

SIUE 2009 FIELD SCHOOL

INVESTIGATIONS

IN THE LOCALE OF

11MS99 and 11MS157

Interim Report

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ABSTRACT

The SIUE archaeology field school took place on the SIUE campus in the summer of 2009. Shovel testing and surface survey were conducted in the location of a proposed residence hall, southwest of previously recorded site 11MS157. This field work yielded no evidence of prehistoric or historic period use; it appears that 11MS157 might have been destroyed during the construction of a parking lot and soccer field. Surface survey of approximately 85 acres in and adjacent to the central and southern portions of 11MS99 yielded artifacts from the Archaic through Mississippian periods, with a significant concentration of Middle Woodland artifacts found in the southern part of the site. Excavations were focused on an area at the southern end of the site containing a surface concentration of Middle Woodland pottery. Although limited in scale (only 36 square meters were uncovered), excavations revealed two pit features at the base of the plowzone, as well as one or more postholes. The deeper of the two pit features dates securely to the Middle Woodland period, and the other probably also dates to the Middle Woodland period. Three 1x1 meter squares were excavated to depths over 1 meter to examine the stratigraphy. These indicate that there is potential for more deeply buried components at the site.

ACKNOWLEDGMENTS

Thanks first and foremost to SIUE Vice Chancellor Kenn Neher for his support of archaeology at SIUE and for making this field school on campus possible. Thanks to Sid Denny and Keith Probst for digging up their old memories of 11MS99; Ken Farnsworth for sharing his expertise on all things Middle Woodland; Bob Gibson and especially Mick Watters for their help in getting us on the grid; Henry Holt for logistical support throughout the field season; Sheryl Lauth for her invaluable help with the graphics; Greg Vogel for sharing his expertise on sediments and map making; and Miranda Yancey for guiding us through the roiling waters of lithic analysis. Finally, the greatest thanks go to the cast and crew, the field school students of 2009, who were almost always laughing.

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 18 and July 10, 2009. Field school investigations included shovel testing and surface survey southwest of 11MS157 and surface survey and excavation on 11MS99. Julie Holt acted as field director and instructor of record with Lori Belknap as crew chief and graduate assistant. Nine full-time students (Tiffany Arnold, Ashley Cisneros, Curtis Hummel, Katie Leslie, Katie Martychenko, Grace Miller, Jessica Robart, Elise Valdés, and Michael Woody) and two part-time students (Alexandra Freyer and Sarah Strowmatt) enrolled 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 faculty and also students, who are encouraged to do original research for their senior projects. Perhaps most important, the field school provides a means for recording endangered archaeological sites, which are rapidly disappearing due to development in Madison County. In the case of the locations investigated by the 2009 field school, a residence hall is planned to be built southwest of 11MS157, and 11MS99 has been severely impacted by deep plowing and illegal artifact collecting. The field school provided the opportunity to document archaeological resources on campus with the goal of protecting them, or mitigating them if necessary.

The field school achieved all of these goals. All students completed the course successfully and received experience in all phases of archaeological fieldwork. In terms of research, because we were particularly interested in Middle Woodland use of 11MS99, the Gehring site, we conducted test excavations there. The data recovered provide information about the Middle Woodland occupation at the Gehring site, and the role of the northern American Bottom in American Bottom-Illinois Valley interactions during the Middle Woodland period. As of this writing, three senior projects that utilize data recovered during the 2009 field school investigations have just been completed (Cisneros 2010; Leslie 2010; Robart 2010), and additional senior projects are planned for next year.

This report summarizes results of the SIUE field school undertaken on the SIUE campus in the summer of 2009. Shovel testing and surface survey southwest of 11MS157, in the location of the proposed residence hall, yielded no evidence of prehistoric or historic period use; it appears that 11MS157 was probably destroyed during the construction of a parking lot and soccer field. Surface survey of approximately 85 acres in and adjacent to the central and southern portions of 11MS99 yielded artifacts from the Archaic through Mississippian periods, with a significant concentration of Middle Woodland artifacts found in the southern portion of the site. Excavations were focused on an area at the southern end of the site containing a surface concentration of Middle Woodland pottery. Although limited in scale (only 36 square meters were uncovered), excavations revealed two pit features at the base of the plowzone, as well as one or more postholes. Of the two pit features, the deeper most certainly dates to the Middle Woodland period, and the second probably also dates to the Middle Woodland period. A nearby posthole might also date to the Middle Woodland period, but this is impossible to verify since it contained no artifacts and little charcoal. Three 1x1 meter

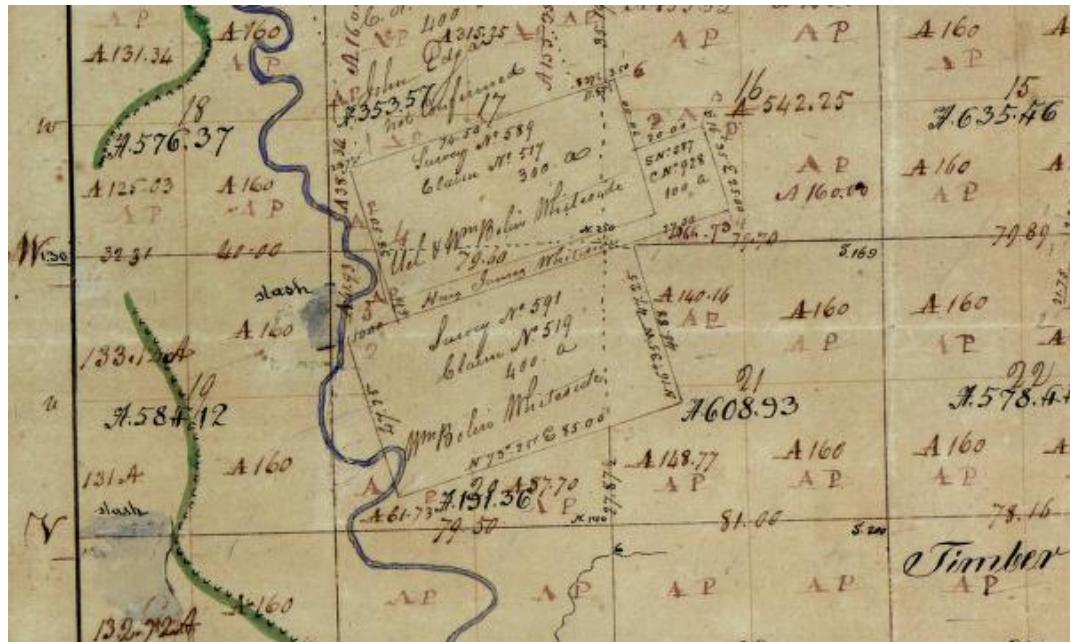
squares were excavated to depths over 1 meter to examine the stratigraphy. These indicate that there is potential for more deeply buried components at the site.

This report will begin with a description of the site setting and a summary of previous investigations in the area. We will then detail our field methods and results. As of this writing, analysis of the large collection of artifacts recovered from 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, our preliminary results show that the people who used this area 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, many 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 proper, 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, forest and prairie (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 its archaeological record. The SIUE campus is situated along the bluffs 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 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 occupants 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 rich regardless.



The richness of the local natural resources is evident in the richness of the 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. Archaic period components were recorded at 11MS96 and (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.

Of these, 11MS99 on the floodplain near the base of the bluff and just east of Cahokia Creek was clearly the largest site, covering at least four acres, and would seem to have had the densest concentration of artifacts. Referring to 11MS99 as the Gehring site, Munson described it 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 field road to access utilities which probably have destroyed most of the northern part of the site. 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, 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. In an interview with Denny conducted on-site in May 20 of 2009, he 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; we are using his terminology 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 later discussions with personnel at Cahokia Mounds State Historic Site made him think 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.

Maher (1996) interviewed Denny in March of 1994 and reports that all of Denny’s excavation notes and maps were lost by that time. Maher was able to examine the artifacts from Denny’s excavation and surface collection, but they 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, and he suggests that there were just as many 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). In July of 2003 Holt transferred nine boxes of artifacts labeled MSV-99 from the SIUE Anthropology Lab to the SIUE University Museum. Presumably, these contained artifacts excavated by Denny and included the artifacts examined by Maher. At that time the ISM declined to accept the collection for curation because no field notes could be found to accompany them.

Maher (1996:640) also 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].” In our interview with Denny in May of 2009, he was able to locate four sheets of color slides from his excavation in the SIUE Anthropology Lab. These appear to include the same photos shown in Maher’s Figures D.15 and D.16. The slides were scanned and will be curated with the field notes, maps, and photos from the 2009 SIUE field school investigations.

As part of his dissertation investigating the “Hopewell occupation” of the American Bottom, Maher (1996) 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 Wilber (or Wilbur) 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 mound, but was not necessarily associated with it.

Maher (1996) excavated in the possible mound to determine its cultural affiliation. He notes that at the time of his excavation in 1994, the 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. 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 a natural geomorphological feature, perhaps a remnant of a sand ridge.

