottoms and Wood River terrace in 1963. Sites reported on campus by Munson included 11MS94, 11MS95, and 11MS96 on the bluff; and 11MS99 in the floodplain below (Figure 2). Archaic period components were recorded at 11MS96 and (albeit with a question mark) at 11MS95. Middle Woodland components were recorded at 11MS94 and 11MS99. A Late Woodland component was reported at 11MS95, and Mississippian components were recorded at 11MS94 and 11MS99.

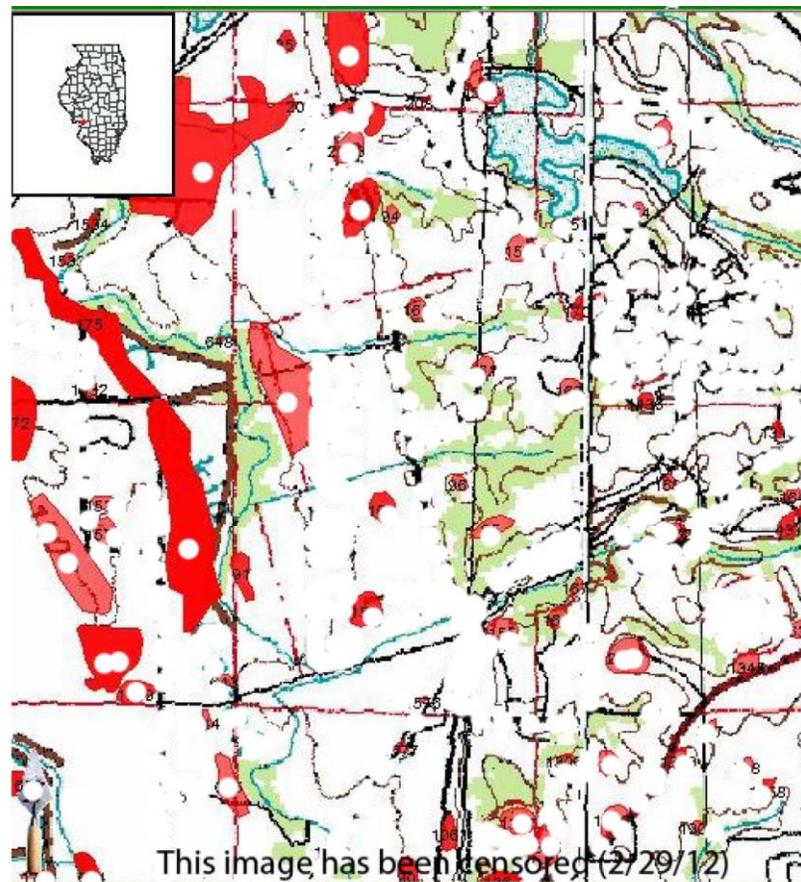


Figure 2. Location of previously recorded sites on the SIUE campus (<http://arch.museum.state.il.us/archsites/>).

Of these, 11MS99 was clearly the largest site, covering at least forty acres, and it seems to have had the densest concentration of artifacts. The site lies on the floodplain near the base of the bluff, on a terrace just east of Cahokia Creek. Munson named 11MS99 the Gehring site after Wilbur Gehring, then a tenant farmer of SIUE but formerly owner of the site. Munson described 11MS99 as a Havana village (Ms^V266) and mound (Ms^O267) and also a Bluff camp yielding Late Bluff rim sherds (Munson and Harn 1971:7, 13). On the IAS site form Munson also indicates a Mississippian presence at the site; other artifacts he collected included one Marion Thick sherd, and both straight and expanding stemmed points. On the site form Munson further indicates that his surface collection of 11MS99 was “arbitrarily” divided into three parts. The

northern part apparently lay to the north of an old street car trace that is referred to as a levee on a sketch of the site included with the site files. Today this street car trace or “levee” is used as a road to access utilities which have impacted the northern part of the site to an unknown extent (Booth 2014). The central and southern parts of the site lay to the south of the street car trace in a cultivated field. The central part of the site was highest in elevation, a relatively broad terrace closest to Cahokia Creek; the southern part of the site appears on the sketch map as a narrow finger ridge extending to the south. On the site form Munson noted that Middle Woodland artifacts were found on all parts of the site (northern, central, and southern), whereas Late Woodland and Mississippian artifacts were found only in the central part of the site. Munson’s artifact counts indicate that the greatest number of artifacts was collected in the central part of the site, which is not surprising giving that this relatively high and broad part of the site was used repeatedly throughout its history.

Review of Illinois Archaeological Survey (IAS) site files indicates that additional surveys were conducted on campus by Ken Williams and Ernest Evans in 1969. They reported a number of new sites on campus, including 11MS157, 11MS161, 11MS169, and 11MS170 in the uplands; 11MS165 on the bluff edge; 11MS168 on the slope of the bluff; and 11MS159 and 11MS160 on the floodplain. Most of these sites seem to have been small with light artifact densities, except for 11MS159, which was recorded as a possible village dating to the Woodland period. Woodland components were also reported at several other sites (11MS160, 11MS165, 11MS168, and 11MS170). No Archaic or Mississippian components were recorded by Williams and Evans.

In the early 1970s, SIUE professor Sid Denny conducted field school excavations at 11MS99 for two or three seasons. He referred to the site as the Keller Site because it was farmed by Vernon Keller at that time. Apparently no report of Denny’s excavation was ever written. Maher (1996) interviewed Denny in March of 1994 and reports that all of Denny’s excavation notes and maps were lost at that time, although he was able to examine some of Denny’s artifacts. In July of 2003 Julie Zimmermann (then Assistant Professor Julie Holt) transferred nine boxes of artifacts labeled MSV-99 from the SIUE Anthropology Lab to the SIUE University Museum. Presumably, these were artifacts from the Denny excavation. At that time the ISM declined to accept the collection for curation because no field notes could be found to accompany them. More recently, we have received an inventory of documents given by Denny to the SIUE Lovejoy Library Archives. This inventory lists documents from “MS99 Keller Site.” The documents are excavation forms from the 1970 excavation; these have been copied and are currently on file in the SIUE Anthropology Department. Four sheets of color slides from Denny’s excavations have remained on file in the SIUE Anthropology Department and have been digitally scanned. These slides also appear to be from the 1970 excavation, and show excavation of trenches with a road grader.

Zimmermann (then Holt) interviewed Denny on-site on May 20 of 2009. Denny indicated that in his first field season or two, he excavated test units on 11MS99. In his last field season he excavated two or three trenches with a road grader in the central part of the site. These trenches were perhaps 100 m long running north to south with perhaps 10 m between the trenches; the road grader and trenches were approximately 3 m wide.

In one trench, probably the one located farthest to the west, Denny observed a structure at the base of the plowzone which he described as a “small brush structure” (personal communication, May 2009). The structure was roughly rectangular and approximately 5 x 12 feet in plan view with a basin approximately 2.5 feet deep. (Note that Denny described the trenches in metric measurements and the structure in English; his terminology is used here.) He

said the structure contained no wall trenches, but randomly placed posts were noted, and few artifacts were recovered. At first Denny thought this was a Middle Woodland structure, but he said later discussions with personnel at Cahokia Mounds State Historic Site made him think that the structure dated to the Mississippian period. In the middle trench Denny observed a cluster of three or four pits (personal communication, May 2009). One of these contained Havana artifacts, while the others contained Mississippian artifacts such as Powell Plain and Ramey incised jars (which Denny described as “Fairmount Phase”). The trench farthest to the east contained no features.

The completed forms from Denny’s excavation are difficult to decipher since they don’t include an overall site map. (Although one slide from Denny’s fieldwork shows a student drawing a large map, no site maps were found among his notes.) The notes suggest the presence of one or two living surfaces below the plowzone. For example, one form (labeled 24 in the upper right hand corner) contains the comments, “Plow depth ranged from 25 to 40 cm. Under plow depth black band of undisturbed loamy soil grading into a lighter sandy brown soil. 2 possible occupation levels. Artifacts found in both soil types under plow zone. All pottery identified from both soil types (levels) as Mississippian.” Another sheet (labeled 25 in the upper right hand corner) contains the comments, “Black soil band under plowzone extended through all four pits on the walls. Possible depressed area where people threw refuse, not a midden, span of time used probably short.” It is not clear in these comments if “pits” refers to pit features or excavation units.

Although feature descriptions in these notes are very brief, they might provide some context to the artifacts recovered. It is also possible to identify several of the features in the slides. Feature 11 appears to have been a shallow pit feature, and about 2 m northeast of Feature 11, Feature 9 was labeled as a burnt corn concentration (sheet 15). Feature 8 was a shallow pit (sheets 16 and 62). Feature 4 was a bell-shaped pit (sheet 74). Feature 7 was circular in plan view, and was presumably a pit (sheet 77). Its surface was “covered w/large quantities of shell temp pottery (Cahokia Red shell temp plain and Ramey Incised), 1 reworked proj point drill, burned clay & rock” with “very little charcoal” (sheet 77). A sketch suggests it was found in association with a line of posts.

As part of his dissertation investigating the “Hopewell occupation” of the American Bottom, Maher (1996) examined artifacts from Denny’s excavation and surface collection, but apparently the artifacts were without specific provenience. Maher (1996: Tables D.5 and D.6) provides a list of the Middle Woodland ceramics he identified in Denny’s collection; he suggests that there was an equal number of Mississippian sherds in the assemblage (apparently dating to the late Stirling phase), as well as a “substantial collection of Early Woodland Marion Thick pottery” (1996:640). Maher (1996:640) reports that Denny provided him with photographs from his excavation which “revealed the presence of pottery-filled pits (Figure D.15); a pit with a carbonized corn cob remains (Figure D.15), and midden-filled pits and post molds (Figure D.16) [sic].” Maher’s Figures D.15 and D.16 are included among Denny’s color slides now curated in the SIUE Anthropology Department.

Maher (1996) also conducted limited excavations at 11MS99, focusing on the purported mound. IAS site forms indicate that this “mound” was 80 feet in diameter and 3 feet high, and as Maher notes, the IAS site forms also indicate that previous owner Wilbur (or Wilber) Gehring dug a hole in the landform “many years ago [before 1969], but never found anything.” The IAS site forms indicate that a notched hoe was found near the possible mound, but was not necessarily associated with it. Terry Norris (personal communication, September 2016) reports

that he and Ken Williams found a stone pipe fragment on the possible mound during a general surface collection prior to Denny's first field school on the site in 1970. Norris states that the pipe fragment was approximately 10-12 cm long and 5-6 cm wide, larger and bulkier than a Middle Woodland styled platform pipe and more similar to a Mississippian style pipe. The stone was dark and possibly a fine grained sandstone.

Maher (1996) excavated in the possible mound to determine its cultural affiliation. He notes that at the time of his excavation in 1994, the purported mound was only 50 cm high and difficult to locate due to decades of plowing. Maher placed two transects of "soil probe cores" across the mound, and also excavated three 1 x 2 m units on the mound. All excavated sediments in these units were screened through half-inch mesh. No artifacts were recovered in two of the three units, and artifacts in the third were recovered from the plowzone only and were not culturally diagnostic. Maher reports that the stratigraphy in the excavation units was often disturbed and gave no indication of mound construction techniques (such as basket loading). Flotation samples were taken from supposed mound fill, but produced few plant remains. A hazelnut shell was submitted for radiocarbon dating and produced a date of 2475 ± 45 BP, suggesting a Late Archaic or Early Woodland affiliation (Maher 1996:659). However, Maher concludes that "the mound at Gehring remains an enigma" (1996:659). That is, the near absence of artifacts and lack of definitive evidence for mound construction could indicate that this was not a mound at all, but instead was a natural geomorphological feature, perhaps a remnant of a sand ridge.

