

New Philadelphia Archaeology

Report on the 2010 Excavation

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2010

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Chapter 1: Introduction

In 1836, Frank McWorter platted a town in west central Illinois and named it Philadelphia (later known as New Philadelphia). What made this act so remarkable was the fact that McWorter, also known as “Free Frank,” had purchased himself out of slavery only seventeen years before. Thus, New Philadelphia was not only an early town on the Illinois frontier, but it was the first town in the United States planned, founded, and formally registered by an African American.

The town that McWorter established consisted of 42 acres divided into 20 blocks separated by nine major streets and a series of named alleys and lanes (Figure 1.1). Federal and state censuses depict a town composed of residents of African and European ancestry originating in the states of the east, as well as from adjoining states and territories. The Illinois state census of 1865 records a population of 160 -- the town’s peak. By 1885, however, the community was no longer registered as a town and a number of the lots reverted to agricultural use. Over time, the entire 42 acres was returned to cultivation, and today, none of the town’s structures are visible above ground.

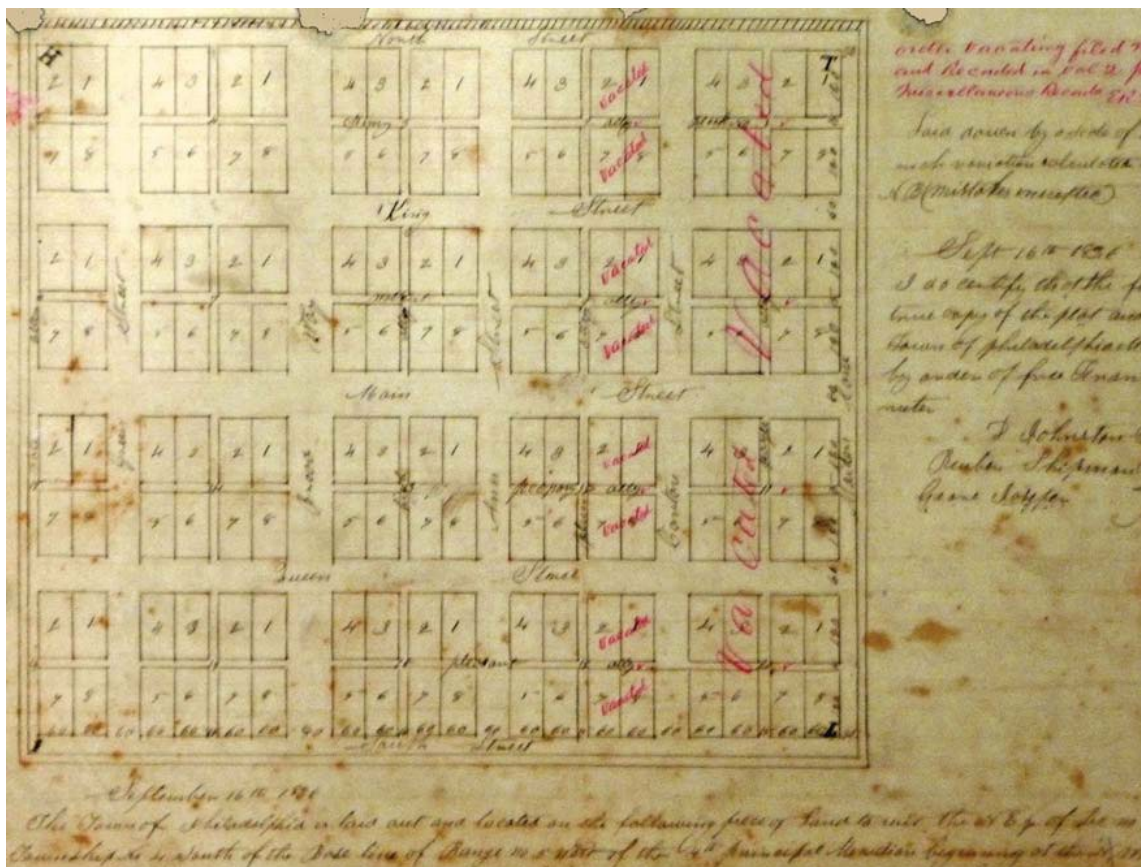


Figure 1.1. 1836 plat for New Philadelphia with 1885 notations. Sources: Pike County Deed Book, Vol. 9, 1836, p. 183.

Remembrances of New Philadelphia have been collected over the years (Matteson 1964, Burdick 1992), and the story of the town's founding is described in *Free Frank: A Black Pioneer on the Antebellum Frontier* (Walker 1983; 1995 reissue ed.). A new phase of research began with the historical and archaeological studies undertaken at the behest of the New Philadelphia Association, starting in 2002. Research from 2004 to 2006 was supported in part by a grant from the National Science Foundation and its Research Experiences for Undergraduates program (NSF-REU Grant number 0353550). A second NSF-REU was awarded in 2008 (Grant number 0752834). Reports on prior research are available on two linked websites dedicated to the New Philadelphia archaeology project (www.heritage.umd.edu/ and www.histarch.uiuc.edu/NP/). The present document presents developments and findings since the publication of the report for the 2008 field season (Fennell et al. 2009).

Research and related developments preceding the 2010 excavation season

Research and analysis conducted prior to 2010 led to the identification of at least fourteen structures, thirty-six archaeological features, and over 100,000 artifacts, faunal, and botanical specimens. The structures were built using a mix of techniques and materials, including log as well as frame construction, with some builders utilizing stone and brick for foundations. Household items, tools, and consumer goods came to New Philadelphia from throughout the United States and beyond, although the finds also point to ties to local markets and merchants (Shackel et al. 2006).

Based on surface concentrations of artifacts, the main corridors of development in the town were along Broad Way and Main Street. Excavation has revealed the presence of structures not indicated by the written record. The distribution of households and businesses across the town site does not appear to have been shaped by principles of racial segregation, as families of European and African descent were found to be spatially interspersed throughout the nineteenth century (Shackel et al. 2006).

The 2008 season of the field school continued to fulfill the NSF-REU program's aim to provide a rigorous training in excavation and analytical methods to students from diverse backgrounds. Among the goals of the project is to recruit students from smaller colleges that may not offer archaeological field schools, and to train students from underrepresented groups within the discipline, in order to increase future diversity in the field of archaeology. At least two students from that field school are pursuing advanced degrees in anthropological archaeology (at the University of California at Berkeley and Illinois State University) and one is in graduate school for history. Given the paucity of students of color in anthropology and history graduate programs in the United States (Agbe-Davies 2002), to have had a hand in the training of two such students in one year is a notable achievement for the New Philadelphia project.

Participants in the New Philadelphia project successfully nominated the town site to the National Register of Historic Places in 2005. Thus, the town site joined the Frank McWorter grave site (successfully nominated in 1988 by Dr. Juliet Walker) on that list of "historic places worthy of preservation." In 2008 the National Historic Landmarks Committee voted unanimously to approve the nomination of the New Philadelphia town site for National Historic Landmark status. The designation was granted in January. This successful application was officially supported by numerous elected representatives including, from Illinois: Senators Richard Durbin

and Barack Obama; U.S. Representatives Ray LaHood and John Shimkus; State Senators Deanna Demuzio; Emil Jones, Jr., and John Sullivan; and State Representative Jil Tracy and Mary Flowers, among others.

Additional legislation has been introduced by U.S. Senator Roland Burris and U.S. Representative Aaron Schock. The two study acts (S. 1629 and H.R. 5455) seek to authorize funding for activities including “determining the suitability and feasibility of designating the study area as a unit of the National Park System” The former was approved for consideration by the Senate, and the latter was re-introduced by Congressman Schock in early May 2011.

The Archaeological Conservancy finalized the purchase of approximately nine acres of the town site, another important step for the site’s preservation. The parcel includes Blocks 2, 3, 8, and 9 and the Conservancy’s mission will ensure that the archaeological site at New Philadelphia will be protected for future generations to explore and enjoy.

We continue to publish technical reports on all research undertaken for the New Philadelphia project, including analyses of excavated material, results of geophysical, surface, and shovel test surveys. We have also transcribed relevant census, tax assessment, deed, and newspaper information for use by colleagues and the general public. These reports and transcriptions are available via the Internet on sites hosted by the University of Maryland Center for Heritage Resource Studies and the University of Illinois.

Recent articles written by members of the project have appeared in such publications as *Illinois Antiquity* (Fay et al. 2009), the Society for American Archaeology’s *Archaeological Record*, The Society for Historical Archaeology’s *Newsletter*, and the *African Diaspora Archaeology Network Newsletter*. Members of the project have also presented numerous papers and posters about specific aspects of the project at regional, national, and international conferences. The results of one New Philadelphia conference symposium recently appeared in print as a special issue of *Historical Archaeology* “New Philadelphia: Racism, Community, and the Illinois Frontier” (Fennell et. al. 2010). Information about the project has also appeared in general interest publications such as *American Archaeology Magazine* (Agbe-Davies 2010, Picat 2009), and the *Harvard Gazette* (Powell 2010).

In 2008, the New Philadelphia archaeology project had the opportunity to host the archaeologists from the PBS television series *Time Team America*. The Time Team initiated a three-day excavation project during which they used geophysical techniques and targeted excavation in an attempt to identify the schoolhouse that has thus far eluded archaeologists, in part because of contradictory historical evidence and likelihood that any such structure would have left only a faint archaeological trace. Results of that excavation were included in the 2008 technical report. The television episode resulting from the collaboration was first broadcast in the summer of 2009.

Although there was no excavation in 2009, the New Philadelphia project speaker series continued, supported by a grant from the Illinois Humanities Council, the National Endowment for the Humanities, and the Illinois General Assembly. The series consisted of six lectures

addressing such topics as the undergraduate experience of the NSF-REU program, the use of technology in public outreach and presentation, inequality and the built environment in nineteenth-century Illinois, and the life and accomplishments of Harriet Tubman.

Overview of 2010 research and educational activities

The 2010 season marks the second year of research sponsored by the 2008 NSF-REU. The project is co-directed by Anna Agbe-Davies (University of North Carolina, Chapel Hill [UNC]), Christopher Fennell (University of Illinois, Urbana-Champaign [UIUC]) and Terrance Martin (Illinois State Museum [ISM]). The twin goals of the project continue to be 1) exploring the nature of social relationships in this frontier town through archaeological and documentary research, and 2) ensuring the preservation and protection of the site. The major research objectives also remain consistent, to:

- understand New Philadelphia's founding and its development as an integrated town
- explore and contrast dietary patterns between households of different ethnic and regional backgrounds via the examination of faunal and botanical remains
- reconstruct the town landscape and the use of town lots, with the understanding that the different ethnic and regional backgrounds of the town's households may have an influential role
- elucidate the consumer choices made by households in this frontier context, with particular attention to the role played by markets and structural racism

In May 2010, Fennell obtained a grant from the University of Illinois to support a LiDAR (Light Detection and Ranging) survey of the New Philadelphia townsite and surrounding landscape. This survey will be an important compliment to other survey techniques that have been used to identify significant archaeological features within the town. Furthermore, it provides detailed topographic information for comparison with the original town plat, which should help to establish how much of the town was ultimately developed as planned.

The summer speaker series continued in 2010 with a program that included a variety of speakers on the theme *Navigating Landscapes of Struggle and Freedom*. The talks were sponsored by the New Philadelphia Association, Sprague's Kinderhook Lodge in Pike County, and the Illinois State Museum Research and Collections Center in Springfield. The theme was particularly appropriate for the first year that the series was designated the *Marvin J. and Thomas Leo Likes Memorial Lecture Series*, in honor of two individuals who did so much to provide crucial surveying assistance in the project's early years, and continued advice as the archaeological investigations moved forward.

The lectures gave the students an opportunity to hear cutting-edge research from a range of experts, but were also geared toward a general audience. Students, New Philadelphia Association members, Pike County residents, and McWorter family members, descendants of families who resided at New Philadelphia, along with many others formed a lively and attentive audience. Talks were presented by Michael Hargrave and Carl Carlson-Drexler (U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory, Champaign, Illinois), Andrew Agha (Brockington and Associates, Cultural Resource

Consultants), Norman D. Ellerbrock, PLS (Likes Land Surveyors, Inc.), Paul A. Shackel (University of Maryland, College Park), Anna S. Agbe-Davies (UNC), Terry Ransom (Illinois Underground Railroad Research Network) and Christopher Fennell (UIUC), Rebecca Ginsburg (UIUC), and John Michael Vlach (George Washington University).

The ten-week field school commenced on May 25 and concluded on July 30, 2010. Instruction in excavation and recording methods, artifact identification, archival research, and laboratory analysis was complimented by field trips to nearby archaeological and heritage sites. Students also participated in several discussion sessions that framed the project in light of larger issues such as race and racism, heritage, and public history. Several of these sessions used as their prompt videos, such as the PBS series “African-American Lives” and the New Philadelphia episode of “Time Team America,” or other reference points, such as the controversy surrounding remarks about reparations by leading African American scholars, and proposed DNA profiling of university students in California. Other discussions included a workshop exploring the concept of “community” in which students worked side by side with New Philadelphia Association members and other stakeholders, and a debate about future directions for heritage management and presentation at the town site.

Planning for the excavation season included an introductory week of geophysical survey and four weeks of excavation at the town site. The remaining five weeks were devoted to artifact identification, cataloguing, and analysis at the Illinois State Museum Research and Collection Center in Springfield. After discussions including members of the research team, consulting specialists, and community stakeholders, the following list of priorities was established.

- a) Target Block 12 for geophysical survey and excavation. A shovel test pit survey of Lots 1-4 indicated likely nineteenth century occupation of the parcel. It will also be an opportunity to follow up on oral history evidence that places the town’s school house on this block.
- b) Continue core sampling of geophysical anomalies and excavation of the cellar identified on Block 13. This feature was discovered in 2005 and appears to be the remains of the dwelling of Louisa McWorter and her household.
- c) Use large-bore hammer-driven core sampling to 1) test thermal anomalies identified in the 2008 low-aerial survey and 2) further investigate modern agricultural terraces on the western side of town site.
- d) Undertake core sampling and targeted excavation at the northern edge of the east-most of the west side terraces, where large-bore core sampling in 2008 revealed intact stratigraphic profiles.
- e) Initiate geophysical surveys on Blocks 11, 12, and 13 and commence systematic core sampling of newly-identified anomalies. Follow up with excavation as warranted.
- f) Initiate geophysical survey, with follow-up core sampling and excavation on Block 11, Lots 1-2. This would be the first investigation of the easternmost reaches of the town. Documentary research indicates that these particular lots were owned by Josephus Turpin, who later served in the 29th Colored Infantry during the Civil War (C.F. Martin, pers. comm. 2010).
- g) Collect and begin analysis of key archival data in the Pike County Courthouse in Pittsfield.

- h) Continue core sampling and excavation at the site of the blacksmith shop located on Block 3, Lots 1-2.
- i) Initiate geophysical and core sampling surveys of Block 2, east of the dwellings and blacksmith shop on Block 3. Follow up with excavation as warranted.
- j) Follow up on previously identified geophysical anomalies throughout the town site, with systematic core sampling and follow up excavation as warranted.

Field work during the excavation season undertook tasks described in items “a” through “g,” as described in the following chapters of this report. Tasks “h” and “i” were not feasible given the extremely wet conditions on Lots 1-2 of Block 3 and also on Block 2. Wet conditions also significantly impacted the results of geophysical survey data collection in Blocks 11-13.

The field effort was co-directed by Anna Agbe-Davies, Christopher Fennell, and Terrance Martin. Graduate student Kati Fay (UIUC) served as Laboratory Director, graduate student George Calfas (UIUC) as an excavation supervisor, and graduate student Mary Kathryn Rocheford (University of Iowa) as a geosciences supervisor. The NSF-REU students were divided into three excavation teams, each with a supervisor:

- Team X
 Meaghan Alston (The Ohio State University)
 Tyquin Washington (University of North Carolina, Greensboro)
 Margaret Wolf (UIUC)
 Graduate student volunteer: Blair Starnes (Michigan State University)
 Supervisor: Anna Agbe-Davies
- Team Y
 Beatrice Adams (Fisk University)
 Courtney Ng (Rice University)
 Tyrell Yarbrough (Western Illinois University)
 Geosciences supervisor Kathryn Rocheford
 Supervisor: George Calfas
- Team Z
 Keishaia Griffith (Buffalo State University)
 Sedrie Hart (Kennesaw State University)
 John Schultz (University of Illinois, Springfield)
 Senior Archaeologist volunteer Andrew Agha (Brockington Associates)
 Supervisor: Terry Martin

Undergraduate participants in the NSF-REU program were chosen via a rigorous selection process from a pool of over seventy applicants. We are particularly gratified by the institutional, geographic, and cultural diversity of the 2010 cohort, which melded together into a fantastic research team (see Figure 1.2). This group was joined in the field by geophysical specialist Carl Carlson-Drexler, and geologist Dr. E. Arthur Bettis III (University of Iowa), in the archive by project historian and instructor Claire Fuller Martin, and in the lab by the staff of the Illinois State Museum Research and Collections Center.



Figure 1.2. *NSF-REU students and project staff. Photo by Doug Carr (ISM).*

The results of this season's research are presented in the chapters that follow. These interpretations are preliminary and will be expanded, updated, and revised, as the project progresses. Chapter 2 summarizes the results of the geophysical survey of 2010 and discusses the soil core testing undertaken to investigate anomalies identified during previous field seasons. Chapter 3 presents findings pertaining to Block 12. Chapter 4 discusses the further exploration of Feature 12, the cellar identified in 2005 on Block 13, Lots 3 and 4, including the identification of a new major feature, possibly a well on Lot 3 associated with the dwelling on Lot 4. Chapter 5 discusses the upcoming LiDAR (Light Detection and Ranging) survey. Chapter 6 is a report on the geoarchaeological findings from large-bore cores and column samples taken across the town site. The references cited are contained in Chapter 7. Chapter 8 presents basic field data in the form of excavation unit summaries. The artifact catalog for this season's excavations is provided as part of our project catalog online.

Chapter 2: Surveys, Geophysical Methods, Soil Core Sampling, and Shovel Test Pits

Anna S. Agbe-Davies

Researchers at New Philadelphia use a variety of techniques to discover and assess the potential of archaeological deposits. Geophysical survey has been a key technique for identifying likely areas for intensive excavation, as have shovel test pit surveys and soil coring. These strategies were deployed in the following ways during the 2010 season:

- a. Electrical resistivity and magnetic gradiometry were applied to Block 12, the first geophysical surveys of this portion of the site.
- b. A portion of Block 13 was surveyed using ground penetrating radar and electrical resistivity.
- c. Excavators used a 1 in. soil corer to test geophysical anomalies on Blocks 4 and 13. One of these areas was selected for follow-up excavation.
- d. Electrical resistivity was applied to grids on Block 11. Follow-up work took the form of shovel test pits.
- e. Excavators used a hammer-driven 2 in. corer to test thermal anomalies identified in the 2008 low-aerial survey, on Block 7, Lots 7 and 8, as well as two areas between blocks: King Street between Block 4, Lot 8 and Block 7, Lot 1; and Ann Street, on the eastern edge of Block 8, Lot.
- f. Excavators also undertook core sampling and targeted excavation at the northern edge of the east-most of the west side terraces, where large-bore core sampling in 2008 revealed intact stratigraphic profiles.

Items “a” through “d” are discussed in this chapter as methods for identifying features for excavation. Items “e” through “f” are dealt with in Chapter 6, which focuses on geoarchaeology specifically.

Geophysical surveys

Major geophysical surveys of the New Philadelphia town site took place from 2004 to 2006, with some additional data collected in 2008. In 2010, Carl Carlson-Drexler from the U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory, Champaign, came to do additional data collection and provide instruction for the students participating in the NSF-REU program. All of the information reported in this “Geophysical survey” section refers to personal communication with Carlson-Drexler (2010).

Carlson-Drexler supervised the use of electrical resistivity in four 20 x 20 m. data collection grids and conducted a magnetic gradiometry survey of three 20 x 20 m. grids. Ground penetrating radar was used on two 20 x 20 m. grids.

Electrical resistivity

Electrical resistivity works by passing an electrical current through the soil and measuring the resistance offered by the soil to that current (Figure 2.1). Differences in resistivity readings may indicate distinct soil conditions such as buried archaeological features.

Extremely wet soil conditions on Block 11 and a wiring fault in the resistivity meter have made interpreting the data collected a challenge. Nevertheless, preliminary analysis of the readings suggests an area of high resistance in the northern portion of the Block 11 survey grids. Recommendations for follow-up include the application of ground penetrating radar to the same grids, and possibly re-sampling the grids with the resistivity meter. Results for Block 13 likewise point toward an area of higher resistivity in the northern portion of those two grids.



Figure 2.1. NSF-REU students Margaret Wolf (center) and Tyquin Washington (right) assist Carl Carlson-Drexler with the resistivity survey. Photo by Anna Agbe-Davies.

Magnetic gradiometry

Magnetic gradiometry captures changes in the magnetic field across the site, and can indicate the presence of such cultural evidence as iron and burned soil. During the 2010 field season, magnetic gradiometry of the three grids that overlap with the northern portion of Block 12 picked up traces of the eastward continuation of Main Street (now a dirt track).

This technique also revealed several large dipoles, or readings with both a high and a low signature -- typical of small iron artifacts -- in the eastern grid. Two “significant” dipoles appeared in the northernmost of the grids (Carlson-Drexler, personal communication 2010) indicating a probable anomaly on Block 9. No anomalies appeared in the areas of interest (Lots 4 and 3) as determined by prior shovel test pit surveys (Fennell 2006).

Ground penetrating radar

Ground penetrating radar works by sending pulses of electromagnetic energy into the ground and measuring the varying rates at which the waves are reflected back to the surface. The ground penetrating radar data collected from Block 13 was heavily impacted by the plow furrows still apparent on the ground surface. This is true even for data collected at 1.5 meters below the surface. Recommendations for future use include running the machine parallel to the furrows, as opposed to across them, and testing the method elsewhere at the site (Carlson-Drexler, personal communication 2010). This season marked the first use of ground penetrating radar on the town site,

Coring

Archaeologists selected several anomalies further testing that had been identified by geophysics surveys conducted 2004-2008. These anomalies were tested with transects across them at 1 ft. intervals using a 1 in. probe (Figure 2.2). The areas tested include Anomaly A57 on Block 4, Lot 8, Anomaly A58, on Block 4, Lot 7, and Anomaly A21, on Block 13, Lot 3.



Figure 2.2. Members of Team X assess the sediments recovered when using an Oakfield probe to survey Block 8. Photo by Anna Agbe-Davies.

Anomaly A57

Located on Block 4, Lot 8 Anomaly A57 is a resistivity anomaly that was identified by Michael Hargrave during a geophysical survey conducted in 2008. Excavators investigated this anomaly using a 1 in. Oakfield probe, testing the soil at 1 ft. intervals in one 50 ft. transect running north-south through the anomaly (Figure 2.3).

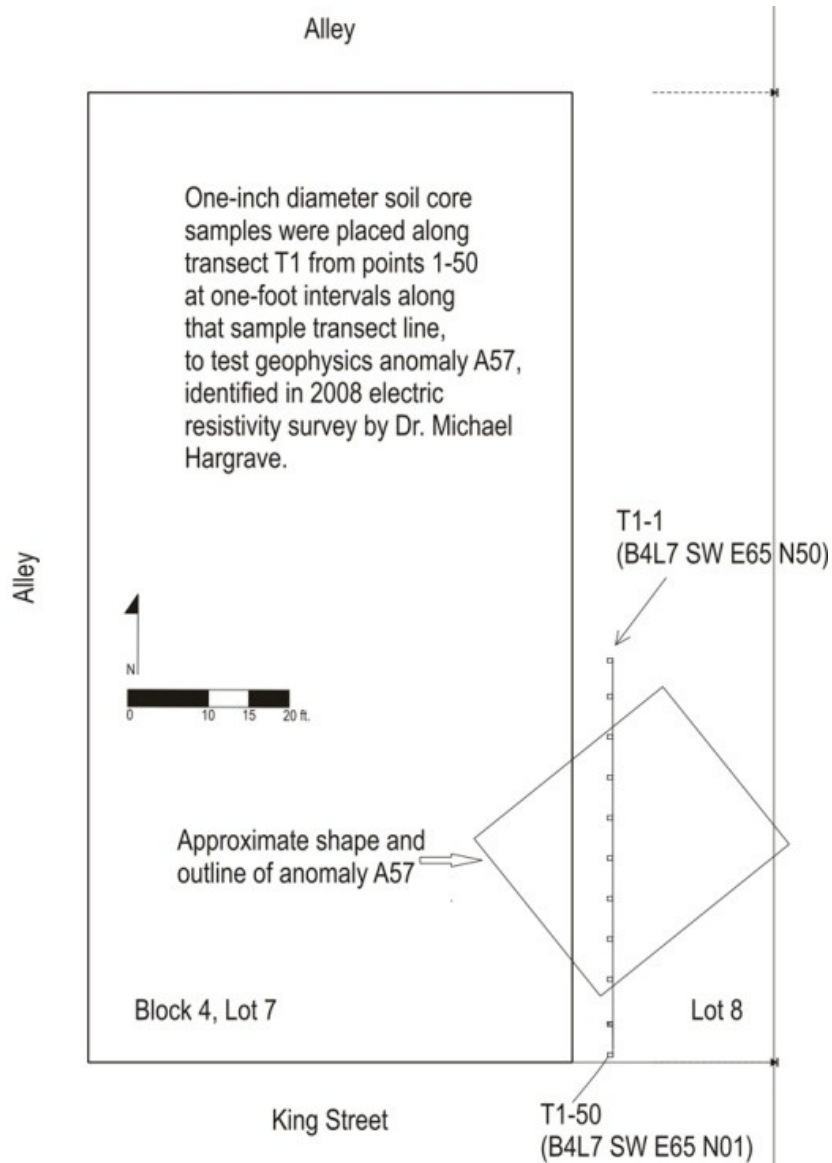


Figure 2.3. Anomaly 57 was tested with a single line of 50 1-inch probes. Illustration by C. Fennell.

Below the sod, the plowzone was predominantly a 10YR 3/2 (very dark grayish brown) loam. In the majority of probes, excavators identified the transition to subsoil between 0.5 ft. and 1.5 ft. below surface level (bsl). The average depth of the transition was 1.19 ft. bsl. Subsoil was more

variable in color, but tended to be recorded as 10YR 6/6 (brownish yellow) to 10YR 5/4 (yellowish brown) clay loams or loamy clays (precise details about each core can be found in Chapter 9: Unit/Feature Summaries).

A notable exception to the above pattern was found at the approximate center of the survey area. Probes 21, 22, and 23 all indicate darker loams and sandy loams at much greater depths than the rest of the transect. Each of the probes sampled a depth greater than 2.5 ft. and none of them recovered the yellowish clayey soils typical of sterile subsoil at the town site. Instead, excavators reported darker brown sediments, sometimes intermixed with the more yellow clays. The grid coordinates are

- Probe 21: B4L7 SW E65 N30
- Probe 22: B4L7 SW E65 N29
- Probe 23: B4L7 SW E65 N28

The average depth of the transition to subsoil excluding these anomalous probes is 1.09 ft. bsl.

Future testing should focus on this portion of Block 4, Lot 7, to determine if the unusual soil profiles in Probes 21-23 indicate a cultural, rather than natural, feature and to ascertain the relationship between that disturbance and the anomaly detected by resistivity in 2008.

Anomaly A58

Anomaly A58 is a resistivity anomaly that was identified by Michael Hargrave in a geophysical survey conducted in 2008. Excavators placed a single transect north to south through the center of the anomaly using a 1 in. Oakfield probe. The transect line is 30 ft. east of the western edge of Block 4, Lot 7. It runs from a point 65 ft. north of the southwest corner of the lot, to a point 47 north of the corner (Figure 2.4).

The cores in this location indicated a much thinner plowzone than the survey area further to the west around Anomaly A57. The plowzone may be characterized as a 10YR 3/2 to 10YR 4/2 (very dark to dark grayish brown) silt loam. The subsoil is a 10YR 4/6 to 10YR 5/6 (dark to yellowish brown) clay loam. The average depth of the transition between plowzone and subsoil is 0.69 ft. bsl. However, notable exceptions occurred in probes 1, 2, 10, and 17, with depths in excess of 1 ft. Excluding these probes, the average depth was more like 0.51 ft. bsl.

In addition to revealing darker soils at unusual depths, probes 1 and 2 both show interspersed dark grayish brown loams and yellowish brown clays. This disruption of the natural stratigraphic progression in this portion of the site may merit further investigation. Undisturbed subsoil does not appear until 2.11 ft. bsl in probe 1.