The observations and collections of avocational archaeologist Keith Probst are equally important in understanding site 11MS99. Probst collected 11MS99 (and other sites) between 1967 and 1973, keeping a log of his finds in which he recorded artifact numbers, artifact descriptions, and site locations. In 2007 and 2008 Probst permitted Brad Koldehoff, Ken Farnsworth, and Julie Holt 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), celt, and 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, Etley, 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.

In visits to 11MS99 with Probst in 2008 and again during the present excavation in 2009, 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 would suggest that prior to deep plowing, the site had been stratified. Probst also suggests that as much as five feet of sediment has been removed from this ridge (due to plowing and erosion) since the early 1970s.

Finally, we might note that there are surely other artifact collections from 11MS99 that could prove informative if only we knew where they were. 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 our first visit to the site with Probst in March of 2008. Footprints of collectors were observed every time it rained during the field school in May and June of 2009. We observed on June 1 that a collector had been digging on site at the edge of an erosion gully. In addition, approximately 20 people actively surface collecting were observed firsthand by field school faculty and students during this period 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 reported that they had been given permission to collect by Craig Keller (the 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 individuals, but unfortunately none have been forthcoming as of this writing.

PROPOSED RESIDENCE HALL LOCATION: FIELD METHODS AND RESULTS

The campus master plan created in 2006 shows a “potential housing site” located southwest of Northwest University Drive, approximately 50 meters southwest of site 11MS157 (Figures 2 and 3). Site 11MS157 was recorded in 1970; located in the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 17, Township 4N, Range 8W on the Wood River quadrangle (7.5 minute series). Scant information is recorded about this site on the IAS site form: its cultural affiliation and site type were described as “indistinct,” and no mention was made of any artifacts that might have been recovered during surface collection of the site. Today a parking lot located across the street from SIUE’s Early Childhood Center appears to cover most of 11MS157. Presumably the site was destroyed during grading of the parking lot, although it is possible that there are archaeological deposits intact underneath the parking lot. The age of the parking lot is unknown. An archaeological survey was made in 1999 in advance of construction of Bluff Residence Hall (Burns and Wells 1999). It appears that survey for the residence hall water lines would have run right through 11MS157, yet no mention of 11MS157 (or the parking lot) is made by Burns and Wells (1999). Their survey reported no archaeological finds.

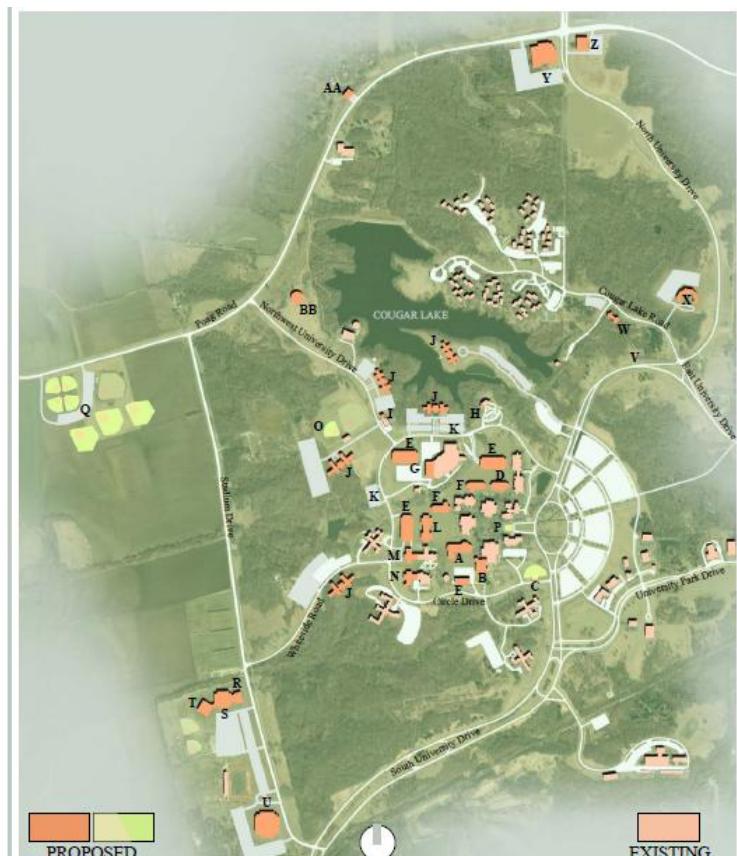


Figure 2. SIUE campus master plan, 2009
(<http://www.siue.edu/FACILITIES/campmap/cmp.htm>) J = potential housing sites

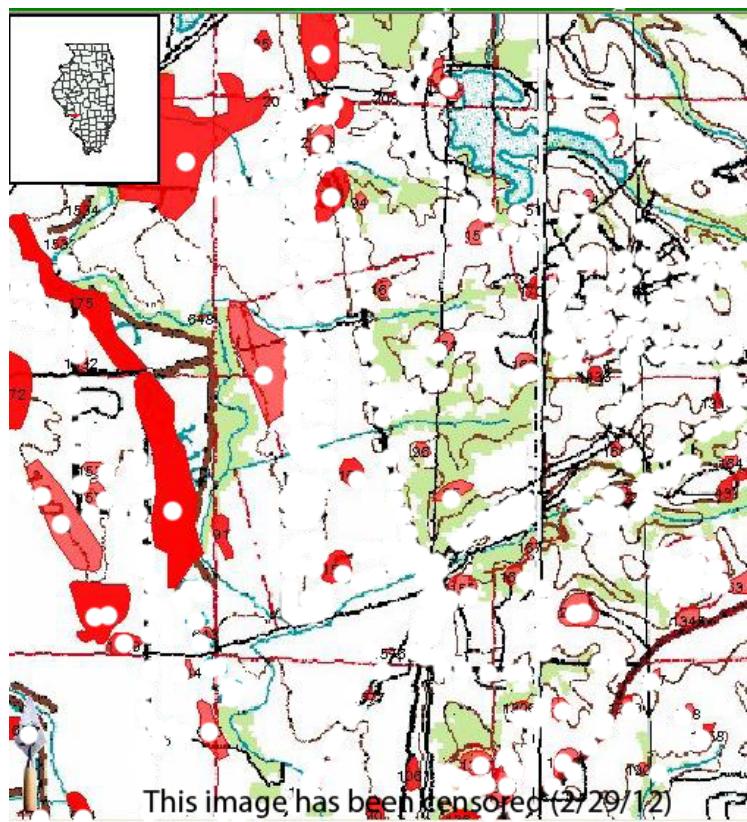


Figure 3. Location of previously recorded sites on the SIUE campus (<http://arch.museum.state.il.us/archsites/>)

Southwest of the parking lot and parallel to its long axis is a drainage ditch; a small building known as the Outdoor Recreational Sports Complex is located approximately 45 meters from the northwest corner of the parking lot. We shovel tested the area southwest of the drainage ditch, beginning our transects at the southwest corner of the building and running parallel with the building (that is, approximately 120° southwest), testing the entire area that will likely be impacted during construction of the residence hall. Today this area is part of a soccer field: it has been leveled and was covered in thick sod at the time of our investigations (Photo 1). Shovel testing was conducted May 18-20 at 10 m intervals per current IAS recommendations; excavation extended through the plowzone and five to ten cm into the subsoil. All sediments were screened through quarter-inch mesh and were described with Munsell colors and USDA textures. We excavated some 147 shovel tests in the soccer field; 11 transects were laid in, with the longest consisting of 19 shovel tests. The A horizon was quite thin in many tests, apparently as a result of grading the field. No prehistoric or historic artifacts were recovered. Modern artifacts were recovered, mostly golf balls and, in the tests closest to the Outdoor Recreational building, brick fragments that match the brick used to construct the building.

Southeast of the soccer field the ground drops off gently and is overgrown in thick fescue and autumn olive. On May 20 we placed three shovel tests in this area, which revealed a profile with a much thicker plowzone, ranging from 26 to 53 cm deep.

Presumably the variation in depth is due to infilling that occurred as the adjacent soccer field was leveled. No artifacts were recovered. Southwest of the soccer field the ground drops off quickly and is overgrown in sumac and other weedy brush. We did not shovel test this area because of the slope and because it will probably not be impacted by construction of the residence hall.



Photo 1. Shovel testing, proposed location of future residence hall.

Approximately 200 m southwest of the parking lot, our shovel tests ended at a field of bare ground where operators of heavy machines are trained. Backhoes and bobcats were observed moving dirt in an area measuring approximately 100 by 200 m. Because the campus master plan indicates that this area will be used as a parking lot for the proposed residence hall, we surface collected the bare ground when the machine operators finished working for the day on May 19. We walked in 5 m transects, and visibility was 100% (Photo 2). Three chert flakes were recovered, but their location was not meaningful due to many years of heavy equipment disturbance in the area.