The observations and collections of avocational archaeologist Keith Probst are probably as important as those of professional archaeologists in understanding 11MS99. Probst collected 11MS99 and other sites in Madison County between 1967 and 1973, keeping a log of his finds in which he recorded artifact numbers, artifact descriptions, and site locations (Zimmermann and Koldehoff 2016). In 2007 and 2008 Probst permitted Julie Zimmermann, Brad Koldehoff, and Ken Farnsworth to examine his collection, photocopy his log, and photograph selected artifacts. In his log, Probst referred to 11MS99 as a "Hopewell" site, and our examination of his collection from 11MS99 confirms that it is predominantly composed of Middle Woodland artifacts. Middle Woodland lithic artifacts he collected include blades, blade cores, Snyders points (several of which were reworked into scrapers), North points, Manker points, a Norton point, celts, and a hoe. Middle Woodland ceramic types identified in the Probst collection include Havana plain, Hopewell rocker stamped, Netler stamped, and Sisters Creek fingernail punctate. A drilled bear canine from the site is also surely Middle Woodland, and a galena fragment and a quartz crystal are probably Middle Woodland. (One Snyders points was also made of quartz; this was found in the northern part of the site.) Early Woodland and Mississippian artifacts were also common. Early Woodland artifacts included 11 Kramer points (one of which was reshaped into a drill), and a probable limestone tube pipe (broken and unfinished) also appears to be Early Woodland. Mississippian artifacts include Cahokia points, Madison points, a Cahokia cordmarked jar rim with a red-slipped interior (Moorehead phase), a celt, and a Cahokia style discoidal. Two marine shell disk beads in the Probst collection are probably also Mississippian. The Probst collection from 11MS99 also includes a Dalton point (turned into a scraper), a variety of Late Archaic point types (Matanzas, Riverton, Adena, Copena, Etlely, and Motley), a Late Woodland Mund point, artifacts dating to the Terminal Late Woodland or Emergent Mississippian period (a Late Woodland arrow point and Late Bluff rim sherds), and an historic period ceramic pipe.

While revisiting 11MS99 in 2008, in 2009, and in 2013, Probst pointed out that the majority of Middle Woodland artifacts came to the surface only after the sand ridge in the

southern part of the site was deep plowed for horseradish production. This observation suggests that prior to deep plowing, the site had been stratified. Probst also suggests that as much as five feet of sediment have been removed from this ridge (due to plowing and erosion) since the early 1970s.

There are surely other privately held artifact collections from 11MS99 which would prove informative if they could be located. Probst collected the site for a relatively brief period, and during that period he regularly observed footprints from other artifact collectors. Footprints from a collector were observed in Zimmermann's first visit to the site with Probst in March of 2008. Footprints of collectors were observed on-site every time it rained during the field school in May and June of 2009. Zimmermann observed on June 1 of 2009 that a collector had been digging on-site, at the edge of an erosion gully at the southern end of the site. In addition, in May and June of 2009 a total of approximately 20 people actively surface collecting were observed firsthand by field school faculty and students and reported to SIUE police. One collector reported that she had been told about the site by her employer, a local lawyer, who had collected the site for years with his family. A family caught collecting and stopped by SIUE police in summer of 2009 reported that they had been given permission to collect by Craig Keller (the current tenant farmer); they reported that they had collected the site for years and had seen many other collectors out there. It would be beneficial to examine the collections of these and other individuals, but unfortunately none have been forthcoming as of this writing. During the 2011 SIUE field school, looters damaged a feature that was being excavated, but it is unknown if they stole any artifacts (Vogel et al. 2013). During field school excavations since 2013, we have not observed any collectors, nor have we observed evidence that the site has been visited by collectors. This could be in part a result of the police protection which began in 2009, and the installation in 2009 of IHPA signs forbidding artifact collection on site. Moreover, because the site is no longer plowed (since approximately 2012), it is less attractive to collectors.

Julie Zimmermann (then Holt) directed the 2009 SIUE archaeology field school at 11MS99 (Holt and Belknap 2010). A surface collection was conducted over the southern and central portions of the Gehring site, as well as ca. 85 acres of agricultural field adjacent to the central and southern portions of the site. Excavations at the southern end of 11MS99 revealed a Middle Woodland pit feature, and a second pit feature and a posthole that probably date to the Middle Woodland period. Further excavations in this area by the 2013 field school revealed additional pit features dating to the Middle Woodland period, and postholes which probably date to the Middle Woodland period (Holt 2013). Mississippian pit features were also excavated by the 2013 field school at the south end of the site, including a Mississippian wall trench structure which was partially uncovered, mapped, and reburied. In the 2014 field school Zimmermann and students excavated in entirety that wall trench structure and associated features. The time period and function of other features excavated by the 2014 field school at the south end of the site were not clearly defined (Holt 2015).

Gregory Vogel, then Assistant Professor of Anthropology, directed the SIUE archaeology field school at 11MS99 in the summers of 2010, 2011, and 2012 (Vogel and Clemons 2011; Vogel et al. 2013). Vogel conducted extensive remote sensing at 11MS99, and his excavations focused on ground-proofing the remote sensing results in the central portion of the site. Pit features excavated by Vogel and students dated to the Middle Woodland, Late Woodland, Emergent Mississippian, and Mississippian periods. Structures were excavated dating to the Mississippian and historic periods. The presumed Mississippian structure was a wall trench structure. A Mississippian burial probably dating to the Moorehead phase was found in the

summer of 2012; it contained copper, a shell-tempered ceramic discoidal, and red-slipped, shell-tempered pottery (Vogel 2012). After determining that this feature was a burial, it was immediately reported to the IHPA and reburied without further excavation.

Investigation of the stratigraphy at 11MS99 included excavation of deeper units by Zimmermann (then Holt) and students in the southern portion of the site in 2009 and in the central portion of the site by Vogel and students in subsequent field seasons. Vogel also took sediment cores across the site. His stratigraphic analysis suggests potential for deeply buried cultural deposits at 11MS99. However, our excavations since 2009 have mostly been limited in depth to investigation of features found at the base of the plowzone. If there are more deeply buried cultural deposits at the site, we don't have time to reach them in the course of a typical field school season because our field methods do not include use of heavy machinery.

Finally, 11MS99 has been the subject of recent CRM compliance work. Because the road which separates the northern and central portions of the site was scheduled to be improved, in May of 2014 several backhoe trenches were dug cross-cutting the road, and shovel tests were conducted just north and south of the road (Booth 2014). These investigations found nothing of archaeological significance. The road improvements were completed in summer of 2015.

FIELD METHODS AND RESULTS

Although we had not intended to conduct surface collections during the 2016 field season, we surveyed a small area in the southeast corner of the site because human remains were observed on May 19 at ground surface as we were laying in our excavation units. I called the Madison County Coroner, and Investigator Kelsey Wofford (who completed the SIUE archaeology field school at the Gehring site in 2011 and graduated with a BS in Anthropology from SIUE in 2012) arrived on the scene and concurred that the remains were prehistoric. The initial find was a heavily worn molar with three roots found at approximately 15S 0759103 4297410 (on our grid, that was approximately N404 E403.7). Other human bone observed in the same area included skull fragments, and probable human bone included long bone fragments. Joe Phillippe of the IHPA directed us not to collect the human remains, so we buried each where it was found just below the surface with a trowel. Artifacts observed in the vicinity of the human remains included a Middle Woodland rim sherd with nodes and fingernail impressions or incising, and also Mississippian shell-tempered sherds. Mussel shell was also observed in this area, as it was during the surface collection conducted in 2009.

We also surface surveyed a larger area (approximately 4 acres) in the northwest part of the site which lies south of the field road when this area was “accidentally” plowed by a Keller Farms employee after we had left the site on the evening of June 1. Although Craig Keller was informed of the error and asked to keep his workers off the site, a contractor hired by Keller later sprayed the plowed ground with herbicide. Most unfortunately, the area plowed included the location of a Mississippian burial, Feature 197, recorded during the 2012 field school (Vogel 2012; Vogel et al. 2013). We walked the plowed area on June 2, and again later in the summer after it rained, checking to see if features had been damaged, most specifically Feature 197. No human remains or diagnostic artifacts were observed, and as of this writing there is no indication that the burial or other features were impacted. We observed but did not collect non-diagnostic artifacts, because this area was intensively collected during the 2009 field school.

Because our primary research interests are to better understand Middle Woodland use of the site and Middle Woodland life ways in the American Bottom, during the 2009 field school season we excavated at the southern end of the site in the vicinity of a Middle Woodland pottery concentration which had been located during our surface collection (Holt and Belknap 2010). In this area we found a Middle Woodland pit feature (Feature 102) containing Havana and Hopewell pottery, as well as a second pit feature (Feature 104) and a posthole (Feature 103) that probably also date to the Middle Woodland period. In 2013, we continued excavation immediately east of Features 102 and 103 (Holt 2013). In this excavation block we found two more Middle Woodland pit features (Features 203 and 204), one of which (Feature 203) contained Hopewell pottery, mica, and a clay figurine. We also found possible posts, one of which (Feature 208) was similar in size to Feature 103. We identified a semi-circle of smaller posts (Feature 205) which might also date to the Middle Woodland period. We continued excavating east of this area in 2014 (Holt 2015), finding three pit features of unknown age and function (Features 220, 224, and 232). Of these, Feature 232 extended into the east wall and was not excavated. The area excavated in 2014 also contained two possible posts, Feature 221 and 225. The age of the posts is unknown, but they were consistent in size and shape with Features 103 and 208, which were believed to be Middle Woodland in age. Thus, Feature 103, 208, 221, and 225 could form part of a Middle Woodland post structure

In 2013, we also excavated approximately 6 m northeast of the Middle Woodland features in order to ground proof remote sensing data provided by Greg Vogel (Holt 2013). This excavation block revealed two pits (Features 210 and 211) which were possibly Archaic in age, three shallow pit features (Features 206, 207, and 209) which contained Mississippian ceramics, and part of a wall trench structure (Feature 212). We completed excavation of the wall trench structure, Feature 212, in the summer of 2014 (Holt 2015). It was large for a Mississippian domestic structure, measuring ca. 4.6 x 6 m or nearly 28 square meters. Multiple features were identified on the floor of Feature 212 in its east half. These included pit features (Features 227, 228, 229, and 238) and probable posts (Features 226, 230, and 233). These features contained few artifacts, including fragmentary Middle Woodland sherds, so it is not entirely clear if they predated or were contemporary with Feature 212. However, Halsne (2017) suggests that they are Mississippian in age. Feature 230 contained a rich deposit of charred maize, suggesting it was Mississippian in age. Feature 226 was similar to Feature 230 in size and shape, which might suggest that it too was Mississippian.

Given these finds, our goals in 2016 were to expand on and connect these excavation blocks in order to better understand Mississippian and especially Middle Woodland occupation of the site. Specifically, we excavated north and south of Middle Woodland features (103, 104, 203, and 204) in hope of finding more Middle Woodland posts which might delineate a Middle Woodland structure. We also excavated further east of those Middle Woodland features and south of Mississippian features 206, 207, and 209, in order to connect the two largest excavation areas containing features.