Another important distinction to note is the unusually loose sediments in probes 14, 16, and 17. Field notes also indicate that the darker sediments continue to a noticeably greater depth in probes 16 (0.67 ft.) and 17 (1.15 ft.). Excavators tested to either side (east and west) of probes 14 and 16 and found similarly lightly-packed sediments. All of these indicators suggest that additional excavation to explore Anomaly A58 should focus on the following areas:

- Probe 14: B4L7 SW E30 N52
- Probe 16: B4L7 SW E30 N50
- Probe 17: B4L7 SW E30 N49

As well as possibly exploring:

- Probe 1: B4L7 SW E30 N65
- Probe 2: B4L7 SW E30 N64

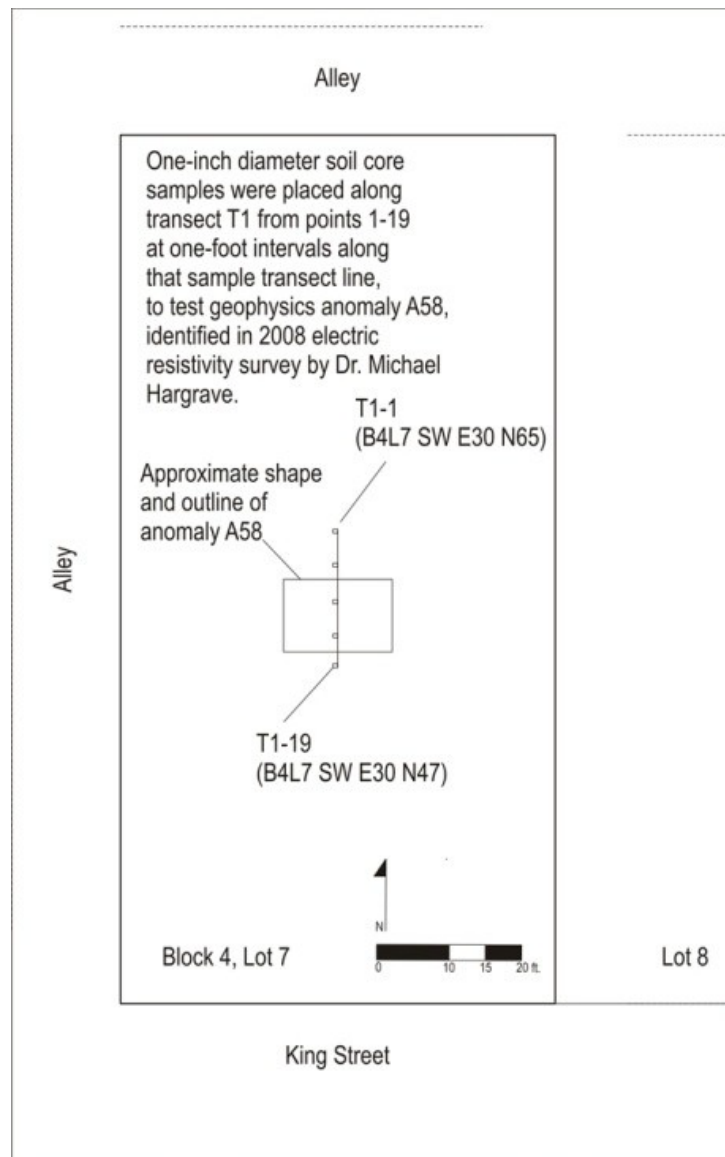


Figure 2.4. Anomaly 58 was tested with a single line of 19 1-inch probes. Illustration by C. Fennell.

Both A57 and A58 were considered low probability anomalies, because they were identified only with resistivity, and had no accompanying magnetic signature (Hargrave, personal communication 2008). However, both seem to be identifiable archaeologically. The question remains whether the anomalies are cultural, and whether they date to a period of interest.

Anomaly A21

Geophysicist Michael Hargrave identified Anomaly A21 on Block 13, Lot 3 during a resistivity survey conducted in 2004. In his report, he characterizes it as a “trench-like high resistance anomaly” with a north south orientation that would be consistent with a structure (Hargrave 2006). In 2010, a team of excavators ran four transects across the anomaly, with 10 probes in

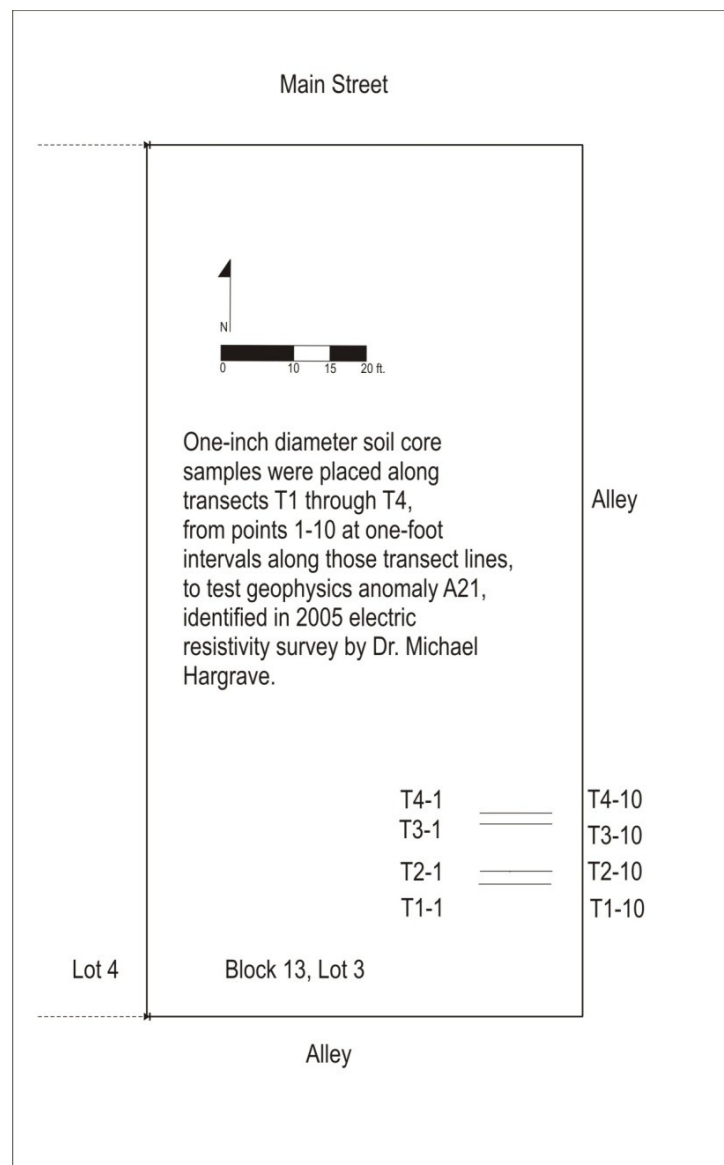


Figure 2.5. Anomaly 21 was tested with four lines of 10 1-inch probes. Illustration by C. Fennell.

each transect, for a total of 40 probes. Each of the transects ran east to west from a point 47 ft. east of the western edge of Block 13, Lot 3 to a point 56 ft. east of the edge of the lot (Figure 2.5). Transect T-1 is 19 ft. north of the southern boundary of the lot; T-2 is 20 ft. north; T-3 is 26 ft. north; and T-4 is 27 ft. north.

Plowzone in this portion of the town site may be characterized as a 7.5 YR 3/2 (dark brown) clay loam. Transition to subsoil is typically 1.6 ft. bsl. The subsoil ranges from a 7.5YR 3/3 to a 7.5YR 4/4 (dark brown to brown) clay.

The most promising probes for pinpointing the likely source of Anomaly A21 are

- Probe T-1 6: B13L3 SW N19 E52
- Probe T-1 7: B13L3 SW N19 E53

Probe T-1 6 was blocked by a solid obstruction at 0.9 ft. bsl, while T-1 7 contained darker brown loamy soils to a depth of 2 ft. bsl. Further excavation attempting to establish the nature of Anomaly A21 should focus in this area.

Anomaly A25

Excavators also initiated a probe survey in the vicinity of Anomaly A25. This effort was successful in identifying the source of the anomaly and was excavated during the 2010 season. Results are reported in Chapter 4: Research on Block 13.

Shovel test pit survey

Block 11, Lot 1

Following the geophysical survey, a select area of Block 11 was investigated using shovel test pits (STPs). These STPs were excavated by volunteers from the Illinois Natural Resources Conservation Service, led by NRCS archaeologist Sharron Santure.

Eight STPs were placed in the northeast corner of Block 11, Lot 1. Two transects ran north-south 15 ft. apart, with STPs at 10 ft. intervals (Figure 2.6).

Each STP was 1 ft. in diameter. Excavators removed the sediment in arbitrary levels of 0.5 ft. each, while still noting color and texture distinctions as visible in the side walls of the STPs. Sediments were excavated with shovels and hand trowels and screened through quarter-inch hardware mesh to recover cultural material. The summaries for these STPs may be found in Chapter 9: Unit/Feature Summaries.

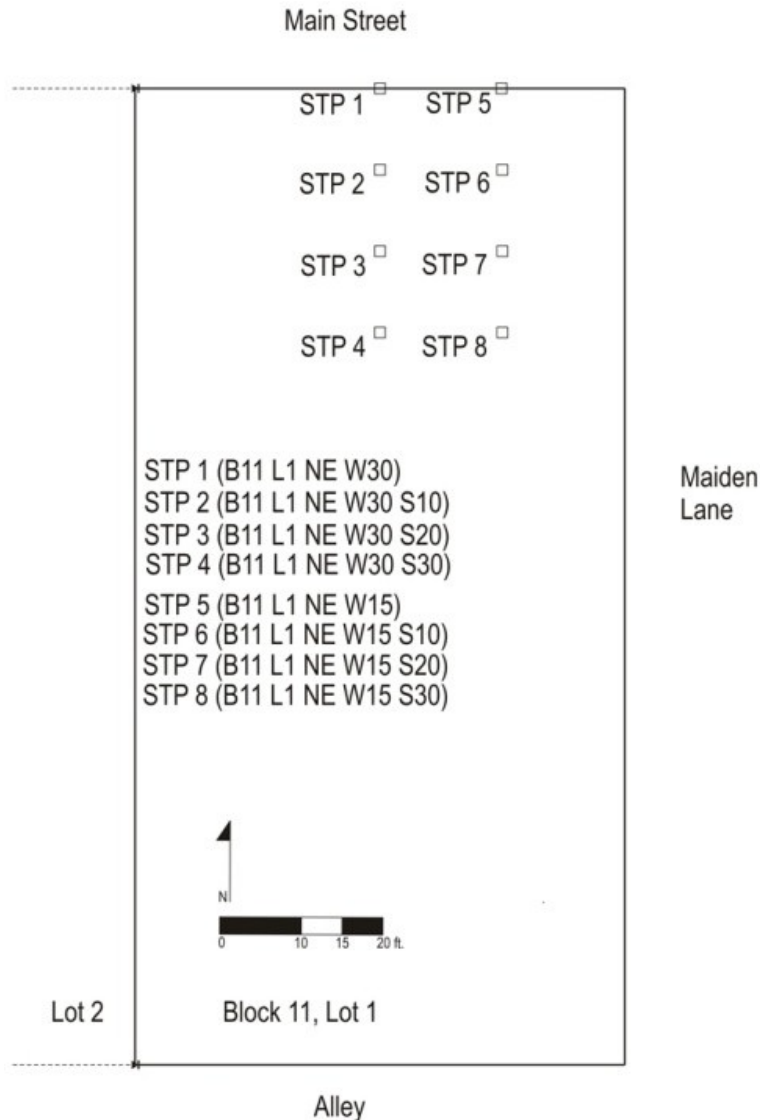


Figure 2.6. Excavators placed eight shovel test pits on Block 11, Lot 1. Illustration by C. Fennell.

Immediately below the sod, excavators encountered a 10 YR 3/2 (very dark grayish brown) silty loam that ranged in depth from 0.5 to 1.0 ft. below the surface. In most of the STPs, the transition to subsoil was approximately 0.8 ft. below the surface. The subsoil was described as a 10 YR 4/3 (brown) silty clay loam.

All of the STPs except STP 1 contained cultural material. Pits at the southern end of the survey area tended to have more artifacts. Furthermore, artifacts were identified at greater depths (between 0.5 and 1.0 ft.) in this area. The artifacts include datable items such as transfer printed whiteware (STPs 3 and 5) and nails, both machine cut (STPs 7 and 8) and wire (STP 4). These finds are consistent with an occupation in middle of the nineteenth century. Artifacts associated with building construction (mortar, nails) are more broadly scattered across the study area (STPs

2, 3, 4, 7, and 8), while household artifacts cluster in the southern portion of the study area, with one exception (STPs 3, 4, 5, and 8).

These preliminary results suggest that further shovel testing on Block 11, Lot 1 may be productive and could help pinpoint the location of archaeological features related to the lot's nineteenth century owners and occupants.

History Block 11, Lot 1

Block 11, Lot 1 was only a part of the town of New Philadelphia for a short while, but had a variety of owners in the years between its initial sale by Frank McWorter and his wife (1842), and its eventual removal from the town proper (1885). Several of these individuals are fairly well documented, both in town records, and in other histories of the region.

Frank McWorter sold Lot 1, along with the adjoining Lot 2, to William Bennett in 1842. Bennett in turn sold the two lots to an "Ebenezer" Franklin in 1844. The 1845 Tax Assessor's Book for Pike County valued the lots at \$10.00 each, which is more than unimproved lots (\$1.00-\$2.00), but nevertheless not as high as the other improved lots in town (\$25.00). Neither Bennett¹ nor Franklin² appears in the census records for Hadley Township. Project historian Claire Fuller Martin estimates New Philadelphia's population at that point to be approximately 18 people (Martin 2010a), so it is unsurprising that neither Bennett nor Franklin appeared to be in residence on the lot at that time.

Franklin and his wife conveyed Lot 2 to Elijah Thomas in a year that remains unrecorded, but clearly sometime after 1844. Suffice to say that by 1849, Thomas and his wife had sold both lots to Erastus Clark. The surname Clark is one of long standing in New Philadelphia, though they do not appear to be related to the Erastus Clarks ("white" New Yorkers), who lived and farmed in a different part of the township.³ Most of the New Philadelphia Clarks are identified as "black" or "mulatto" and are descended from migrants from Kentucky (Martin 2010a).

In February of 1851, the lots were sold by Erastus Clark and his wife to James E. Wilson, who in August of that same year sold them to Peleg Hadsell. The Hadsell family is also central to the development of New Philadelphia. In the 1850 census, we find the household of Adam Hadsell. The 1860 census lists Peleg Hadsell as head of a household in the township, but probably not in New Philadelphia proper.

At some point between 1851 and 1853, the lots passed from Hadsell to Spaulding Burdick, as he was assessed for them in 1853 and 1854, by the Pike County Tax Collector. The lots appear to have retained minor improvements, as they are each valued at \$20.00, in a year when

1. Though in the 1860 federal census, a Bennett household, headed by 42-year-old Francis does appear.

2. *The History of Pike County, Illinois* credits Ebenezer Franklin as the "first settler" of Pike County (Charles Chapman and Co. 1880 [2006]).

3. The 1850 census includes the household of "Casiah" (Kezia) Clark.

unimproved lots were valued between \$2.00 and \$5.00. The Burdicks are yet another key New Philadelphia family. “Spalder Berdick” (Spaulding Burdick) and his wife Ann (63 and 55, respectively) lived in the town in 1850, along with two minor children, John (14) and Benjamin (9). The elder Burdicks had been born in Rhode Island and Massachusetts, while the boys were born in New York. The only occupation listed is for Spaulding, who was a shoemaker. The entire family is classified as “white.” The value of their real estate holdings was \$150.00.

That household was reduced to two members by the time of the Illinois census of 1855. The value of their livestock was \$35.00. Spaulding and Ann Burdick sold Lots 1 and 2 to Josephus Turpin in 1855, in time for him to be assessed for them by the Pike County Tax Collector in that year. Lot 1 is valued at \$8.00, which was typical for unimproved lots.

The Illinois census also includes the Turpin household, with three members, and livestock valued at \$15.00. It was one of four “black” households in town. Marriage records indicate that Josephus Turpin had married a woman named Eliza Brown in 1848. It is likely that the other two members of the household were Eliza, and perhaps their child. Their family does not appear in any U.S. Census from 1850 to 1900 (Martin 2010b), but Turpin’s military records allow us to estimate that he was around 36 at the time he purchased the lots on Block 11. Turpin was assessed in 1856 and 1857 at rates that suggests the lots were unimproved. By 1859, Turpin was no longer the owner.

Something is known of Turpin’s life after he left New Philadelphia. He enlisted with Company A of the 29th U.S. Colored Infantry (Connecticut) and was mustered in April of 1864. He gave his place of residence as Quincy, Illinois, a city about 35 miles northwest of New Philadelphia. He gave his civilian occupation as an engineer, and rose to the rank of sergeant by 1865. His service ended when he failed to return to duty following a furlough, shortly after the end of the Civil War. This act was classified as a desertion, and rendered him ineligible for a pension (Miller 1998:19, 150-151). He died in 1891, and was buried in Muscatine, Iowa.

In 1859, Block 11, Lot 1 was assessed to J. Kellum, who likely lived elsewhere in town. He appeared in the 1855 Illinois census as the “white” head of a household of three, with livestock worth \$320.00. He is not in the 1860 U.S. Census.

The Pike County Tax Collector’s Book for 1862 lists Solomon McWorter as the man responsible for the assessments for all of the lots on Block 11. However, the notations for Lots 3-8 indicate that he was acting in his capacity as administrator for his father’s estate, whereas he appears to have owned Lots 1 and 2 outright. In 1863, Lot 1 was assessed to “Lewis” McWorter.⁴ But in 1864, the lots were again attributed to Solomon McWorter. In all of these cases, the lots appear by their value to be unimproved, as was true of the 1867, 1868, and 1869 Hadley Township Tax Assessor’s Book. Solomon McWorter was never in residence on this lot.

Ownership of Block 11, Lot 1 is murky for the years 1868 to 1870. As early as 1868, R. M. Atkinson, a lawyer residing in Pittsfield, was associated with the lot, having been granted Lots 1 and 2 by the Sheriff in December of that year. Nevertheless, it appears that Solomon McWorter paid the taxes in 1869. McWorter was identified as the official owner in the Pike County Tax

4. Perhaps an error and should read “Louisa” McWorter?

Collector’s Book for 1870, but Atkinson paid the taxes in that year. It may be that Atkinson was acting as an agent for McWorter, or that he temporarily held the title pending payment of taxes by McWorter (Claire Fuller Martin, personal communication, 2010) Another confounding entry in the deed index shows McWorter acquiring the lots from Peleg Hadsell in 1870. Throughout this period, the lots appear to be unimproved.

By 1875, Solomon McWorter was again in control of all of Block 11, according to the Hadley Township Tax Assessor’s Book. The value of Lots 1 and 2, combined, \$20.00, suggests that they remained unimproved. The 1878 Book values the two lots at a combined \$10.00, again suggesting that they were unimproved. The 1880 Pike County Tax Collector’s Book assessed “S. McWater” for Block 11 in its entirety, though McWorter had died the previous year, and it was really his estate that owed the tax.

The Hadley Township Tax Assessor’s Book for 1883 assessed Ansel Vond for all of Block 11. Vond was the husband of Solomon’s sister Lucy Ann, and it is likely that she was in fact the true owner of the lots (Martin 2010b). In the 1870 census, he appears as “Anson” Vond, and is not a town resident. They and all of their children were classified as “white.” In the 1880 census, Ansel “Vaun” is listed as a 51 year old farmer, Lucy (55) was keeping house. Their children included 19-year-old daughter Lucy, son George E. (17), and daughter Francis N. (12). All of the family members were classified as “mulatto.” George had attended school that year, and described as a laborer. Lucy and Francis were “at home.” The elder Lucy had been born in Kentucky, after the emancipation of her mother. Ansel was born in New York, as was his son. The girls were born in Illinois. They lived in the township, but not in New Philadelphia, and certainly not on Lot 1 of Block 11.

In 1885 all of Block 11 was vacated on the tax rolls, effectively removing it from the town of New Philadelphia. This process also applied to Blocks 1, 10, 11, and 20, as well as the eastern halves of blocks 2, 9, 12, and 19.

In summary, Lot 1 of Block 11 was at the edge of town in New Philadelphia. It passed through the hands of some of the key families in the town’s development and growth. It appears to have had improvements of some kind during its early years in the town, but from about 1862 onward, was unimproved land that was by 1885 excluded from the town proper.

Table 2.1. Deed index for Block 11, Lot 1

<u>DATE of transaction</u>	<u>DATE recorded</u>	<u>SELLER LAST</u>	<u>FIRST</u>	<u>PURCHASER LAST</u>	<u>FIRST</u>
1842	1845	McWorter	Frank	Bennett	William
1844	1845	Bennett	William	Franklin	Ebinezer
1849	1851	Thomas	Elijah	Clark	Erastus
1851	1851	Clark	Erastus	Wilson	James
1851	1851	Wilson	James	Hadsell	Peleg
1855	1855	Burdick	Spaulding	Turpin	Josephus
1870	1870	Hadsell	Peleg	McWorter	Solomon
1868	1868	Sheriff		Atkinson	Richard

Table 2.2. Tax records for Block 11, Lot 1

Agency	Year	Name Assessed	Owner	Lot(s)	Unimproved	Improved	Value of Lot 1
Pike Co. Tax Collector	1845	-	-	1, 2	-	\$20.00	\$10.00
Pike Co. Tax Collector	1853	Spaulding Burdick	-	1, 2	-	\$40.00	\$20.00
Pike Co. Tax Collector	1854	Spaulding Burdick	-	1, 2	-	\$40.00	\$20.00
Pike Co. Tax Collector	1855	Josephus Turpin	-	1	-	\$8.00	\$8.00
Pike Co. Tax Collector	1856	Josephus Turpin	-	1	-	\$8.00	\$8.00
Pike Co. Tax Collector	1857	Josephus Turpin	-	1, 2	\$10.00	-	\$5.00
Pike Co. Tax Collector	1859	J. Kellum	-	1, 2	\$8.00	-	\$4.00
Pike Co. Tax Collector	1861	Solomon McWorter, Administrator	-	1, 2	\$6.00	-	\$3.00
Pike Co. Tax Collector	1862	Solomon McWorter	-	1, 2	\$6.00	-	\$3.00
Pike Co. Tax Collector	1863	Lewis McWorter	-	1, 2	\$6.00	-	\$3.00
Pike Co. Tax Collector	1864	Solomon McWorter	-	1, 2 + Block 10	\$34.00		\$3.40
Hadley Twp. Tax Assessor	1867	[Solomon McWorter?]	-	1, 2	\$4.00		\$2.00
Hadley Twp. Tax Assessor	1868	[Solomon McWorter?]	-	1, 2	\$10.00		\$5.00
Hadley Twp. Tax Assessor	1869	[S. McWorter?]	-	1, 2	\$10.00		\$5.00
Pike Co. Tax Collector	1870	R.M. Atkinson	Solomon McWorter	1, 2	\$3.00		\$1.50
Hadley Twp. Tax Assessor	1870	R.M. Atkinson	-	1, 2	\$5.00		\$2.50
Pike Co. Tax Collector	1872	R.M. Atkinson	-	1, 2	\$5.00		\$2.50
Hadley Twp. Tax Assessor	1872	R.M. Atkinson	-	1, 2	\$5.00		\$2.50
Hadley Twp. Tax Assessor	1875	Solomon McWorter	-	1, 2	\$20.00		\$10.00
Hadley Twp. Tax Assessor	1878	S. McWorter	-	1, 2	\$10.00		\$5.00
Pike Co. Tax Collector	1880	S. McWater	-	Block 11	\$40.00		\$5.00
Hadley Twp. Tax Assessor	1883	Ansel Vond	-	Block 11	\$75.00		\$9.38

Table 2.3. Census data for owners of Block 11, Lot 1, 1850

1850	United States							
Name	First	Age	Sex	Color	Occupation	Real Estate	Place of Birth	School
Berdick	Spaulder	63	M	W	shoemaker	150	RI	
Berdick	Ann	55	F	W		0	MA	
Berdick	John	14	M	W		0	NY	yes
Berdick	Benjamin	9	M	W		0	NY	yes

Table 2.4. Census data for owners of Block 11, Lot 1, 1855

1855	Illinois				
Name	First	Color	Number in House	Value of Livestock	
Burdick	Spaulding	W	2	55	
Turpin	Josephus	N/M	3	15	

Table 2.5. Census data for owners of Block 11, Lot 1, 1860

1860	United States								
Name	First	Age	Sex	Color	Occupation	Real Estate	Personal Property	Place of Birth	School
Hadsell	Peleg	38	M	W	farmer	600	250	NY	
Hadsell	Margaret	38	F	W	housework	0	0	NY	
Hadsell	Almon	15	M	W		0	0	NY	yes
Hadsell	Alberto	13	M	W		0	0	IL	yes

Table 2.6. Census data for owners of Block 11, Lot 1, 1870

1870	United States								
Name	First	Age	Sex	Color	Occupation	Real Estate Value	Personal Property Value	Place of Birth	School
Hadsell	Peleg*	52	M	W	farmer	1000	150	NY	
Hadsell	Margaret	48	F	W	keeps house	0	0	NY	
Hadsell	Almond	25	M	W	farm hand	0	0	IL	
Hadsell	Nathan	23	M	W	farm hand	0	0	NY	
Vond	Anson	40	M	W	farmer	4000	600	NY	
Vond	Lucy	44	F	W	keeping house	0	0	IL [sic]	
Vond	Mary	11	F	W		0	0	IL	yes
Vond	Lucy	9	F	W		0	0	IL	yes
Vond	George	7	M	W		0	0	NY	yes
Vond	Lucretia	5	F	W		0	0	IL	yes
Vond	Francis	3	M	W		0	0	IL	

* NB: there is an error in the 1870 census, wherein Peleg Hadsell and P.G. Hadsell's households are confused. The family members presented in this table were listed under P.G.'s Hadsell's name.

Table 2.7. Census data for owners of Block 11, Lot 1, 1880

1880	United States								
Name	First	Color	Sex	Age	Relation	Marital	Occupation	Origin	School
Vaun	Ansel	M	M	51	-	M	farmer	NY	
Vaun	Lucy	M	F	55	wife	M	keeping house	KY	
Vaun	Lucy	M	F	19	daughter	M	at home	IL	
Vaun	George E.	M	M	17	son	M	laborer	NY	yes
Vaun	Francis N.	M	F	12	daughter	M	at home	IL	

Chapter 3: Research on Block 12, Lots 3 and 4

Anna S. Agbe-Davies

History Block 12, Lots 3 and 4

Oral history

Oral histories collected from former New Philadelphia residents and neighbors emphasize the significance of Block 12 for the town. A study prepared in the mid-1960s states

According to one or two present-day citizens of the area, there was, in the early days, a schoolhouse for the colored people near the center of the town of Philadelphia on block 12. It was vacated some time before 1881...The old schoolhouse was purchased by George and Martin Kimbrew who installed a partition, and added a shed room and lived there. The building was later torn down. (Matteson 1964)

Analysis performed during the 2008 NSF-REU season indicates that a Martin “Kinebra” was taxed for a town lot (Block 9 Lot 4) in 1888, but there are no documents associating him with Block 12.

A memory map prepared by former occupant Loraine “Larry” Burdick also challenges the account provided in Matteson, saying, “This was land [that] was adjacent [sic] to the home I grew up in. This was a farm field in the 1930’s. No buildings were present. If a school existed in this block it was removed before the mid 1930’s” (Burdick 1992).

The written record

Deed research¹ reveals that Lots 3 and 4 of Block 12 were always conveyed as a unit, and so the following analysis applies to both lots. The first registered sale of Lots 3 and 4 was directly from “Frank McWorter” to George Conrad and D. Kitright in 1858. These two people purchased 72 lots all across the town during that year from what was in actuality McWorter’s estate, given his death in 1854. In these transactions the second purchaser’s name was spelled in a variety of ways.

Later that same year, Conrad sold the lots to Solomon McWorter (Frank McWorter’s fourth child).² Solomon McWorter held Lots 3 and 4 for ten years before selling to William Marion in

1. The deed information has been transcribed and is available in a searchable format online at <http://www.anthro.illinois.edu/faculty/cfennell/NP/1872plat.html>.

2. All of the lots purchased by Conrad and Kitright from Frank McWorter’s estate went to his son Solomon, with the exception of Block 2.

1868. A year later, Marion sold to Louisa Stewart, who owned the lots until she sold them in 1877 to Louisa McWorter, the widow of Squire McWorter, and owner of all of Block 13, immediately to the west. The next listed transaction was in 1883, in which James McKinney is listed as the seller and George McWorter (Louisa McWorter's son) is the purchaser. In 1897, George McWorter sold to Squire McWorter (presumably his brother, who was named Squire, after their father).

In 1916 Thomas McWorter sold the lots to Shelby McWorter, initiating a series of rapid turnovers involving various members of the McWorter family, a few apparently unrelated individuals, and the Barry State Bank. When the dust settled in 1918, Martha McWorter was listed as selling the lots to Frederick Venicombe. In 1924, she and Shelby McWorter had purchased the lots back from the Barry State Bank. Finally, in 1938, F. Venicombe sold the lots to W.H. Strolheker.

No one with either the Conrad or Kitright surname appears in New Philadelphia for the 1850 Federal Census, or the 1858 Illinois Census. A Daniel Kirtwright/Kartwright appears in the 1860 census as a six-year-old boy living in the household of Abraham and Anny Burkhead. A separate Kirtwright household consisted of a young couple in their 20s and a small child. Given the brevity of the Conrad/Kitright ownership, and its replication across much of the town, it appears unlikely that either one would have had a direct impact on sites located on Lots 3 and 4 of Block 12.