To determine the depth of soil disturbance, on Nov. 6 Julie Holt and Lori Belknap excavated a shovel test approximately 40 cm wide and 50 cm deep in the northern part of the machine scraped field. The lack of soil structure (ped formation) throughout the test confirmed that the sediment was disturbed to a depth of at least 50 cm. The soil was a heavily compacted 10YR 4/6 dark yellow brown clay loam with mottles, apparently redeposited loess. Screening approximately 50% of the sediment through $\frac{1}{4}$ " mesh, no cultural materials were found. A small amount of limestone gravel was noted. On Nov. 23, we returned and excavated two more shovel tests, one in the center and one in the

southern part of the machine scraped field. These were also approximately 40 cm wide and 50 cm deep, with the same results (no ped formation), indicative of recent soil disturbance. A preserved stick found 35 cm deep in the central shovel test confirms that these sediments are recently redeposited. We screened approximately 50% of the sediments in the central test and 25% of the sediments in the southern test. No cultural materials were observed.



Photo 2. Surface collection, proposed location of parking lot for residence hall.

In sum, shovel testing in grassy areas and surface collection in areas of bare ground indicate that there is no evidence of intact archaeological deposits in the area to be impacted by construction of the residence hall or the adjacent parking lot. Belknap prepared an Archaeological Survey Short Report that was submitted to the Illinois Historic Preservation Agency in November of 2009 recommending clearance of the project area. Belknap also prepared a site revisit form for 11MS157 that was submitted to the IAS indicating that the site is probably destroyed, although a portion could be intact under the parking lot.

11MS99 SURFACE COLLECTION: FIELD METHODS AND RESULTS

According to the IAS site files, site 11MS99 is located in the W $\frac{1}{2}$ of the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 17 and the E $\frac{1}{2}$ of the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 20 in Township 4N, Range 8W of the Wood River quadrangle (see Figure 3). The 2009 SIUE field school conducted a surface collection on 11MS99 between May 21 and June 9. However, periodic and sometimes heavy rains frequently kept us in the lab, so that we were actually in the field only 10 days during this period. The rains caused flooding in the farm field around the site, as well as severe erosion across the site and farm field. On June 1 we measured the largest erosion feature, a gully 75 m (250 ft) long, which curves around the south end of the site and then creates an alluvial fan (Photo 3). The deepest part of the gully was measured at 80 cm (32 in), and it was 35 m (115 ft) wide at its widest point. Many artifacts were found washing through this and other gullies, including pottery sherds at the south end of the site that were several inches in diameter. The size of these sherds indicates erosion of intact (unplowed) archaeological deposits, such as features or midden, although we were unable to locate an intact deposit in the gully itself. A feature could have been located where evidence was found of a looter digging in the gully on June 1 (Photo 4). This was reported to the SIUE police, as were approximately 20 unlawful surface collectors observed by field school faculty and students during this period. Fortunately, we found no further evidence of looting or illegal surface collection after the excavations were begun on June 18.



Photo 3. Erosion, 11MS99.



Photo 4. Illegal digging in erosion gully, 11MS99.

The northern portion of the site was not surface collected because it is not cultivated and active utilities are located there. These utilities were not noted on the original IAS site form complete by Patrick Munson in 1963, but when the site was revisited by Ken Williams and Ernest Evans in 1969, they reported a water pumping station and underground telephone cables in this area (IAS site files). The extent of damage to the site caused by installation of these utilities is unclear because their depth is unknown. The northern portion of the site is separated from the rest of the site by an old streetcar line (Robert Washburn, personal communication, 2009) which is today used as a road to access the utilities. Williams and Evans referred to the streetcar line as a levee in their 1969 site revisit. A deep drainage ditch runs parallel to the streetcar line on its north side (it was overflow of this ditch that caused flooding to the site), cutting through the site.

The central and southern parts of the site are located in an agricultural field. These divisions of the site are terms used by Williams and Evans which they considered arbitrary, but which in fact seem to capture real spatial patterning on the site, as we will discuss below. We surface collected the entire farm field, some 85 acres, although the site is located primarily in the west half of the field, covering less than 25 or 30 acres. When surface collections began on May 21, horseradishes were just beginning to sprout, and surface visibility was nearly 100% (Photo 5). The deep plowing that characterizes horseradish planting brings up more artifacts than other forms of agriculture usually practiced in southern Illinois, and the deep furrows that are created increase the visible

surface area of the ground. Frequent rains during the collection period also heightened visibility (attracting the unlawful collectors mentioned above). By completion of the surface collection on June 9, some horseradishes were perhaps one foot tall, but because of their vertical growth pattern, absence of weeds, and depth of the furrows, visibility was still approximately 95% (Photo 6).



Photo 5. Surface collection on May 21, 11MS99.

Surveyors walked every third horseradish row, making transects approximately 2.5 m apart (the IAS currently recommends 5 m transects). Initially, every artifact was flagged and its location recorded with GPS, but we quickly realized that this method took too much time (not to mention memory on the GPS). Thereafter, surveyors were instructed to flag only those artifacts or possible artifacts that were larger than $\frac{1}{4}$ inch in diameter, or approximately the size of a thumbnail. Surveyors also began lumping artifacts, collecting them and placing them in piles roughly every 3 to 4 m. We must point out that these distances were not measured and surely varied between surveyors. Surveyors doing GPS entry also did some additional lumping of finds. Nevertheless, the spatial control achieved was relatively high in resolution and produced meaningful results.

The site boundaries indicated by our surface collection are consistent with those previously recorded (Figure 4). We also obtained similar results in that the central portion of the site yielded artifacts dating to multiple time periods, but most common were Middle Woodland and especially Mississippian. The southern portion of the site

also yielded artifacts from several time periods, but Middle Woodland artifacts were clearly most common. Similar patterns were noted by Williams and Evans in their site revisit (IAS site files). In addition, the central and southern portions of the site were separated by an erosion gully at the time of our survey; it appears that they are situated on adjacent but separate land forms. It is for these reasons we would argue that division of the site into central and southern portions is real, not arbitrary as suggested by Williams and Evans.



Photo 6. Surface collection on June 9, 11MS99.

Preliminary counts of artifacts collected on the surface are found in Table 1. By far, most artifacts collected were made from chert; over 29,000 flakes and chert tools were collected. Over 4,000 pottery sherds were also collected, including many shell-tempered sherds (which usually don't preserve well in surface collections). Seemingly little FCR (fire-cracked rock) was encountered, approximately 3400 pieces weighing over 77,000 grams. Most bone collected was calcined and came from a limited area in the southern part of the site. Most of the shell recovered was also found in this area of the site, although a marine shell bead (probably Mississippian) was found in the central part of the site. A smaller amount of bone, including several fragments which are obviously human, were also recovered from the central part of the site. (These were reported to the IHPA and coroner after they were identified in the lab in November of 2009.) Most historic artifacts recovered were modern, but artifacts dating to the nineteenth century were also collected.

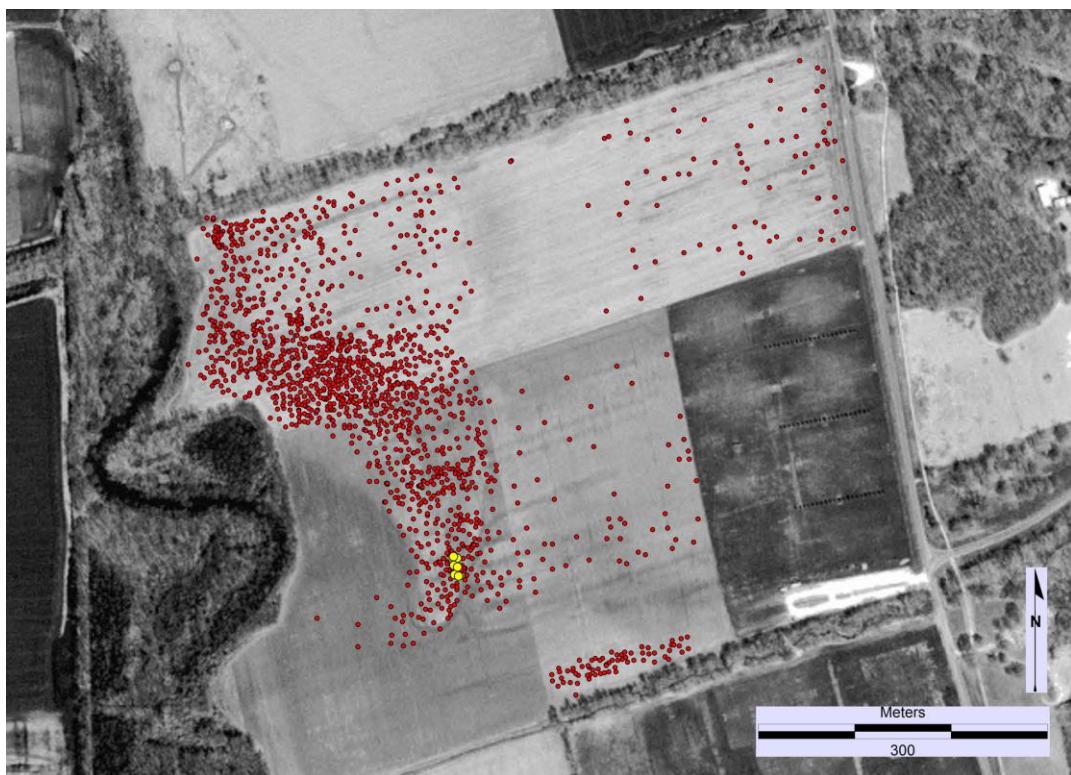


Figure 4. Surface collection results. Surface finds in red; excavation units in yellow.