Site datum coordinates for our excavations in the southern portion of the site can be found in Table 1 (Holt and Belknap 2009; Holt 2013; Holt 2014). Please note that our coordinates are on a different grid system than the one later established by Vogel in the central part of the site (Vogel and Clemons 2011; Vogel et al. 2013). Unit coordinates and sizes for the 2016 excavation can be found in Table 2. Unit coordinates refer to the southwest corner of the unit. Note that new excavation units began with the letter D. Units beginning with the letter B were originally excavated in 2013, and units beginning with the letter C were originally excavated in 2014. Old units were reopened this year when necessary to define features.

Table 1. Site Datum Coordinates (Zone 15S)

SIUE grid coordinates	X (UTM)	Y (UTM)
N419 E396	759095	4297430
N399 E396	759096	4297408

Excavation was begun on Friday, May 20, and completed on Monday, July 11. All sediments were removed by hand (shovel and trowel). The plowzone in all new units was removed in one natural level, screened through ¼ inch mesh, and described using standard nomenclature (Munsell colors and USDA textures). At the base of the plowzone, the subsoil was troweled to look for possible features. Possible cultural features identified at the base of the plow zone were drawn and photographed in plan view and then bisected. The first half of each feature was excavated, usually as a single stratum. The profile of the feature was then photographed and drawn. Any distinct strata visible in profile were excavated separately in the second half of the feature, with 10 l flotation samples taken from each. If strata were too small to yield a 10 l

sample, smaller samples were taken. All feature sediments not saved for flotation were screened using ¼ inch mesh.

Table 2. Unit Coordinates.

Unit name	SIUE grid coordinates	Unit size
BC	N408E398	2x2 m
BD	N410E398	2x2 m
CA	N410E400	2x2 m
CM	N410E402	1x2 m
CN	N408E402	1x2 m
CP	N410E403	1x2 m
DA	N414E396	2x2 m
DB	N414E398	2x2 m
DC	N412E396	2x2 m
DD	N412E398	2x2 m
DE	N412E404	2x2 m
DF	N412E406	2x2 m
DG	N410E404	2x2 m
DH	N410E406	2x2 m
DI	N406E396	2x2 m
DJ	N406E398	2x2 m
DK	N404E396	2x2 m
DL	N404E398	2x2 m
DM	N406E400	2x2 m
DN	N404E400	2x2 m
DO	N412E408	2x2 m
DP	N410E408	2x2 m
DQ	N412E400	1x2 m
DR	N405E402	1x2 m
DS	N408E403	1x2 m
DT	N407E402	1x2 m
DU	N405E403	1x2 m
DV	N405E404	1x2 m
DW	N409E404	1x1 m

The plowzone ranged between 20 and 30 cm deep, and was generally described as a 10YR 3/3 dark brown sandy loam. According to the USDA (2009), the soil is classified as an Onarga sandy loam. The most common artifacts found in the plowzone included chert, ceramics, and FCR (Table 3). Examination of Table 3 shows few artifacts in Units CA, CM, and CN. Because these units were previously excavated and screened in 2014 (see Holt 2015), we did not screen the sediments in these units. Thus, it is unsurprising that few artifacts were collected while removing plowzone from Units CA, CM, and CN. However, the same should be true for Unit CP, which was reopened to expose Feature 232: it is unclear why there are so many artifacts coming from this unit, given that it was previously screened. One explanation is that the 2014 excavation did not remove all of the plowzone, so some was left unscreened. Another explanation is that the artifacts were coming from Feature 232, but this seems unlikely, given that Feature 232 itself contained relatively few artifacts.

Examination of Table 3 shows that plowzone sediments in Units DF, DG, DH, and DP contained the highest concentration of chert. This was also somewhat surprising given that they contained no features. However, they were located in proximity to a wall trench structure, Feature 257, so perhaps they contain refuse from its occupants. Units DH and DL contained the highest concentration of pottery sherds (Table 3). Again, these units contained no features, but they were located near Feature 257, a wall trench structure. Unit DH was also notable for containing a copper fragment, which Larry Kinsella (personal communication, June 2016) identified as a possible Middle Woodland copper awl. The copper was discovered at the very base of the plowzone, in an apparent krotovina (see Photo 1).

Table 3. Plowzone Artifact Summary.

Unit	Chert	Sherds	FCR	FCR (g)	Pebbles	LS ¹	SS ²	Bone	Burnt clay	Ochre	Copper	Historic
CA	7	3	0	0	0	0	0	0	5	0	0	0
CM	3	1	0	0	0	0	0	0	2	0	0	0
CN	1	2	0	0	0	0	0	0	0	1	0	0
CP	53	115	106	153.08	13	0	5	8	22	0	0	0
DA	116	180	90	321.97	28	0	0	0	22	17	0	2
DB	127	257	99	423.25	156	0	0	2	89	5	0	0
DC	159	220	218	580.28	291	1	0	4	58	20	0	2
DD	153	331	308	477.93	32	0	0	0	35	3	0	0
DE	130	304	209	388.51	5	12	17	5	44	9	0	0
DF	225	275	196	709.55	236	2	7	15	181	19	0	1
DG	240	357	318	568.34	166	0	0	20	161	9	0	0
DH	266	402	243	732.48	229	22	21	22	136	45	1	0
DI	137	357	105	188.53	37	9	0	8	14	8	0	2
DJ	160	298	160	786.8	179	0	0	7	53	10	0	0
DK	185	237	55	316.66	472	4	0	4	72	16	0	1
DL	271	445	35	547.16	717	0	2	20	147	12	0	3
DM	155	296	51	243.08	322	0	0	9	73	0	0	0
DN	231	339	133	963.45	389	19	0	13	43	32	0	0
DO	185	356	216	616.46	59	37	19	15	189	9	0	0
DP	229	370	156	858.78	194	7	12	25	125	14	0	1
DQ	59	210	92	102.55	41	0	0	5	32	0	0	0
DR	69	37	30	176.88	137	4	0	4	39	0	0	0
DS	87	147	41	376.31	289	1	3	13	61	2	0	0
DT	80	169	14	572.62	132	0	0	1	58	0	0	0
DU	96	141	45	350.29	151	9	0	16	42	0	0	0
DV	172	360	156	638.01	279	4	0	12	125	0	0	0
DW	66	47	51	169.98	43	0	0	10	35	0	0	2

¹LS = Limestone

²SS = Sandstone

The subsoil immediately beneath the plowzone was typically a 10YR 4/6 dark yellowish brown clay loam. Artifacts are rarely encountered below the plowzone outside of feature contexts at the Gehring site. Given this, the number of artifacts found in the subsoil in several units was surprising (see Table 4). Given the color of the subsoil, it is unlikely that these artifacts were *in situ* in a buried A horizon. More likely, these artifacts were brought into the subsoil through bioturbation. Notably, multiple soil anomalies were investigated as possible posts in the subsoil of Units DH, DO, and DP. None of these anomalies could be verified as posts, and it seems more likely that they were horseradish root casts or another form of floralurbation.

Table 4. Strata B and C Artifact Summary.

Unit	Chert	Sherds	FCR	FCR (g)	Pebbles	LS ¹	Bone	Burnt clay	Ochre
CA	7	3	0	0	0	0	0	5	0
CM	3	1	0	0	0	0	0	2	0
CN	1	0	0	0	0	0	0	0	0
CP	3	12	0	0	7	0	3	0	0
DB	11	13	9	11.42	0	0	0	8	4
DC	3	10	6	7.92	0	0	2	0	0
DD	6	10	3	31.83	6	0	0	2	0
DE	0	1	0	0	0	0	0	2	2
DF	6	11	12	34.3	1	0	2	15	4
DG	5	15	4	43.34	7	1	1	5	3
DH	17	75	43	225.08	16	0	16	19	0
DM	2	2	2	3.71	0	0	1	0	0
DN	2	7	5	50.12	6	2	0	0	0
DO	19	31	19	114.16	22	0	19	26	3
DP	56	123	48	315.11	28	2	19	66	0
DQ	4	4	7	50.2	0	0	0	0	0
DS	7	10	14	117.49	13	0	1	6	0
DT	1	3	4	17.35	0	0	0	1	0

¹LS = Limestone

Next I will describe the features identified at the base of the plowzone in numeric order. A summary of feature dimensions, shape, and interpretations can be found in Table 5. A summary of artifacts found in each feature can be found in Table 6.



Photo 1. Copper artifact, Unit DH, *in situ*.

Table 5. Feature Data.

Feature	Length (cm)	Width (cm)	Depth (cm)	Plan	Profile	Interpretation
232	67	58	7	circular	vertical	pit
250	18	16	3	circular	vertical	unclear
251	37	36	2	circular	vertical	unclear
252	18	17	2	circular	vertical	unclear
253	9	7	10	circular	irregular	bioturbation
254	53	20	33+	circular	irregular	bioturbation
255	0	0	0	circular	NA	bioturbation
256	0	0	0	circular	NA	bioturbation
257	385/535	12	?	linear	unexcavated	wall trenches
258	30	22	12	circular	vertical/inslanting	posthole
259	105	55	12	oval	irregular	pit
260	34	25	2	oval	irregular	unclear
261	60	?	?	irregular	unexcavated	unknown
262	390	13	?	linear	unexcavated	wall trench
263	17	14	?	circular	unexcavated	post???
264	105	104	32	circular	inslanting	pit
265	100+	100	37	circular	inslanting	pit
266	124	?	21	circular	belled	pit
267	16.5	13	7	circular	irregular	bioturbation
268	22	20	9	circular	inslanting	post???
269	90	90	44	circular	inslanting/belled	pit
270	?	?	?	irregular	irregular	bioturbation?
271	20	20	?	circular	unexcavated	post???
272	145	100	?	amorphous	unexcavated	unknown
273						
274	10	10	?	circular	unexcavated	post???
275	10	10	?	circular	unexcavated	post???
276	10	10	?	circular	unexcavated	post???
277	15	15	?	circular	unexcavated	post???
278	10	10	?	circular	unexcavated	post???
279	15	15	?	circular	unexcavated	post???

Table 6. Feature Artifact Summary, Screened Sample.

Feature	Chert	Sherds	FCR	FCR (g)	LS ¹	SS ¹	Ochre	Bone	Burnt clay	Historic
232	1	7	4	2.38	0	0	0	2	4	0
250	0	1	0	0	0	0	0	0	0	0
252	0	1	0	0	0	0	0	0	0	0
257	3	0	0	0	0	0	0	1	2	0
259	4	21	4	49.34	0	0	0	11	3	0
260	1	0	0	0	0	0	0	0	0	0
264	20	67	29	86	8	0	27	108	41	0
265	79	269	60	67.55	8	8	22	105	112	0
266	7	19	2	6.29	2	0	2	6	13	0
267	0	2	0	0	0	0	0	0	0	0
269	144	141	44	453.61	1	0	6	39	80	1

¹LS = Limestone

²SS = Sandstone

Feature 232 was identified in Unit CP during the 2014 excavation (see Holt 2015: Figure 7 and Photo 35). However, it was not excavated at that time because it extended into the east wall of the excavation block. In 2016 we reopened Unit CP and opened new Unit DG in order to excavate Feature 232. A small circular shallow pit, Feature 232 was about 67 cm wide and 7 cm deep, containing a 10YR 3/4 dark yellowish brown silt loam with charcoal inclusions (see Table 5, Figures 3 and 4, and Photos 2-4). Although several cordmarked sherds and a bone fragment were collected from the surface of Feature 232 in 2014 (Holt 2015), during excavation of the feature in 2016, very few artifacts were recovered (see Table 6). These included just seven sherds, one flake, and a small quantity of FCR.