According to the Pike County Tax Collector's Books from 1845 to 1854, all of Block 12 was unimproved, and was owned by Frank McWorter. After his death (1855-1864) the lots were assessed to Solomon McWorter, as administrator of his father's estate (Martin 2010). No improvements³ are noted for Lots 3 and 4 until

Tax records⁴ list both Solomon McWorter and William Marion for Lots 3 and 4 of Block 12 in 1868, while only William Marion was charged in 1869. G.W. Stewart, husband of Louisa Stewart, was listed as the "owner" by 1870. Solomon McWorter was never assessed for improvements to the lots, but the 1868 and 1869 tax lists indicate that William Marion, who owned Lots 3, 4, and 6, was assessed based on a value of \$15.00 for the land and \$70.00 for improvements. It therefore seems probable that the first construction on these lots took place in 1868.

Solomon McWorter does not appear as a resident of New Philadelphia proper in any census.

William Marion owned the lots only briefly in 1868 and 1869, but remained in New Philadelphia long enough to appear in the 1870 Federal Census. He is listed as the head of a farming household that included only his wife Cassie, "keeping house." They were both in their early

3. During those years, no improvements were assessed on any of the lots other than Lot 5 (1859, 1861 and 1862). In 1864, Lot 4 is listed as "improved," but Lot 5 is not, so this may be an error (Martin 2010).

4. Tax records are transcribed and available on-line at <http://www.anthro.illinois.edu/faculty/cfennell/NP/taxmenu.html>

20s and were listed as “white.” He was born in New York; she was a native of Illinois. It does not appear that Marion owned any real estate at the time of the enumeration.

The Stewart family consisted of George (22) and Louisa (21) and their three-month-old daughter, Elena. He was born in Tennessee, while both his wife and daughter were born in Illinois. They are all identified as “mulatto.” The head of household was a minister; no occupation was given for the other members of the family. According to the census George Stewart’s real property was valued at \$250.00 and his personal property at \$150.00, however, it should be noted that Louisa’s name is the one recorded in the deed book.

Neither the Marion nor the Stewart household appears in the 1880 census for New Philadelphia.

It seems that the improvements remained viable following the transfer of ownership from Louisa Stewart to Louisa McWorter, as indicated by the 1878 tax rolls.⁵ However, it is unlikely that she lived there, given the evidence placing her home on Block 13. At the time of the 1870 census, Louisa McWorter (45) was listed as the head of a household that included her grown children, daughter Lucy (24) and son George (21). Lucy was “at home” and George was a “farmer.” Their mother, despite the notation that she possessed \$6,500.00 in real estate was simply “keeping house.” All were identified by the enumerator as “mulatto.” Louisa was born in Kentucky, and her children in Illinois. The information in the 1880 census, after Louisa’s acquisition of Lots 3 and 4 of Block 12 offers much of the same information, but lists George as 28 in that year, and adds Kasiah Clark (Louisa’s widowed mother, 76) and Charles Jones (an “abandoned child,” 15) to the household.

It is possible that Louisa McWorter was simply holding the property for her son George, as he was listed as the taxpayer in 1878, before he became the official owner in 1883. In any event, it is not certain that George ever occupied these lots, given the number of lots he owned elsewhere in the town, and the fact that the 1880 census lists him as a single member of his mother’s household. The lots remained “improved” in the 1888 listing, the last available. We should also note that in 1885, Lots 3 and 4 became the edge of town, as the lots on the eastern side of town were removed from the tax rolls -- including Block 12 Lots 1 and 2.

In summary, Lots 3 and 4 of Block 12 were unimproved until ca. 1868 and the only owners likely to have resided on the lots were the Marion and Stewart households (1868-1877). Available records do not indicate if these lots were leased to other occupants after 1877, but do suggest that the improvements remained at least until 1888. However, any structures had been razed, and the land returned to farm fields, by the 1930s.

5. George McWorter is listed as the owner in that document.

Table 3.1. Block 12 Lots 3 & 4

<u>DATE</u>	<u>SELLER</u> <u>LAST</u>	<u>FIRST</u>	<u>CO-SELLER</u> <u>LAST</u>	<u>FIRST</u>	<u>PURCHASER</u> <u>LAST</u>	<u>FIRST</u>	<u>CO-PURCHASER</u> <u>LAST</u>	<u>FIRST</u>	<u>PAGE</u>	<u>LINE</u> <u>#</u>
1858	McWorter	Frank			Conrad	George	Kirtright	D.	57	4
1858	Conrad	George			McWorter	Solomon			57	5
1868	McWorter	Solomon			Marion	William			57	7
1869	Marion	William			Stewart	Louisa			57	6
1877	Stewart	Louisa			McWorter	Louisa			57	8
1883	McKinney	James			McWorter	George			57	13
1897	McWorter	George			McWorter	Squire			57	14
1916	McWorter	Thomas			McWorter	Shelby			57	15
1916	Gibbens	G. W.			McWorter	Martha	McWorter	Shelby	57	16
1916	McWorter	Martha	McWorter	Shelby	BSB				57	17
1917	McWorter	Shelby			Jones	Oliver			57	18
1917	McWorter	Martha			BSB				57	19
1918	McWorter	Martha			Venicombe	Frederick			57	20
1924	BSB				McWorter	Martha	McWorter	S.	57	21
1938	Venicombe	F.			Strolheker	W. H.			57	22

Table 3.2. Summary of Block 12 Lots 3&4 Hadley Township Tax Assessments

Year	Name Assessed	Owner	Lot(s)	Unimproved Lots	Value of Improvements	Value of Improved Lots	Value of Unimproved Lots	Total Value
1867	S. McWorter	-	1,2,3,4,5	-	\$0.00	-	\$16.00	\$16.00
1868	-	W.H. Marion	3,4,6	-	\$70.00	\$15.00	\$0.00	\$85.00
1869	W.H. Marion	-	3,4,6	-	\$70.00	\$15.00	\$0.00	\$85.00
1870	W.H. Marion	G.W. Stewart	3,4,6	-	\$50.00	\$0.00	\$0.00	\$50.00
1871	G.W. Stewart	-	3,4,6	-	\$50.00	\$0.00	\$0.00	\$50.00
1872	G.W. Stewart	-	3,4,6	-	\$50.00	\$0.00	\$0.00	\$50.00
1875	G.W. Stewart	-	3,4,6	-	-	\$200.00	\$0.00	\$200.00 ⁶
1878	George McWorter	-	3,4,6	-	-	\$75.00	\$0.00	\$75.00
1883	Geo. McWorter	-	3,4,5,6	-	-	\$85.00	\$0.00	\$85.00
1888	Geo. McWorter	-	3,4,5,6	4	-	\$40.00	\$0.00	\$40.00

6. This sharp jump in property value appears to be the result of inflation or changes in the assessment formula, rather than additional development of the lot, as similar changes appear simultaneously in other parts of the town.

Table 3.3. Household composition for owners of Block 12 Lots 3&4

<u>1870 Census</u>								
<u>Name</u>	<u>First name</u>	<u>Age</u>	<u>Sex</u>	<u>Race</u>	<u>Occupation</u>	<u>Real Estate Value</u>	<u>Personal Property Value</u>	<u>Origin</u>
Marion	Wm	25	male	white	Farmer		100	New York
	Cassie	20	female	white	Keeping house			Illinois
Stewart	George	22	male	mulatto	Minister	250	150	Tennessee
	Louisa	21	female	mulatto	-			Illinois
	Elena	3 mos.	female	mulatto	-			Illinois
<u>1880 Census</u>								
<u>Name</u>	<u>First</u>	<u>Race</u>	<u>Sex</u>	<u>Age</u>	<u>Relation</u>	<u>Marital</u>	<u>Occupation</u>	<u>Origin</u>
McWorter	Louise	mulatto	female	54	Head	Widow	Keeping house	Kentucky
	Lucy J.	mulatto	female	34	Daughter	Single	At home	Illinois
	George	mulatto	male	28	Son	Single	Farm laborer	Illinois
Clark	Kasihah	mulatto	female	76	Mother	Widow	Boarding	Kentucky
Jones	Charles W.	mulatto	male	15	Abandoned child	Single	Laborer	Missouri

Archaeology on Block 12

Lot 3

No surface survey took place on either Lot 3 or 4 of Block 12 during the initial phase of field research in 2002-2003, as landowner permission could not be obtained (Gwaltney 2004). Likewise geophysical investigations commenced only with the 2010 field season, with results forthcoming (Carlson-Drexler pers. com. 2010). Preliminary geophysical findings are presented in Chapter 2: Surveys, Geophysical Methods, Soil Core Sampling, and Shovel Test Pits.

Archaeologists initiated a shovel test survey of Lot 3 in 2005, when it became available for examination. The density of the vegetation and low surface visibility ruled out surface collection as a method for identifying artifact scatters (Fennell 2006). The shovel test pits (STPs) were 1 ft. in diameter and sediments were removed in arbitrary levels of 0.5 ft. Screening through one-quarter inch mesh allowed for the recovery of artifacts as well as floral and faunal specimens. Excavators placed the STPs at 20 foot intervals across Lots 1-6 of Block 12 as well as portions of Block 19.

The 16 STPs placed on Lot 3 were located in the northern portion of the lot (Figure 3.1). Only one STP was “negative,” containing no artifacts at all. Test pits with significant numbers of both architectural artifacts and nineteenth-century ceramics clustered along the northern and western edges of the lot.

In these STPs (4-7, 15-18), excavators encountered subsoil at a slightly deeper level below the surface (around 1.5-2 ft.) than other STPs on the lot. Every one of these STPs contained brick, and most contained either cut nails or window glass. Such finds may indicate a structure in the vicinity. The other artifacts included whiteware, Bennington/Rockingham earthenware, and machine molded bottle glass. The manufacturing date ranges for these artifacts, along with the cut nails, point to an occupation date range in the mid- to late-nineteenth century. This range correlates with what the written record suggests about when the lots may have first been occupied (ca. 1860s).

During the 2010 season, excavators decided to place units in an area delimited by STPs 4, 5, 15, and 16. This decision was based on the artifact content, stratigraphic profile, and proximity of these STPs to Main Street, a major thoroughfare in New Philadelphia. The precise location of the two Excavation Units (EUs) within this area was also selected with the use of dowsing rods, in the form of two thin, high tensile steel pins, held in equipoise and parallel to one another while walking across the target area. Atypical movement of the pins toward one another while in motion over the ground surface was interpreted as an indication of an in-ground anomaly. This dowsing technique was implemented and interpreted by archaeologist Eric Deetz, based on his decades of experience in field work and a desire to experiment with this technique in a setting with comparative data sets available. Such dowsing approaches have been viewed as controversial by some commentators and yet have also proven effective in the identification of archaeological features for others (Noël Hume 1969:37-40). The excavators at New Philadelphia viewed this as an opportunity to further test such methods.

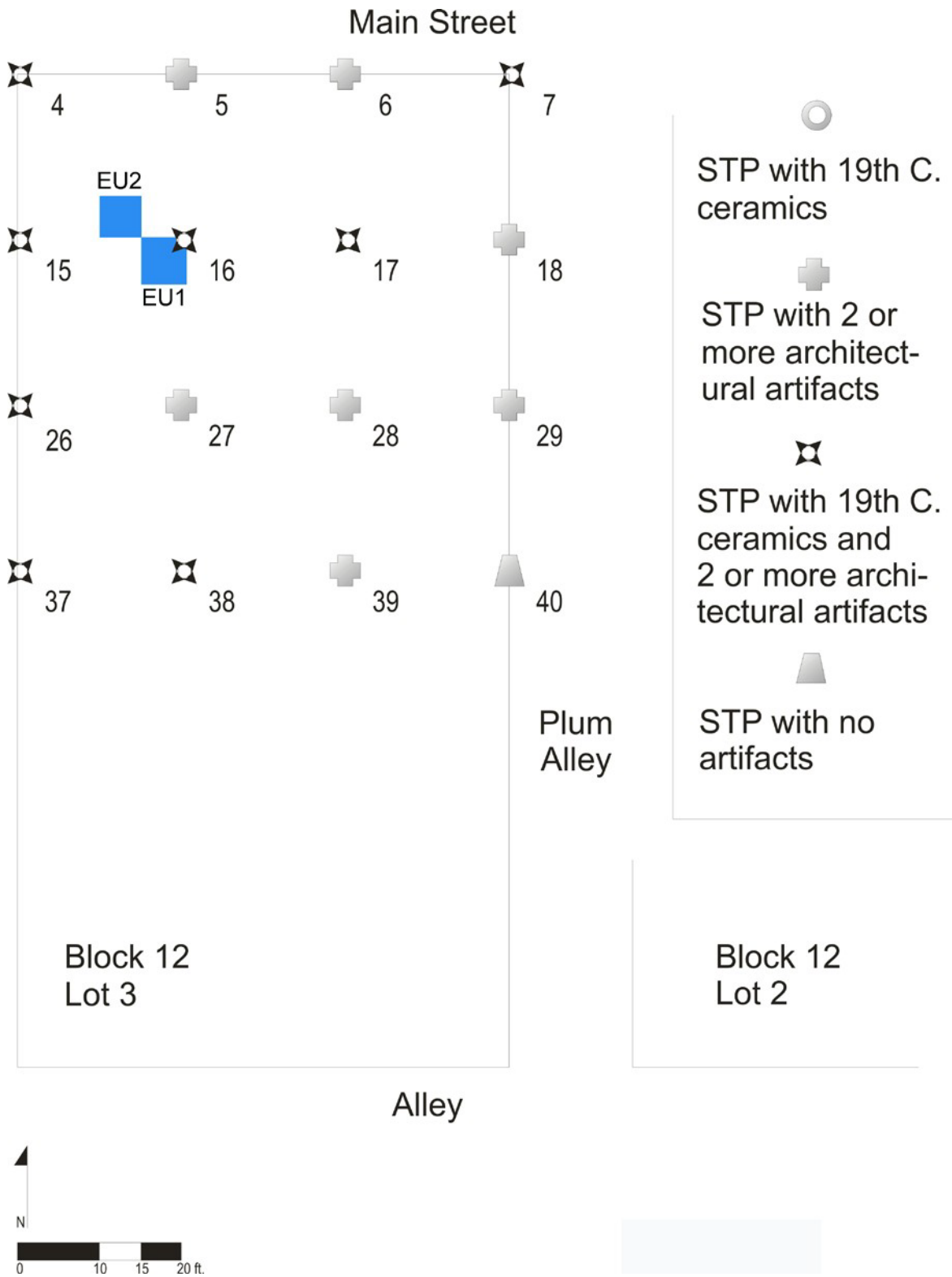


Figure 3.1. 2005 Shovel test pit survey data and location of 2010 EU1 and EU2 in Block 12, Lot 3. Illustration by C. Fennell.

The northwest corner of EU 1 is located 20 ft. south and 15 ft. east of the northwest corner of Block 12 Lot 3. Excavation Unit 2 adjoins EU 1. The northwest corner of EU 2 is located 15 ft. south and 10 ft. east of the northwest corner of Block 12 Lot 3. The disturbance indicated by the dowsing rods was located at the center of EU 2 and extending towards the south, beyond the excavated area.

We have reason to speculate that any dwelling or other substantial building on Block 12 was located on Lot 3, given the notation in the 1888 tax assessment records indicating that Lot 4 was unimproved, while the combined parcel retained significant value.

Excavators began work in EUs 1 and 2 with the removal of the plowzone in arbitrary levels of 0.5 ft. The plowzone was generally a 10YR 3/2 (very dark grayish brown) sandy loam. Artifacts were similar to those encountered during the STP survey: architectural fragments and nineteenth-century ceramics and bottle glass.

Excavation Units 1 and 2 are located at the foot of a moderate slope, and so received significant run-off and seepage from frequent rains. The constant soaking meant that excavation could not proceed without likely damage to any intact deposits below the plowzone, so after four weeks of trying, the units were abandoned, shortly after commencing excavation of the second arbitrary level of plowzone, A2 (Figure 3.2). Our full exploration of these excavation units and an assessment of the results of our experimentation with dowsing in comparison with other data sets will have to await a future field season.



Figure 3.2. *Water-filled excavation units 1 and 2 in Block 12, Lot 3. Photo by Anna Agbe-Davies.*

Architectural fragments (brick, mortar, window glass, nails) predominated over other household artifacts, such as container glass and ceramics. Other than an anomalous piece of plastic, the artifacts point to an occupation date in the second half of the 19th century, with cut nails, bottle glass with embossed lettering, and whiteware fragments (including one transfer printed shard). The artifacts from the second arbitrary level of the plowzone (A2) were much the same, with the addition of a fragment of a glass jar lid liner, confirming the mid-late 19th century date.

Given the very limited nature of exploration on Lot 3, further interpretation of the finds will be postponed until the excavation units can be completed.

Lot 4

As noted above, in the discussion of Block 12 Lot 3, there was no surface collection survey of Block 12 Lot 4 in 2002-2003, nor was there any geophysical survey until the present field season (2010). A shovel test pit (STP) survey undertaken in 2005 provided the information necessary to plan the placement of excavation units (EU) on Lot 4.

Archaeologists were interested in exploring deposits along Ann Street, given that so much prior attention had been directed toward features along the principal thoroughfares of the town (Broad and Main). The two most promising STPs near Ann Street proved to be STPs 46 and 48, each with concentrations of architectural fragments and nineteenth-century ceramics (Figure 3.3).

The precise location of EU 1 was established by selecting an area between these two STPs, but slightly closer to Ann St. The northwest corner of EU 1 is 25 ft. north and 15 ft. east of the southwest corner of Lot 4, Block 12.

Excavators removed the plowzone in three arbitrary levels of 0.5 ft. each. The sediment was a 10YR 3/2 (very dark grayish brown) sandy loam that contained large numbers of architectural and household artifacts.

Subsoil was identified at approximately 1.25 ft. below the surface, but Level A3 was excavated to a full 0.5 ft. in order to ensure that the excavators were indeed in sterile soil. The transition to subsoil was much more apparent in the sidewalls of the excavation unit, particularly after a number of soaking rains. No features were identified in EU 1.

The artifacts recovered were consistent with those found during the shovel test survey as reported in Fennell (2006). Architectural fragments such as brick, mortar, window glass, and nails were found in A1, A2, and A3. The nails were either cut or unidentifiable, suggesting a 19th century date for construction. Ceramics included tablewares and storage vessels, predominantly whiteware and assorted coarse stonewares, again, suggesting a 19th century

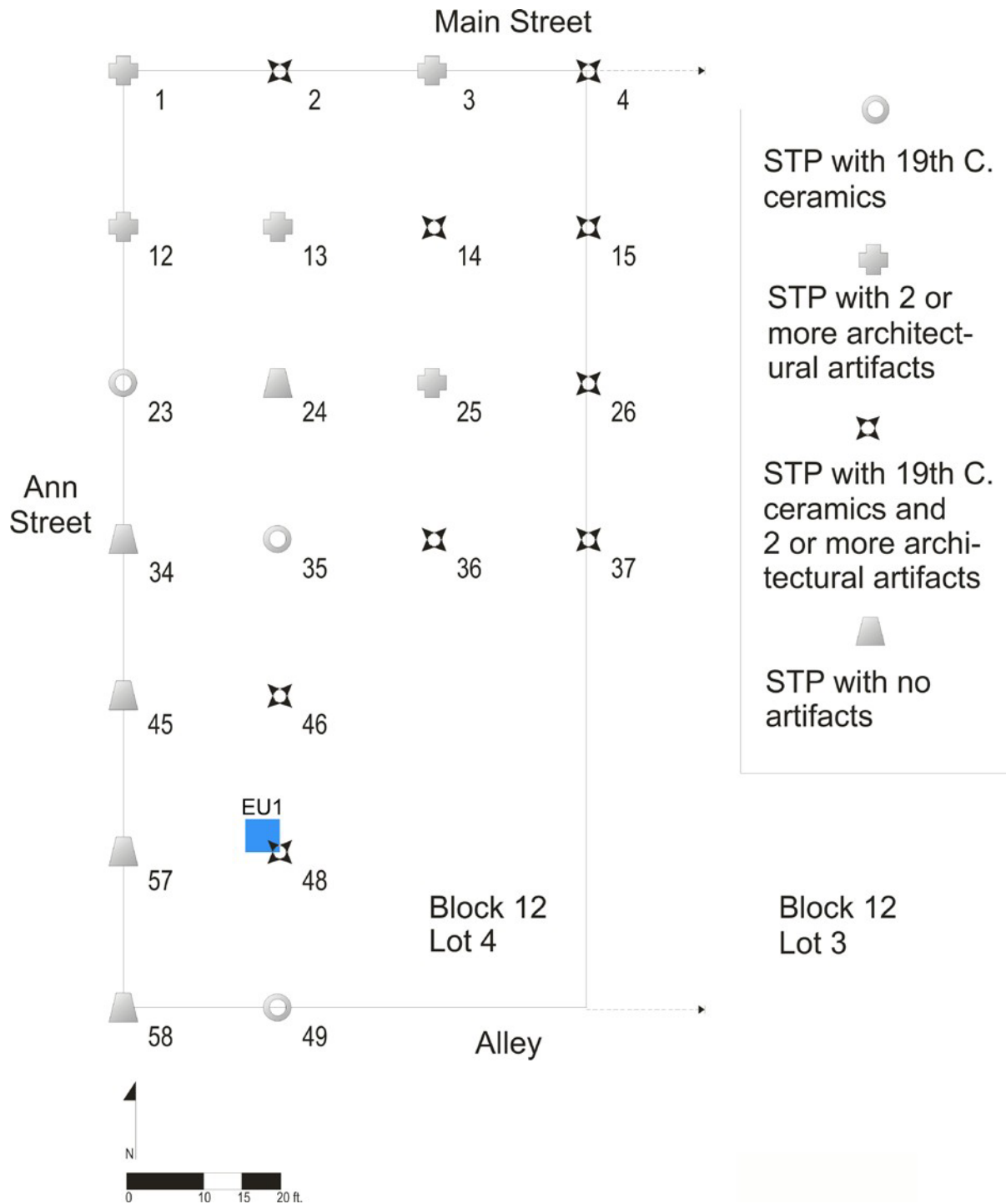


Figure 3.3. 2005 Shovel test pit survey data and location of 2010 EUI in Block 12, Lot 4. Illustration by C. Fennell.

occupation date. A few fragments of colorless container glass had few distinguishing manufacturing characteristics and could not be precisely dated. The general date range could correspond to the years during which there were improvements noted on the lot, during the Marion and Stewart ownership periods.

Chapter 4: Research on Block 13, Lots 3 and 4

George Calfas

History Block 13, Lots 3 and 4

Oral history and the written record

Squire McWorter acquired the deed to Block 13, Lots 3 and 4 in 1854. Squire died in 1855 and his wife Louisa continued to live in the house until her death in 1883 (see tax records below). The 1850 Federal Census classifies Squire and Louisa as mulatto with five children. Mary A., classified as white, 22 years old, and English, lived in their household. In the 1855 State Census, Squire is classified black with 11 household members, and livestock valued at \$165. This McWorter family is not listed in the 1860 Federal Census, although in the 1865 State Census Louisa is classified as black with a total of four members in the household and livestock valued at \$300.

In 1870 Louisa is classified as mulatto (45 years old) with her children Lucy and George. Kessiah Clark lived in Louisa's house. She is noted as 70 years old and mulatto. Her 30-year-old son Thomas is classified as white and also living in the household. Willie Jones, a six year old mulatto boy from Illinois resided in the house. In 1880 Louisa is noted as the head of the household with her son George (28), and daughter Lucy J. (34). They are all described as mulatto. Kessiah Clark (76 years old) is noted as boarding in the house along with Charles Jones, a 15 year old mulatto boy who is listed as an abandoned child, and a laborer from Illinois.

The earliest tax assessments in 1867 indicate that Louisa McWorter owned Lots 1–8 in Block 13 and they were valued at \$16 with \$150 of improvements, which probably includes a house and associated outbuildings. The following year, the lots and improvements were valued at \$40 and \$200, respectively. After Louisa died in 1883, the deed was transferred to her son George, who then transferred the property in 1883 to Lucy McKinney, Louisa's daughter. Lucy and her family lived in the house until the early twentieth century.

Virgil Burdick owned the house by 1930 and rented the house and outbuildings. According to Larry Burdick's late twentieth-century written account of the town, he described the house having a full basement, and a large single story structure on the rear of the house that served as the kitchen. A barn and a well also existed on the property. The house burned on December 7, 1937 (Burdick 1992).

DEED TRANSACTIONS

Block 13 Lots 3 – 4*

<i>Year</i>	<i>Seller</i>	<i>Purchaser</i>	<i>Reference (page, line)</i>
1854	Frank McWorter	Squire McWorter	58, 1
1883	George McWorter	Lucy McKinney	58, 2

1915	Thomas McWorter	Alonzo Leonard	58, 3
1915	Thomas McWorter	Siegle	58, 4
1915	Christena Watts	Siegle	58, 5
1915	Eliza Brown	Siegle	58, 6
1915	Siegle/Strauss	Aaron Malone	58, 7
1916	Shelby McWorter	A. E. Malone	58, 8
1919	George McWorter	John Siegle	58, 10
1924	George McWorter	John Siegle	58, 11
1925	Shelby McWorter	John Siegle	58, 9
1925	George McWorter	John Siegle	58, 12
1927	Master in Chancery	John Siegle	58, 13
1930	Emma Siegle	Virgil Burdick	58, 14

(*note: both lots 3 & 4 are sold together from 1854 – 1930)

HADLEY TOWNSHIP RECORDS

Block 13, Lots 3-4

<i>Year</i>	<i>Name Assessed</i>	<i>Value of Lot</i>	<i>Improvements</i>
1867	Louisa McWorter (Lots 1–8)	\$16.00	\$150.00
1868	Louisa McWorter (Lots 1–8)	\$40.00	\$200.00
1869	Louisa McWorter (Lots 1–8)	\$40.00	\$200.00
1870	Louisa McWorter (Lots 1–8)	\$0.00	\$200.00
1871	Louisa McWorter (Lots 1–8)	\$0.00	\$ 50.00
1872	Louisa McWorter (Lots 1–8)	\$0.00	\$200.00
1875	Louisa McWorter (Lots 1–8)	--	\$200.00
1878	Louisa McWorter (Lots 1–8)	--	\$350.00
1883	Louisa McWorter/Lucy J. McKinney (Lots 1–8)	--	\$375 (Louisa McWorter's name crossed out)
1888	Lucy J. McKinney (Lots 1–8)	--	\$350.00

1850 FEDERAL CENSUS (Block 13, Lots 3-4)

NAME	FIRST NAME	AGE	SEX	RACE	OCCUPATION
<i>McWorter</i>	Squire	33	M	M	Farmer
	Louisa	26	F	M	not given

Lucy	5	F	M	not given
Squire	3	M	M	not given
George	1	M	M	not given
Mary A.	22	F	W	not given
Mary A.	3	F	M	not given
Lucy	0.4	F	M	not given

1855 STATE CENSUS (Block 13, Lots 3-4)

NAME	FIRST NAME	RACE	NO. IN HOUSEHOLD
<i>McWorter</i>	S.	B	11

1865 STATE CENSUS (Block 13, Lots 3-4)

NAME	FIRST NAME	RACE	NO. IN HOUSEHOLD
<i>McWorter</i>	Louisa	B	4

1870 FEDERAL CENSUS (Block 13, Lots 3-4)

NAME	FIRST NAME	AGE	SEX	RACE	OCCUPATION
<i>McWorter</i>	Louisa	45	F	M	Keeping house
	Lucy	22	F	M	At home
	George	21	M	M	Farmer
<i>Clark</i>	Thomas	30	M	W	Farmer
	Kezia	70	F	M	Not Given

1880 FEDERAL CENSUS (Block 13, Lots 3 and 4)

NAME	FIRST NAME	AGE	SEX	RACE	OCCUPATION
<i>McWorter</i>	Louisa	54	F	M	Keeping house
	Lucy J.	34	F	M	At home
	George	28	M	M	Farm laborer
<i>Clark</i>	Kasiah	76	F	M	Mother
<i>Jones</i>	Charles	15	M	M	abandoned child

Archaeology on Block 13

During the 2002-2003 walkover survey the archaeology team found a large concentration of artifacts in Lots 3 and 4 (Gwaltney 2004). A heavy concentration of cut nails, all suggesting the presence of a domestic structure in the vicinity. The lot and buildings were owned by McWorter family members from the mid- nineteenth century into the early twentieth century. Louisa took in boarders and this tradition may have continued into the twentieth century since oral and written accounts refer to the building as the “hotel.” Similar sources indicate that the domestic building and a barn burned to the ground in 1937, and there were no visible signatures of any structures on the lot in a 1939 aerial photograph (Figure 4.1).



Figure 4.1. This excerpt of a 1939 aerial photograph from the U.S.D.A. archives shows the landscape of the New Philadelphia town site at that time. The yellow outline indicates the locations of Block 13, lots 3 and 4.

The electrical resistivity geophysical survey conducted in June 2004 identified many anomalies throughout Block 13, Lots 3 and 4 (Figure 4.2; Hargrave 2006). Some may be the signature of the McWorter house and associated outbuildings, including a barn and a well. The archaeology team concentrated on Anomaly 12 in Lot 4 and Anomalies 25 in Lot 3. The latter group of anomalies cluster and form a square shape. The archaeological investigations set out to ground truth these anomalies (Figure 4.2).