Table 1. Surface Collection Summary.

Artifact type	Count
Chert	29243
Sherds	4282
FCR ¹	3443
Rocks	144
Limestone	136
Sandstone	126
Ground stone tools?	80
Hematite	4
Bone	365
Shell	326
Ochre/burnt clay	127
Historic	672

¹FCR weighed 77384.81 g.

11MS99 EXCAVATIONS: FIELD METHODS AND RESULTS

Our research interests were to better understand Middle Woodland use of the site. Based on results of the surface collection, we decided to excavate in the vicinity of a Middle Woodland pottery concentration at the southern end of the site. An added advantage of excavating in this area was to avoid previous excavations by Sid Denny in the central part of the site. After being given approval from Vice Chancellor Kenn Neher to proceed with the excavation on Friday, June 12, we laid in a base line at the south end of the site using steel tape and a Realist-David White 4.5 inch transit, model TR300. The baseline consisted of five wood hubs placed every 10 m, running roughly north-south and along the crest of the land form. The first hub was designated N400 E400, since it was approximately 400 m north and east from the southwest corner of the farm field. The next week began with two days of rain, so it was not until Wednesday, June 17 that we were able to return to the field to lay in excavation units. The transit was set up over hubs N400 E400, N410 E400, and N420 E400, and used to lay in north nails for three pairs of 2 x 2 m units, with each pair offset 2 m west of the hub (see Table 2). The baseline hubs, as well as corners of each excavation block, were later recorded with a high precision GPS (Trimble ProXH) by Bob Gibson of the IDNR Office of Mines and Minerals and Mick Watters of the SIUE Geography Department so that we would have accurate UTM coordinates for them (see Table 3).¹

Table 2. Unit Coordinates.

Unit name	SIUE grid coordinates	Unit size
A	N398 E396	2x2 m
B	N398 E394	2x2 m
C	N408 E396	2x2 m
D	N408 E394	2x2 m
E	N418 E394	2x2 m
F	N418 E396	2x2 m
G	N420 E395	2x2 m
H	N410 E396	2x2 m
I	N416 E394	2x2 m

Table 3. UTM Data (WGS84 Zone 15)

Unit/nail	SIUE grid coordinates	X (UTM)	Y (UTM)
Unit A/SE	N398 E398	759106.7009	4297401.244
Unit B/NW	N400 E394	759102.2543	4297402.715
Unit C/SE	N408 E398	759105.7895	4297411.21
Unit D/NW	N410 E394	759101.5568	4297413.089
Unit E/NW	N420 E394	759101.0156	4297422.974
Unit F/SE	N418 E398	759105.1796	4297421.234

¹ As the excavation squares were laid in, horseradishes in each unit were counted to track crop damages; each of the six 2 x 2 m units contained 19 horseradishes, or 114 horseradishes in total.

Excavation began on Thursday, June 18. All sediments were removed by hand (shovel and trowel), screened through $\frac{1}{4}$ inch mesh, and described using standard nomenclature (Munsell colors and USDA textures). In Units A-D the plowzone was removed in two natural levels because students were having trouble seeing the base of the plowzone: that is, as plow scars and/or mottling from the subsoil appeared, a new level was begun to remove the rest of the plowzone (Strat A, level 2). This was not necessary in other Units E and F, where the plowzone was shallower. In fact, the plowzone in Units E and F was only about 10 cm deep in some places because of severe erosion. The plowzone was typically about 30 cm deep in Units A-D. Still, this was not as deep as expected with horseradish planting, again because of topsoil erosion. The plowzone was generally a 10YR 4/3 brown sandy loam. According to the USDA (2009), the soil is classified as Onarga sandy loam. Chert, ceramics, and FCR were found in the plowzone in Units A-F (Table 4). The highest concentrations of chert were found in Unit A. Comparable amounts of pottery were found in Units A-D, although Units A and B were closest to the pottery concentration observed in surface collection. Units E and F had the lowest artifact densities.

Table 4. Plowzone Artifact Summary.

Unit	Stratum	Chert	Sherds	FCR	FCR (g)	Rocks	LS ¹	SS ²	Bone	Ochre/ Burnt clay	Historic
A	A	288	404	85	600		2	4	32	10	27
B	A	179	405	123	483.41		4	15	27	17	15
C	A	191	408	139	478.36		3	2	6	6	3
D	A	159	356	114	444.45		3	1	3	11	
D	B	2	7	2	4						
E	A	111	207	51	260.65	15			2	1	10
F	A	92	162	19	223.5	31			2	6	
F	B	1	1								1
G	A	136	234	67	187.91		2	14	2	5	
H	A	239	692	270	688		7	14	9	3	
I	A	56	110	38	464	10		1			2

¹LS = Limestone

²SS = Sandstone

We should note here that the erosion taking place at 11MS99 is ongoing, and it is not new. Interviews with Keith Probst suggest that as much as 5 feet of topsoil have been lost from the southern portion of the site since the early 1970s. Prior to the first horseradish planting at that time, few artifacts were visible in the southern part of the site, and so he concentrated his efforts on collecting the central portion of the site. Subsequently, deep plowing for horseradish planting brought a treasure trove of Middle Woodland artifacts to the surface at the southern end of the site. This would suggest that the site had been stratified, given that Middle Woodland features and/or midden were apparently below the depth of the plowzone prior to that time. Stereographic analysis of

aerial photographs might be used to determine more precisely how much topsoil has been lost from the site.

In our excavation, sediments at the base of the plowzone were troweled to look for possible features. All possible features were drawn and photographed in plan view and then bisected. The first half of each possible feature was excavated as a single stratum. The profile was then photographed and drawn. Any distinct strata visible in profile were excavated separately in the second half of the feature, with flotation samples taken from each. Flotation samples were 10 l, unless the stratum was not large enough to yield a 10 l sample. All possible feature sediments not saved for flotation were screened using ¼ inch mesh.

In Unit C, two archaeological features were encountered at the base of the plowzone, Features 102 and 103 (Figure 5, Photo 7). Feature 102 was a large circular pit feature, approximately 1 m in diameter and 70 cm deep below the base of the current plowzone (Table 5). It contained multiple zones, most of which were organic and artifact rich (Figure 6, Photo 8, Table 6). Large numbers of Havana and Hopewell sherds were recovered from Feature 102, securely dating it to the Middle Woodland period.

Identified Hopewell types included red-slipped Hopewell zoned pottery and Montezuma punctate. Two spear points were identified as Norton, which is also a Middle Woodland diagnostic; one was broken, while the other was reworked as a scraper. Other Middle Woodland diagnostics included lamellar blades. Quantities of charcoal and burned clay were also encountered. The burned clay was thought to be ochre when it was encountered in the field because its rich orange-red color. There was some bone in the pit, but it crumbled to the touch due to poor preservation. Several pieces were identified as deer bone, including a distal humerus, before they fell apart. The zone at the bottom of the pit (labeled H in profile) was 10-20 cm thick and, in contrast to the zones above it, was much less organic and contained only a few small artifacts. At the very base of the pit, however, large portions of a Havana cordmarked jar were found lying flat in what otherwise appeared to be sterile soil (Photo 9).

Table 5. Feature Data.

Feature	Length	Width	Depth	Plan	Profile	Interpretation
101	14-15 cm	14-15 cm	2-9 cm	circular	varied	post molds?
102	100 cm	100 cm	67 cm	circular	bell	storage pit
103	21 cm	20 cm	21 cm	circular	varied	post hole
104	88 cm	75 cm	10 cm	circular	inslanting	pit

Feature 103 was identified as a post hole (Figures 5 and 7, Photos 7 and 10) approximately 60 cm south of Feature 102. Feature 103 was approximately 20 cm across and 20 cm deep below the base of the plowzone (Table 5). Its fill was organic rich (10 YR 4/2 dark grayish brown sandy loam) but contained no artifacts. Some mottling of possible iron concretions or ochre was found in the feature fill, with a concentration of what appeared to be iron concretions at the very base of the feature. Similar reddish materials in adjacent feature 102 were determined to be burnt clay once they were examined in the lab. Unfortunately none of the reddish material from Feature 103 was sampled. However, all of Feature 103 was saved for flotation sampling, and it is possible that some of the material might be present in the samples, which we have yet to examine.

Given the proximity of Features 102 and 103 and similarity in feature matrix (except for the lack of artifacts in Feature 103), it is possible that Feature 103 also dates to the Middle Woodland period. A protrusion from the south end of Feature 103 appeared to contain a mix of sterile subsoil and feature fill, so it was thought to be a disturbance. This could be modern, or it could have resulted from extracting the post in prehistory.

Table 6. Feature Artifact Summary, Screened Sample.