The biggest surprise of the 2016 excavation was found below Feature 232 (see Photos 3-5). At the base of Feature 232, we continued excavation into the subsoil as we always do so that we could expose its profile clearly. After encountering a layer of what appeared to be undisturbed subsoil (a 10YR 4/3 dark yellowish brown clay loam) below Feature 232, we encountered below this layer of subsoil a wall trench, Feature 257. Feature 257 turned out to be the north wall of a Mississippian wall trench structure, which we will discuss further below. On Figure 3, Feature 232 can be seen superimposing the east end of the north wall of the southern wall trench structure, Feature 257. Based on the principle of superposition, Feature 232 is younger than Feature 257, probably dating to a later occupation during the Mississippian period based on the prehistoric ceramics it contains.

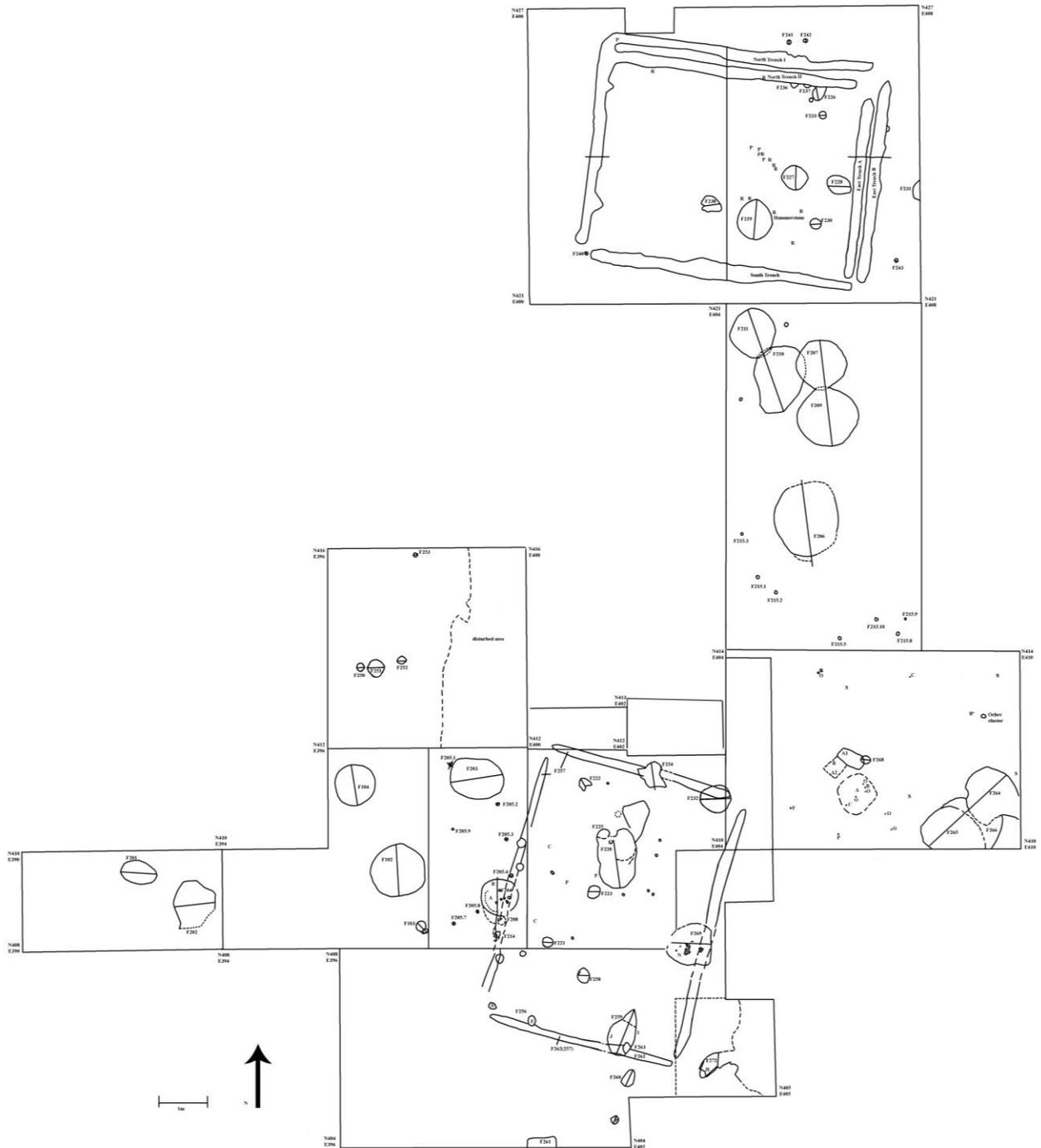


Figure 3. All excavation units and features, plan view.



Photo 2. Feature 232, plan view.

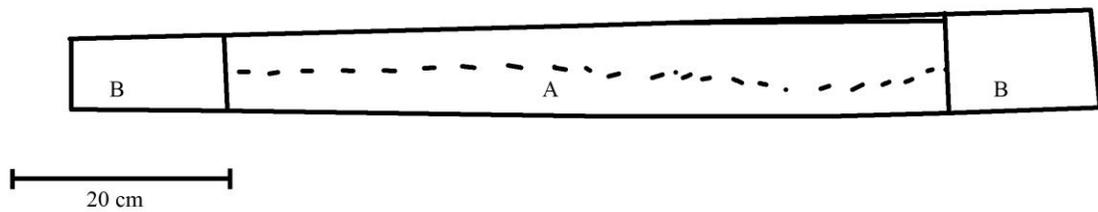


Figure 4. Feature 232, profile facing south.

A = Feature 232 fill (10YR 3/4 dark yellowish brown silt loam)
B = Subsoil (10YR 4/4 dark yellowish brown sandy clay loam)
(Dashed line is base of feature, blurred by roots or worms.)



Photo 3. Feature 232, profile facing south. Feature 257 is visible at base of excavation.



Photo 4. Feature 232, bisected, facing east. Feature 257 is visible at base of excavation.



Photo 5. Feature 257. The subsoil layer which overlay Feature 257 is visible in profile. Feature 232, fully excavated, is visible south of Feature 257.

Features 250-252 were three small circular anomalies encountered in Unit DC (Photos 6 and 7). Feature 250 and 252 were approximately 18 cm across and 2-3 cm deep; Feature 251 was significantly wider at approximately 37 cm across but also only 2-3 cm deep (Table 5). Feature 250 was described as a 10YR 4/3 sandy loam, and Features 251 and 252 were a 10YR 3/4 sandy loam (Figure 5). Features 250 and 252 each contained one pottery sherd, and Feature 251 contained no artifacts (Table 6). Considering the size and shape of these features, Features 250 and 252 could have been posts, and Feature 251 could have been a small pit. However, given the few cultural material found in them, it is also possible that they were natural, not cultural features.

Feature 253 was a small circular feature, approximately 9 cm across and 10 cm deep, with an irregular profile (Table 5; Photos 8 and 9; Figure 6). The feature fill was a 10YR 3/3 dark brown sandy loam and contained no cultural materials. The feature was probably bioturbation.



Photo 6. Features 250, 251, and 252, plan view.



Photo 7. Features 250, 251, and 252, profile facing north.

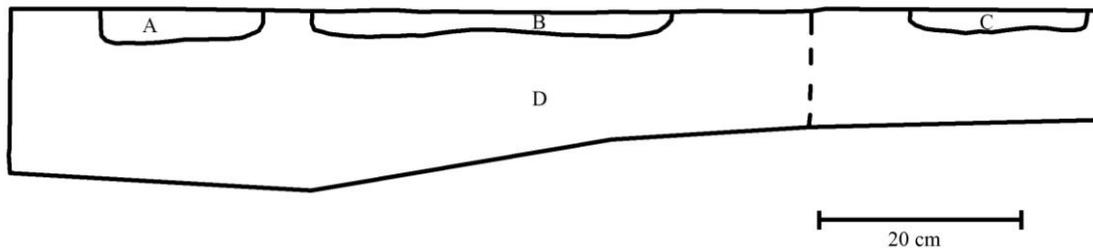


Figure 5. Features 250, 251, and 252, profiles facing north.

- A = Feature 250 fill (10YR 4/3 dark yellowish brown sandy loam)
- B = Feature 251 fill (10YR 3/4 dark yellowish brown sandy loam)
- C = Feature 252 fill (10 YR 3/4 dark yellowish brown sandy loam)
- D = Subsoil (10YR 4/6 dark yellowish brown sandy clay loam)



Photo 8. Feature 253, plan view.

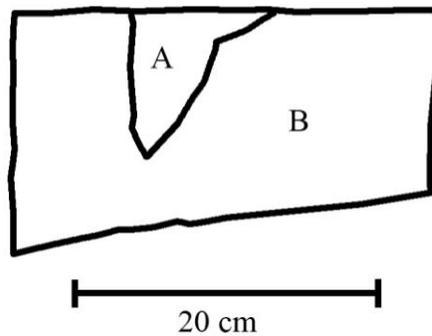


Figure 6. Feature 253, profile facing north.

A = Feature 253 fill (10YR 3/3 dark brown sandy loam)
B = Subsoil (10YR 3/4 dark yellowish brown sandy clay loam)



Photo 9. Feature 253, profile facing north.

Feature 254 was located in Unit DI. Initially it appeared circular in plan view, but then changed shape as it was excavated. It was most certainly bioturbation, given its irregular shape and the sediments it contained (Photo 10; Figure 7). Sediments were clayey, appearing gleyed with iron deposits accumulating along the borders of the feature. Feature 254 contained no cultural materials (Table 6). Table 5 provides a minimum depth, but we stopped excavating without reaching the bottom of this anomaly.



Photo 10. Feature 254, profile facing east.

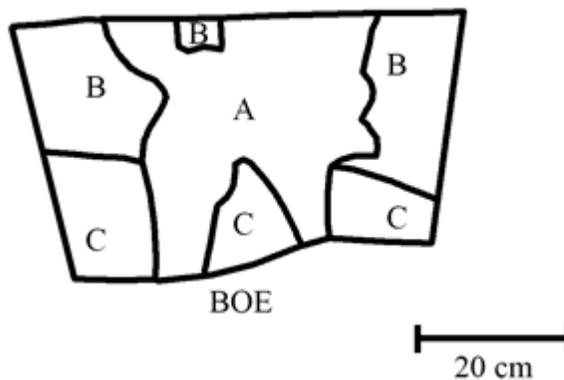


Figure 7. Feature 254, profile facing east.

- A = Feature 254 fill (10YR 6/1 gray clay loam mottled with 5YR 5/8 yellowish red clay loam)
- B = Subsoil (10YR 3/6 dark yellowish brown clay loam)
- C = Subsoil (10YR 4/6 dark yellowish brown loamy sand)

Feature 255, located in Unit DL, and Feature 256, located in Unit DJ, were both small circular stains which disappeared immediately as they were trowelled (Table 5). They contained no cultural materials (Table 6).