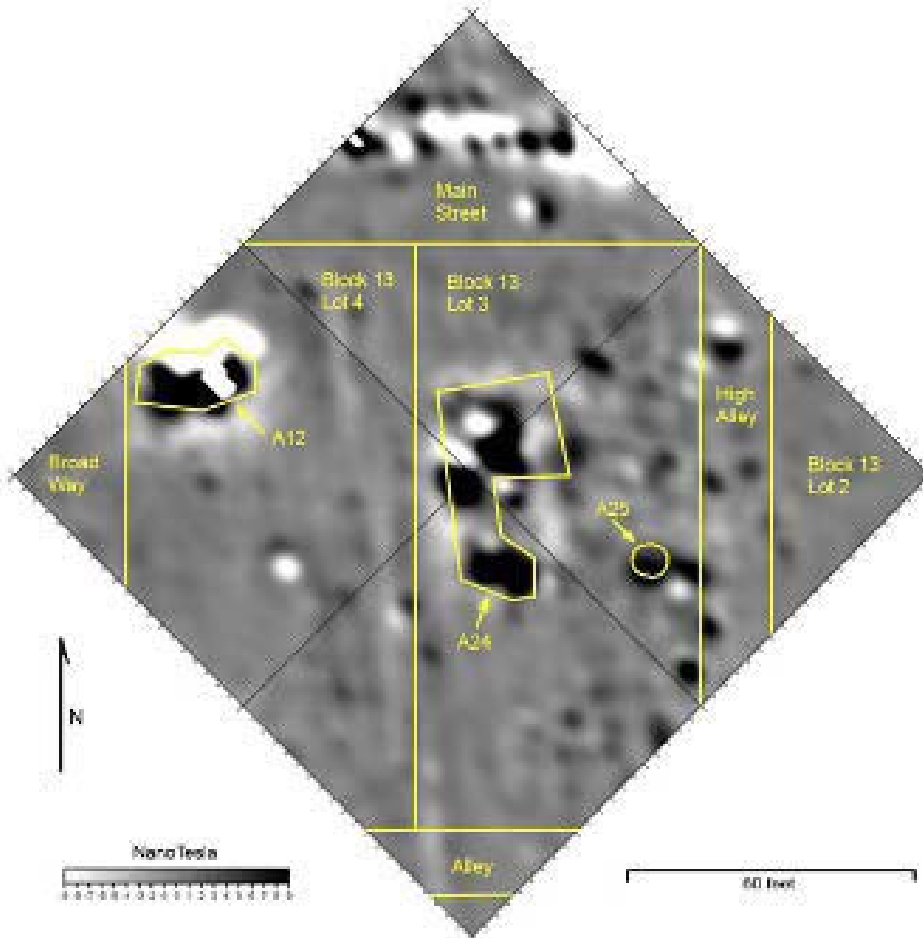


Figure 4.2. Magnetic gradient survey, Block 13, Lots 2-4, with anomalies highlighted (Hargrave 2006: fig. 31).

Lot 3

Archaeological investigation began when the excavation team inserted 1-inch soil core test probes into the space occupied by geophysical Anomaly A25. The team established a grid at one foot intervals that extended beyond the anomaly's borders to detect buried features or soil color changes. Anomaly A25 displayed varied soil colors, the space within A25 is 7.5 YR 3/2 (dark brown) mottled with 7.5 YR 4/6 (strong brown). Stone was encountered in within the space of A25, making complete core sections unobtainable. Due to these factors the archaeologists decided to insert excavation units to further test A-25. The team inserted eight excavation units (EU11-18) and subsequently discovered Feature 40 (Figure 4.3).

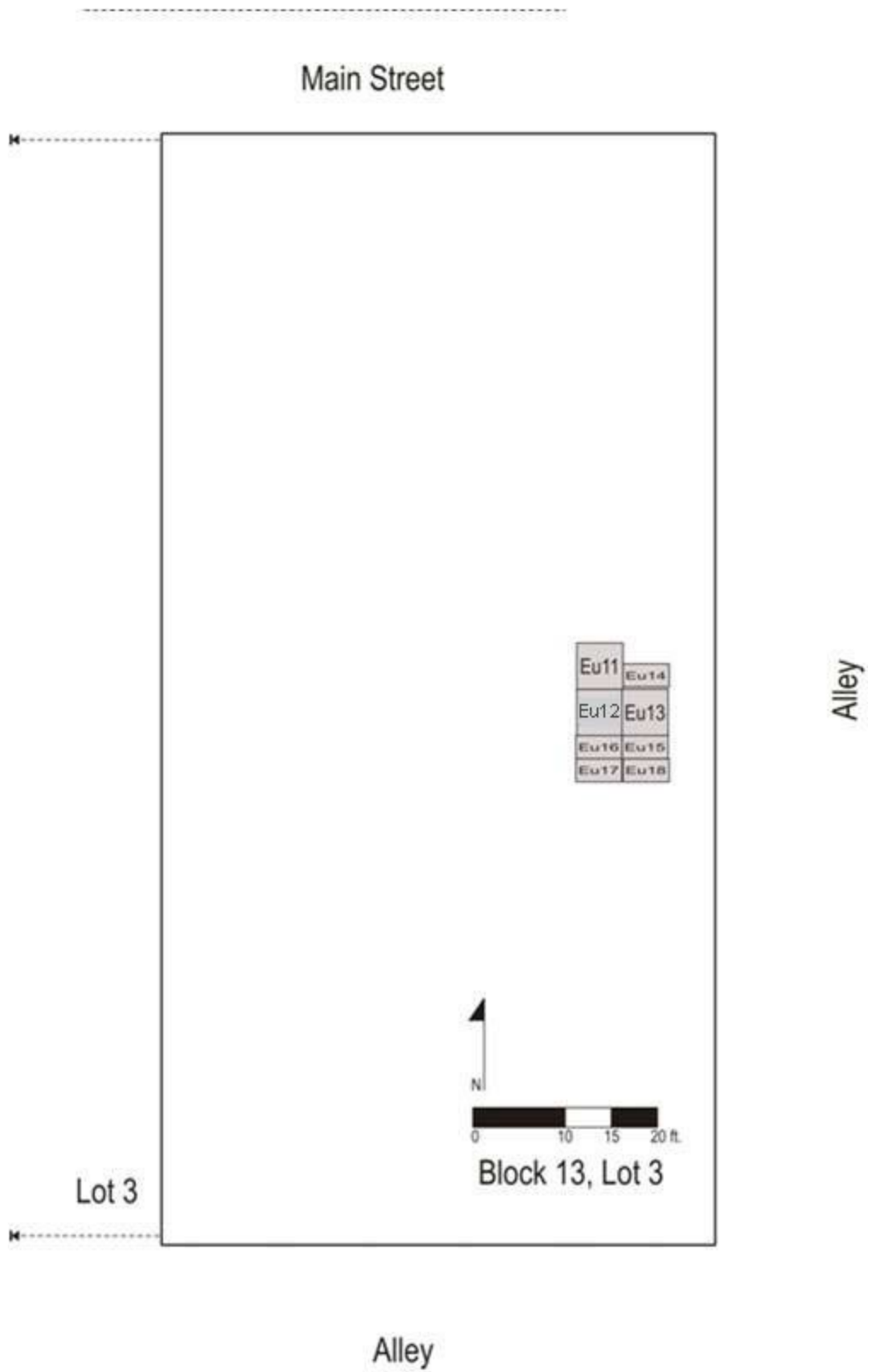


Figure 4.3. Excavation units in Block 13, Lot 3, in 2010 field season. Illustration by George Calfas.

The plowzone for EUs 11-18 was 7.5 YR 3/2 dark brown in color and yielded large numbers of historical artifacts such as glass and ceramics. At approximately 768.954 average mean sea level (amsl) or 1.1 ft. below surface level (bsl), Feature 40 became visible. Feature 40 was circular in shape and displayed 7.5 YR 3/2 dark brown and 7.5 YR 4/4 brown clay loam mottling. After determining the extent of Feature 40 archaeologists chose to section the feature and continued excavations in the eastern portion. The team decided to use the baulk separating Excavation Units 11, 14, 16 and 17 from Units to provide a natural boundary for the feature bisect (Figure 4.4). The baulk later provided an ample resource in determining the feature profile.

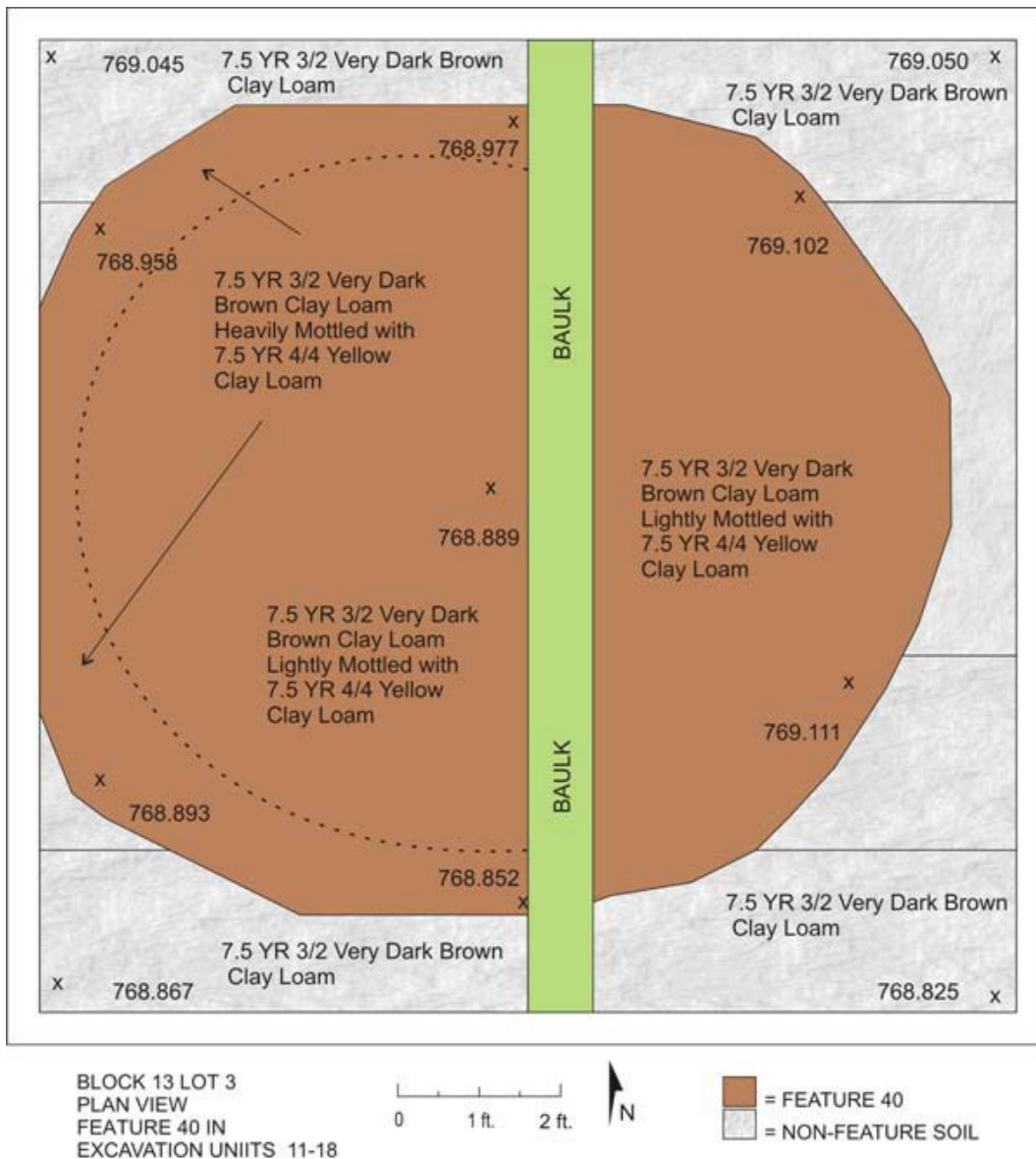


Figure 4.4. Plan view of Feature 40. Illustration by George Calfas.

Excavations continued to an approximate depth of 4.0 ft. bsl. The excavation team interprets Feature 40 to have been a well due to the shape and the materials discovered during field work (Figure 4.5). There were approximately 275 artifacts found within Feature 40, with date ranges falling within the latter half of the 19th century through the early 20th century.



Figure 4.5. *Profile view of Feature 40.*

The majority of the stones have flat finished surfaces that would have been ideal for foundations or wall construction (see Figure 4.6). The stones likely originated from the nearby cellar foundation (Figures 4.5 and 4.6). Archaeologists were unable to reach the bottom of Feature 40 to confirm that it was in fact a well; however the soils did become moist at the lower depths due to the increasing proximity of the water table. The Burdick memory map displays a well in the general location of Feature 40.



Figure 4.6. *Feature 40 photograph illustrating stones from within feature.*

General and architectural metal hardware and ceramic vessels made up a large portion of the artifacts, with glass vessel sherds having a relatively low count. Several portions of smoking pipes were found, as well as a portion of a doorknob (dating to 1878 or later) and a portion of a glass food canning jar finish (wax ring seal finish) dating from 1850-1890.

One of the more interesting artifacts discovered in the plowzone over Feature 40 was the uniform button of an Enlisted Civil War soldier (Figure 4.7). During the 2005 field season excavators discovered a similar button once belonging to a Civil War Officer's uniform approximately 25 ft. away. The discovery of these buttons helps explain that some of the New Philadelphia townspeople were involved in the fight for freedom. Documentary research shows that these buttons could have belonged to one of two men, Thomas Clark and Squire McWorter. Both Squire and Thomas served in the U.S. Colored Infantry and both had ties to Block 13.



Figure 4.7. *Photograph of button from Civil War uniform recovered from Feature 40.*

Lot 4

Excavation of Block 13 Lot 4 continued research begun during the 2005 field season (see Shackel et al. 2006). During the 2005 field work, excavation teams discovered a portion of the house foundation which once belonged to Louisa McWorter, indicated by the before mentioned deed records. In 2010 archaeologists set out to expose the entire foundation in order to learn the full dimensions of the 1870s home.

The excavation team first removed the back fill from the six excavation units (EU1-6) in order to pick up where the previous team had left off (Figure 4.8). Removing the back fill would provide a clearer picture of the foundation construction by season's end. After cleaning the wall and floor of the units the team inserted additional units to discover the eastern portion of the foundation. Geophysics aided the team in 2005 and based on the dimensions of anomaly A12; it seemed that the foundation extended beyond the area excavated in 2005 by only a few feet.

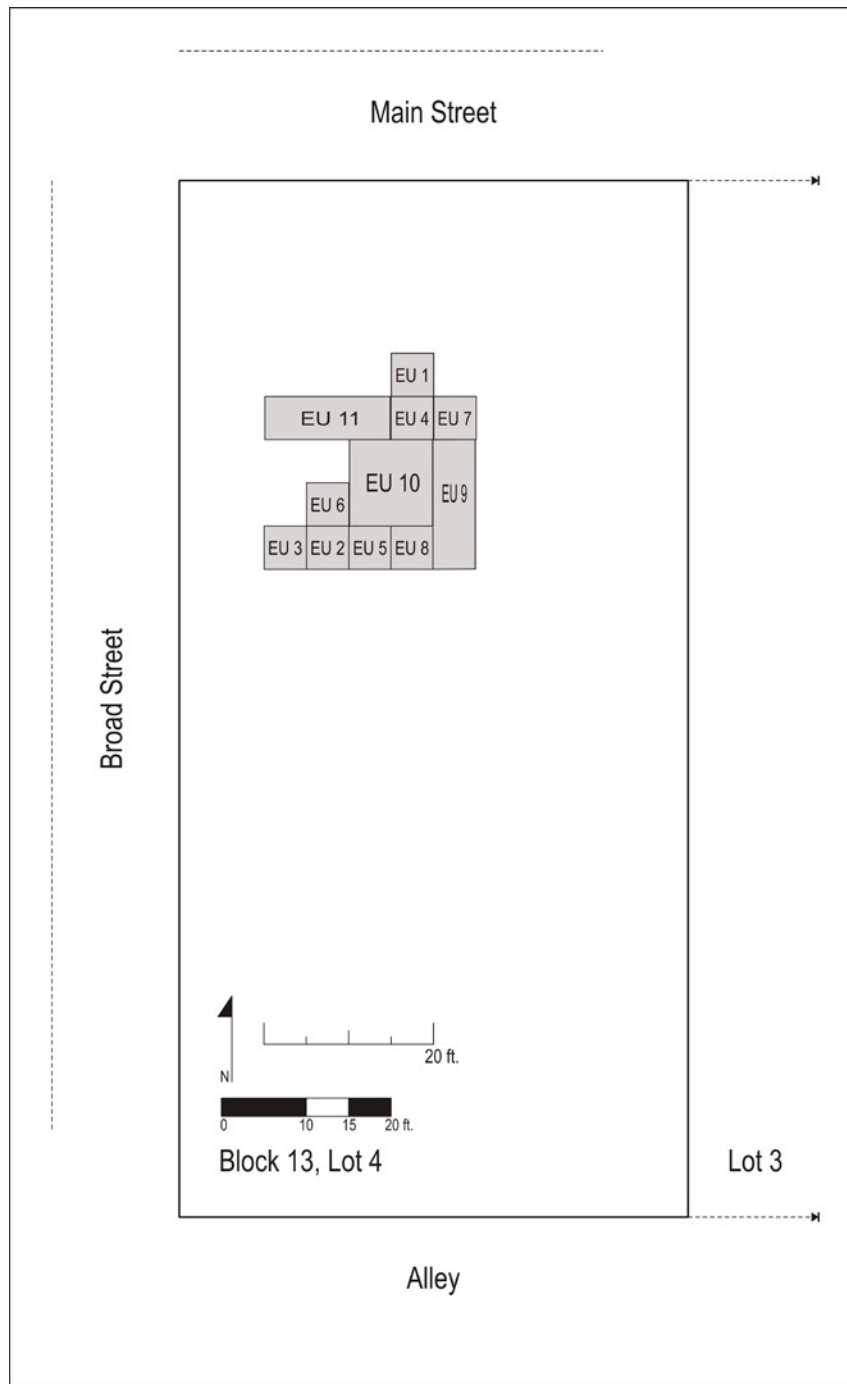


Figure 4.8. Excavation units in Block 13, Lot 4, in 2010 field season. Illustration by George Calfas.

Excavation Unit 7, a 5x5 foot unit, was inserted adjacent to and east of EU 4. At approximately 2.5 ft. below surface level (bsl) the team discovered the northeast corner of the foundation. EU 8 and 9 were inserted along what was assumed to be the southern portion of the east-west running foundation wall. The team was able to discover the builders trench which was 10YR 5/4

yellowish brown clay while the remaining soil in southeastern corner of the foundation was 10YR 3/2 very dark grayish brown sandy loam. In the southern corner the excavation team discovered an 1862 penny between foundation stones (Figure 4.9).

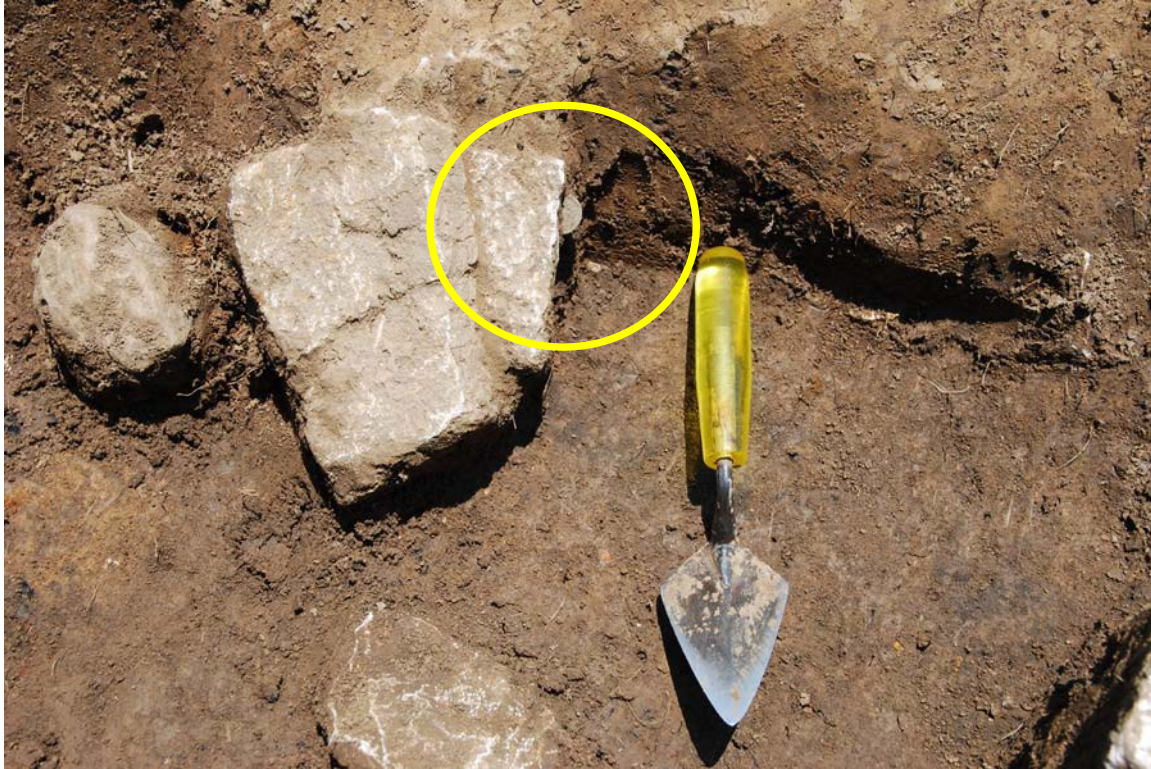


Figure 4.9. Penny embedded with foundation stone remains. Photo by Anna Agbe-Davies.

With the northern and south eastern corners located, the team inserted a 5x15 foot excavation unit (EU9) to uncover the entire eastern wall. After the removal of the plowzone the team encountered large amounts of ceramics, glass, brick and mortar (Figure 4.10). The material in this area was burned. The bricks appear to have fallen from south to north and in one singular event



Figure 4.10. *Remains located beneath plowzone in EU 9.*

Research continued toward the center of the house foundation in order to uncover and determine the depth of the cellar. EU10, a 10x10 foot unit, was placed adjacent to and west of EU9. The eastern portion of EU10 continued to display evidence of burning and high artifact densities. The western portion of EU10 contained fewer artifacts and following the ash and charcoal layer was much more difficult. Although the items in the cellar probably represent secondary fill, rather than a primary deposit, it is possible that the eastern portion of the house was an area of high activity. Due to the large quantity of burned brick, this may have been the location where the fireplace had been situated or may represent part of the burned remains of the house.

Excavation Unit 11 was inserted adjacent to EU4 in order to determine the location of the northern foundation wall and the overall length of the house. EU11 was a 5x15 foot unit which later had to be shortened due to time constraints. The team was able to discover a builder's

trench along the western wall and the foundation's northwestern corner at approximately 767.260amsl or 2.5 ft bsl. Soil in the northern section was mostly 10 YR 3/2 dark brown and displayed only slight variation in colors.

After the discovery of the three foundation corners it was determined that Louisa McWorter's home was approximately 20 ft. long east to west and 15 ft. long north to south. The southern foundations stones were approximately 1.25 ft. bsl whereas the northern foundations stones were nearly 2.5 ft. bsl. Coupled with the excavations in Block 13 Lot 3 it is feasible that foundations stones from the house were also used to fill the well or another nearby feature. Artifacts from the house were much like others throughout the site, but of interest was the amount of stoneware. The Louisa McWorter home has a 50-50% split between stoneware and whiteware vessels and a low density of glass products. Other house sites excavated in previous field seasons displayed large amounts of white ware and glass with less than 10% stoneware. This house site will be the subject of further investigations in the 2011 field season.

Chapter 5: LiDAR Survey and Analysis in 2010-2011

Christopher Fennell

A surveyor's plat and town plan filed in 1836 set out an intended grid of blocks, lots, alleys, and streets for New Philadelphia. Geophysical, aerial infra-red, and archaeological investigations to date have located fragments of the town's remains now buried beneath agricultural fields and prairie (see, e.g., Fennell et al. 2009). In May 2010, the author received an award of grant support from the University of Illinois to launch a new project that will conduct a low-altitude aerial survey using Light Detection and Ranging (LiDAR) technology. This LiDAR survey will be employed to obtain new data on the actual spatial extent and contours of New Philadelphia's lots, streets, activity areas, and occupation sites.

This new LiDAR data set will be combined and analyzed comparatively with the data from a low-altitude aerial survey conducted in 2008 that utilized high-resolution infra-red sensors with grant support from the National Center for Preservation Technology and Training. Ground-based geophysical surveys, including methods utilizing electric resistivity and magnetic gradient sensors, have also been conducted at the site with long-term support from the National Science Foundation. Professor Art Bettis and doctoral student Mary Kathryn Rocheford of the University of Iowa are also launching a new geosciences research project to analyze changes in the New Philadelphia landscape over time (see Chapter 6). The New Philadelphia archaeology project presents an exceptional research opportunity to compare and contrast these disparate survey methodologies, data sets, and analytic frameworks both to advance the research goals of this multi-year project and also to produce new methodological insights for the benefit of archaeological and geosciences techniques and investigations nation-wide.

Low altitude aerial surveys with high-resolution LiDAR imaging have been used successfully at prehistoric and historic-period sites in the United States (Harmon et al. 2006; Petzold et al. 1999; Riley 2009). This project will apply the technique to detect the grid pattern of an historic period town site buried beneath 1-2 feet of agricultural fields and prairie grass. The LiDAR survey will also produce a micro-topographic analysis of the likely locations of past roadbeds, pathways, structural remains, and activity zone impacts embedded within and shaping the current landscape surface. The 42-acre New Philadelphia town site presents a unique opportunity to test the full applicability of this surveying technique. The intended spatial extent of blocks, lots, and streets reflected on a town plan filed with an Illinois court in 1836 can be mapped onto the existing landscape. To date, it is not known whether the planned extent and configuration of streets and blocks were actually built on the ground in the way they were depicted on the town plan. If successful, this survey technique will provide a nationally significant resource for applications nation-wide.

Aerial LiDAR Survey Methods

LiDAR technology transmits a stream of high-resolution laser light to the ground surface and records the differential time with which each pulse is reflected back to a receiving device (Figure 5.1). This high-resolution survey method records a three-dimensional elevation map of the “micro-topography” of the ground surface, accurate to mere centimeters of spatial resolution. Importantly, the stream of laser pulses penetrate beneath any vegetation coverage to measure the underlying undulations of the ground surface, producing a high-resolution, micro-topographic map of features impacting the ground surface contours.

LiDAR surveys have been used successfully on other sites to detect historic-period roads, pathways, and site contours not readily visible on the surface. LiDAR surveys can also detect the surface manifestations of buried archaeological remains of structures and activity areas that were otherwise obscured from visibility by vegetation cover, giving a “bare earth” view of the site (Ackermann 1999; Harmon et al. 2006; Petzold 1999).

Employment of such LiDAR surveys from low-altitude aerial platforms is particularly valuable when the resulting data are incorporated into a Geographic Information Systems (GIS) database and compared and contrasted with other types of archaeological and remote sensing data (Ackermann 1999; Harmon et al. 2006). At New Philadelphia, the LiDAR data will be incorporated into a GIS database and evaluated in comparison with visible-spectrum aerial photographs, high-resolution infra-red images of the 42-acre town site, and geophysical surveys of over 7 acres within the town.

Limited portions of the New Philadelphia town site have been investigated using electrical resistance and magnetic field gradiometry technologies (see Chapter 2 and Hargrave 2006). These geophysical techniques have detected archaeological features and the subsurface remains of part of a secondary street on the northern edge of the town site that matches the location reflected on the intended town plan. Yet, it is impractical to survey all 42 acres of the town site using ground-based technologies. A low-altitude aerial survey can be conducted efficiently and cost-effectively, and offers exceptionally valuable data results. The results of an aerial LiDAR survey can be matched against data from those portions surveyed previously and against the 1836 spatial plan for the town. In this way, researchers will be able to determine if the actual history of construction and settlement in the town matched the vision set forth the founder’s 1836 prospective town plan.