Feature	Stratum	Chert	Sherds	FCR	FCR (g)	LS	SS	Stone tools?	Hematite?	Bone	Ochre/ Burnt clay
102	A	85	618	72	114	5	17			28	22
102	A	12	309	5	90		3				3
102	A		1								
102	B										
102	C	19	184	21	14		4			6	6
102	D/E	17	79	3	166						3
102	F	11	66	1	20					1	1
102	F	1	2								
102	G	9	113	22		1	4	2	1	5	
102	H	5	6								2
102	1-M	9	70	5	2	3	3				7
102	H		4								
Total		168	1452	129	406	9	31	2	1	55	29
104	A	1	8				1				
104	A	16	15								4
104	A	4	7	3						1	3
Total		21	30	3			1			5	3

Unit H was a 2 x 2 m square opened immediately north of Unit C to expose the northern edge of Feature 102. Its plowzone was removed in two natural levels (see methodology above) and contained a large number of chert flakes and an especially large number of sherds (Table 4). At its base, Feature 104 was encountered approximately 1 m north of Feature 102. Feature 104 was a circular pit feature approximately 90 cm in diameter and only 10 cm deep below the base of the plowzone (Figures 5 and 8, Photo 7, Table 5). Defining the base of the feature was difficult due to lamellae development which appears to postdate the feature (see Photo 11). The feature fill was organic, a 10YR 3/2 very dark grayish brown with charcoal flecking. Most of the feature fill that was clearly undisturbed was removed as a flotation sample. In this feature two red flecks were noted which were thought to be ochre in the field, but which might have been burned clay. Despite the large number of sherds in the plowzone above the feature, no pottery was recovered from Feature 104 in good context (Table 6). Two large sherds

were recovered from the top of the feature when it was first identified in plan view. These were clearly in plow scars, and a small number of sherds recovered from the very top of the feature might also have been located in plow disturbed soil. All diagnostic sherds were Havana in style. Most lithic artifacts were also recovered from plowscars or from the very top of the feature. Lithic artifacts found in plowscars included a scraper, a core, and a point tip identified by Ken Farnsworth (personal communication, September 2009) as Late Archaic in style. The only diagnostic artifact found in good context from Feature 104 (recovered from the flotation sample) was a lamellar blade, which would suggest the feature was Middle Woodland in age. The presence of Dongola flakes in the feature fill would support this interpretation.

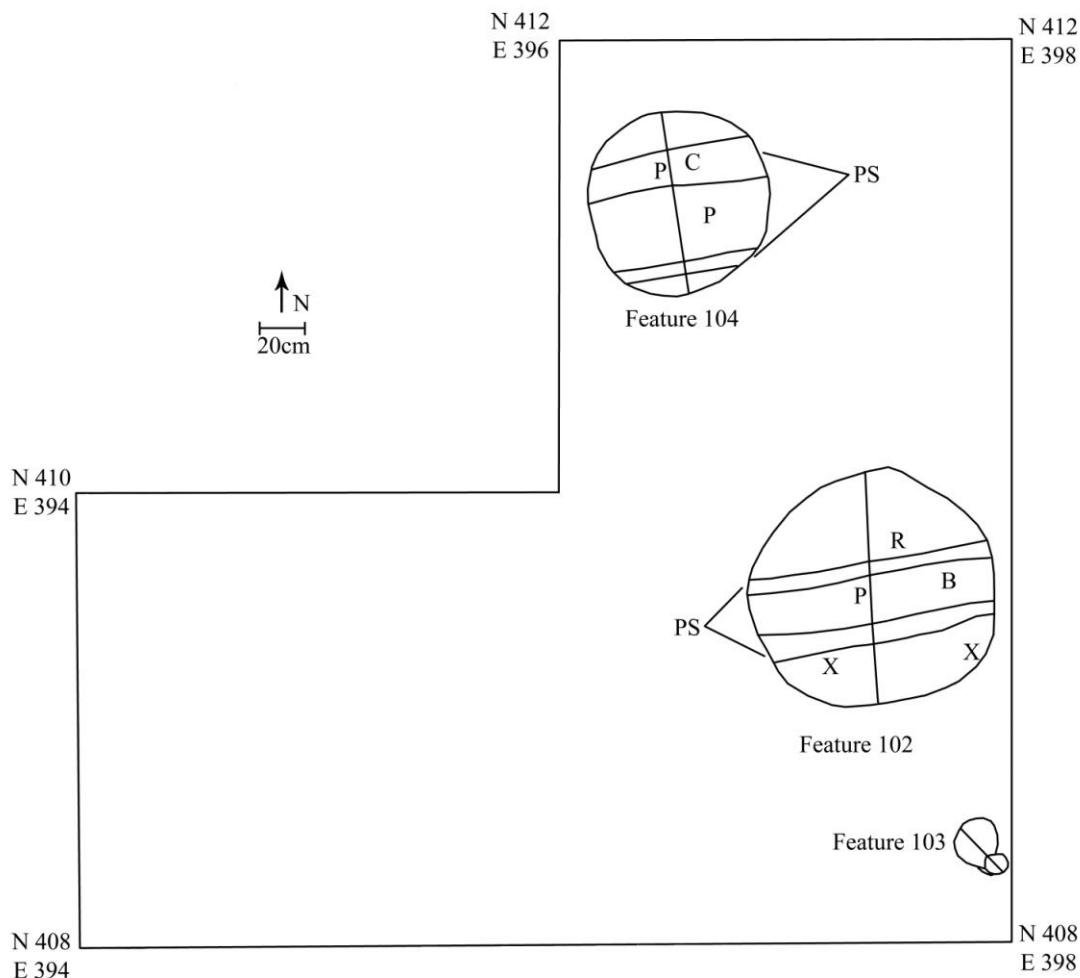


Figure 5. Features 102 – 104, plan view.

- | | |
|----------------|----------------|
| B = burnt clay | C = chert |
| P = pottery | PS = plow scar |
| R = rock | X = charcoal |



Photo 7. Features 102, 103, and 104, plan view.

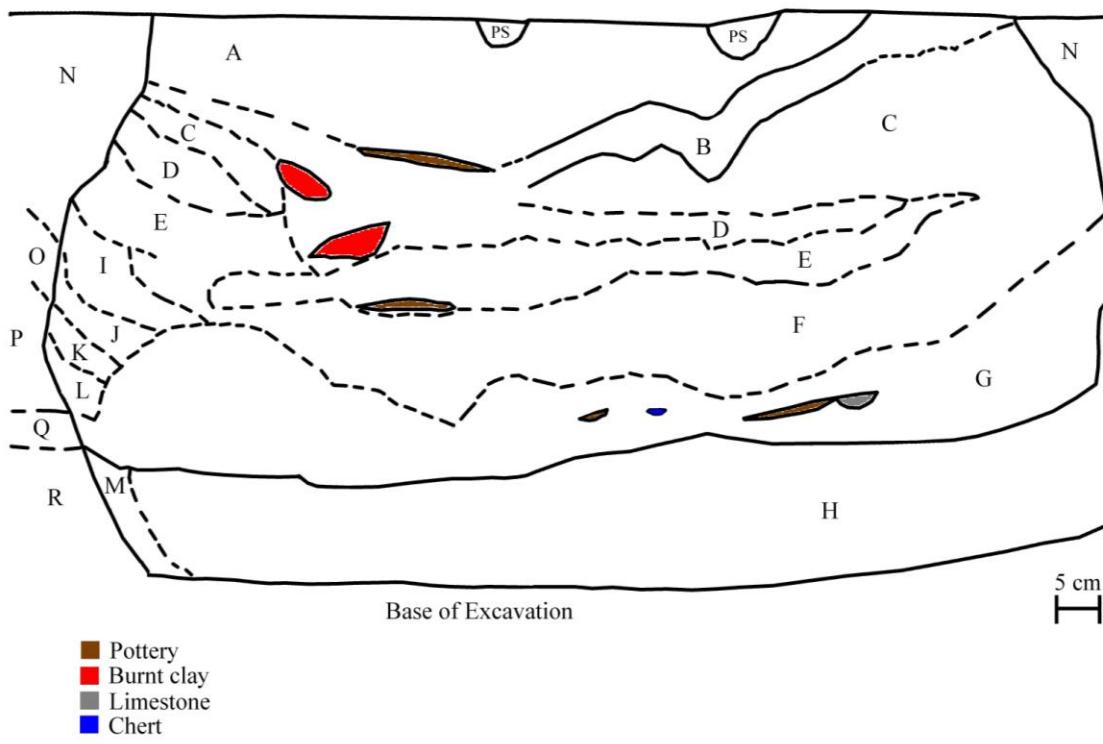


Figure 6. Feature 102, profile (facing east).