Feature 257 is the southern wall trench structure of the two visible in Figure 3. It was discovered when the east end of its north wall was identified in Units CP and DG, buried under a layer of what appeared to be sterile subsoil which was encountered below pit Feature 232 (see Photos 3-5, and the description of Feature 232 above). Figure 8 is extracted from Figure 3 and offers a closer view of the wall trench structure and associate features. Table 5 shows an approximate width and approximate lengths of the shortest and longest wall trenches. The southern wall trench was named Feature 262 before it was realized that it was part of Feature 257, so it is labelled Feature 262 on Table 5. No depth for the wall trenches is given because we didn't have time to excavate them this field season; however, the wall trenches are estimated to be 33 cm based on photographs of excavated pit features which were superimposed by the wall trenches, and based upon the depth of Feature 208 excavated in 2013 (see Holt 2013:Table 5). The overall dimensions of the wall trench structure are approximately 4.4 m by 5.9 m. While we were able to map the floor plan of Feature 257, we were not able to get a good photograph of the exposed structure because a sudden storm damaged the excavation at the end of the field season (Photos 11-14).

It was a surprise to find the northeast corner of Feature 257 beneath "sterile subsoil," and also a surprise to realize that we had excavated within the footprint of the wall trench structure without identifying it as such during both the 2013 and 2014 field seasons. Units excavated during 2013 which contained Feature 257 included Units BC and BD. Units excavated during 2014 which encompassed the structure included Units CA, CB, CM, CN, and CP. Units excavated during 2016 which contain Feature 257 include Units DG, DJ, DM, DN, DS, DT, DU, and DW. All of those units excavated during the 2013 and 2014 field seasons were discontinued when they reached "sterile subsoil," so the layer of dark yellowish brown clay loam (a 10YR 4/3, for example, at the base of Feature 232) concealed all four wall trenches.

During the 2013 field season we noticed a disturbance at the top of Middle Woodland pit Feature 204 (Holt 2013:27-29); in retrospect, this disturbance was caused by the western wall trench of Feature 257. We labelled this disturbance Strat A and the lower, undisturbed stratum as Strat B. The wall trenches would have been observable in the eastern walls of Feature 204; however, the eastern walls of Feature 204 were shoveled away after excavation of the feature fill so that we had room to sit in the feature while drawing its profile facing west. Feature 208, which we observed in the south wall of Feature 204, was thought to be a post when excavated; however, Feature 208 was clearly the wall trench (see Holt 2013:37; Holt 2013: Figures 5 and 12; and especially Holt 2013: Photos 18 and 19). Just southwest of Feature 208, Feature 214 was thought to be bioturbation, but it too was probably part of the wall trench (see Holt 2013:46; Holt 2013: Figures 5 and 7; and Holt 2013: Photo 18).

During the 2014 field season we did not find evidence of the wall trench itself, although it should have been visible in the east and west walls of Feature 224. We described this feature as "amorphous in plan view due to heavy disturbance by plowing," but in retrospect this disturbance was at least in part caused by Feature 257's northern wall trench (Holt 2015:39; Photos 21-22; Figure 10). Feature 224 probably superimposed Feature 257, given that the wall trench was not visible in plan view when Feature 224 was defined, and given that it was hidden by "subsoil" east and west of Feature 224.

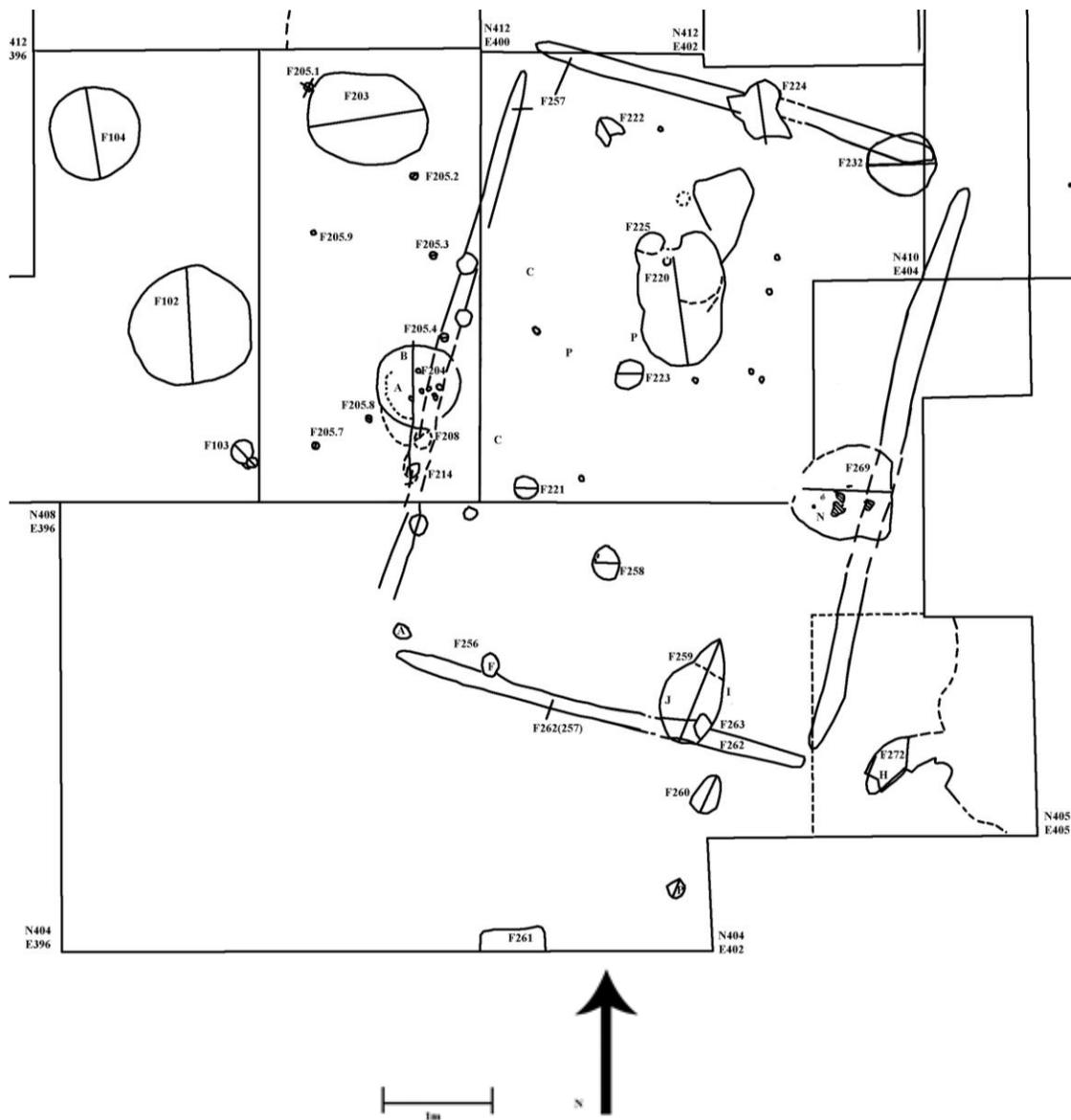


Figure 8. Feature 257, plan view.

After discovering Feature 257 buried below Feature 232 during the 2016 field season, we re-excavated the 2013 and 2014 units listed above, including Features 204 and 224, in our efforts to define the north and west walls of Feature 257. We also opened new units to identify the east and south walls. Even knowing that the walls were there, it was difficult to define them. However, we were able to identify all four walls, except for the south end of the west wall. This could have been a doorway. As noted above, it is clear that the west wall of Feature 257

superimposed Middle Woodland Feature 204, and it is also clear that the north wall of Feature 257 was superimposed by Feature 232. As noted above, it seems probable that Feature 224 superimposed the north wall of Feature 257. Feature 259, described below, was a shallow pit feature which intersected with the south wall of Feature 257; Feature 259 probably superimposed Feature 257, given that the wall trench was not visible when Feature 259 was first identified. Feature 269, described below, was a pit feature found while looking for the east wall of Feature 257; Feature 269 clearly superimposed Feature 257. Having defined all four walls of Feature 257, we mapped it in plan view, along with the features which intersected with the walls, although these had already been excavated. As noted above, we did not have time this field season to excavate the wall trenches. After mapping Feature 257 and associated features, we covered the wall trenches and lined the excavated pit features with black plastic, then backfilled the entire excavation block. We plan to reopen these units and excavate the wall trenches during our next excavation, scheduled for 2018.

Our operating hypothesis is that the layer of “subsoil” which covered the wall trenches of Feature 257 was cultural, not natural. If this layer had been deposited by flooding, it would have been sandy, not a clay loam. The depression left by the structure, after abandonment, could have been filled in by later occupants of the site in order to level the living surface.



Photo 11. Feature 257, northeast corner (looking southwest).



Photo 12. Feature 257, northwest corner (looking southeast).



Photo 13. Feature 257, southeast corner (looking northeast).



Photo 14. Feature 257, southwest corner (looking northeast).

Feature 258 was a small circular feature identified in Unit DM, within the footprint of wall trench structure Feature 257. It was approximately 30 cm across and 12 cm deep (Table 5), and contained no artifacts. Its size and shape suggest a post (Figure 9, Photos 15-16).

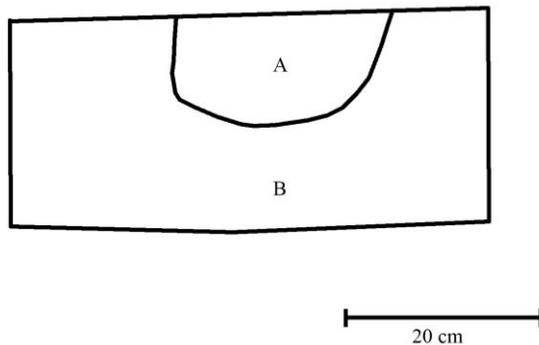


Figure 9. Feature 258, profile facing north.

Strat A = Feature fill (10YR 3/3 dark brown sandy loam)
Strat B = Subsoil (10YR 4/6 dark yellowish brown sandy clay loam)



Photo 15. Feature 258, plan view.



Photo 16. Feature 258, profile.

Feature 259 was an egg-shaped feature which intersected with the southern wall of Feature 257 (see Figure 8). It appears that Feature 259 superimposed Feature 257, given that the wall trench was not visible when Feature 259 was first identified (see Photo 17). Feature 259 appears to have been a shallow pit, or perhaps it was actually two pits given that the narrower northeast end of the “egg” was shallower and with a slightly different color and texture (see Figure 10); the northeast end (labelled Strat B in Figure 10) was more clayey and compact compared to the deeper end of the feature. Few artifacts, mostly pottery sherds and bone fragments, were recovered from Feature 259. We did not notice a difference in cultural contents between the two strata labelled in Figure 10; however, the two strata were not excavated separately. The feature was about 105 cm long at its greatest length, about 55 cm wide at its greatest width, and about 12 cm deep at its deeper end. Ordinarily we excavate a window around features to make the profile more visible against subsoil, but we were unable to do this with Feature 259 because we didn’t want to cause further impact to Feature 257 (Photo 18). A window was later excavated in the northeast half of the feature bisecting the feature northwest to southeast (the dashed line in Figure 8), but this profile was not drawn or photographed. We found an apparent post upon reaching the base of Feature 259, which was labelled Feature 263. Photo 19 shows Feature 259 after the east half was excavated. At this time we observed the wall trench for Feature 257 extending from the southeast wall of Feature 259, and then removed the layer of “subsoil” from its surface as it extended east. (Initially we labelled the wall trench Feature 262 because we didn’t realize it was part of Feature 257.) The wall trench is visible in Photo 19 at the southeast end of Feature 259. Feature 263, the possible post, is visible at the floor of Feature 259, outlined with a trowel. Feature 263 is clearly superimposed by Feature 259, and might also be superimposed by the south wall trench of Feature 257.