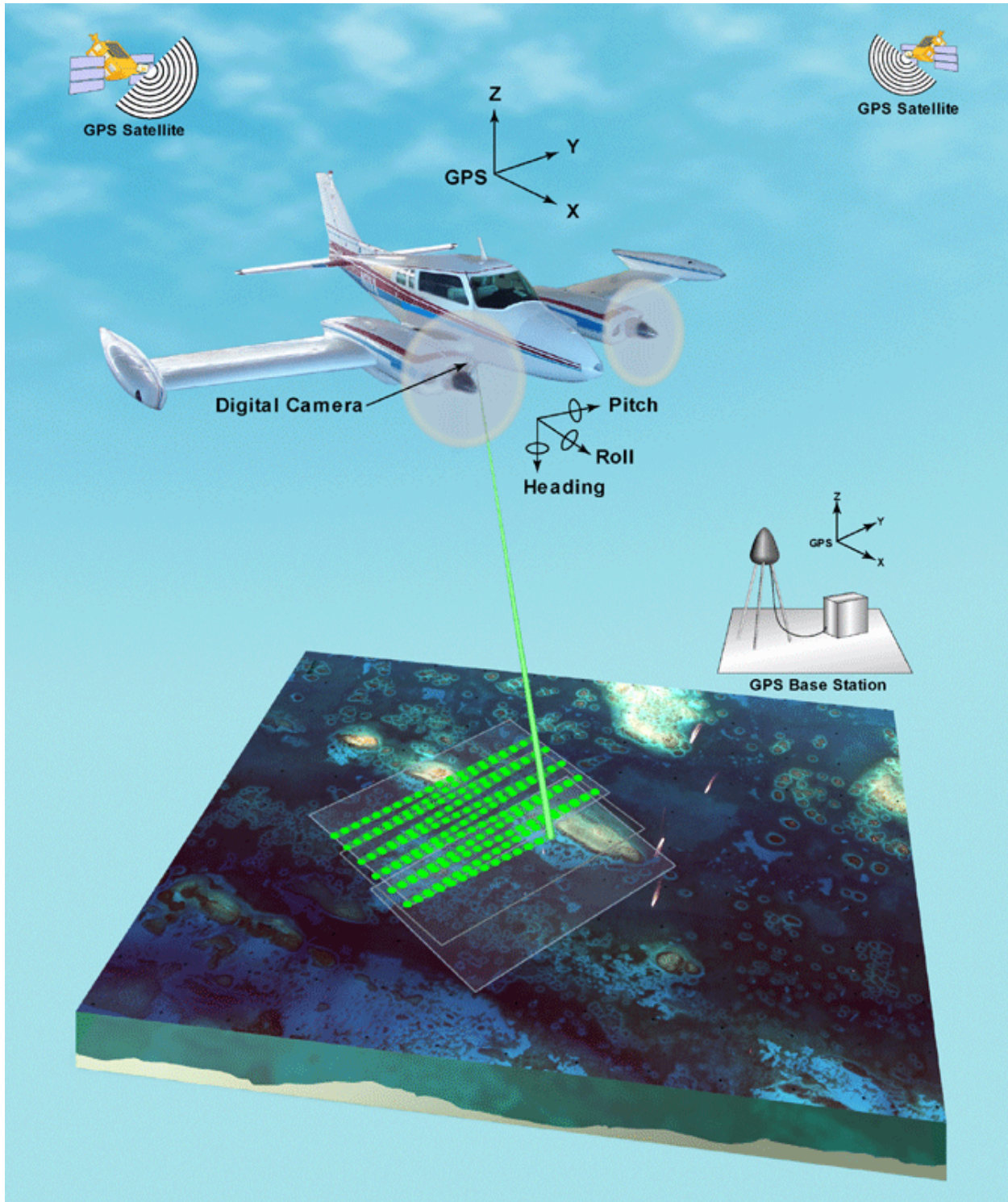


Figure 5.1. This illustration from the U.S. Geological Survey web site details the main components and process for collecting LiDAR aerial survey data (image courtesy U.S.G.S. http://gulfsce.usgs.gov/tampabay/data/1_bathymetry_lidar/index.html).

One of the most cost-effective approaches to obtaining LiDAR data is to employ the services of a firm that specializes in conducting such surveys. M. J. Harden Co. has been selected to perform these services. Through Harden’s survey work, LiDAR data will be collected across the New Philadelphia town site and adjacent, surrounding landscape with multiple points per square meter and elevation resolution with an error factor of no more than 15 centimeters for each data point. The LiDAR survey will provide a micro-topographic data set across the contours of the town site with surface contours measured to “bare earth” levels. LiDAR data will be acquired using Harden’s aircraft equipped with an Optech Gemini Airborne Laser Terrain Mapper (ALTM) sensor array (Figure 5.2). This system utilizes variable pulse and scan rates that enable the sensors to adapt immediately to varying topography and ground cover. As Harden’s (2010) service statement describes, the “increased pulse rate of the Gemini greatly improves the efficiency of the ALTM by providing greater geographic area coverage while maintaining high point density.” This Gemini multipulse technology thus provides the data acquisition benefits of acquiring maximum point density in the most cost-effective manner.



Figure 5.2. *Optech Gemini Airborne Laser Terrain Mapper sensor array utilized by M.J. Harden, a Geo-eye Company (image courtesy M. J. Harden).*

Harden will acquire LiDAR data for an area of 4.25 square miles, including the New Philadelphia town site and the adjacent surrounding landscape of related cultural features, such as a nearby community cemetery and contiguous 19th century farmstead parcels (see Figures 5.3 and 5.4). By including this slightly larger area of surrounding landscape the research team hopes to obtain valuable contextual data related to the town site and its transport pathways without a significant impact on the overall survey costs.

Harden will deliver the resulting LiDAR data sets to the NSF-REU management team for New Philadelphia. Those data sets then need to be integrated with our pre-existing data from ground-based mapping, aerial infra-red surveys, and geophysical surveys, utilizing GIS relational databases. Such GIS datasets allow researchers to georeference multiple sources of evidence and

overlay them with one another in a computerized mapping display. This analysis will be undertaken by our NSF-REU management team with the assistance of Robert Marcom, Cultural Resources Mapping, who is a specialist in GIS, mapping, and remote sensing survey analysis. Mr. Marcom will assist us in creating an integrated Digital Elevation Model (DEM) with GIS applications that will integrate these multiple data sets and provide a robust means for comparisons, contrasts, and additional analysis.

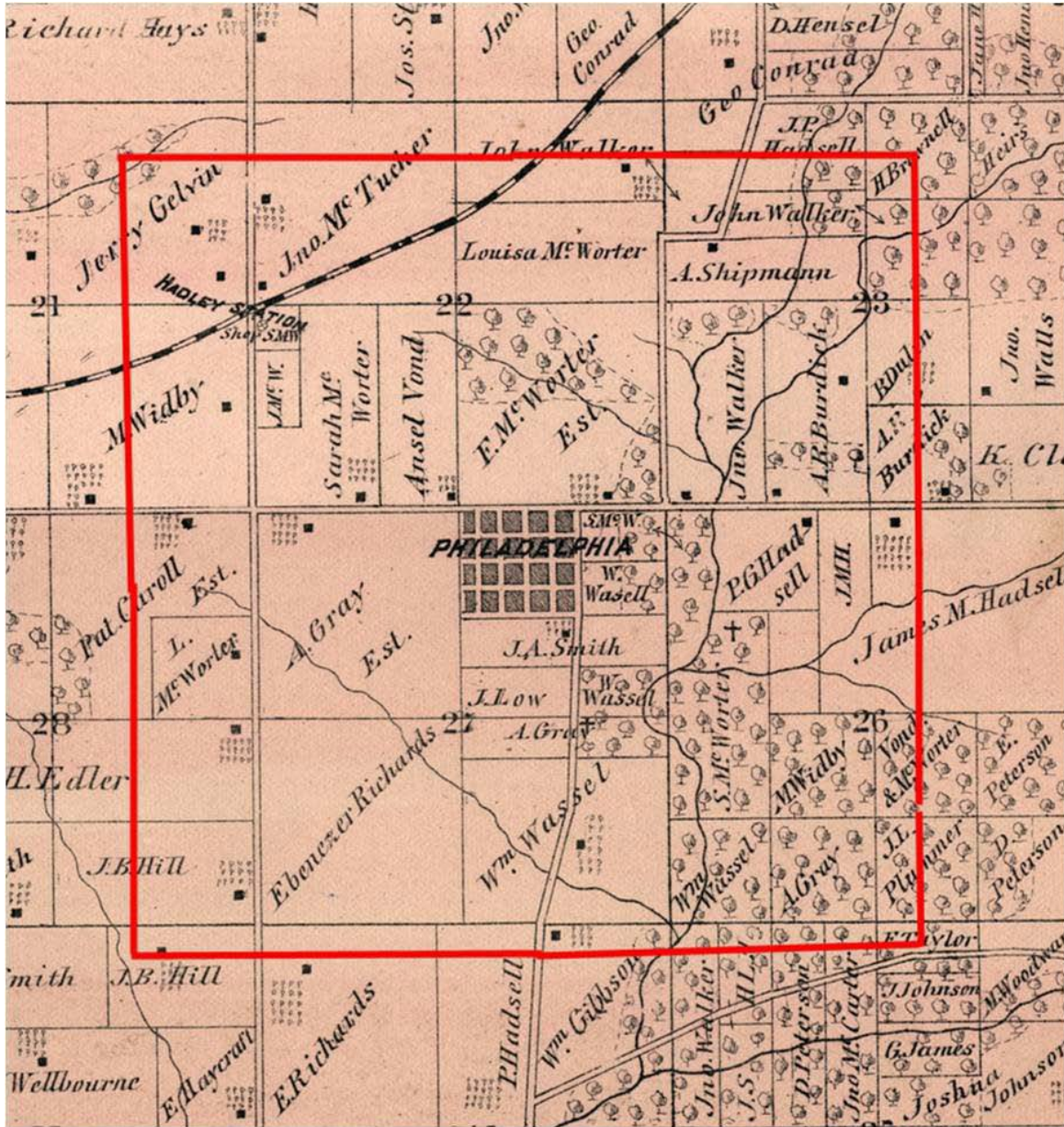


Figure 5.3. Area of planned LiDAR survey by M. J. Harden. Overlay by Tyquin Washington, 2010 NSF-REU student, on 1872 map of Hadley Township (Ensign 1872:100).

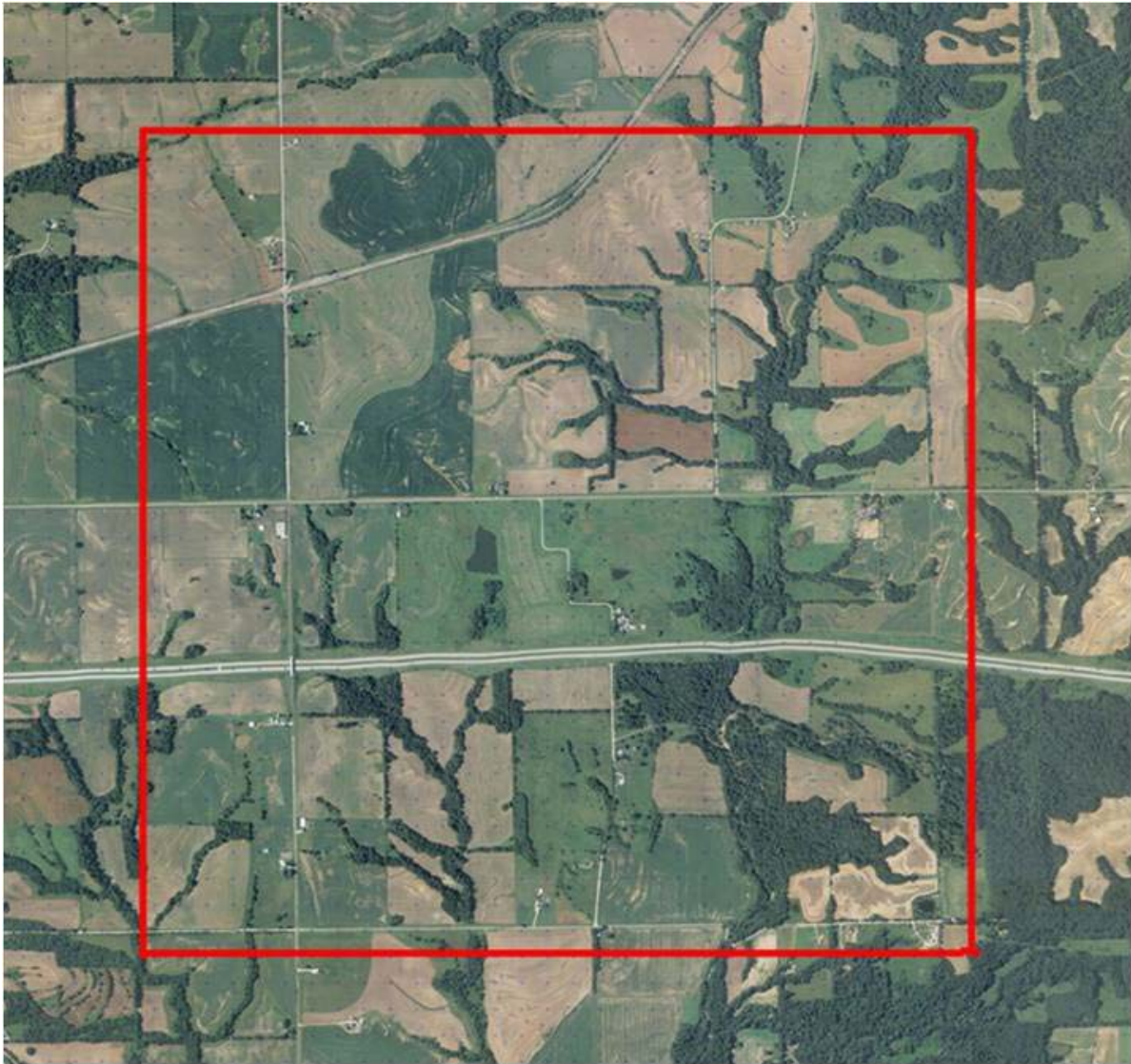


Figure 5.4. Area of planned LiDAR survey by M. J. Harden. Overlay by Tyquin Washington, 2010 NSF-REU student, on 2010 satellite image of landscape surrounding the New Philadelphia National Historic Landmark.

Results, Reports, and Significance of this Research Project

The results of the LiDAR survey will be compared and contrasted with the data from ground-based geophysics and low-altitude aerial thermal imaging of the town site. All of these data sets will be geo-referenced and integrated using spatial mapping programs such as GIS. Researchers will use these data to create extremely accurate photo-mosaics of the entire town site. These will depict, compare, and contrast LiDAR, thermal, visible spectrum imagery, and geophysical data.

Peer-reviewed journals such as *American Antiquity*, *Archaeological Prospection*, *Historical Archaeology*, and the *Journal of Field Archaeology*, offer relevant venues for reporting on the

results of this project and the applicability of the techniques to similar sites nation-wide. The interpretations will be compiled into reports and collaborative articles to be disseminated through popular journals and news media, internet, and newsletter publications. Conference and workshop presentations at the annual meetings of the Society for American Archaeology, Society for Historical Archaeology, American Anthropological Association, and archaeological prospection workshops will also be targeted. In addition, collaborating archaeologists and historians working on the New Philadelphia site have engaged in an active program of research and data dissemination through widely recognized public internet sites:
<http://www.anthro.uiuc.edu/faculty/cfennell/NP/>.

These reports and articles will identify the value of applying the technological methods of low-altitude aerial surveys to comparable, large-scale archaeological sites, as the New Philadelphia town site presents a unique opportunity to test the applicability this technology. The results and conclusions obtained through the survey at New Philadelphia, will demonstrate the potential for future developments and innovative applications of this technology for archaeology sites across the country.

The results of this LiDAR survey will also provide a template for planning future ground-based excavations at New Philadelphia. We intend to continue excavations at the New Philadelphia town site in future years, either through archaeological field schools sponsored by participating universities, or through field schools sponsored by grant agencies such as the NSF. Excavations within such a large-scale site as the 42-acre town of New Philadelphia must be conducted in an efficient and cost-effective manner by choosing locations with utmost care from available remote sensing survey data. The excavations completed by our archaeologists in five years of summer field schools have yielded highly valuable data while uncovering less than one percent of the spatial extent of the town site. It is impractical to excavate the remains of an entire 42-acre site; data from methods such as the aerial LiDAR survey proposed here will provide invaluable resources for undertaking efficient and effective research in the future.

Chapter 6: Geoarchaeological Investigation of New Philadelphia: Soil Core Testing of Thermal Infrared Anomalies¹

M. Kathryn Rocheford²

Background

The New Philadelphia town site was designated as a National Historic Landmark in January 2009. Field research began at this town site in 2002 and continues to the present. A special volume of *Historical Archaeology* dedicated to New Philadelphia details the background history and research activities (Fennell et al. 2010).

The town site is located near the center of Pike County, Illinois in an upland position on the landscape with nearby streams. During the Illinoian glaciation, only the north and northeastern portion of Pike County were glaciated and the Wisconsinan glaciation did not reach Pike County. However, given the proximity to the glacial margins, loess was deposited in varying thicknesses throughout the county, providing the medium for vegetation. Erosion of these deposits has shaped the landscape into rolling hills and valleys. Small tributaries to the Mississippi River border the town site on the west and slightly more distant to the east. This region lies in the mixed forest-prairie transition zone between the Prairie Peninsula and the Eastern Broadleaf Forest to the south and east (USFS 2008). Studies of past vegetation indicate that the dominant vegetation shifted between forest and prairie in response to climate change (Nelson et al. 2006; Williams et al. 2008). Pike County lies within the Central Mississippi Valley Wooded Slopes major land resource area (MLRA) classification with prairie openings in upland positions and total annual precipitation of 38.46 inches (USDA-NRCS 2006). This environment provided abundant and diverse resources for humans.

In 2008 Tommy Hailey and Bryan S. Haley conducted a thermal infrared survey of New Philadelphia and identified several thermal anomalies (Figure 6.1) and the report details the methods for obtaining thermal infrared images and their interpretation (Haley 2008). All of the thermal infrared (TIR) anomalies investigated in 2009 at New Philadelphia were targets identified in Haley's evening data (Figure 6.1). Buried archaeological features will typically produce diurnal thermal anomalies that are either cold in the morning and hot in the evening or vice versa. In addition, several singular thermal anomalies were consistent with known locations for buried foundations (Fennell 2008). Therefore, the minimal overlap of the thermal anomalies identified in the morning data with those from the evening data is somewhat puzzling (Figure

1. Research results in this chapter were developed in part under a grant from the National Park Service and the National Center for Preservation Technology and Training. This chapter's contents are solely the responsibility of the authors and do not necessarily represent the official position or policies of the National Park Service and the National Center for Preservation Technology and Training.

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6.2). For these reasons, anomalies identified in the morning data were selected for soil core sampling during the summer of 2010.

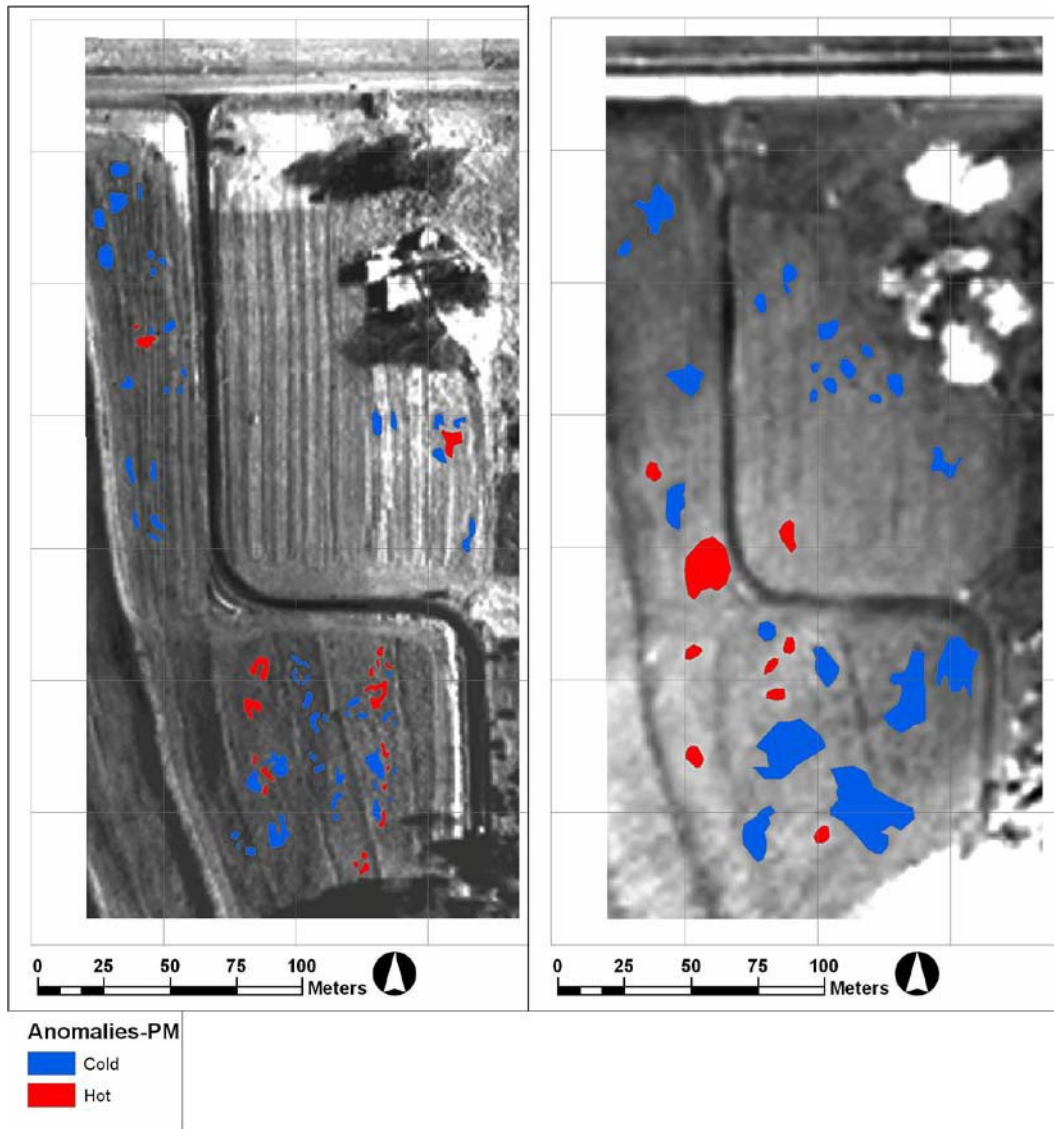


Figure 6.1. Morning (left) and evening (right) thermal infrared composite images with anomalies identified (Image courtesy of Bryan S. Haley).

Research Methodology

Soil core samples were collected using a one-inch diameter Oakfield soil sampler and a two-inch diameter AMS slide hammer core sampler. The collection was lead by the author, with Andrew Agha, Christopher Fennell, and various members of the 2010 NSF-REU field school, but especially Tyquin Washington. Soil cores obtained with the Oakfield sampler were to a depth of

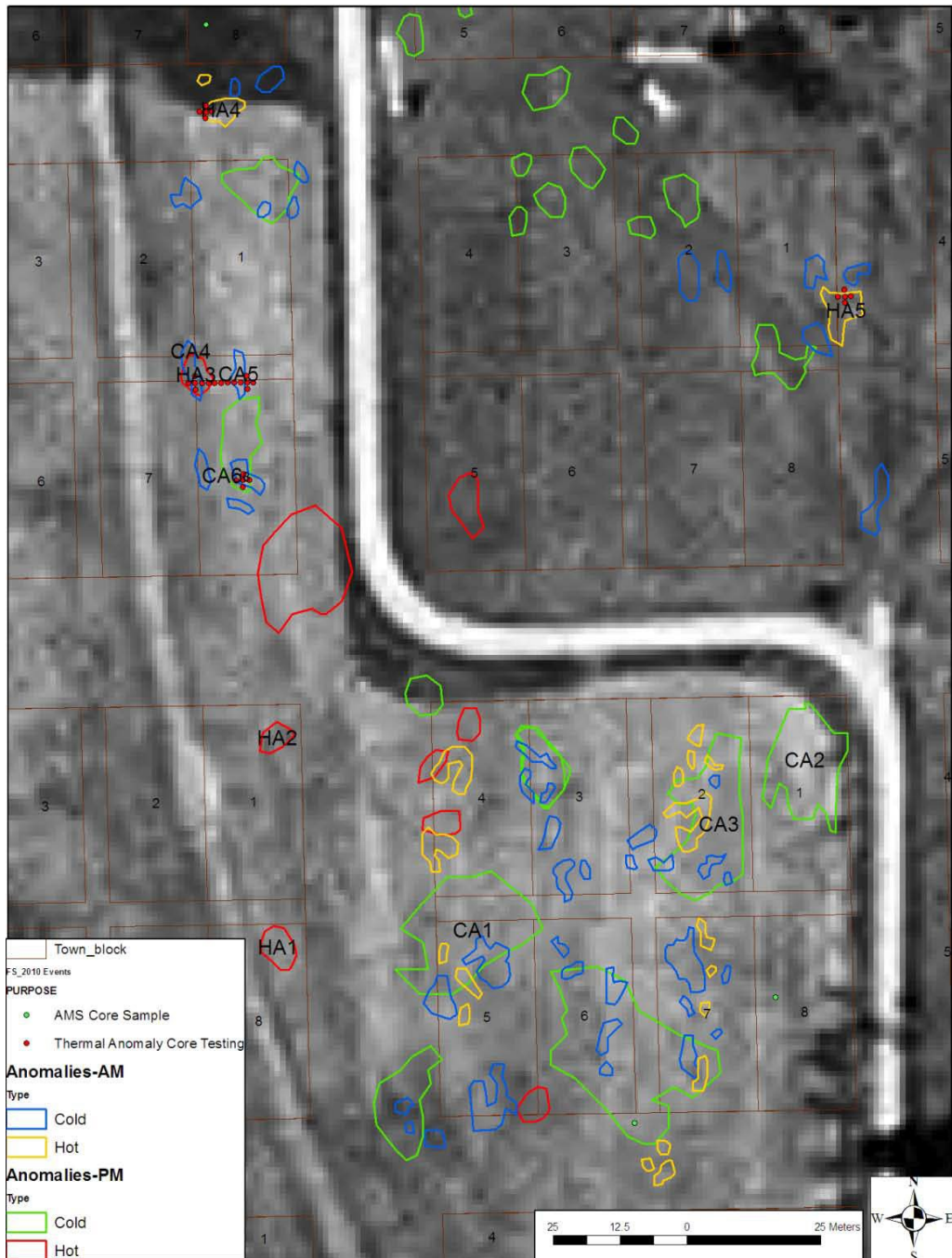


Figure 6.2. Selected soil core survey locations of aerial thermal anomalies identified by Bryan Haley, overlain on an image of the town blocks and lots and 1998 aerial photo of town site from USGS (image data overlays courtesy of M. Kathryn Rocheford, Bryan Haley and the Aerial Photographs Collection of the USGS).

three feet and were described in the field under varying sunlight intensity (slight color variations may be observed on an overcast day from those of a bright clear day). The AMS core samples were obtained to a depth of six feet, except where noted. The AMS 30-pound slide-hammer assembly compresses the soil sample as the equipment is hammered into the earth. Soils that are initially less compacted have less bulk density and will compact more readily during this process than soils of higher bulk density. Therefore, the depth of drilling is compared to the length of sample obtained to determine the compression ratio for each sample. Five additional AMS core locations for initial investigation of soils in the town site were chosen based on landscape position and soil classification (green dots on Figure 6.2). The AMS cores were labeled for subsequent description and analysis in the Quaternary Materials Laboratory at the University of Iowa.

In addition, soil samples were collected for future analysis of the micromorphology of the soils within two of the excavation units. Micromorphology is the microscopic study of in situ soil components, features and fabrics, including evidence of human activities. For example, microscopic bioarchaeological remains such as articulated plant material can be used to



Figure 6.3. Block 13, Lot 4, EU 7, north wall before removal of micromorphology samples. Note soil color change, the distinction between the dark, organic-rich plow zone and the reddish brown, clay-rich, but undisturbed, culturally sterile zone. Photo by M. Kathryn Rocheford.

distinguish between natural and cultural vegetation and their distribution across the site. In addition, the spatial distribution of different types of vegetation could aid the interpretation of use patterns within New Philadelphia. The first series of micromorphology samples is from the north wall of excavation unit 7, Block 13, Lot 4, part of the excavation of a building foundation (Figure 6.3). The north wall appears to represent the original soil horizon below the plow zone and could potentially serve as a baseline for micromorphological analyses throughout the town site. The second series is from the west wall of excavation unit 7, Block 13, Lot 3, in the center of feature 40, the remnants of a well. The well structure clearly contained historic fill and has been subjected to natural soil forming processes since its filling. These analyses have the potential to constrain the length of time required for soil forming processes to manifest in this environment. These samples were collected using 2" x 4" standard plastic electrical conduit box, wrapped in saran wrap, then aluminum foil, and labeled for future processing.

Current Research Efforts

Five TIR anomalies were selected for evaluation during the summer of 2010 from those identified by Haley (2008) as cold anomalies (CA) and hot anomalies (HA) (Figure 6.2): (1) CA4/HA3, an area that exhibited both a negative or cold target in the morning and positive or hot target in the evening (thermal signatures that a pit structure might produce). However, this location is positioned on a slope, and landscape position is a known contributor to differences in soil development (Birkland 1999), therefore an eastward transect upslope was taken between this anomaly and (2) another morning cold target (CA5); and (3) CA6, an evening negative or cold target (a signature that may indicate a buried foundation). The final two anomalies are in areas platted as streets: (4) HA4 and (5) HA5, both morning positive or hot targets (a thermal signature that may indicate a buried foundation). A central position was mapped for each anomaly and an AMS two-inch soil core was extracted for analysis at the Quaternary Materials Lab, University of Iowa. Oakfield one-inch soil cores were extracted four feet from each central core location in each of the cardinal directions (small red dots on Figures 6.2 & 6.6). In addition, five Oakfield cores were extracted along the east-west line between CA4/HA3 and CA5 at distance intervals of four feet. The characteristics of the collected Oakfield cores were recorded in the field.