- A = feature fill; 10YR 4/3 sandy loam with flecks of burnt clay; few artifacts
 B = feature fill; 10YR 3/3 clay loam with more burnt clay and charcoal flecking; possible lamellae formation; large pottery sherds noted
 C = feature fill; 10YR 4/3 sandy loam with flecks of burnt clay and more charcoal
 D = feature fill; 10YR 4/3 loam with charcoal and much burnt clay ranging from flecks to chunks; artifact rich
 E = feature fill; 10YR 4/3 clay loam with charcoal and much burnt clay; artifact rich
 F = feature fill; 10YR 4/2 sandy loam with flecks of charcoal and burnt clay; artifact rich
 G = feature fill; 10YR 4/2 with large pockets of 10YR 2/1 sandy loam; flecks of charcoal and burnt clay; artifact rich
 H = feature fill; 10YR 4.5/4 clay loam with flecks of charcoal; very few artifacts, mostly small
 I = feature fill; 10YR 4/2 sandy loam
 J = feature fill; 10YR 5/2 sandy loam
 K = feature fill; 10YR 4/2 sandy loam
 L = feature fill; 10YR 5/2 sandy loam
 M = feature fill; 10YR 5/4 sandy loam
 N = subsoil; 10YR 4/4 clay loam; root mottled
 O = subsoil; 7.5 YR 4/4 clay loam with lamellae
 P = subsoil; 10YR 4.4/4 sandy loam
 Q = subsoil; 7.5YR 4/4 clay loam with lamellae
 R = subsoil; 10YR 5/4 loamy sand
 PS = plow scar



Photo 8. Feature 102, profile facing east.



Photo 9. Feature 102, Havana pottery at base of excavation.

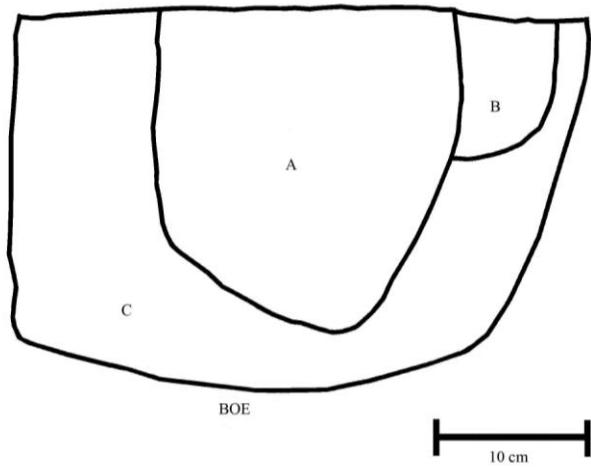


Figure 7. Feature 103, profile (facing east).

A = feature fill; 10 YR 4/2 dark grayish brown sandy loam with ochre or iron concretions at base

B = disturbance; mix of A and C

C = subsoil; 10YR 4/4 dark yellowish brown sandy loam



Photo 10. Feature 103, profile facing northeast.

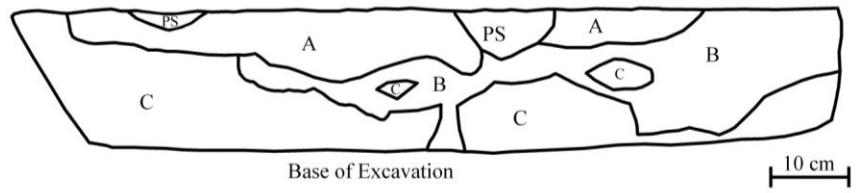


Figure 8. Feature 104, profile (facing west).

A = feature fill; 10YR 3/2 very dark grayish brown sandy loam with charcoal and burnt clay flecks
 B = subsoil (lamellae); 10YR 4/3 brown sandy loam with charcoal flecks
 C = subsoil; 10YR 4/4 dark yellowish brown sandy loam
 PS = plow scar



Photo 11. Feature 104, profile facing west.

As noted above, Units E and F had the lowest artifacts densities of the six 2 x 2 meter squares first opened. At the base of the plowzone in Unit E, several possible post holes measuring approximately 10 cm across were identified. These were designated Feature 101. Units G and I were opened in order to look for more posts that might align with those in Unit E. Unit G was positioned north of and midway between Units E and F while Unit I was positioned directly south of Unit E. The plowzone in Units G and I were removed in one natural level. Unit G had higher artifact densities than Units E and F (but still lower than Units A-D); artifact densities in Unit I were the lowest densities of all units opened (Table 4). Several possible posts were noted at the base of the plowzone in Units G and I. After bisecting four possible posts, two of those originally identified in Unit E (PM1 and PM2) were left with the designation of Feature 101, and the others were determined to be disturbances (Figures 9 and 10). However, it is possible they were all the result of bioturbation. None was deeper than 10 cm. Two crumbling sherds were found at the top of PM2. No other artifacts were noted.

A 1 x 1 m quadrant was excavated in each of three excavation units to examine the stratigraphy and determine whether there is potential at the site for more deeply buried components. These were the northeast quadrant of Unit A, the southwest quadrant of Unit D, and the northeast quadrant of Unit F. (We also began to excavate the southeast quadrant of Unit I more deeply, but because heavy rains effectively destroyed the unit after it was excavated just 10 cm below the plowzone, excavation was discontinued.) All sediments were screened through ¼ mesh, and all possible artifacts were saved. Unit A was excavated to approximately 130 cm below ground surface (Figure 11, Photo 12), Unit D was excavated to approximately 110 cm below ground surface (Figure 12, Photo 13), and Unit F was excavated to approximately 115 cm below ground surface (Figure 13, Photo 14). No cultural materials were encountered below the plowzone in Unit A. In Unit D, a few small artifacts were recovered (including a chert flake, sherds, and possible FCR); and in Unit F, a piece of ochre was noted. These were most likely present due to bioturbation. In Unit A, there was a thick stratum just below the plowzone (Strat B on the profile) that suggests a low energy environment – either redeposited loess, or perhaps a backwater environment. Higher energy deposits were noted below this, and were characteristic of sub-plowzone sediments in Units D and F. Lamellae development was also noted in all three units. In Unit F, it was difficult to determine if one or two strata were very thick lamellae, or possibly even buried A horizons. Most sediments encountered below the plowzone were identified as B horizons, although it appeared that Units D and F may have just been reaching C horizon deposits when excavation was discontinued because we ran out of time. Examination of the stratigraphy by Dr. Gregory Vogel suggests that there is potential for older deposits below the base of excavation.

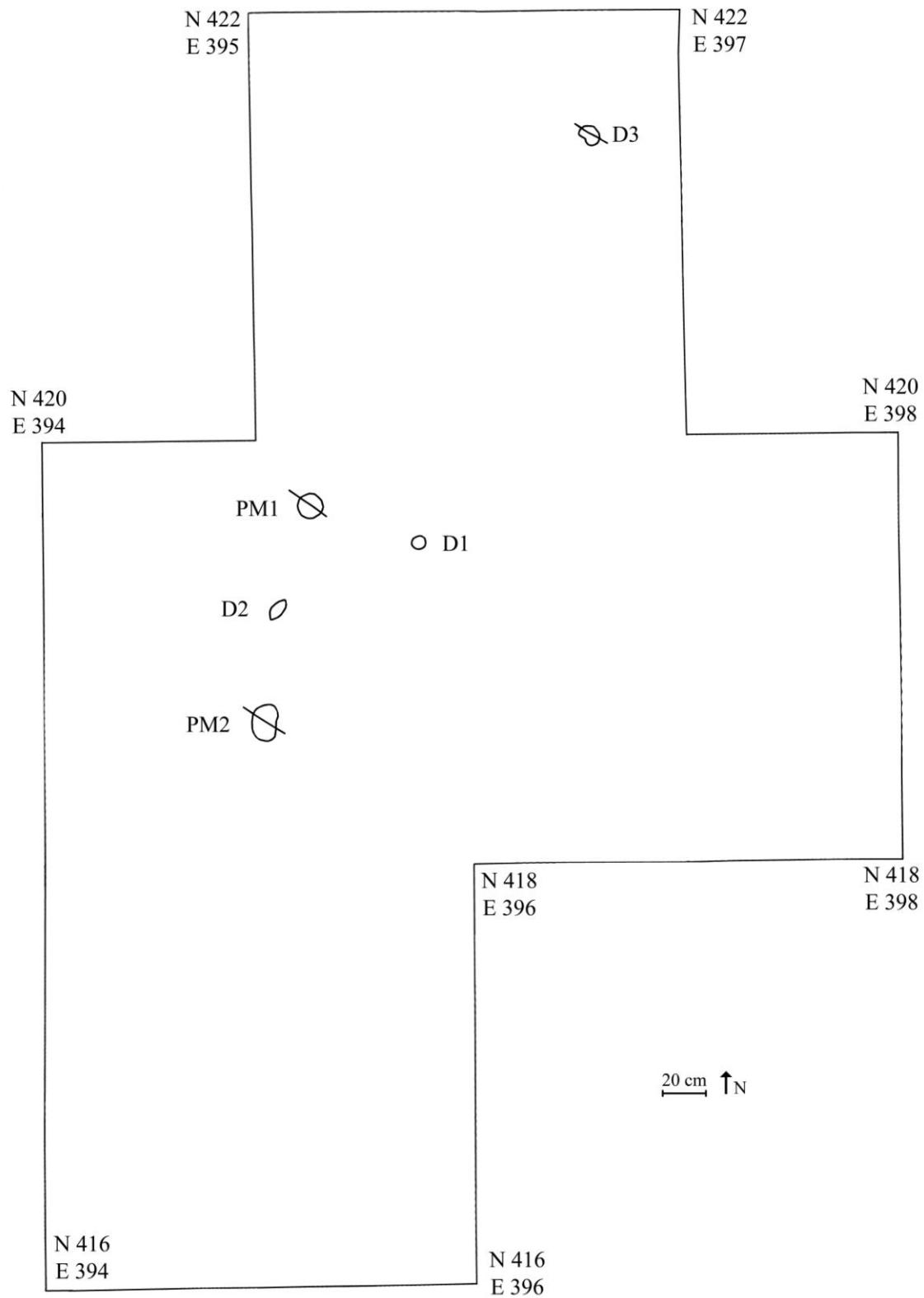


Figure 9. Units E – G and I, plan view.