Photo 17. Features 259 and 260, plan view.

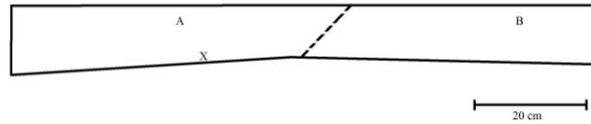


Figure 10. Feature 259, profile facing northwest.

Strat A = Feature fill (10YR 3/4 dark yellowish brown silt loam)
 Strat B = Feature fill (10YR 3/3 dark brown silt clay loam)



Photo 18. Features 259, profile facing northwest.



Photo 19. Features 257 (262), 259, and 263 (see text).

Feature 260 was a small oval feature located in Unit DN. In Figure 8 and Photo 17, it is visible in plan view south of Feature 259. Feature 260 was approximately 34 cm at its greatest length, just 2 cm deep, and contained a single chert flake (Tables 5-6; Figure 11; Photo 20). Like Features 250-252, it is difficult to say whether this feature was cultural or natural.



Photo 20. Feature 260, profile facing southeast.

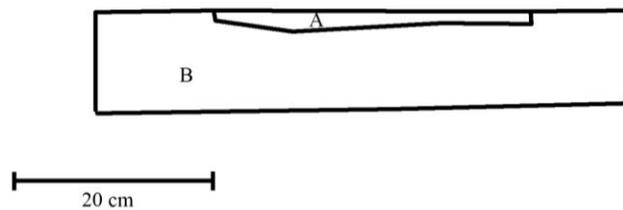


Figure 11. Feature 260, profile facing southeast.

Strat A = Feature fill (10YR 3/3 dark brown sandy loam)

Strat B = Subsoil (10YR 3/6 dark yellowish brown sandy clay loam)

Feature 261 was a stain located in Unit DN extending into the south wall of the excavation block. It is visible in Figure 8 as the roughly square shape along the south wall. The shape drawn was a rough outline, because we didn't have time to excavate this anomaly.

Feature 262 was the name given to the south wall of wall trench structure Feature 257 before it was recognized as part of the same feature. Further discussion of Feature 257 can be found above.

Feature 263 was a probable post found at the base of Feature 259, a circular stain about 17 cm wide (Table 5). It can be seen in the floor of Feature 259 in Photo 19, outlined with a trowel. We did not excavate Feature 263, leaving it to investigate when we excavate the wall trench structure Feature 257 in the next field season. Feature 259 clearly superimposed Feature 263 and also superimposed Feature 257. It also appeared that Feature 263 superimposed Feature 257 (Photo 21; Figure 8). If this interpretation is correct, then Feature 263 must be a Mississippian period post.



Photo 21. Features 257 (262), 259 (excavated), and 263.

Features 264 and 265 are adjacent circular pit features which superimposed pit Feature 266 (Figures 12-14; Photos 23-24; Tables 5-6). All three features were located in Unit DP; Figure 12 is extracted from Figure 3 and offers a closer look at them in plan view. Feature 264 was approximately 105 cm in diameter and 32 cm in depth. Although Figure 12 suggests that Feature 264 extended into the east wall of Unit DP, it did not (see Photo 24). Feature 265 was slightly deeper, at 37 cm, and at least one meter in diameter. Its greatest width is not known, because it extended into the south wall of Unit DP (again, see Photo 24 and also Figure 14). Feature 266 was not as deep as the other two pits, at just 21 cm deep. It also appeared to be a circular pit, but its width is unknown because its plan view was mostly obscured by Features 264 and 265 (see Figure 12). Feature 266 also appears to have extended into the south wall of Unit DP (Photo 24 and Figure 14). All three features contained pottery, chert flakes, FCR, ochre,

burnt clay, and bone (Table 6); Feature 265 contained a much higher concentration of artifacts than Feature 264. Features 264 and 265 contained a great deal of bone relative to other features at the Gehring site, but most of the bone appears to be unidentifiable. The pottery from these pits appeared to be Late Woodland but has not yet been analyzed. The depth of the pits might also suggest that they are pre-Mississippian, given that Mississippian pits at the Gehring site tend to be shallow due to plowing and severe erosion.

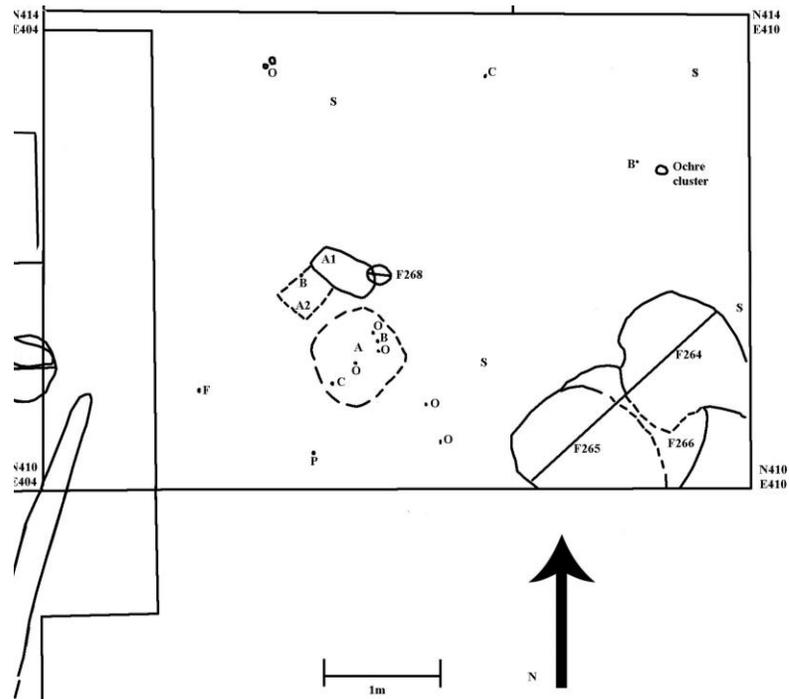


Figure 12. Features 264, 265, 266, and 268, plan view.



Photo 22. Features 264, 265, and 266, plan view.



Photo 23. Features 264, 265, and 266, profile facing southeast.

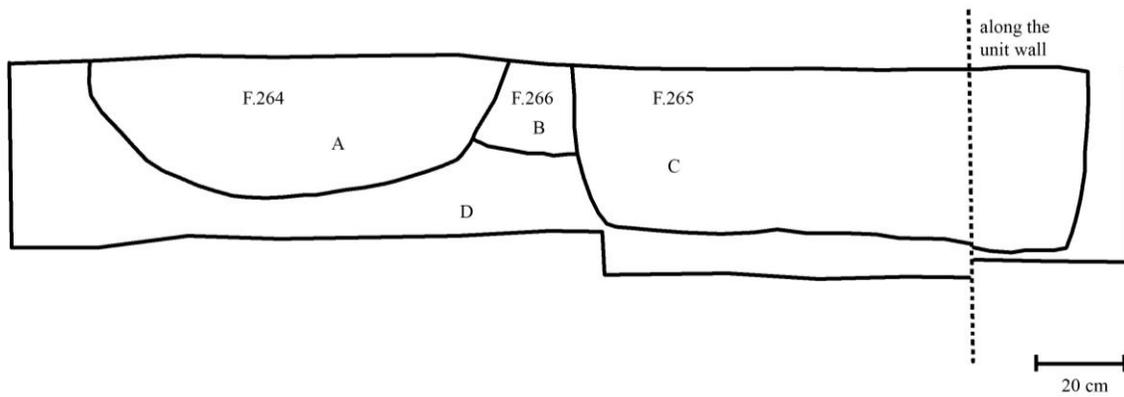


Figure 13. Features 264, 265, and 266, profile facing southeast.

- A = Feature 264 fill (10YR 3/3 dark brown sandy loam)
- B = Feature 266 fill (10YR 3/3 dark brown sandy clay loam)
- C = Feature 265 fill (10YR 3/3 dark brown sandy clay loam)
- D = Subsoil (10YR 4/6 dark yellowish brown sandy clay loam)

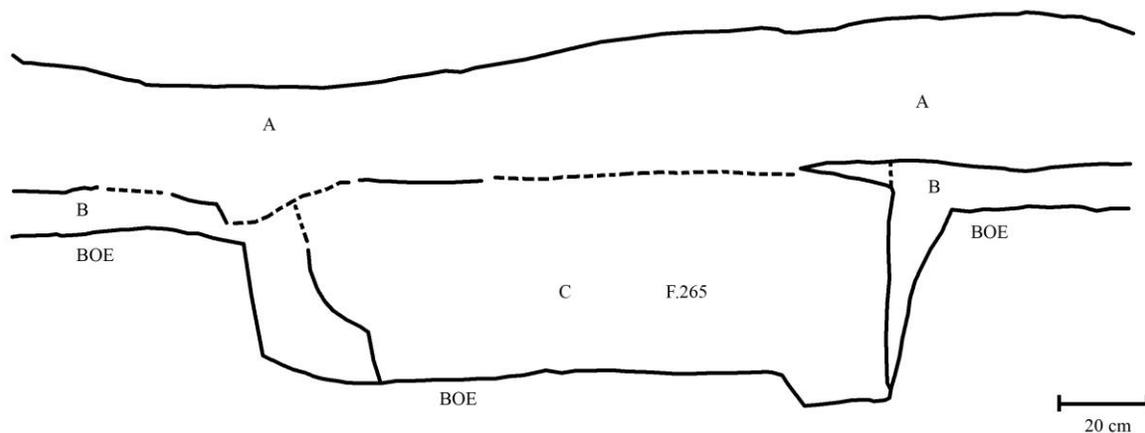


Figure 14. Feature 265, profile facing south (south wall of Unit DP).
 (Note that the eastern side, which appears shallower, is probably Feature 266, but it is unclear why the western side is deeper.)

- A = Plowzone (10YR 3/3 dark brown sandy loam)
- B = Subsoil (10YR 4/6 dark yellowish brown sandy clay loam)
- C = Feature fill (10YR 2/2 very dark brown sandy clay loam)



Photo 24. Feature 265, profile facing south (south wall of Unit DP).

Feature 267 was a small circular stain, approximately 17 cm wide, located in Unit DN (Table 5). Unlike most cultural features, it was not observed at the base of the plowzone, but approximately 6 cm below the base of the plowzone. Bisection of the feature showed an irregular profile, approximately 7 cm deep, which suggested bioturbation (Figure 14; Photo 25). Two sherds were recovered from Feature 267 (Table 6).

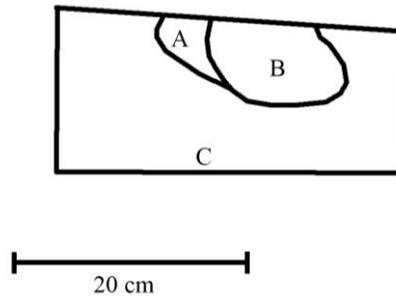


Figure 14. Feature 267, profile facing west.

- A = Feature fill (10YR 3/3 dark brown and 10YR 3/4 dark yellowish brown sandy clay loam)
- B = Feature fill (10YR 3/3 dark brown sandy clay loam)
- C = Subsoil (10 YR 3/4 dark yellowish brown sandy clay loam)



Photo 25. Feature 267, profile facing west.