Soil Core Descriptions

Two factors need to be considered when comparing the AMS cores with their associated Oakfield cores. First, the AMS cores were described indoors under fluorescent lighting, whereas the Oakfield cores were described in the field under full daylight, which may result in slight differences in the reported color. Therefore interpretation of differences based solely on color change may be misleading. Second, all AMS core descriptions are reported by thickness of soil horizons in feet, whereas the Oakfield cores are described by depth below surface in feet (ftbs). The mechanical process for obtaining AMS cores utilizes a thirty pound slide-hammer which compresses the soil, increasing its bulk density, as the sample is being collected. Table 1 contains the thickness of each core section, the depth to which the AMS assembly was pushed, and the degree of compaction for each section of core. Susceptibility to mechanical compaction varies for soils of different organic/inorganic compositions and structures (Birkland 1999). For

example, soils with high organic matter content have high porosity and lower bulk density, which impede the formation of blocky, platy, or prismatic structure in soil horizons. Conversely, soils with high inorganic particles including an abundance of clay minerals have lower porosity and under the alternating presence/absence of water produce these structures. However, given the small size of the AMS cores and the mechanical compression, interpretable soil structures are not preserved.

Table 6.1. AMS core drill depths and compaction ratios

Thermal Anomaly Core ID	Core top (cm)	Core base (cm)	Core Thickness (ft)	Push depth (ft)	Compaction Ratio
CA4/HA3-1	0	60	1.97	3.80	1.93
CA4/HA3-2	60	125	2.13	2.20	1.03
CA5-1	0	46	1.51	3.80	2.52
CA5-2	46	98	1.70	2.20	1.29
CA6-1	0	42	1.38	3.80	2.76
CA6-2	42	98	1.85	2.20	1.19
HA4-1	0	42	1.38	3.80	2.76
HA4-2	42	60	0.59	0.70	1.19
HA5-1	0	48.5	1.59	3.80	2.39
HA5-2	48.5	98	1.64	2.20	1.34

The soil classification for the locations of CA4/HA3, HA4, and HA5 is mapped as Downsouth Series which is characterized as a mesic Oxyaquic Hapludalf (USDA-NRCS 2006). This classification is for soils that develop minimal horizonation under broadleaf forest in humid, temperate climate conditions. Oxyaquic is best exemplified by the abundant mottling and iron (Fe) and manganese (Mn) concretions observed in the cores for these locations. Mottling and concretions indicate oxidizing and reducing processes due to alternating cycles of wet and dry conditions (Schaeztl and Anderson 2005).

The locations of thermal anomalies CA5 and CA6 is classified as Wakenda Series, which is characterized as mesic Typic Argiudoll (USDA-NRCS 2006). This classification is for soils that develop in grassland areas of humid, temperate climate that have weathered sufficiently to produce a horizon that is enriched in clays transported by water and gravity down profile. Grassland soils also have a characteristic thick, dark (organic rich) overlying horizon that is highly desirable for agriculture.

Each core is described in the following tables which are grouped by the thermal anomaly being tested. Following the description of each AMS core is a photo or two of the split core to illustrate the description. The photos are followed by a brief interpretation of the cores for each thermal anomaly. Finally, the core descriptions of the surrounding Oakfield cores conclude each thermal anomaly subsection.

TIR CA4/HA3 – on north border of Lots 7 & 8, Block 7, elevation: 761.6592 ft. (see Figure 6.6 for map of location.)

Table 6 2. T1-C AMS 2 inch core

Thickness (ft)	Color	Texture	Redox/Other
0 – 0.51	10YR 3/2	Loam	Many fine roots; clear boundary
0.51 – 1.28	10YR 4/2	Silt loam	Mottled, 10YR 5/1 and 7.5YR 5/6; many coarse, filled burrow traces 10YR 3/2; few fine roots; abrupt boundary
1.28 – 1.64	10YR 4/4	Silt loam	Mottled, 10YR 3/1 and 5YR 4/6, many, medium, and distinct; many fine Mn concretions, Fe depletions 10YR 5/1; diffuse boundary
1.64 – 2.26	10YR 4/4	Silty clay loam	Mottled, 10YR 3/1 and 7.5YR 4/6; filled burrow 10YR 3/1 at 65-569 cm; clear boundary
2.26 – 3.57	10YR 6/1	Silty clay loam	Mottled, 7.5YR 4/6, common, medium, pronounced streaks; few, fine Mn concretions; gradual boundary
3.57 – 4.10	7.5YR 5/4	Silt loam	Mottled, 10YR 6/1, few, fine, and faint



Figure 6.4. AMS soil core from TIR CA4/HA3 0-1.97 ft., top at left, described in Table 2. Photo by M. Kathryn Rocheford



Figure 6.5. AMS soil core from TIR CA4/HA3 1.97-4.10 ft, bottom at right, described in Table 2. Photo by M. Kathryn Rocheford.

The soil in the area of CA4/HA3 was classified as that which forms under broadleaf forest. The expected soil horizons would include, in succession, a thin, dark, organic-rich layer, a light-colored zone of leaching, and a darker, reddish zone of accumulation. Leaching is the result of mineral and organic material being moved down profile by water percolation. However, the thin, dark layer observed in Figure 6.4 is the modern plow zone and not a natural soil horizon. Instead of a light-colored zone, this is followed by a highly mixed (turbation) layer with a large burrow that has been filled in with the overlying organic-rich material. At ~1.3 ft. is evidence of additional compression, most likely from heavy equipment during construction of the ridge and swale erosion features. The compaction ratio from the coring process was ~2 times for the first four feet below the surface but negligible for the last two feet (Table 1), which can be attributed to the higher clay content. The gray and red streaking (Figure 6.5) is due to repeated inundation of water and is culturally sterile.

Table 6.3. T1-1 Oakfield 1” Core (Four feet north of AMS core for TIR CA4/HA3)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.7	10YR 3/2	Loam	
0.7 – 2.0	10YR 4/4	Silt loam	Mottled, 10YR 4/3; common, fine Fe and Mn concretions
2.0 – 3.0	10YR 5/4	Heavy silt loam	Mottled, 10YR 6/3; common, fine Fe and Mn concretions; few fine charcoal

Table 6.4. T1-2 Oakfield 1” Core (Four feet south of AMS core for TIR CA4/HA3)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.6	10YR 3/2	Loam	
0.6 – 1.7	10YR 4/4	Silt loam	Mottled, 10YR 4/3; common, fine Fe and Mn concretions
1.7 – 2.5	10YR 5/4	Heavy silt loam	Mottled, 10YR 6/3; common, fine Fe and Mn concretions; rare fine charcoal
2.5 – 3.0	10YR 5/3	Heavy silty clay loam	Depletions, 10YR 6/2; few fine charcoal

Table 6.5. T1-3 Oakfield 1” Core (Four feet west and downslope of AMS core for TIR CA4/HA3)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.23	10YR 3/3	Silt loam	
0.23 – 0.55	10YR 4/3	Silt loam	Mottled, 10YR 3/3
0.55 – 1.2	10YR 4/6	Silt loam	Mottled, 10YR 6/2, 10YR 3/3, and 10YR 4/4, common, fine Fe and Mn concretions
1.2 – 1.45	10YR 4/3	Heavy silt loam	
1.45 – 2.0	10YR 4/6	Heavy silt loam	Mottled, 10YR 5/4, common, fine Fe and Mn concretions
2.0 – 3.0	10YR6/1	Silty clay loam	Mottled 10YR 5/6

Table 6.6. T1-4 Oakfield 1” Core (Four feet east and upslope of AMS core for TIR CA4/HA3)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.3	10YR 3/1	Silt loam	Common, medium brick fragments
0.3 – 0.5	10YR 4/3	Silt loam	Mottled, 10YR 3/2
0.5 – 0.8	10YR 6/4	Silt loam	Mn lined pores
0.8 – 1.48	10YR 5/4	Silt loam	Mottled, 10YR 5/2 and 10YR 4/4, common, fine Fe and Mn concretions
1.48 – 1.83	10YR 5/4	Silt loam	Abundant, medium Fe and Mn concretions
1.83 – 2.4	10YR 4/4	Heavy silt loam	
2.4 – 2.83	10YR 5/4	Heavy silt loam	
2.83 – 3.0	10YR 5/4	Silty clay loam	Mottled, 10YR 5/1; few, fine charcoal

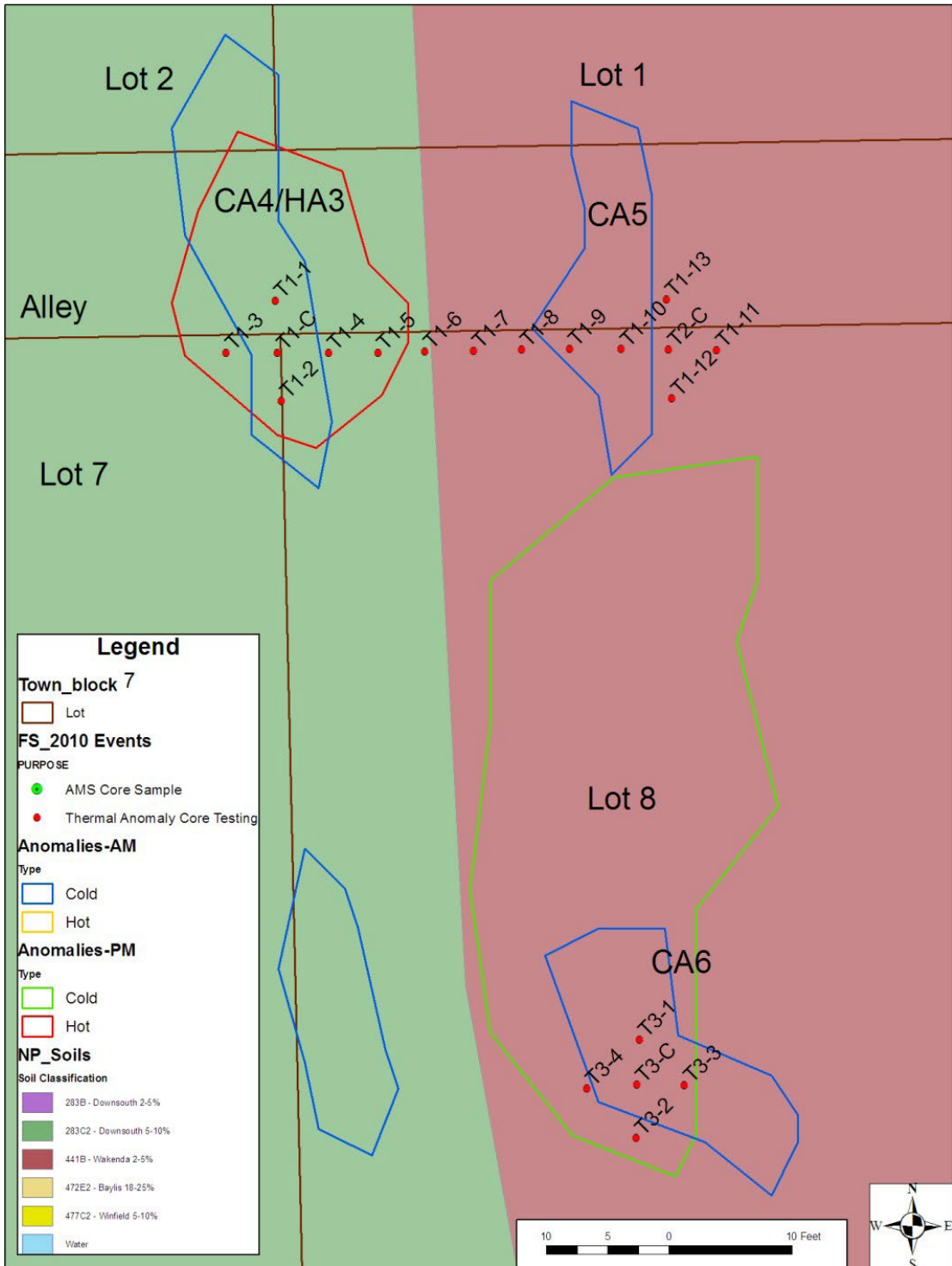


Figure 6.6. Close-up map of soil core testing locations in Block 7 (image data overlays courtesy of M. Kathryn Rocheford, Bryan Haley and the USDA-NRCS SURGO database)

Interstitial East-West Line TIR CA4 – CA5 along north border of Lot 8, Block 7 between CA4/HA3 and CA5 (see Figure 6.6 for map of location)

Table 6.7. T1-5 Oakfield 1” Core (Western most point, four feet east of T1-4 Oakfield core location)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.35	10YR 3/3	Loam	
0.35 – 1.25	10YR 4/4	Silt loam	Mottled, 10YR 5/4, common, fine Fe and Mn concretions
1.25 – 1.70	10YR 5/4	Silt loam	Mottled, 10YR 6/3, common, fine Fe and Mn concretions
1.70 – 2.5	10YR 5/3	Silt loam	
2.5 – 3.0	10YR 5/4	Heavy silt loam	Mottled, 10YR 6/1, Fe depletions

Table 6.8. T1-6 Oakfield 1” Core (Four feet east of T1-5 Oakfield core location)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.3	10YR 3/2	Loam	
0.3 – 0.7	10YR 4/2	Silt loam	
0.7 – 1.65	10YR 4/4	Silt loam	Mottled, 10YR 5/6 and 10YR 3/2
1.65 – 3.0	10YR 5/6	Silty clay loam	Mn lined root traces

Table 6.9. T1-7 Oakfield 1” Core (Four feet east of T1-6 Oakfield core location)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.4	10YR 3/2	Loam	
0.4 – 1.6	10YR 4/2	Loam	
1.6 – 2.55	10YR 4/4	Silt loam	Mottled, 10YR 3/2; Mn lined root traces
2.55 – 3.0	10YR 5/6	Silt loam	Mn lined root traces

Table 6.10. T1-8 Oakfield 1” Core (Four feet east of T1-7 Oakfield core location)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 1.5	10YR 3/1	Loam	Few, medium brick fragments to 0.5 ft
1.5 – 2.5	10YR 4/6	Silt loam	Common, fine Fe and Mn concretions
2.5 – 3.0	10YR 5/6	Silt loam	

Table 6.11. T1-9 Oakfield 1” Core (Eastern most point, four feet east of the T1-8 and four feet west of the T1-10 Oakfield core locations)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 1.3	10YR 3/1	Loam	
1.3 – 1.7	10YR 4/3	Silt loam	Mn lined root traces
1.7 – 2.6	10YR 5/3	Heavy silt loam	Mottled, common Fe and Mn depletions
2.6 – 3.0	10YR 5/4	Silty clay loam	Common, medium Fe and Mn concretions

There is a distinct difference in the thickness of the first soil layer between cores T1-7 (Table 9) and T1-8 (Table 10); the top layer in T1-8 is three times thicker. This may indicate that the darker topsoil has been removed down slope of T1-8, or that upslope of T1-7, fill was deposited. Both scenarios are plausible given that ridge/swale erosion control features are evident on the landscape (Figure 6.7). An investigation of the ridge construction in a trench profile is planned for the Fall of 2010 to evaluate its geologic history and archaeological potential.



Figure 6.7. A 2005 Aerial photograph of New Philadelphia showing ridge/swale erosion control features with an overlay of the town site boundary. Image courtesy of Tommy Hailey.

TIR CA5 - on the north border of Lot 8, Block 7, elevation 764.4074 ft. (see Figure 6.6 for map location)

Table 6.12. T2-C AMS 2 inch core

Thickness (ft)	Color	Texture	Redox / Other
0 – 1.21	10YR 3/1 to 3/2	Silt loam	Many, medium roots; brick fragment at 0.13 ft; clear boundary
1.21 – 1.57	10YR 4/3	Silt loam	Many, coarse, filled burrows 10YR 3/2; few, fine roots; clear boundary
1.57 – 2.33	10YR 5/3	Silty clay loam	Many, fine Mn concretions and few, Medium Fe concretions; diffuse boundary
2.33 – 3.21	10YR 5/4	Silty clay loam	Mottled, 10YR 5/2 and 7.5YR 4/6; few, medium Mn concretions



Figure 6.8. AMS soil core from TIR CA5 (T2-C) 0-1.51 ft, top at left, described in Table 12. Photo by M. Kathryn Rocheford.



Figure 6.9. AMS soil core from TIR CA5 (T2-C) 1.51-3.21 ft, bottom at right, described in Table 12. Photo by M. Kathryn Rocheford.

The compaction ratio for T2-C is ~2.5, making the black to brownish black (10YR 3/1 to 3/2) soil horizon ~3 ft thick (Figure 6.8). While a soil with an over-thickened A-horizon of this depth and coloration is typical of a mature prairie soil, this thick, dark layer that contains brick

fragments more likely represents historic fill in a cultural feature. That the surrounding Oakfield cores (Tables 13-16) also demonstrate this thick, dark soil layer, also with brick fragments, supports the latter explanation.

Table 6.13. T1-10 Oakfield 1” Core (Four feet west of AMS Core for CA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 1.35	10YR 3/1	Loam	
1.35 – 1.65	10YR 4/3	Silt loam	Mn lined root traces
1.65 – 2.6	10YR 4/6	Heavy silt loam	Few, fine Fe and Mn concretions
2.6 – 3.0	10YR 5/4	Silty clay loam	Mottled, 10YR 6/2; Common, fine Fe and Mn concretions

Table 6.14. T1-11 Oakfield 1” Core (Four feet east of AMS Core for CA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.7	10YR 3/2	Loam	medium brick fragments to 0.5 ft
0.7 – 1.6	10YR 3/2	Silt loam	Mottled, 10YR 2/1
1.6 – 2.6	10YR 4/4	Silt loam	Mottled, 10YR 3/2
2.6 – 3.0	10YR 5/4	Silty clay loam	

Table 6.15. T1-12 Oakfield 1” Core (Four feet south of AMS Core CA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 1.35	10YR 3/2	Loam	medium brick fragments to 0.2 ft
1.35 – 1.65	10YR 4/3	Silt loam	
1.65 – 2.7	10YR 5/4	Silt loam	Common, fine Fe and Mn concretions
2.7 – 3.0	10YR 5/4	Silty clay loam	

Table 6.16. T1-13 Oakfield 1” Core (Four feet North of AMS Core CA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 1.2	10YR 3/2	Loam	Medium brick fragments to 0.5 ft
1.2 – 1.6	10YR 4/2	Silt loam	Mn lined root traces
1.6 – 2.6	10YR 4/4	Silt loam	
2.6 – 3.0	10YR 5/4	Silty clay loam	Fe and Mn depletions

TIR CA6 - north of center of Lot 8, Block 7, elevation: 762.9554 ft. (see Figure 6.6 for map location.)

Table 6.17. T3-C AMS 2 inch core

Thickness (ft)	Color	Texture	Redox / Other
0 – 0.46	10YR 3/1	Silt loam	Many, medium roots; gradual boundary
0.46 – 0.82	10YR 3/1 and 5/3	Silt loam	Many, fine roots; many, medium burrows; diffuse boundary
0.82 – 1.25	10YR 4/4	Silty clay loam	Mn lined root traces, some with Fe depletion halos 10YR 5/2; diffuse boundary
1.25 – 2.30	10YR 5/4	Silty clay loam	Large burrow at 1.70-1.77 ft, lined with 10YR 3/2 and filled with organic matter; few, medium Fe concretions and many, medium Mn concretions; gradual boundary
2.30 – 2.85	10YR 5/4	Silty clay loam	Mottled, 10YR 5/3 and 7.5YR 5/6; few, fine Mn concretions; gradual boundary
2.85 – 3.21	10YR 5/2 and 7.5YR 4/6	Silt loam	Banded, possible laminae



Figure 6.10. AMS soil core from TIR CA6 (T3-C) 0-1.38 ft., top at left, described in Table 17. Photo by M. Kathryn Rocheford.



Figure 6.11. AMS soil core from TIR CA6 (T3-C) 1.38-3.23 ft., bottom at right, described in Table 17. Photo by M. Kathryn Rocheford.

The thickness of the dark, organic rich layers of T3-C (~2.26 feet) is similar to the ~3 feet of T2-C from CA5. However, there is much more bioturbation evident at a shallower depth and that continues much deeper than in T2-C (Figures 6.8-6.11). Bioturbation is the mixing of soil materials by rooting of plants and/or burrowing of animals. In this case, the over-thickened, organic rich layers appear to be the result of bioturbation, rather than mixing by humans.

Table 6.18. T3-1 Oakfield 1" Core (Four feet north of AMS Core for TIR CA6)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.4	10YR 3/1	Loam	
0.4 – 0.7	10YR 3/3	Loam	Mottled, 10YR 3/1
0.7 – 1.1	10YR 4/4	Silt loam	
1.1 – 1.75	10YR 4.4	Heavy silt loam	Mottled, 10YR 6/1; Fe and Mn depletions
1.75 – 3	10YR 4/6	Heavy silt loam	Common, fine Fe and Mn concretions

Table 6.19. T3-2 Oakfield 1” Core (Four feet south of AMS Core for TIR CA6)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.5	10YR 3/1	Loam	
0.5 – 0.7	10YR 3/3	Loam	
0.7 – 1.5	10YR 4/4	Silt loam	Mottled, 10YR 3/3; Common, fine Fe and Mn concretions
1.5 – 2.7	10YR 5/4	Heavy silt loam	Mottled, 10YR 6/1; common, fine Fe and Mn concretions
2.7 – 3.0	10YR 5/4	Silty clay loam	

Table 6.20. T3-3 Oakfield 1” Core (Four feet east of AMS Core for TIR CA6)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.6	10YR 3/1	Loam	
0.6 – 0.85	10YR 3/3	Loam	Mottled, 10YR 3/1
0.85 – 1.4	10YR 4/4	Silt loam	Mottled, 10YR 3/3; common, fine Fe and Mn concretions
1.4 – 1.8	10YR 4/4	Silt loam	Mn lined root traces
1.8 – 3.0	10YR 4/5	Heavy silt loam	Fe and Mn depletions

Table 6.21. T3-4 Oakfield 1” Core (Four feet west of AMS Core for TIR CA6)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.4	10YR 3/1	Loam	
0.4 – 0.7	10YR 3/3	Loam	
0.7 – 1.4	10YR 4/4	Silt loam	Mottled, 10YR 3/3; common, fine Fe and Mn concretions
1.4 – 2.7	10YR 4/6	Heavy silt loam	Common, fine Fe and Mn concretions
2.7 – 3.0	10YR 5/4	Silty clay loam	

TIR HA4 - between Block 4, Lot 8 and Block 7, Lot 1; elevation: 763.9185 ft. (see Figure 6.2 for map location).

Table 6.22. AMS T4-C

Thickness (ft)	Color	Texture	Redox / Other
0 – 0.86	10YR 2/1 to 3/1	Silt loam	Abundant, medium roots; gradual boundary
0.86 – 1.25	10YR 4/4	Silt loam	Many, fine roots; abundant filled burrow traces 10YR 3/2; gradual boundary
1.25 – 1.51	10YR 4/4	Silt loam	Few, fine Mn concretions; possible laminae 39-41 cm; large, filled burrow 10YR 3/2; abrupt boundary
1.51 – 1.67	10YR 4/4	Silt loam	Laminae 46 cm; few, medium Mn concretions; gradual boundary
1.67 – 1.97	10YR 5/2	Silt loam	Laminae 46 cm; mottled, few, coarse, and pronounced 10YR 4/6; few, coarse Fe concretions and many, fine Mn concretions; unfilled insect trace; impenetrable at 4.5 ftbs



Figure 6.12. AMS soil cores from TIR HA4 (T4-C) 0-4.50 ft., top at left, described in Table 22. Photo by M. Kathryn Rocheford.

The 0.86 foot compacted thickness of the dark, organic rich layer translates to ~2.37 feet, similar to CA5 and CA6, all of which are in similar landscape positions. Like CA6 there is abundant bioturbation evident. However, this activity ceases abruptly at 1.6 feet where what appear to be thin, laminated layers begin (Figure 6.12). As this location is in an area that was platted as a road, it is possible that these laminations are the result of compression due to repeat foot and/or wagon traffic. Further evaluation of this thermal anomaly could be accomplished by obtaining a larger core using a Giddings® drill rig, where the impenetrability of the soil at 4.5 feet by the semi-mechanical AMS method was not possible.

Table 6.23. T4-1 Oakfield 1” Core (Four feet north of AMS core for TIR HA4)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.75	10YR 3/1	Loam	
0.75 – 1.5	10YR 3/2	Loam	
1.5 – 1.7	10YR 3/3	Silt loam	
1.7 – 2.0	10YR 4/4	Silt loam	Mottled, 10YR 3/3
2.0 – 2.5	10YR 5/4	Silt loam	Mottled, 10YR 5/2; Fe and Mn depletions; Mn lined root traces
2.5 – 2.9	10YR 5/4	Silt loam	Common, fine Fe and Mn concretions

Table 6.24. T4-2 Oakfield 1” Core (Four feet south of AMS core for TIR HA4)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.5	10YR 3/1	Loam	
0.5 – 1.25	10YR 3/2	Loam	
1.25 – 1.8	10YR 4/3	Silt loam	Mn lined root traces
1.8 – 2.4	10YR 4/6	Silt loam	Fe and Mn depletions
2.4 – 2.9	10YR 4/6	Silt loam	Common, fine Fe and Mn concretions

Table 6.25. T4-3 Oakfield 1” Core (Four feet west of AMS core for TIR HA4)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.3	10YR 3/1	Loam	
0.3 – 0.8	10YR 3/2	Loam	
0.8 – 1.45	10YR 3/2	Loam	Mottled, 10YR 4/4
1.45 – 1.75	10YR 4/4	Silt loam	Mn lined root traces
1.75 – 2.65	10YR 5/6	Silt loam	Mottled, 10YR 5/2; Fe and Mn depletions
2.65 – 3.0	10YR 5/6	Silt loam	Mottled, 10YR 5/2; Common, fine Fe and Mn concretions; Mn lined traces

Table 6.26. T4-4 Oakfield 1” Core (Four feet east of AMS core for TIR HA4)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.6	10YR 3/1	Loam	
0.6 – 1.3	10YR 3/2	Loam	
1.3 – 1.6	10YR 4/4	Silt loam	Mottled, 10YR 5/6; Mn lined root traces
1.6 – 2.6	10YR 5/6	Silt loam	Mottled, 10YR 6/1; Common, fine Fe and Mn concretions; Mn lined root traces
2.6 – 2.8	10YR 5/6	Silt loam	Mottled, 10YR 6/1

TIR HA5 on east edge of Block 8, Lot 1; elevation: 762.5749 ft. (see Figure 6.2 for map location).

Table 6.27. AMS T5-C

Thickness (ft)	Color	Texture	Redox / Other
0 – 0.61	10YR 3/2	Loam	Abundant roots to 6 cmbs; clear boundary
0.61 – 1.10	10YR 3/3	Silt loam	Mottled, many, coarse, and distinct 7.5YR 3/3; few, fine roots; gradual boundary
1.10 – 1.59	10YR 5/4	Silty clay loam	Mottled; many, fine Mn concretions from 38 cmbs and few, medium Fe concretions from 44 cmbs; few, fine roots; clear boundary
1.59 – 2.10	10YR 4/4	Silty clay loam	Water saturated; organic matter from 1.93 to 2.03 ft; few, fine roots; clear boundary
2.10 – 2.66	10YR 5/4	Silty clay loam	Mottled, many, fine, and faint 10YR 3/3, 5/6, and 6/2; few, fine Mn concretions; few, fine roots; gradual boundary
2.66 – 3.21	10YR4/4	Silty clay loam	Mottled, many, fine, and faint 10YR 5/6 and 6/2; few, medium Fe concretions



Figure 6.13. AMS soil core from TIR HA5, 0-1.59 ft., top at left, described in Table 27. Photo by M. Kathryn Rocheford.



Figure 6.14. AMS soil core from TIR HA5, 1.59-3.23 ft., bottom at right, described in Table 27. Photo by M. Kathryn Rocheford.

Similar to T2-C (Figure 6.7), HA5 (T5-C) has an over-thickened organic rich layer to a thickness of 1.1 feet or 2.63 fbs, given the compaction ratio of 2.39. The major difference between these two locations is that T5-C is located in an area classified as soils produced by broadleaf forest. It also has a constrained zone of saturation between 1.59 and 2.10 feet where the moisture content is distinctly less both above and below. This saturated zone is potentially a perched water table, where the underlying area is less permeable interfering

with the drainage of the overlying horizon. Water has a high thermal inertia, retaining heat longer than bare earth, which may have resulted in the positive or hot thermal signature in the morning at this location. This zone of saturation lies deeper than the depth of the surrounding Oakfield cores, warranting further investigation of this area to the depth of this saturated layer to better determine its nature as well as its extent in relation to the thermal anomaly observed.