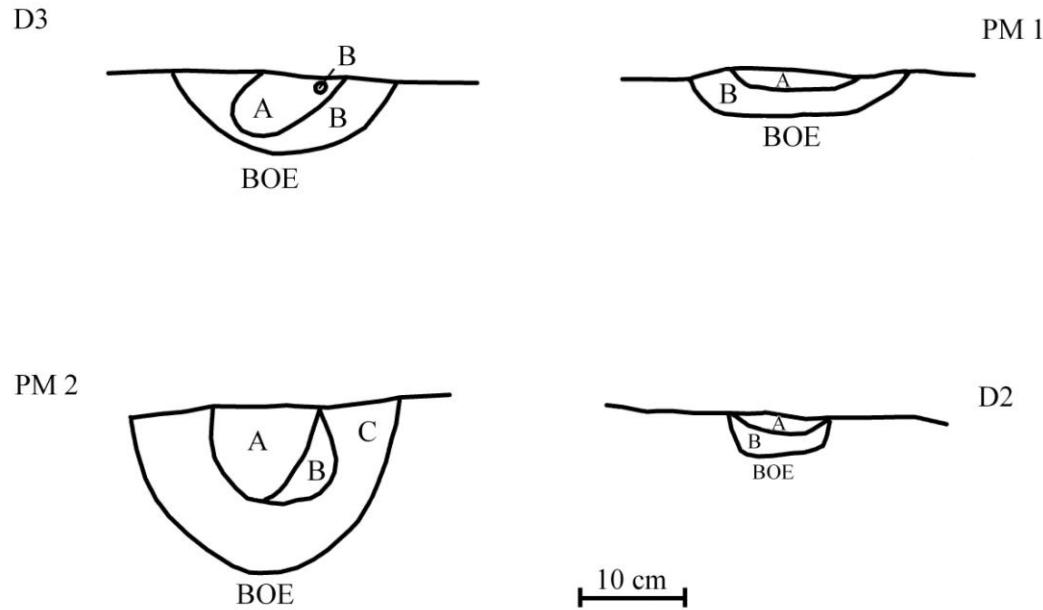


Figure 10. Posts and possible posts, profiles.

D2 (disturbance)

A = 10YR 3.5/3 dark brown sand loam

B = 10YR4/6 dark yellow brown sand loam

D3 (disturbance)

A = 10YR 3/4 dark yellow brown sand loam with mottles of 10YR 3/3 dark brown

B = 10 YR 4/6 dark yellow brown sand loam

PM 1 (possible post mold)

A = 10YR 3/4 dark yellow brown sand loam

B = 10 YR 4/6 dark yellow brown sand loam

PM 2 (possible post mold)

A = 10YR 3/2 very dark grayish brown silty loam with mottles of subsoil

B = 10 YR 4/4 dark yellowish brown with mottles of subsoil

C = 10 YR 4/6 dark yellowish brown sandy loam

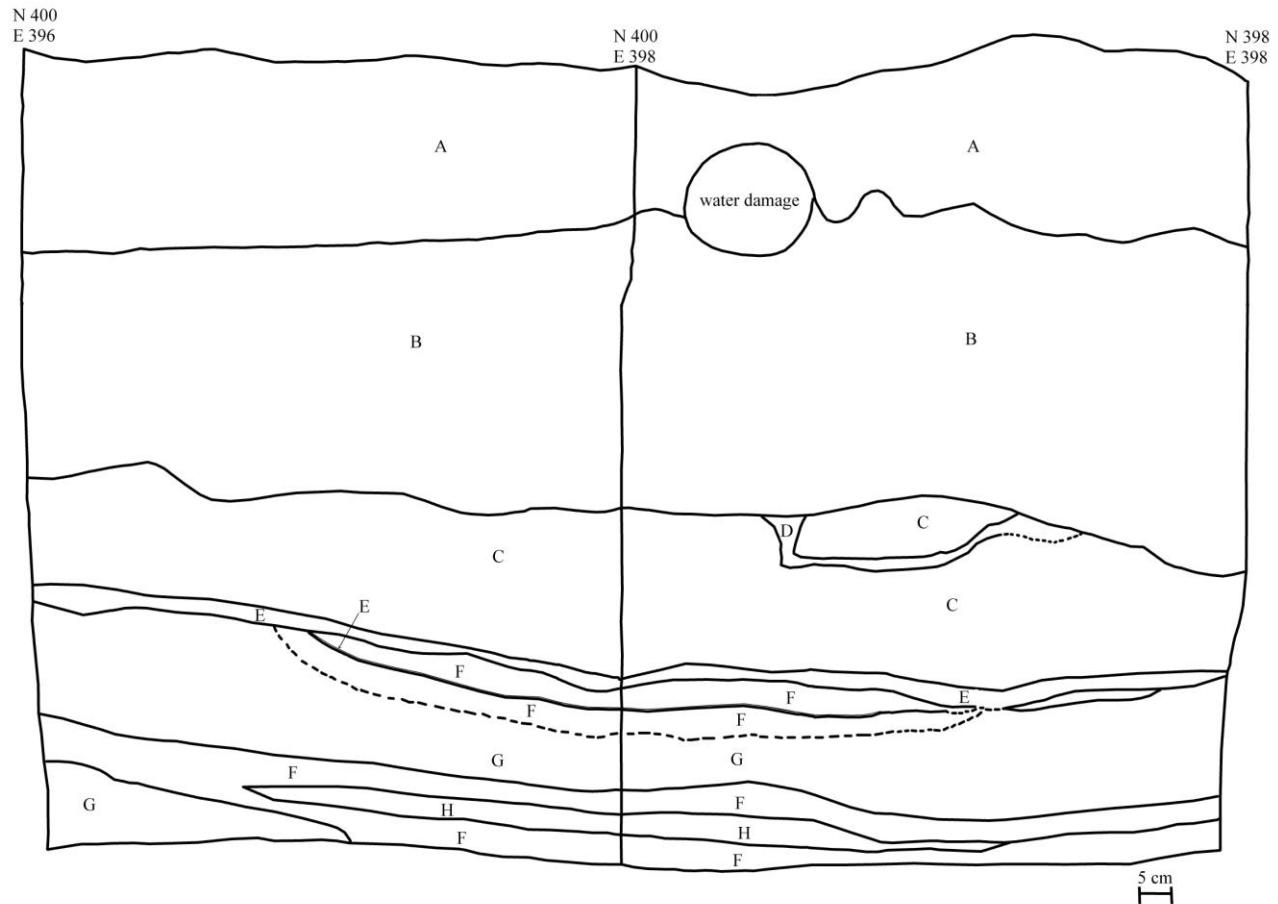


Figure 11. Unit A profiles, north and east walls.

A = plowzone; 10YR 4/3 brown sandy loam

B = B horizon; 10YR 4/4 dark yellow brown sandy loam gradually changing to a clay loam; either redeposited loess or a backwater environment

C = B horizon; 10YR 5/5 yellow brown loamy sand; high energy deposit

D = B horizon; 7.5 YR 4/3 brown sandy loam; high energy deposit

E = B horizon; 7.5 YR 3.5/3 brown to dark brown sandy loam; high energy deposit

F = B horizon; 10YR 5.5/4 light yellow brown to yellow brown loamy sand; high energy deposit

G = B horizon; 10YR 4.5/4 yellow brown to dark yellow brown sandy loam; high energy deposit

H = B horizon; 10YR 4.5/6 dark yellow brown to yellow brown very sandy loam with mottles of 5.5/4 light yellow brown to yellow brown sandy loam; high energy deposit



Photo 12. Unit A, profile facing east.