Feature 268 was a small circular feature, approximately 20 cm wide, located in Unit DH (Table 5). It was not observed immediately at the base of the plowzone, but while shovel-skimming the subsoil several centimeters below the base of the plowzone. Feature 268 was only 9 cm deep with inslanting sides (Figure 15; Photo 26). Although it contained no artifacts (Table 6), it might have been a posthole.

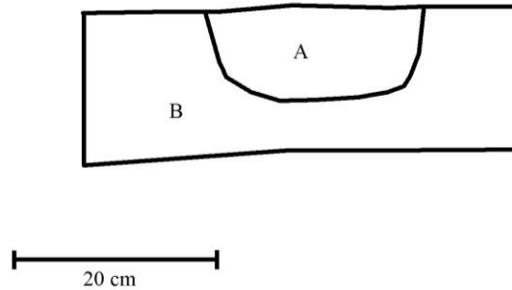


Figure 15. Feature 268 profile, facing southwest.

A = Feature fill (10YR 4/3 brown silty loam)
B = Subsoil (10YR 4/5 dark yellowish brown clay loam)



Photo 26. Feature 268 profile, facing southwest.

Feature 269 was a circular pit feature located in Units DS and DT (Figure 3; Photo 27). As noted above, Feature 269 superimposed the east wall of wall trench structure Feature 257, which indicates that it is Mississippian in age. Feature 269 was approximately 90 cm wide, and at 44 cm deep is the deepest Mississippian pit we have found so far at the south end of the Gehring site (Table 5). Its walls varied in profile; some were inslanting or irregular while some were belled (Figure 15; Photo 28). Feature 269 contained chert, pottery, FCR, burnt clay, bone, and ochre (Table 6). Diagnostic artifacts found in Feature 269 included two Cahokia points and a possible Middle Woodland Gibson point.



Photo 27. Feature 269, plan view.

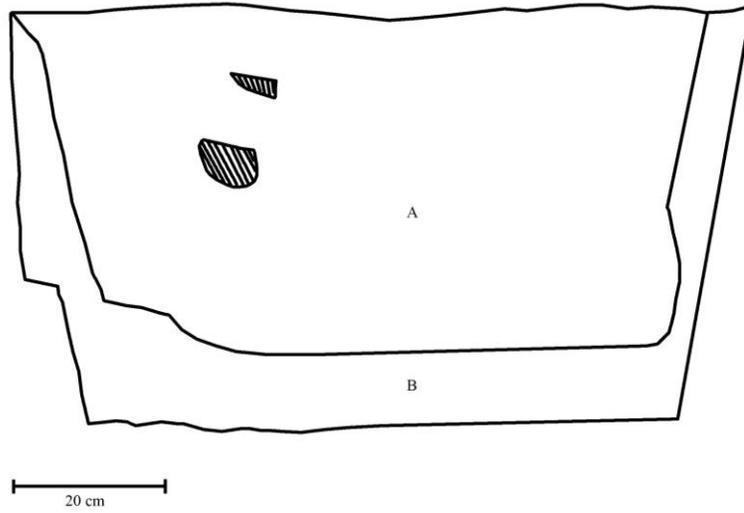


Figure 15. Feature 269, profile facing south.

A = Feature fill (10YR 3/2 very dark grayish brown sandy clay loam with charcoal and ocher)
B = Subsoil (10YR 3/4 dark yellowish brown clay loam)



Photo 28. Feature 269, profile facing south.

Feature 270 was a small anomaly identified in the southeast quad of Unit DN, perhaps five cm below the base of the plowzone (Table 5). We excavated the north half of this anomaly, and the profile was also irregular (Photo 29; the profile was not drawn). It appeared that Feature 270 extended in a linear fashion toward the south wall of the unit. We did not have time to excavate the southern extension of this feature, so we intend to do that in a future excavation. Given the fact that Feature 270 was not visible at the base of the plowzone, it was either bioturbation, or another buried cultural feature. We did not collect any artifacts from Feature 270 (Table 6), but ocher was visible in it (Photo 29).



Photo 29. Feature 270, profile facing south.

Feature 271 was a pale circular stain, approximately 20 cm wide, identified in the southwest quad of Unit DM, inside the south wall of wall trench structure Feature 257 (262). We mapped it but did not have time to excavate it (Table 5; Figure 8). We intend to excavate this possible post in future when we excavate Feature 257. Like Feature 257, Feature 271 was buried by several centimeters of subsoil. Thus, it is either contemporary with, or predates Feature 257.

Feature 272 was an amorphous stain located in Units DO and DV, and extending into the eastern wall of those units. In Figure 8, it is the strange shape in the southeast corner of the excavation block. We were unable to define it clearly, and we did not have time to excavate it (Table 5). We intend to reopen this area and better define this anomaly in a future field season.

Feature 273 was a possible post located in the southwest corner of wall trench structure Feature 257. According to the field notes of the site director (Zimmermann), it appeared similar to Feature 271, and approximately 20 cm in diameter. However, examination of the map for Feature 257 (see Figure 8), shows the second possible post in this area labelled Feature 274. Thus, it appears that Feature 273 was renamed Feature 274 during mapping.

Features 274-279 were possible posts identified while mapping Feature 257. They were mapped, but not excavated (Figure 8); we will excavate them in future when we excavate Feature 257. Features 274-279 were small circular stains ranging between 10 and 15 cm in diameter (Table 5). West of Feature 271, Feature 274 was located in the southwest corner of the wall trench structure. Feature 275 was located inside the wall trench structure, approximately 40 cm from its west wall. Features 276-278 were located along the west wall of the wall trench structure. Feature 279 was located in the northeast corner of the wall trench structure. None of these possible posts were identified at the base of the plowzone; like Feature 257, they were buried by several centimeters of subsoil. Thus, they are either contemporary with, or predate Feature 257.

Finally, we bisected twenty small circular anomalies as possible posts in adjacent Units DF, DH, DO, and DP (Figures 16 and 17). These did not form a pattern and we did not label them as features (unfortunately, in the field these were labelled Things 1, 2, etc.). Given the dark color of these anomalies (10YR 2/2, 3/2, 3/3, etc.), it seems probable that they are bioturbation (possibly horseradish root casts) rather than prehistoric cultural features. Many similar anomalies have been investigated in previous field seasons.

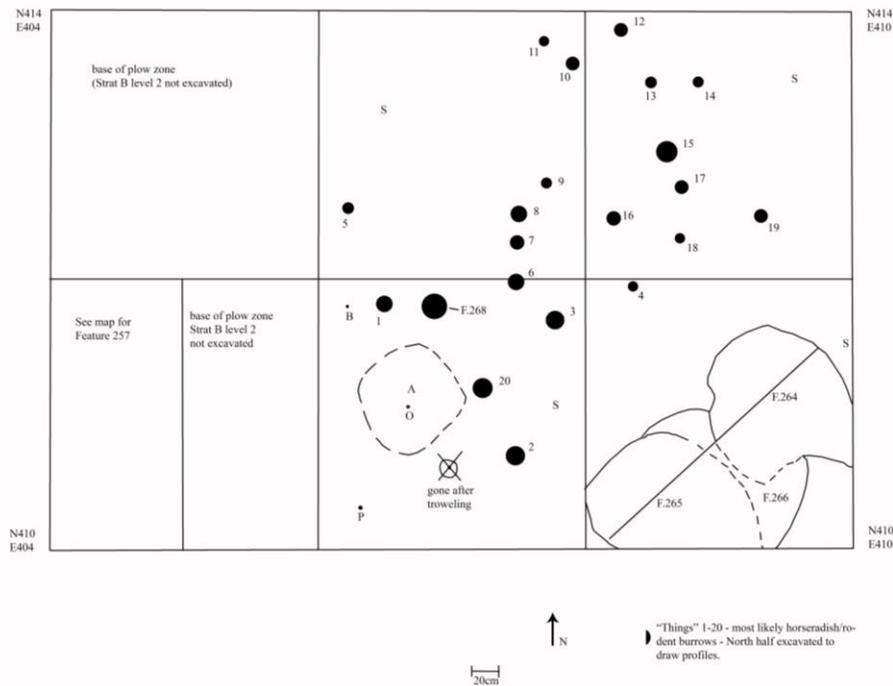


Figure 16. Plan view of possible postmolds, Units DF, DH, DO, and DP.

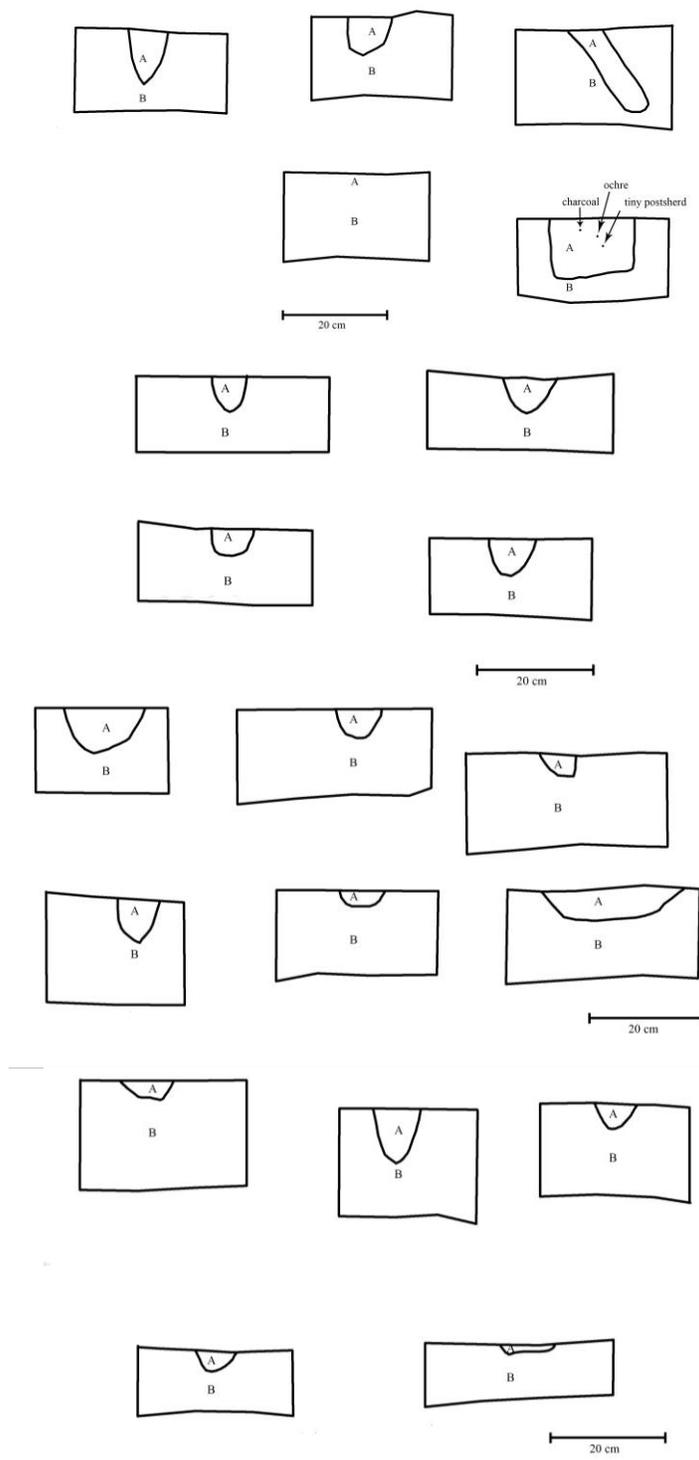


Figure 17. Profiles of possible postmolds, Units DF, DH, DO, and DP.