Table 6.28. T5-1 Oakfield 1” Core (Four feet north of AMS core for TIR HA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.7	10YR 3/2	Loam	
0.7 – 1.2	10YR 4/4	Silt loam	Mottled, 10YR 3/2
1.2 – 1.85	10YR 4/4	Silt loam	Fe and Mn depletions
1.85 – 2.3	10YR 4/4	Silt loam	Common, fine Fe and Mn concretions
2.3 – 3.0	10YR 4/6	Silt loam	Common, fine Fe and Mn concretions

Table 6.29. T5-2 Oakfield 1” Core (Four feet south of AMS core for TIR HA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.3	10YR 3/1	Loam	
0.3 – 0.7	10YR 3/2	Loam	
0.7 – 1.75	10YR 4/3	Silt loam	Mottled, 10YR 3/2; Fe and Mn depletions; Mn lined root traces
1.75 – 2.7	10YR 4/4	Silt loam	Common, fine Fe and Mn concretions
2.7 – 3.0	10YR 5/4	Silt loam	Common, fine Fe and Mn concretions

Table 6.30. T5-3 Oakfield 1” Core (Four feet west of AMS core for TIR HA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.5	10YR 3/1	Loam	
0.5 – 1.0	10YR 4/3	Loam	
1.0 – 2.2	10YR 4/3	Silt loam	Mottled, 10YR 5/2; Fe and Mn depletions; Few, fine charcoal 1-1.3 ft
2.2 – 3.0	10YR 5/6	Silt loam	Common, fine Fe and Mn concretions

Table 6.31. T5-4 Oakfield 1” Core (Four feet east of AMS core for TIR HA5)

Depth (ftbs)	Color	Texture	Redox / Other
0 – 0.7	10YR 3/1	Loam	
0.7 – 1.3	10YR 4/3	Loam	
1.3 – 1.75	10YR 4/4	Silt loam	
1.75 – 3.0	10YR 5/6	Silt loam	Mottled, 10YR 6/1; Common, fine Fe and Mn concretions

Recommendations

Soil core testing of thermal anomalies has proven to be a cost effective method to define the extent of a potential archaeological feature, thereby enabling maximum discovery with limited excavation. For example, soil core testing surrounding TIR CA5 indicates an area of historic fill that extends further downslope (between T1-7 and T1-8) and further east than the outline of the thermal anomaly. In addition, soil core testing of CA4/HA3 revealed no archaeological feature, other than a potential borrow area for the construction of the erosion control ridge features. To investigate this hypothesis, the relationship between observations from CA4/HA3 and the nearest ridge will be explored by bisecting the ridge with a trench during the Fall of 2010.

The results for a particular anomaly classification (e.g. hot anomalies) varied at this site, indicating that something other than archaeological features alone is producing the thermal signatures. An example of this is found in comparing TIR anomalies HA4 and HA5 which are in areas that share the same soil classification and similar landscape positions (Figure 6.2). However, the AMS core from HA4 has a much thinner dark, organic-rich layer than that of HA5, along with a relatively shallow zone of impenetrability. Therefore, obtaining soil cores that are larger in diameter (up to 5 inches) with a Giddings® drill rig, which can penetrate deeper, will enhance the ability to interpret soil characteristics at these locations and to identify any potential for future archaeological investigations.

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Chapter 8: 2010 Summaries of Shovel Test Pits, Core Samples, Units, and Features

Block 11 Shovel Test Pit Summaries

The following inventory describes the shovel test pits (STPs) excavated on Block 11, Lot 1 during the NSF REU field season of 2010. Locations are with reference to the town grid, indicating distance from a particular corner of the lot. For example “Block 11, Lot 1, NE W30” refers to a location 30 ft. west of the NE corner of Block 11, Lot 1. The location of each STP was determined using measuring tapes pulled from established grid points. Following excavation, the location of each STP was recorded using a total station.

Soil characteristics are described using standard nomenclature. Color codes refer to the Munsell Soil Color Chart. Artifacts listed are based on identifications made in the laboratory post excavation and may differ from the items and counts recorded on the original field forms.

These STPs were excavated by volunteers with the Illinois National Resources Conservation Service, under the supervision of Christopher Fennell and Sharon Santure, Illinois Archaeologist with the NRCS.

STP No. 001

Date excavated: 06/10/10. Excavator initials: TK

STP Location: Block 11, Lot 1, NE W30

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2 – 10YR 3/3, silty loam

0.5 ft. to 1.0 ft. – 10YR 5/6, silty clay loam

1.0 ft. to 1.5 ft. – 10YR 5/4, silty clay loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – no artifacts

0.5 ft. to 1.0 ft. – no artifacts

1.0 ft. to 1.5 ft. – no artifacts

STP No. 002

Date excavated: 06/10/10. Excavator initials: FH

STP Location: Block 11, Lot 1, NE W30 S10

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam

0.5 ft. to 1.0 ft. – 10YR 3/1 mottled with 40% 7.5YR 4/3, silty clay loam

1.0 ft. to 1.5 ft. – 10YR 4/3 mottled with 50% 10YR 5/2, silty clay loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 1 mortar fragment

0.5 ft. to 1.0 ft. – no artifacts

1.0 ft. to 1.5 ft. – no artifacts

STP No. 003

Date excavated: 06/10/10. Excavator initials: DMD

STP Location: Block 11, Lot 1, NE W30 S20

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam

0.5 ft. to 1.0 ft. – 10YR 3/2, silty loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 3 whiteware fragments, 1 mortar fragment, 1 slag fragment

0.5 ft. to 1.0 ft. – no artifacts

STP No. 004

Date excavated: 06/10/10. Excavator initials: CL

STP Location: Block 11, Lot 1, NE W30 S30

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam

0.5 ft. to 1.0 ft. – 10YR 3/2 mottled with 7.5YR 4/3, silty loam

1.0 ft. to 1.5 ft. – 7.5YR 4/3, silty loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – no artifacts

0.5 ft. to 1.0 ft. – 2 whiteware fragments, 1 wire nail shank

1.0 ft. to 1.5 ft. – no artifacts

STP No. 005

Date excavated: 06/10/10. Excavator initials: RS

STP Location: Block 11, Lot 1, NE W15

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam
0.5 ft. to 1.0 ft. – 10YR 3/3, silty clay loam
1.0 ft. to 1.5 ft. – 10YR 5/4, silty clay loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 1 whiteware fragment
0.5 ft. to 1.0 ft. – no artifacts
1.0 ft. to 1.5 ft. – no artifacts

STP No. 006

Date excavated: 06/10/10. Excavator initials: JWF
STP Location: Block 11, Lot 1, NE W15 S10

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam
0.5 ft. to 1.0 ft. – 10YR 4/3 mottled with 10YR 5/5, silty clay loam
1.0 ft. to 1.5 ft. – 10YR 4/3

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 1 chert fragment (worked)
0.5 ft. to 1.0 ft. – no artifacts
1.0 ft. to 1.5 ft. – no artifacts

STP No. 007

Date excavated: 06/10/10. Excavator initials: DTM
STP Location: Block 11, Lot 1, NE W15 S20

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam
0.5 ft. to 1.0 ft. – 10YR 4/3 [N.B.: water encountered at 0.5 ft.]

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 1 cut nail shank
0.5 ft. to 1.0 ft. – no artifacts

STP No. 008

Date excavated: 06/10/10. Excavator initials: AB
STP Location: Block 11, Lot 1, NE W15 S30

Levels excavated:

0.0 ft. to 0.5 ft. – 10YR 3/2, silty loam

0.5 ft. to 1.0 ft. – 10YR 4/3, silty loam

Notes on artifacts recovered in each level:

0.0 ft. to 0.5 ft. – 1 mortar fragment, 1 cut nail shank

0.5 ft. to 1.0 ft. – 1 button (black glass)

Coring Survey Summaries

In the tables that follow, “Layer 1” should be taken to refer to cultural layers above the subsoil, including the plowzone. In some instances, layers given distinctive soil color designations in the field were merged into “Layer 1,” where the identified layers were clearly distinct from the undisturbed yellowish brown clays of subsoil.

Block 4, Lot 8, Anomaly A57

A single transect of 50 probes was used in the attempt to pinpoint the location of Anomaly A58 (see Chapter 2 for location maps and analysis). The probes were 1 in. in diameter and placed 1 ft. apart along the line B4L7 SW E65 (65 feet east of the southwest corner of Block 4 Lot 7, which also equates with 5 feet east of the southwest corner of Block 4, Lot 8). The northernmost of the probes (1) is located at B4L7 SW E65 N50; the southernmost probe (50) is located at B4L7 SW E65 N1. Michael Hargrave identified this anomaly in 2008 using electrical resistivity.

Probes 21, 22, and 23 have unusual characteristics (stratigraphic progression and depth of deposits) that might indicate the precise source of the anomalous readings.

CORE#	1ST LAYER, FT. BSL	2ND LAYER, FT. BSL	3RD LAYER, FT. BSL	4TH LAYER, FT. BSL	5TH LAYER, FT. BSL
1	0 - 1.40	1.40 - 2.00	2.00 - 2.60		
2	0 - 1.10	1.10 - 1.90	1.90 - 2.40	2.40 - 2.70	
3	0 - 1.00	1.00 - 1.50	1.50 - 2.30		
4	0 - 1.20	1.20 - 2.00	2.00 - 2.60		
5	0 - 1.15	1.15 - 1.55	1.55 - 1.80	1.80 - 2.80	
6	0 - 1.25	1.25 - 2.05	2.05 - 2.85		
7	0 - 1.00	1.00 - 1.80	1.80 - 2.60		
8	0 - 1.05	1.05 - 2.65			
9	0 - 0.95	0.95 - 1.30	1.30 - 2.60		
10	0 - 1.10	1.10 - 2.10	2.10 - *		
11	0 - 1.00	1.00 - 1.50	1.50 - 2.05	2.05 - 2.40	
12	0 - 1.25	1.25 - 1.80	1.80 - 2.40		
13	0 - 0.90	0.90 - 1.60	1.60 - 2.50		
14	0 - 0.90	0.90 - 1.60	1.60 - *		
15	0 - 0.50	0.50 - 0.70	0.70 - 0.95	0.95 - 1.50	1.50 - 2.25
16	0 - 0.90	0.90 - 1.60	1.60 - *		
17	0 - 1.44	1.44 - 3.00			
18	0 - 1.30	1.30 - 1.60	1.60 - 2.10		
19	0 - 1.31	1.31 - 2.84			
20	0 - 1.00	1.00 - 2.00	2.00 - 2.75		
21	0 - 3.00				
22	0 - 2.60				
23	0 - 2.90				
24	0 - 0.52	0.52 - 1.03	1.03 - 1.28	1.28 - 2.03	
25	0 - 0.81	0.81 - 1.62	1.62 - 2.17		

* final depth of probe not recorded

CORE#	1ST LAYER, FT. BSL	2ND LAYER, FT. BSL	3RD LAYER, FT. BSL	4TH LAYER, FT. BSL	5TH LAYER, FT. BSL
26	0 - 0.56	0.56 - 1.10	1.10 - 1.49	1.49 - 2.11	
27	0 - 0.60	0.60 - 0.92	0.92 - 2.72		
28	0 - 1.17	1.17 - 1.61	1.61 - 2.03		
29	0 - 1.17	1.17 - 2.24			
30	0 - 0.70	0.70 - 0.85	0.85 - 2.10	2.10 - *	
31	0 - 0.80	0.80 - 1.40	1.40 - 2.25		
32	0 - 0.80	0.80 - 2.10			
33	0 - 1.30	1.30 - 2.20	2.20 - *		
34	0 - 1.30	1.30 - 2.00	2.00 - *		
35	0 - 1.20	1.20 - 2.00	2.00 - *		
36	0 - 1.20	1.20 - 2.00	2.00 - *		
37	0 - 1.20	1.20 - 2.00	2.00 - *		
38	0 - 1.40	1.40 - 2.00	2.00 - *		
39	0 - 1.00	1.00 - 1.80	1.80 - *		
40	0 - 1.30	1.30 - 2.00	2.00 - *		
41	0 - 1.30	1.30 - 2.20	2.20 - *		
42	0 - 1.20	1.20 - 2.20	2.20 - *		
43	0 - 1.25	1.25 - 2.20	2.20 - *		
44	0 - 1.20	1.20 - 2.25	2.25 - *		
45	0 - 1.50	1.50 - 2.50	2.50 - *		
46	0 - 1.10	1.10 - 2.15	2.15 - *		
47	0 - 1.50	1.50 - 2.30	2.30 - *		
48	0 - 1.50	1.50 - *			
49	0 - 0.85	0.85 - 1.15	1.15 - *		
50	0 - 1.10	1.10 - 2.20	2.20 - *		

Block 4, Lot 7, Anomaly A58

Excavators used a single transect of 19 probes to identify the location of Anomaly A58 (see Chapter 2 for location map and analysis). The probes were 1 in. in diameter and placed 1 ft. apart along the line B4L7 SW E65 (65 feet east of the southwest corner of Block 4 Lot 7). The northernmost of the probes (1) is located at B4L7 SW E30 N65; the southernmost probe (19) is at B4L7 SW E30 N47. Michael Hargrave identified this anomaly in 2008 using electrical resistivity.

Probes 1 and 2, as well as 14, 16, and 17, have unusual characteristics that might indicate the precise location of the anomaly.

CORE#	1ST LAYER, FT. BSL		2ND LAYER, FT. BSL		
1	0	-	2.11	2.11	- 2.80
2	0	-	1.08	1.08	- 2.97
3	0	-	0.58	0.58	- 2.58
4	0	-	0.65	0.65	- 2.65
5	0	-	0.71	0.71	- 2.62
6	0	-	0.65	0.65	- 2.79
7	0	-	0.48	0.48	- 2.92
8	0	-	0.32	0.32	- 2.94
9	0	-	0.53	0.53	- 2.18
10	0	-	1.00	1.00	- 2.56
11	0	-	0.51	0.51	- 2.55
12	0	-	0.44	0.44	- 3.00
13	0	-	0.44	0.44	- 3.00
14	0	-	0.37	0.37	- 3.00
15	0	-	0.27	0.27	- 3.00
16	0	-	0.67	0.67	- 2.36
17	0	-	1.15	1.15	- 2.25
18	0	-	0.80	0.80	- 2.80
19	0	-	0.27	0.27	- 2.75

Block 13, Lot 3, Anomaly A21

Excavators used four transects of ten probes each to explore the area of Anomaly A58 (see Chapter 2 for location map and analysis). Michael Hargrave identified this anomaly in 2004 using electrical resistivity. The probes were 1 in. in diameter and placed 1 ft. apart. The transects are numbered south to north, with the probes numbered east to west. Transect T-1 is along the line B13L3 SW N19 (19 feet north of the southwest corner of Block 13 Lot 3). Transect T-2 is at B13L3 SW N20; T-3 is at B13L3 SW N26; T-4 is at B13L3 SW N27. Each transect of ten probes starts at B13L3 SW E47 and runs to B13L3 SW E56.

The plowzone appears to be unusually shallow at Probe T-3 1, however the notes for this probe do not indicate a specific depth bsl for the transition to subsoil, and the depth of 1.0 ft. has been assumed from the configuration of the soil color notations. Of greater interest are the probes T-1 6 and T-1 7. The former was obstructed by an impenetrable substance or object at 0.9 ft. bsl. Probe T-1 7, immediately adjacent, the transition to sterile subsoil is unusually deep below the surface.

TRANSECT	CORE#		1ST LAYER, FT. BSL		2ND LAYER, FT. BSL		3RD LAYER, FT. BSL		
T-1	1	0	1.75	-	1.75	-	2.80		
T-1	2	0	1.60	-	1.60	-	2.80		
T-1	3	0	1.50	-	1.50	-	2.20	2.20	- 2.80
T-1	4	0	1.75	-	1.75	-	2.00	2.00	- 2.80
T-1	5	0	1.40	-	1.40	-	2.00	2.00	- 2.70
T-1	6	0	0.90	-					
T-1	7	0	2.00	-	2.00	-	3.00		
T-1	8	0	1.40	-	1.40	-	2.00		
T-1	9	0	1.70	-	1.70	-	2.00	2.00	- 2.70
T-1	10	0	1.50	-	1.50	-	1.90	1.90	- 2.50
T-2	1	0	1.80	-	1.80	-	2.05	2.05	- 2.80
T-2	2	0	1.60	-	1.60	-	2.00	2.00	- 2.80
T-2	3	0	1.90	-	1.90	-	2.80		
T-2	4	0	1.70	-	1.70	-	2.00	2.00	- 2.80
T-2	5	0	1.80	-	1.80	-	2.10	2.10	- 2.80
T-2	6	0	1.75	-	1.75	-	2.10	2.10	- 2.80
T-2	7	0	1.50	-	1.50	-	2.00	2.00	- 2.80
T-2	8	0	1.30	-	1.30	-	2.00	2.00	- 3.00
T-2	9	0	1.50	-	1.50	-	2.00	2.00	- 2.80
T-2	10	0	1.40	-	1.40	-	1.90	1.90	- 2.80

TRANSECT	CORE#	1ST LAYER, FT. BSL	2ND LAYER, FT. BSL	3RD LAYER, FT. BSL
T-3	1	0 - 1.00	1.00 - 2.00	2.00 - 2.80
T-3	2	0 - 1.60	1.60 - 2.80	
T-3	3	0 - 1.80	1.80 - 2.80	
T-3	4	0 - 1.60	1.60 - 2.80	
T-3	5	0 - 1.60	1.60 - 2.80	
T-3	6	0 - 1.60	1.60 - 2.80	
T-3	7	0 - 1.50	1.50 - 2.00	2.00 - 2.80
T-3	8	0 - 1.40	1.40 - 2.00	2.00 - 2.80
T-3	9	0 - 1.80	1.80 - 2.10	2.10 - 2.80
T-3	10	0 - 1.70	1.70 - 2.00	2.00 - 2.80
T-4	1	0 - 1.70	1.70 - 2.80	
T-4	2	0 - 1.80	1.80 - 2.80	
T-4	3	0 - 1.60	1.60 - 2.80	
T-4	4	0 - 1.60	1.60 - 2.80	
T-4	5	0 - 1.60	1.60 - 2.80	
T-4	6	0 - 1.60	1.60 - 2.80	
T-4	7	0 - 1.60	1.60 - 2.80	
T-4	8	0 - 1.60	1.60 - 2.80	
T-4	9	0 - 1.60	1.60 - 2.70	

Appendix: Unit Summaries

Block 12 Unit Summaries

Anna Agbe-Davies, Meaghan Alston, Blair Starnes, Tyquin Washington, and Margaret Wolf.

Block 12 Lot 4 EU 1

Excavations commenced on Block 12 Lot 4 following several lines of evidence. Shovel tests excavated in 2005 indicated a concentration of artifacts on that block, from Lots 1-4, sufficient to warrant further investigation (Fennell 2006). The shovel tests were 12 inches in diameter and excavated in 0.5 foot arbitrary increments. Excavators placed the tests at 20 foot intervals across Block 12 Lots 1-6. Shovel Test Pits (STPs) 46 and 48 each had more than two architectural artifacts and more than two fragments of nineteenth-century ceramics, distinguishing them from STPs to the west and north. This portion of the lot was also attractive given that it was an opportunity to explore potential sites along Ann Street (to the west), whereas previous seasons had seen extensive exploration along Main Street (to the north). Excavation Unit (EU) 1 was placed midway between STPs 46 and 48, 25 feet north and 15 feet east of the southwest corner of Block 12 Lot 4.

“At long last we opened up our unit on Friday. The first step was to pull back the sod then going down in increments of .5 decimal feet. The shovel test pit yielded very similar artifacts to what we are finding in our unit.”

- Meaghan Alston [NSF-REU student]

Excavators began Level A1 as an arbitrary level of 0.5 ft. The ground surface in EU slopes slightly from west to east. Level A1's average opening elevation is 761.048 ft. above mean sea level (amsl). The average closing elevation is 760.701 ft. amsl. The level consists of sediment that is Munsell code 10YR 3/2 (very dark grayish brown) with a sandy loam texture. Historic artifacts uncovered in the level included: glass fragments; ceramic fragments (whiteware and black-glazed redware); slag; brick fragments; metal fragments; slag; and mortar. There was also a fragment of Styrofoam (terminus post quem: 1962), indicating how recently the area has been plowed or otherwise disturbed.

“I found a piece of brick in our journey to the second level. It's my first artifact that I've found in my whole life. This will be a hoot when I tell my professor”

-Tyquin Washington [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation is 760.701 ft. amsl. The average closing elevation is 760.297 ft. amsl. The level's sediments are a mixture of Munsell colors 7.5YR 3/2 and 10YR 3/2 (dark brown and dark grayish brown) with a loamy sand texture. Excavators recovered a larger number of historic artifacts in this layer including: brick; mortar; slag, metal fragments; ceramic fragments; and glass fragments. The artifacts also included several possible prehistoric (chipped stone) artifacts.

“Today we found more of the soil color change that Tyquin and Blair were seeing yesterday... We were moving slow because the soil was moist and we kept thinking we were closer to the change in soil color.”

- Margaret Wolf [NSF-REU student]

Level A3 was an arbitrary layer of 0.5 ft. that included both plowzone and the transition to subsoil in an effort to identify the characteristics of sterile soil in this portion of the townsite. The average opening elevation of Level A3 is 760.297, with an average closing elevation of 759.841 ft. amsl. The plowzone portion remained Munsell color 10YR3/2 (dark grayish brown), while the subsoil was 10YR 4/6 (dark yellowish brown). The plowzone may continue to be characterized as loam mixed with sand, while the subsoil is more of a clay loam. Historic artifacts were identified only in the upper reaches of A3 (i.e.: the plowzone): glass; mortar; nail fragments; brick fragments; slate; and coal. The dividing line between plowzone and subsoil appears in the north sidewall between 1.05 and 1.3 ft. below the EU 1 datum (northwest corner). The transition to subsoil was also marked during excavation by the decreasing amount of chert and an increase in iron and manganese mottling.

NEW PHILADELPHIA, PIKE COUNTY, ILLINOIS

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BLOCK 12, LOT 4

EXCAVATION UNIT 1

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	10 YR 3/2	SANDY LOAM	761.048	760.701	Extensive root mat, but with artifacts just below the surface. A dark grayish brown sandy loam.
I	A2	PLOWZONE	10 YR 3/2 and 7.5 YR 3/2	LOAMY SAND	760.701	760.297	Same as A1 above, but with fewer roots and significantly more artifacts, especially architectural items.

Block 12 Lot 3 EU 1

Excavation of Block 12 Lot 3 was designed to further explore artifact concentrations identified during a shovel test pit (STP) survey conducted in 2005 (Fennell 2006). Excavators recovered significant numbers of architectural artifacts and nineteenth century ceramics in STPs 4, 15, 16, and 17 in the northern portion of the lot. These STPs also reported subsoil appearing at a greater depth than the surrounding pits, perhaps an indicator of features below the plowzone. The archaeologists decided to place the excavation units in an area bounded by the STPs of interest. The exact location was determined by the use of dowsing rods, with the idea that this would be an opportunity to ground truth this controversial technique. EU 1 is located 20 ft. south and 15 ft. east of the northwest corner of Block 12 Lot 3.

“[The] rods supposedly react to different magnetic fields in the earth. Holding loosely parallel to each other, you watch to see if they cross...I wonder how it works in a scientific sense.”

- Tyquin Washington [NSF-REU student]

Excavation of the first level, A1, began as an arbitrary level of 0.5 ft. Level A1's average opening elevation is 756.687 ft. above mean sea level (amsl). The average closing elevation is 756.362. The level is composed of 10YR 3/2 (dark grayish brown) loamy sediments that were extraordinarily sticky due to wet conditions (see below). Historic artifacts recovered include: ceramic fragments; charcoal; slag; brick fragments; mortar; metal fragments; and nails. Excavators also identified several possible prehistoric (flaked stone) artifacts.

“The soil was so damp that it was easier to go through the dirt with water than just trying to dry screen. We did that, got soaked, and were able to level out all of Unit 1 and shoot the points.”

- Margaret Wolf [NSF-REU student]

The unit is down slope from B12L4 EU 1, in an area that is much flatter and retains a great deal of water, both runoff from the hill to the west and water draining through the soil. Excavators water screened (1/4 inch mesh) much of the sediment, as it was too wet for ordinary screening. Rain fell so frequently that the unit was impossible to excavate completely. Level A2 commenced at 756.362 ft. amsl, but was quickly abandoned.

NEW PHILADELPHIA, PIKE COUNTY, ILLINOIS
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BLOCK 12, LOT 3
 EXCAVATION UNIT 1

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	10YR 3/2	SANDY LOAM	756.687	756.362	The sediment exhibits gray mottling throughout and is clearly rich in organics--very strong smelling following a rain. Excavators noticed a concentration of artifacts along the southern edge of the unit. Overall, artifacts dominated by architectural fragments (brick, mortar)
I	A2	PLOWZONE	10YR 3/2	LOAMY CLAY	756.362	N/A	This level was begun, but not completed, due to the continual soaking by frequent rains. The artifacts recovered are dominated by brick fragments and glass.

Block 12 Lot 3 EU 2

Excavation of Block 12 Lot 3 was intended to further explore artifact concentrations identified during a 2005 shovel test pit (STP) survey (Fennell 2006). Notable numbers of architectural artifacts and nineteenth century ceramics came from STPs 4, 15, 16, and 17 in the northern portion of Lot 3. These STPs also tended to report subsoil appearing at a greater depth than the surrounding pits, which might mean that features existed below the plowzone in those locations. Excavators wanted to place EU 2 in an area bounded by the STPs of interest. The exact location was selected using dowsing rods, with the idea of ground truthing this controversial technique. EU 2 is located immediately north and west of EU 1: 15 ft. south and 10 ft. east of the northwest corner of Block 12 Lot 3.

Level A1 was opened as an arbitrary level of 0.5 ft in the sod and plowzone layer. Level A1's average opening elevation is 756.938 ft. above mean sea level (amsl) and average closing elevation is 756.695 ft. amsl. The level is composed of sediment that is Munsell code 10YR 3/2 (dark grayish brown) with a sandy loam texture that was nonetheless very sticky due to frequent soaking. Historic artifacts were uncovered in the level including: brick fragments; ceramic fragments; flat glass; container glass; nails; mortar; and slag).

“There are also more large pieces of brick and mortar in the unit and we continue scraping soil along the way. Maybe we will find a feature. Here’s hopin’!”

- Tyquin Washington [NSF-REU student]

Excavators began A2 as an arbitrary level of 0.5 feet, but stopped when the sediments became too waterlogged to excavate without damage to the unit. The sediment was again a 10YR 3/2 (dark grayish brown) sandy loam. Artifacts included: ceramic fragments; glass fragments; nails and brick fragments.

“Our unit is still flooded so we are helping Teams Y and Z with screening and digging again...Afternoon and our unit is still flooded.”

- Margaret Wolf [NSF-REU student]

NEW PHILADELPHIA, PIKE COUNTY, ILLINOIS
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BLOCK 12, LOT 3
 EXCAVATION UNIT 2

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	10YR 3/2	SANDY LOAM	756.938	756.695	This level was a sandy loam that was unusually sticky due to frequent soaking. Architectural fragments dominated the artifact assemblage.
I	A2	PLOWZONE	10YR 3/2	LOAMY CLAY	756.695	N/A	Archaeologist only just began excavation of this level before it had to be abandoned. Among the few artifacts recovered were fragments of whiteware and yellowware, and several brick and nail fragments.

Block 13 Lot 3 Unit Summaries

Keishaia Griffith, Sedrie Hart, Terrance Martin, and John Schultz

Block 13 Lot 3 EU 11

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.424 ft. above mean sea level (amsl). The average closing elevation was 770.032 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: glass fragments (n=199), ceramic fragments (n=91), slag, brick fragments, metal fragments, slate, bone, charcoal, nails (n=66), and mortar.

"I screened the first layer of soil and found lots of milk glass"

-Keishaia Griffith [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 770.032 ft. amsl. The average closing elevation was 769.525 ft. amsl. A2s soils were a mixture of Munsell colors 7.5YR 3/2 (dark brown) and mottled with 7.5 YR 4/4 (brown) with a clay loam texture. Excavators recovered a larger number of historic artifacts in this layer including: brick (n=102), mortar, slag, slate, metal fragments, metal lid, bolts (n=3), ceramic fragments (n=67), glass fragments (n=179), bone, pipe stem, a 1905 Penny, and a metal Civil War Union uniform button. The artifacts also included several possible prehistoric (chipped stone) artifacts.

"The team discovered a 1905 penny"

-Terrance Martin [Crew Chief]

Level A3 was terminated at the base of the plow zone. The average opening elevation of Level A3 was 769.525, with an average closing elevation of 769.332 ft. amsl. The plowzone portion remained Munsell color 7.5 YR3/2 (dark brown) mottled with 7.5 YR 4/4, while the sub-plow zone in the floor of Level A3 was 7.5 YR 3/2 (dark brown) mottled with 7.5 YR 4/6 (strong brown). The plowzone continued to be characterized as clay loam, while the sub-plow zone was more of a silty clay loam. Historic artifacts identified were glass (n=40), mortar, nails (n=33), brick fragments, ceramics (n=12), charcoal, bone, plastic, and metal fragments including a railroad spike.