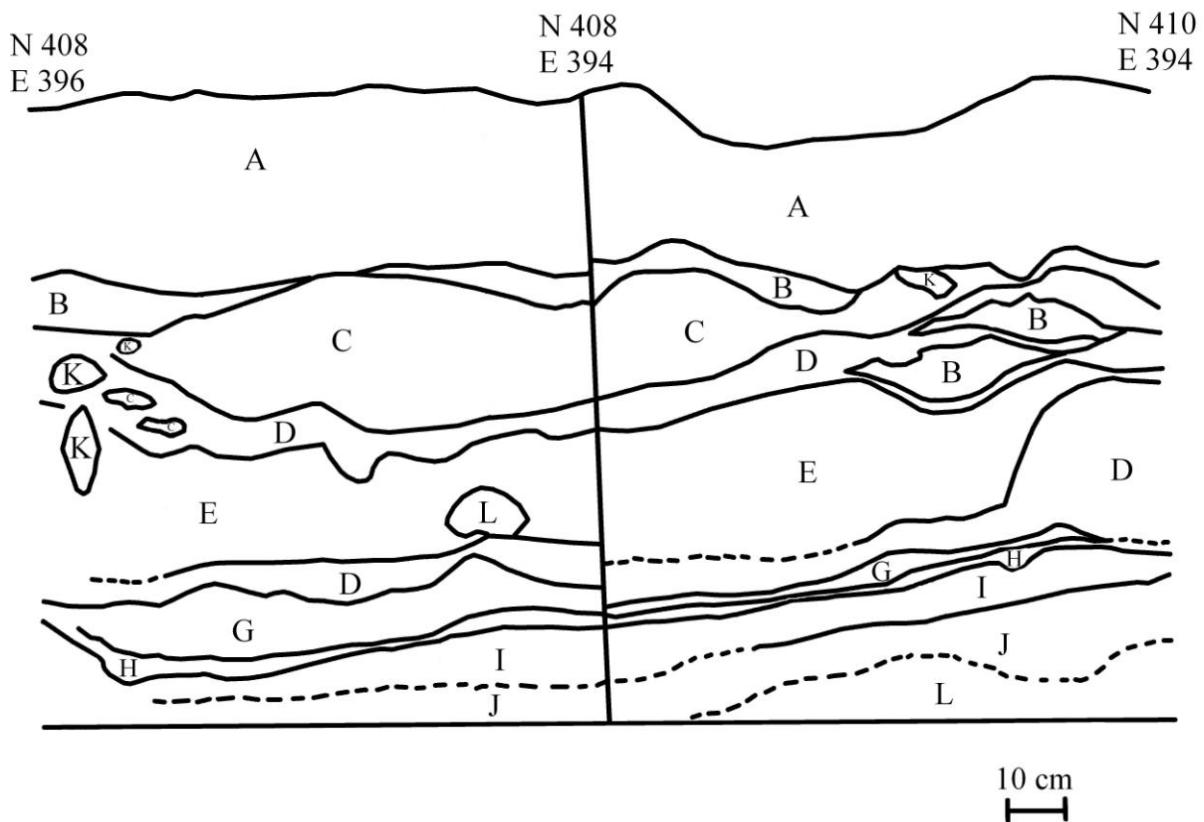


Figure 12. Unit D profiles, south and west walls.

- A = plowzone; 10YR 4/3 with large mottles of 10YR 3/6 sand loam
- B = B horizon; 10YR 4/4 mottled with 10 YR 4/3 sand loam
- C = B horizon; homogenous 10YR 4/6 sand loam
- D = B horizon (lamellae); 10YR 4/4 sandy clay loam with magnesium flecks
- E = B horizon; 10YR 4/6 loamy sand
- G = B horizon; 10YR 4/5 sand loam
- H = B horizon (lamella); 10YR 4/4 sandy clay loam with a band of 10 YR 6/4
- I = B or B/C horizon; 10YR 4.5/6 sand loam with a band of 10YR 4/5
- J = B or B/C horizon; 10YR 4/6 loamy sand
- K = krotovina; 10YR 3/2 sand loam
- L = possible C horizon; 10YR 6/4 light yellow brown loamy sand



Photo 13. Unit D, profile facing west.

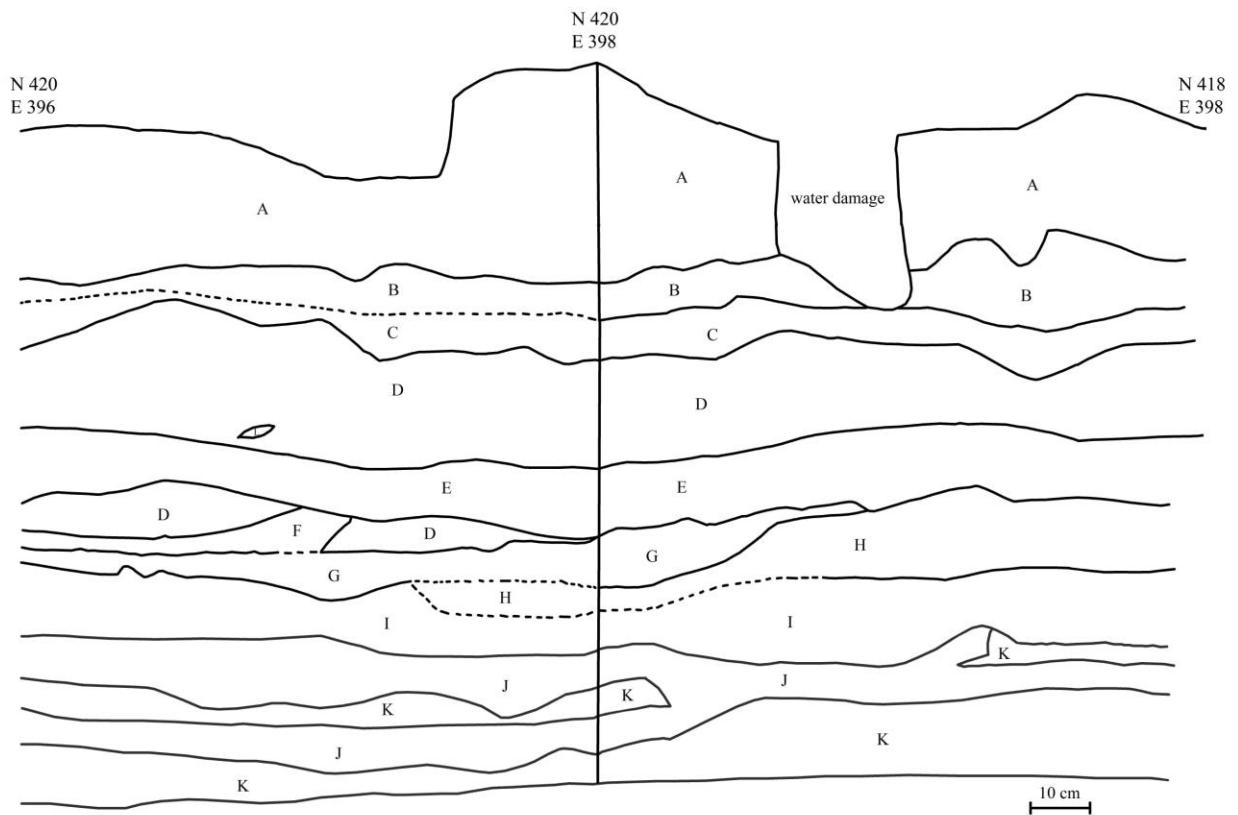


Figure 13. Unit F profiles, north and east walls.

- A = plowzone; 10YR 4/3 brown sandy loam
- B = possible buried plowzone; 10YR 4/4 dark yellow brown clay loam
- C = possible buried plowzone; 10YR 3/4 dark yellow brown clay loam
- D = B horizon; 10YR 5/5 yellow brown loamy sand
- E = B horizon or buried A horizon; 10YR 3.5/4 dark yellow brown sandy loam
- F = 10YR 4/4 dark yellow brown loamy sand
- G = appears root mottled on north wall and looks like stratum F as it moves east
- H = 10YR 5/4 yellow brown loamy sand; looks more like stratum F as it moves north
- I = B/C horizon or a possible buried A horizon; 10YR 5/4 yellow brown loamy sand in the north wall;
looks more like stratum F as it moves east; possible root mottling in the south end of the east wall
- J = 7.5YR 3/4 dark brown very sandy loam; thick lamellae or lamination
- K = possible C horizon; 7.5YR 6/4 light brown sand
- L = krotovina; 10YR 4/4 dark yellow brown mottled with 10YR 3/2 very dark gray brown loamy sand



Photo 14. Unit F, profile facing east.

In sum, while only a small portion of 11MS99 was excavated due to time constraints, two points are clear. First, despite deep plowing and heavy erosion, there are still intact archaeological deposits at the site. Several prehistoric features were encountered, at least one of which is securely dated to the Middle Woodland period. This is a time period that is poorly understood in the American Bottom, and so 11MS99 has potential to shed light on this important period of prehistory. Second, there is potential at the site to uncover older components more deeply buried. Given that Late Archaic artifacts are encountered in the plowzone and the river has been in its current channel since that period, there is potential to find a buried Early Archaic component, which is another time period that is poorly understood in the American Bottom. Older still, PaleoIndian sites are even more rare. Although Clovis sites are known in the uplands above the American Bottom, they have never been encountered in the American Bottom itself. It is nevertheless possible to find such a component at 11MS99. Its location at the base of the bluff afforded the site some protection, and its proximity to the bluffs would have provided easy access to the uplands which we know were utilized. The odds of finding a PaleoIndian site are certainly slim anywhere, but if found would make 11MS99 even more highly significant.

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