CONCLUSION

As indicated above, the big surprise of the 2016 field season was the discovery of Feature 257, a Mississippian wall trench structure. This was a surprise because we had previously excavated within the footprint of the structure, but we had not excavated deep enough to reach it, and we didn't recognize it as a wall trench when it intersected features that we had excavated. Figure 18 is a map of our excavations at the south end of the Gehring site, with Mississippian features shown in blue. Feature 257 is the southern wall trench structure. Features superimposing Feature 257 are clearly also Mississippian in age, so they are shaded blue. The features identified inside Feature 257 are probably also Mississippian, but they have yet to be analyzed. The northern wall trench structure, Feature 212, also contained several internal features. These features were not shaded blue because the few diagnostic materials they contained included both Mississippian and Middle Woodland artifacts. However, recent analysis by Halsne (2017) suggests that they are also Mississippian period features. It is unknown whether the two wall trench structures were contemporary, but the super-positioning of features onto Feature 257 might suggest that it is older. The three large (wide but shallow) pit features shaded blue between the two wall trench structures contained Mississippian pottery, so they are clearly Mississippian. Our operating hypothesis at this point is that the Mississippian occupation at the Gehring site represents a farmstead, probably a series of farms through time. The Mississippians who lived at Gehring lived there long enough to occasionally die there (Vogel 2012). We should consider them Cahokians, given that they possessed objects like Ramey pottery, marine shell beads, and at least one flint clay figurine (see Holt 2009).

Probable Middle Woodland features are shown in red on Figure 18. These include three pits which contained Middle Woodland pottery, including Havana wares and Hopewell wares. Feature 203 also contained a Middle Woodland figurine and mica. These finds, as well as two obsidian flakes found during our surface collections, suggest engagement in the Hopewell Interaction Sphere, perhaps more intensive engagement than usually found in the American Bottom, which is largely peripheral to Hopewellian activities of the Havana tradition in the lower Illinois Valley. Although they do not contain Middle Woodland artifact, the posts and probable posts shaded red in Figure 18 are hypothesized to be Middle Woodland as well, and are hypothesized to form a Middle Woodland structure.

Our hypotheses regarding the Middle Woodland and Mississippian occupations at the Gehring site will be further tested as we continue analysis of artifacts and features already excavated. In addition, we will continue to expand our excavations in this area in future field seasons. Feature 257 will be reopened, and its wall trenches excavated, during our next field season. Features 261, 263, and 271-279, which were identified but not excavated during the 2016 field season, will also be relocated and excavated. Finally, we will also reopen and reinvestigate old excavation units, because the discovery of Feature 257 suggests that some units which we thought had reached "sterile subsoil" might still contain buried features.

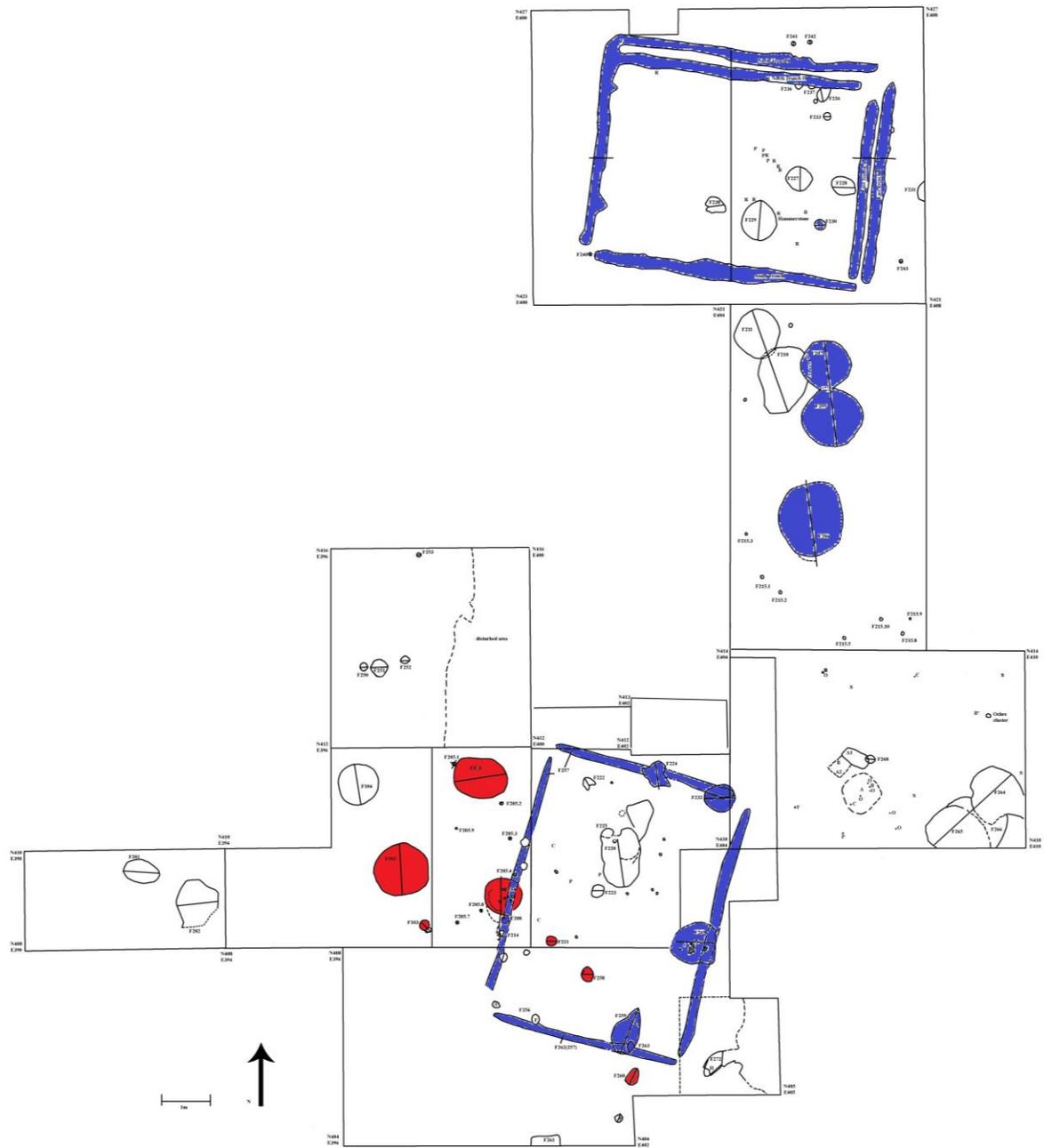


Figure 18. Gehring site map with Middle Woodland features in red, Mississippian in blue.

REFERENCES CITED

Alt, Susan

2001 Cahokian Change and the Authority of Tradition. In *The Archaeology of Traditions*, edited by Timothy R. Pauketat, pp. 141-156. University Press of Florida, Gainesville.

Booth, Don

2014 Archaeological Testing Short Report—11MS99 & 11MS2415, SIUE High Service Pump Upgrade, Edwardsville, Illinois. Submitted to Facilities Management, Southern Illinois University at Edwardsville. Copies available from the Illinois Historic Preservation Agency, Springfield.

Fortier, Andrew C.

1993 American Bottom House Types of the Archaic and Woodland Periods: An Overview. *Illinois Archaeology* 5:260-275.

Fortier, Andrew C., Thomas O. Maher, Joyce A. Williams, Michael C. Meinkoth, Kathryn E. Parker, and Lucretia S. Kelly

1989 *The Holding Site: A Hopewell Community in the American Bottom*. American Bottom Archaeology FAI-270 Site Reports Vol. 19. University of Illinois Press, Urbana.

Halsne, Chase

2017 In the Trenches: An Analysis of a Mississippian Wall-Trench Structure at the Gehring Site. Unpublished senior project, Department of Anthropology, Southern Illinois University Edwardsville.

Hanlin, Steven

2015 Slaked, Baked, and Zapped: Collection and Analysis of Source Clays within Western Illinois Waterways using Infrared Spectroscopy. Unpublished senior project, Department of Anthropology, Southern Illinois University Edwardsville.

Haun, Luke

2017 Finding Tradition: An Analysis of Middle Woodland Features at the Gehring Site. Unpublished senior project, Department of Anthropology, Southern Illinois University Edwardsville.

Holt, Julie Zimmermann

2009 Rethinking the Ramey State: Was Cahokia the center of a theater state? *American Antiquity* 74(2):231-254.

2013 SIUE 2013 Field School Investigations at 11MS99. Report on file at the Illinois Historic Preservation Agency in Springfield; also available online at <http://www.siu.edu/artsandsciences/anthropology/>.

2015 SIUE 2014 Field School Investigations at 11MS99. Report on file at the Illinois Historic Preservation Agency in Springfield; also available online at <http://www.siu.edu/artsandsciences/anthropology/>.

Holt, Julie Zimmermann and Lori Belknap

2010 SIUE Field School Investigations in the Locale of 11MS99 and 11MS157. Report on file at the Illinois Historic Preservation Agency in Springfield; also available online at <http://www.siu.edu/artsandsciences/anthropology/>.

Holt, Julie Zimmermann, Ashley Cisneros, Katie Leslie, Jessica Robart, and Lori Belknap. 2010 SIUE Field School Investigations at the Gehring Site (11MS99) in the American Bottom. Paper presented at the 75th Annual Meeting of the Society for American Archaeology in St. Louis, Missouri, April 15, 2010.

<http://arch.museum.state.il.us/archsites/>

Illinois Secretary of State

2009 Federal Township Plats of Illinois (1804-1891). http://landplats.ilsos.net/FTP_Illinois.html Accessed November 4, 2009.

Maher, Thomas Oren

1996 *Time, Space, and Social Dynamics during the Hopewell Occupation of the American Bottom*. Ph.D. Dissertation, Department of Anthropology, University of North Carolina at Chapel Hill.

Munson, Patrick J. and Alan D. Harn

1971 *An Archaeological Survey of the American Bottoms and Wood River Terrace*. Reports of Investigations, No. 21. Illinois State Museum, Springfield.

Potter, Kyle

2015 Plates, Pots, Prestige: Identifying the Chronology and Function of the Mississippian Occupation at the Gehring Site through Ceramic Analysis. Unpublished senior project, Department of Anthropology, Southern Illinois University Edwardsville.

USDA

2009 Web Soil Survey. United States Department of Agriculture Natural Resources Conservation Service. <http://websoilsurvey.nrcs.usda.gov/app/> Accessed May 18, 2009.

Vogel, Gregory

2012 Summary of Human Burial (Feature 197) Encountered During the Southern Illinois University Edwardsville Field School, 2012. Reported submitted to the IHPA.

Vogel, Gregory and Bryan Clemons

2011 SIUE 2010 Archaeological Field School Investigations at the Gehring Site (11MS99). Report submitted to the IHPA.

Vogel, Gregory, Anna Marie Wright, Don Crumley, and Melody Chester
2013 SIUE 2011 and 2012 Archaeological Field School Investigations at the Gehring Site
(11MS99). Reported submitted to the IHPA.

White, William P., Sissel Johannessen, Paula G. Cross, and Lucretia S. Kelly
1984 Environmental Setting. In *American Bottom Archaeology*, edited by Charles J.
Bareis and James W. Porter, pp. 15-33. University of Illinois Press, Chicago.

Zimmermann, Julie and Brad Koldehoff
2016 New Light on Old Surface Finds from Madison County, Illinois. Manuscript in
preparation.