“Many artifacts, mostly nails and brick”

-John Schultz [NSF-REU student]

Excavators began Level B1 as an arbitrary level of 0.5 ft. Level B1’s average opening elevation was 769.332 ft. above mean sea level (amsl). The average closing elevation was 768.954 ft. amsl. The soil in Level B1 consist of 7.5 YR 3/3 (dark brown) in the northern section of the unit outside of Anomaly 25, and clay loam texture and 7.5 YR 4/4 (brown) inside of Anomaly 25. Artifacts discovered in the level included: glass fragments (n=24), ceramic fragments (n=11), slag, mortar, brick fragments, bone, metal fragments, charcoal, and nails (n=24).

“Not many artifacts but we think we found the anomaly”

-Keishaia Griffith [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 11

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5 YR 3/2	CLAY/ LOAM	770.424	770.032	Plow zone with large amounts of glass
I	A2	PLOWZONE	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	770.032	769.525	Civil War uniform button and 1905 penny were discovered with increased amounts of brick
I/B	A3	PLOWZONE/ SUBSOIL	7.5 YR 3/2 mottled w/ 7.5 YR 4/6	CLAY/ LOAM	769.525	769.332	Soil mottling begins with decreased numbers of artifacts
II	B1	SUBSOIL	7.5 YR 3/3 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.332	768.954	Continued decreased numbers of artifacts as the top of Anomaly 25 is discovered

Block 13 Lot 3 EU 12

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.326 ft. above mean sea level (amsl). The average closing elevation was 769.885 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with silty clay loam texture. Historic artifacts uncovered in the level included: glass fragments (n=153), ceramic fragments (n=56), slag, brick fragments, metal fragments, slate, bone, charcoal, nails (n=91), and mortar.

"We found lots of glass and nails in A1"

- Keishaia Griffith [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.885 ft. amsl. The average closing elevation was 769.414 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown). Excavators recovered a larger number of historic artifacts in this layer including: brick (n=87), mortar, slag, slate, charcoal, metal fragments, leather fragments, ceramic fragments (n=67), nails (n=36), glass fragments (n=180), and bone.

"Uncovered hints of 4/4 clay loam similar to EU11"

- John Schultz [NSF-REU student]

Excavators halted Level A3 at the base of the plow zone. The average opening elevation of Level A3 was 769.414, with an average closing elevation of 769.114 ft. amsl. The plowzone portion remained Munsell color 7.5 YR 2.5/3 (very dark brown) clay loam mottled with 7.5 YR 5/6 (strong brown). Historic artifacts identified were glass (n=55), mortar, nails (n=40), brick fragments, ceramics (n=18), charcoal, bone, plastic, slag, and metal fragments.

"We don't know what we are seeing, hopefully it is something and not nothing"

- Keishaia Griffith [NSF-REU student]

Level B1 was excavated to the surface of Anomaly 25. Level B1's average opening elevation was 769.114 ft. above mean sea level (amsl). The average closing elevation was 768.988 ft. amsl. The soil in Level B1 consisted of 7.5 YR 3/2 (dark brown) loamy clay mottled with 7.5 YR 4/4 (brown) along the north and west edges of the unit. Artifacts discovered in the level included: glass fragments (n=99), ceramic fragments (n=11), slag, mortar, brick fragments, bone, metal fragments, charcoal, nails (n=86), and limestone fragments.

"Informed guesses of the anomaly is a cistern or refuse pit"

- John Schultz [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 12

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. Amsl</u>	<u>closing elev. Amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5 YR 3/2	SITLY CLAY LOAM	770.326	769.885	Silty Loam plowzone with a heavy concentration of glass and nails
I	A2	PLOWZONE	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.885	769.414	Brick and glass dominate A2
I/B	A3	PLOWZONE/ SUBSOIL	7.5 YR 2.5/3 mottled w/ 7.5 YR 5/6	CLAY/ LOAM	769.414	769.114	Soil turned darker and while artifacts diminish
II	B1	SUBSOIL	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	LOAMY/ CLAY	769.114	768.988	Soil became mottled and the historic artifact density increased

Block 13 Lot 3 EU 13

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.334 ft. above mean sea level (amsl). The average closing elevation was 769.930 ft. amsl. The soil in Level A1 consist of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: glass fragments (n=127), ceramic fragments (n=49), slag, brick fragments, metal fragments, slate, bone, charcoal, nails (n=55), ammunition casing, and mortar.

"We staked out EU 13 immediately East and adjacent to EU 11 and 12"

- Terrance Martin [Crew Chief]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.930 ft. amsl. The average closing elevation was 769.410 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 YR 4/4 (brown). Excavators recovered numerous historic artifacts in this layer including: brick (n=65), mortar, slag, slate, charcoal, metal fragments, a water valve, hinge fragments, plastic fragments, ceramic fragments (n=64), pipe bowls (n=2), nails (n=155), glass fragments (n=252), and bone.

"Rain turned the site into mud, lots of hard work"

- Keishaia Griffith [NSF-REU student]

Excavators halted Level B1 at the top of the soil change associated with Anomaly 25. The average opening elevation of Level B1 was 769.410, with an average closing elevation of 769.111 ft. amsl. The plowzone portion remained Munsell color 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were glass (n=67), mortar, nails (n=59), brick fragments, ceramics (n=31), charcoal, bone, slag, limestone and metal fragments.

"The circular outline is lighter soil about 8-inches from inside to out"

- John Schultz [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 13

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5 YR 3/2	CLAY/ LOAM	770.334	769.930	Dark brown soil and heavy artifact density
I	A2	PLOWZONE	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.930	769.410	Soil mottling begins in A2 and historic artifacts increase from A1
II	B1	PLOWZONE/ SUBSOIL	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.410	769.111	Soil remained mottled, artifacts decrease from A2 but charcoal increases.

Block 13 Lot 3 EU 14

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.308 ft. above mean sea level (amsl). The average closing elevation was 769.936 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: glass fragments (n=54), ceramic fragments (n=28), slag, brick fragments, metal fragments, slate, bone, charcoal, nails (n=28), plastic, and mortar.

"EU 14 is a 2.5x5 foot unit north of unit EU 13"

- Keishaia Griffith [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.936 ft. amsl. The average closing elevation was 769.460 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 YR 4/4 (brown). Excavators recovered numerous historic artifacts in this layer including: brick (n=33), mortar, slag, slate, charcoal, metal fragments, metal hinge fragments, ammunition casing, plastic fragments, ceramic fragments (n=25), nails (n=68), and glass fragments (n=98).

"NRCS training workshop helped screen the soils today"

- John Schultz [NSF-REU student]

Archaeologists excavated Level B1 as an arbitrary layer of 0.5 ft. Level B1's average opening elevation was 769.460 ft. amsl. The average closing elevation was 769.057 ft. amsl. B1's soils are a mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown). Excavators recovered a larger number of historic artifacts in this layer including: brick (n=87), mortar, slag, charcoal, metal fragments, ceramic fragments (n=8), nails (n=18), and glass fragments (n=33).

"We took EU 14 to the circular feature"

- Terrance Martin [Crew Chief]

Level B2 was excavated to expose the west profile of Feature 40. The average opening elevation of Level B2 was 769.057, with an average closing elevation of 768.124 ft. amsl. The Munsell color was 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were glass (n=1), nails (n=1), brick fragments, ceramics (n=1).

"B2 was dug to show Feature 40's profile"

- Keishaia Griffith [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 14

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. Amsl</u>	<u>closing elev. Amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5 YR 3/2	CLAY/ LOAM	770.308	769.936	Clay loam plowzone with fewer artifacts than previous units
I	A2	PLOWZONE	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.936	769.460	Plowzone became mottled. Historic artifacts are in the unit to include ammunition casings.
II	B1	PLOWZONE/ SUBSOIL	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.460	769.057	Similar to other units charcoal became visible.
II	B2	SUBSOIL	7.5 YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.057	768.124	Few artifacts are discovered, soil mottling indicates the top of the feature.

Block 13 Lot 3 EU 15

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.241 ft. above mean sea level (amsl). The average closing elevation was 769.831 ft. amsl. The soil in Level A1 consist of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: mortar, brick, metal fragments, nails (n=35), metal hardware, slate, glass, (n=58), slag, ceramics (n=28), and charcoal.

“Hopefully EU 15 will exposed the southeastern extent of the feature”

- Terrance Martin [Crew Chief]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.831 ft. amsl. The average closing elevation was 769.294 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture. Excavators recovered the following historic artifacts in this layer: brick, mortar, slag, slate, charcoal, metal fragments, metal hinge fragments, ceramic insulator, plastic, bone, ceramic fragments (n=32), nails (n=65), boot eyelet, and glass fragments (n=76).

“Rain continued but we were able to finish A2 today”

- John Schultz [NSF-REU student]

Archaeologists excavated Level B1 to the top of Anomaly 25. Level B1's average opening elevation was 769.294 ft. amsl. The average closing elevation was 769.144 ft. amsl. B1's soils were a mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown). Historic artifacts in this layer included: brick (n=30), mortar, slag, charcoal, metal fragments, hardware nut, ceramic fragments (n=11), pencil lead, limestone, nails (n=40), and glass fragments (n=41).

“The border color is nearly orange”

- Keishaia Griffith [NSF-REU student]

Level B2 was excavated as an arbitrary layer of 0.5 ft. to expose the west profile of Feature 40. The average opening elevation of Level B2 was 769.144, with an average closing elevation of 768.249 ft. amsl. The Munsell color was 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were a bolt (n=1) a partially articulated intrusive skeleton from an Eastern Mole.

“The profile of Feature 40 was exposed in B2”

- Keishaia Griffith [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 15

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. Amsl</u>	<u>closing elev. Amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5YR 3/2	CLAY/ LOAM	770.241	769.831	Clay loam plowzone contains glass, ceramics and nails.
I	A2	PLOWZONE	7.5YR 3/2	CLAY/ LOAM	769.831	769.294	Metal hardware and a ceramic insulator were discovered in this layer.
II	B1	PLOWZONE/ SUBSOIL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.294	769.144	Mottled soil contained green flecks of limestone, brick, and glass.
II	B2	SUBSOIL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.144	768.249	A rodent burrow is discovered near the bottom of the unit.

Block 13 Lot 3 EU 16

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.168 ft. above mean sea level (amsl). The average closing elevation was 769.834 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: bone, mortar, brick (n=32), slag, milk glass button, metal fragments, nails (n=31), glass (n=79), ceramics (n=21), and charcoal.

"We staked out EU 16 as a 2.5x5ft unit west of EU 15"

- Keishaia Griffith [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.834 ft. amsl. The average closing elevation was 769.323 ft. amsl. A2's soil was of Munsell color 7.5YR 3/2 (dark brown) with a clay loam texture. Excavators recovered the following historic artifacts in this layer: hardware bolts, hardware rivet, nails (n=62), brick, (n=28), mortar, glass (n=82), slag, .22 rifle casing, metal lid, ceramics (n=30), bone, shell, and charcoal.

"Plenty of nails, brick, and even rifle casing in the unit"

- Keishaia Griffith [NSF-REU student]

Archaeologists excavated Level B1 to the top of Anomaly 25. Level B1's average opening elevation was 769.323 ft. amsl. The average closing elevation was 769.144 ft. amsl. B1's soils are a mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown) clay loam. Historic artifacts in this layer included: brick, mortar, slate, nails (n=47), hardware bolt, metal fragments, slag, charcoal, glass (n=45), a glass decanter stopper, agateware doorknob, bone, ceramics (n=22).

"The soils in EU 16 seem to be doing their own thing"

- Keishaia Griffith [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 16

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5YR 3/2	CLAY/ LOAM	770.168	769.834	Clay loan plowzone contained brick, slag, and mortar.
I	A2	PLOWZONE	7.5YR 3/2	CLAY/ LOAM	769.834	769.323	Charcoal, bone, and shell are situated in the plowzone.
II	B1	PLOWZONE/ SUBSOIL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.323	769.144	An agateware doorknob and glass decanter were discovered among the historic artifacts

Block 13 Lot 3 EU 17

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.141 ft. above mean sea level (amsl). The average closing elevation was 769.709 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: ceramics (n=16), glass (n=48), a milk glass button, hardware buckle, hardware nut and bolt, metal fragments, nails (n=27), slag, charcoal, brick and bone.

"We opened another unit in hopes to discover the extent of the feature"

- Terrance Martin [Crew Chief]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.709 ft. amsl. The average closing elevation was 769.146 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 YR 4/4 (brown) clay loam. Excavators recovered the following historic artifacts in this layer: nails (n=47), metal fragments, slag, bone, glass (n=71), ceramics (n=36), brick, charcoal, mortar, plastic, slate, and a button.

"A2 has mottled soil near the floor of the unit"

- John Schultz [NSF-REU student]

Archaeologists excavated Level B1 to the top of Anomaly 25. Level B1's average opening elevation was 769.146 ft. amsl. The average closing elevation was 768.856 ft. amsl. B1's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown) clay loam. Historic artifacts in this layer included: nails (n=15), glass (n=14), brick, ceramic (n=3), bone, mortar, and charcoal.

"B1 in EU 17 and 18 exposed the entire surface of Feature 40"

- Keishaia Griffith [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 17

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>Description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5YR 3/2	CLAY/ LOAM	770.141	769.709	The plowzone contained metal hardware to include a clothing buckle.
I	A2	PLOWZONE	7.5YR 3/2	CLAY/ LOAM	769.709	769.146	Nails and glass dominate the mottled clay loam soil.
II	B1	PLOWZONE/ SUBSOIL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.146	768.856	Mottled soil indicated the top of Feature 40.

Block 13 Lot 3 EU 18

Excavators began Level A1 as an arbitrary level of 0.5 ft. Level A1's average opening elevation was 770.134 ft. above mean sea level (amsl). The average closing elevation was 769.649 ft. amsl. The soil in Level A1 consisted of 7.5 YR 3/2 (dark brown) with clay loam texture. Historic artifacts uncovered in the level included: ceramics (n=29), ceramic insulator, glass (n=74), nails (n=28), hardware washer, metal fragments, brick, slag, mortar, charcoal, plastic, bone, and a tooth.

"We found a ceramic insulator in the plow zone today"

- John Schultz [NSF-REU student]

The team began excavation of Level A2 as an arbitrary layer of 0.5 ft. Level A2's average opening elevation was 769.649 ft. amsl. The average closing elevation was 769.200 ft. amsl. A2's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with 7.5 YR 4/4 (brown) uniform clay loam texture. Excavators recovered the following historic artifacts in this layer including: charcoal, brick, metal fragments, nails (n=60), mortar, glass (n=46), ceramics (n=28).

"A2 was dug pretty quickly, mostly ceramics and nails"

- Keishaia Griffith [NSF-REU student]

Archaeologists excavated Level as an arbitrary layer of 0.5 ft. Level B1's average opening elevation was 769.200 ft. amsl. The average closing elevation was 768.853 ft. amsl. B1's soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 4/4 YR (brown). Historic artifacts in this layer included: thimble, unidentified brass object, rivet, slate, ceramics (n=3), glass (n=12), metal fragments, charcoal, brick, and nails (n=25).

"B1 does not show the feature, we will have to keep scraping"

- Keishaia Griffith [NSF-REU student]

Level B2 was excavated as an arbitrary layer of 0.5 ft. to expose the west profile of Feature 40. The average opening elevation of Level B2 was 769.853, with an average closing elevation of 768.264 ft. amsl. The Munsell color was 7.5 YR 3/2 (dark brown) clay loam. The only artifacts in Level B2 were two small brick fragments.

"The feature can be seen in EU 18 so we terminated the level"

- John Schultz [NSF-REU student]

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BLOCK 13, LOT 3
 EXCAVATION UNIT 18

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. Amsl</u>	<u>closing elev. Amsl</u>	<u>description</u>
I	A1	SOD LAYER/ PLOWZONE	7.5YR 3/2	CLAY/ LOAM	770.134	769.649	The top of the plowzone contained more hardware and another ceramic insulator.
I	A2	PLOWZONE	7.5YR 3/2	CLAY/ LOAM	769.649	769.200	Soil became mottled while the unit continued to produce ceramics, nails, and glass.
II	B1	PLOWZONE/ SUBSOIL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.200	768.853	Historical artifacts such as a thimble and a boot eyelet were situated in the unit.
II	B2	SUBSOIL	7.5YR 3/2	CLAY/ LOAM	768.853	768.264	Only two brick fragments were discovered as the team uncovered the top of Feature 40.

Block 13 Lot 3 Feature 40 EU 13 and EU 15

Archaeologists selected to bisect the eastern section of Feature 40. The eastern bisect is situated within EU 13 and EU 15. The descriptions of the excavation that follow encompass the layers which exist in both EU 13 and EU 15.

Feature 40 Level a1 as an arbitrary level of 0.5 ft. Level a1's average opening elevation was 769.107 ft. above mean sea level (amsl). The average closing elevation was 768.566 ft. amsl. The soil in Level a1 consisted of 7.5 YR 3/2 (dark brown) mottled with 7.5 YR 4/4 (brown) clay loam. Historic artifacts uncovered in the level included: nails (n=104), metal handle, a nut and bolt, metal button, boot eyelet, .22 rifle cartridge casing, 4 chain links, circular metal hardware, metal fragments, pipe bowl, agateware doorknob, brick (n=17), mortar, slag, glass (n=64), ceramics (n=32), bone, and shell.

“Working around the rocks we found a huge chain today”

-Keishaia Griffith [NSF-REU student]

The team began excavation of Level a2 as an arbitrary layer of 0.5 ft. Level a2's average opening elevation was 768.566 ft. amsl. The average closing elevation was 768.220 ft. amsl. a2's fill soils are of mixture of Munsell colors 7.5YR 3/2 (dark brown) with a clay loam texture mottled with 7.5 YR 4/4 (brown). Excavators recovered numerous historic artifacts in this layer including: ceramics (n=17), glass (n=19), brick, metal tool, a large bolt, a rivet, nails (n=42), bone, marine shell. Archaeologists recovered large stones (n=52) and medium stones (n=22) from the level.

“The bottom of this layer shows a distinction between a2 and a possible b1”

-Terrance Martin [Crew Chief]

Excavators began the excavation of Level b1 as an arbitrary layer of 0.5 ft. The average opening elevation of Level b1 was 768.220, with an average closing elevation of 767.594 ft. amsl. The fill material was Munsell color 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were: ceramics (n=14), bricks, limestone (n=19 large, n=25 medium, and 124 small stones), mortar, nails (n=20), metal handle, metal chain link, metal fragments, bottle finish, glass (n=12), saw bone, and slag.

“We hit a bunch of flat rocks, Huge Flat Rocks!”

-Keishaia Griffith [NSF-REU student]

Level b2 as excavated as an arbitrary layer of 0.5 ft. The average opening elevation of Level b2 was 767.594, with an average closing elevation of 767.192 ft. amsl. The fill material was Munsell color 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were: ceramics (n=6), glass (n=3), nails (n=9), slag, large metal hardware (n=2), brick (n=1), bone, wood, and limestone (n=13 large, n=30 medium, and n=68 small stones).

“What started as small stones have turned into large slabs of limestone”

-John Schultz [NSF-REU student]

Archaeologists excavated Level b3 as an arbitrary layer of 1.0 ft. The average opening elevation of Level b3 was 767.192, with an average closing elevation of 766.671 ft. amsl. The fill material was Munsell color 7.5 YR 3/2 (dark brown) clay loam mottled with 7.5 YR 4/4 (brown). Historic artifacts identified were: glass (n=6), ceramics (n=1), pipe bowl, bone, brick (n=7), nails (n=10), and limestone (n=10 large, n=29 medium, and n=92 small stones). Level b3 was terminated at an impenetrable level of stones 4.0ft. below surface level.

“The last day of work, we pushed on, no artifacts just huge rocks”

-Keishaia Griffith [NSF-REU student]

“Most memorable moment has been excavating 4ft below the surface”

-John Schultz [NSF-REU student]

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BLOCK 13, LOT 3
 FEATURE 40

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
III	a1	FEATURE FILL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	769.107	768.566	The first layer of Feature 40 excavations produced large amounts of historic household artifacts.
III	a2	FEATURE FILL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	768.566	768.220	The amount of glass, nails, and ceramics decrease while the number of flat stones increases.
III	b1	FEATURE FILL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	768.220	767.594	Ceramics and glass are present but in lower quantities.
III	b2	FEATURE FILL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	767.594	767.192	Still fewer historic artifacts, mainly large stones.
III	b3	FEATURE FILL	7.5YR 3/2 mottled w/ 7.5 YR 4/4	CLAY/ LOAM	767.192	766.671	The bottom of the unit became moist and only 25 historic artifacts were recovered from the unit.

Block 13 Lot 4

Beatrice Adams, Meghan Alston, George Calfas, Courtney Ng, Tyquin Washington, Margaret Wolf, and Tyrell Yarbrough

Archaeologists began excavation of Block 13 Lot 4 in order to fully expose the house foundation uncovered in 2005. During the 2005 excavations Units 1-6 were opened and the remains of the house foundation archaeologists have associated with Louisa McWorter were discovered. In 2010 archaeologists re-opened excavation units 1-6 along with new excavation units 7-11.

Block 13 Lot 4 EU 1

In 2005 Excavation Unit 1 displayed a portion of the northern wall which is oriented east-west. When the unit was back filled in 2005 garden fabric was laid on top of the feature and in 2010 the excavation team discovered this material and exposed the feature at an average depth of 765.455 ft. above mean sea level (amsl). The unit remained exposed throughout the project with no further excavations in this location.

“The foundations stones are just below the black tarp”

-Tyrell Yarbrough [NSF-REU student]

Block 13 Lot 4 EU 2

Team Y cleared the back fill and opened EU 2 Level A3a at an average depth of 766.424 ft. above mean sea level (amsl). This arbitrary layer of 0.2 ft. was excavated in order to clearly define the feature. A3a was closed at an average elevation of 766.288 ft. amsl. Level A3a is a combined context consisting of two deposits: feature fill was encountered in the northern portion of the unit (a 10YR 3/2 loam), while excavation in the southern portion of the unit removed the builder's trench and subsoil (10YR 4/4 clay). Artifacts discovered in A3a were as follows: nails, bone, charcoal, brick, mortar, glass, ceramics, and slate. No further excavation took place in EU2.

“We leveled the floor and walls quickly”

-Beatrice Adams [NSF-REU student]

Block 13 Lot 4 EU 3

Archaeologists removed the soils from the previous excavations and opened Level A2a at an average depth of 766.758 ft. above mean sea level (amsl). The average closing elevation was 766.233 amsl. The arbitrary 0.3 ft. level brought the adjacent units to similar depths. Soils removed from Level A2a were 10 YR 3/2 loam in the northern portion of the level and 10YR 4/4 clay in the southern section of the unit. The feature fill in Level A2a contained nails, brick, mortar, glass, metal, bone, ceramics, charcoal, slag, pencil lead, a large metal handle, and a button.

“We leveled this floor with the adjacent units”

-Courtney Ng [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 2

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A3a	SUB PLOW	10 YR 3/2 ----- 10YR 4/4	LOAM ----- CLAY	766.424	766.288	Historic-period artifacts were recovered from the northern portion of the unit only. Sterile clay was situated in the south.

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BLOCK 13, LOT 4
 EXCAVATION UNIT 3

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A2a	SUB PLOW	10 YR 3/2 ----- 10YR 4/4	LOAM ----- CLAY	766.758	766.233	Historic-period artifacts were recovered from the northern portion of the unit only. Sterile clay was situated in the south.

Block 13 Lot 4 EU 4

The team reopened EU 4 to the 2005 average elevation of 766.270 ft. above mean sea level (amsl). EU 4 is situated north and outside of the builders trench, and after the exposure of the 2005 surface, no further excavations took place in this unit.

“The floor is a hard yellow clay”
-Tyrell Yarbrough [NSF-REU student]

Block 13 Lot 4 EU 5

Team Y removed the previous excavation fill and opened Level A3a at an elevation of 766.533 ft. above mean sea level (amsl). From this point an arbitrary depth of 0.4 ft. amsl was excavated in order to define Feature 12. Level A3a was labeled as cellar fill and consists of 10YR 3/2 loam soil. EU 5 was closed at an average elevation of 766.147 ft. amsl. The artifacts recovered from Level A3a were nails, glass, ceramics, bone, brick, mortar, metal fragments, and a heave copper wire connector. The floor of Level A3a displayed a heavy concentration of charcoal and numerous artifacts displayed signs of burning.

“We closed EU 5 at the floor of Level A3a”
-George Calfas [Crew Chief]

Block 13 Lot 4 EU 6 Unit Summary

Archaeologists opened Level A2a at an average elevation of 766.506 ft. above mean sea level (amsl) after removing the back-filled soils. Level A2a was excavated to an arbitrary 0.4 ft. in order to level the floor with EU 2 and EU3. Soils removed from Level A2a were 10 YR 3/2 loam in the northern portion of the level and 10YR 4/4 clay in the southern section of the unit, a dividing line consistent with the large east west running stones that indicate Feature 12. EU 6 was terminated at 766.130 ft. amsl. Artifacts recovered from the feature fill in this level were brick, mortar, metal fragments, glass, charcoal, bone, and ceramics. Level A2a also contained a large concentration of chert in the southwestern corner.

“There were a lot of thin stones in the corner of the unit”
-Beatrice Adams [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 5

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A3a	SUB PLOW	10YR 3/2	LOAM	766.533	766.147	Cellar fill with a heavy concentration of charcoal.

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BLOCK 13, LOT 4
 EXCAVATION UNIT 6

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A2a	SUB PLOW	10 YR 3/2 ----- 10YR 4/4	LOAM ----- CLAY	766.506	766.130	Concentration of lithics was situated in the southwestern corner of the unit.

Block 13 Lot 4 EU 7

Team Y placed EU 7 east and adjacent to EU 1, based on the data from the 2004 geophysical survey, in an attempt to locate the northeast corner of the house foundation. The team excavated Level A1 to an arbitrary depth of 0.5ft. with an opening elevation of 768.116 ft. above mean sea level (amsl) and a closing elevation of 767.713 amsl. The soils in this level were 10YR 3/2 loam and the artifacts in the level were as follows: brick; flat glass; vessel glass; milk glass; brown glass; stoneware; whiteware; metal fragments; and one large nail.

“Heavy artifact density in the plow zone”

-Andrew Agha [Graduate Volunteer]

Level A2 was excavated to an arbitrary depth of 0.5ft. The opening elevation was 767.713 amsl with a closing elevation of 767.238 amsl. The soils in A2 continued the plow zone consisting of 10 YR 3/2 loam. The artifacts in Level A2 were vessel glass, flat glass, melted glass, brick, mortar, nails, metal fragments, copper fragments, clothing buckles, bone, stoneware, whiteware, a pocket knife, an agateware doorknob, a furniture tack, and slag.

“I found a piece of whiteware with red and pink transfer print”

-Courtney Ng [NSF-REU student]

The team excavated Level B1 as an arbitrary level of 0.5 ft. Level B1’s average opening elevation was 767.238 ft. amsl and the average closing elevation was 766.725ft. amsl. Level B1 was sub-plow zone composed 10YR 3/2 loam. The artifacts recovered from Level B1 were nails, brick, mortar, whiteware, stoneware, Bennington-Rockingham ware, red paste stoneware, green vessel glass, clear vessel glass, brown glass, flat glass, charcoal, bone, and a table knife.

“Many various types of stoneware in the level”

-George Calfas [Crew Chief]

Level B2 was excavated as an arbitrary level of 0.5 ft. Level B2’s average opening elevation was 766.765 ft. amsl and the average closing elevation was 766.175 ft. amsl. The soil from this layer is 10 YR 4/2 sandy loam. The artifact density decreased in numbers, but the level yielding the following: mortar, nails, flat glass, vessel glass, whiteware, burnt Bennington-Rockingham ware, metal lid fragments, a metal buckle, metal fragments, bone, and a bone button.

“Artifacts are fewer in number for this level”

-Andrew Agha [Graduate Volunteer]

The team excavated Level B3 as an arbitrary level of 0.5 ft. Level B3’s average opening elevation was 766.175 ft. amsl and the average closing elevation was 765.758ft. amsl. During the excavation of this layer the builders trench became visible in the northern wall as a 10YR 5/4 clay. The remainder of the unit was cellar fill 10YR 4/2 sandy loam. Foundation stones from Feature 12 are situated along the northern and east walls of EU7. Foundation stones are partially situated in the eastern wall of EU7, thus the builder’s trench is not visible in this unit. Artifacts

from this level are flat glass, vessel glass, whiteware, metal fragments, and mortar. Excavation of EU7 was terminated with the exposure of Feature 12.

“Near the bottom of the unit we could see the eastern foundation wall”

-Courtney Ng [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 7

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER	10YR 3/2	LOAM	768.116	767.713	Historic-period artifacts including glass, ceramics, metal, bricks, and nails
I	A2	PLOW ZONE	10YR 3/2	LOAM	767.713	767.238	Historic-period artifacts continue in large density, including a door knob.
II	B1	SUB PLOW ZONE	10YR 3/2	LOAM	767.238	766.765	Wide variety of house artifacts present in the layer.
II	B2	FEATURE FILL	10YR 4/2	SANDY LOAM	766.765	766.175	Artifact density decreased in the layer.
II	B3	FEATURE FILL	10YR 4/2	SANDY LOAM	766.175	765.758ft	Builder's trench became visible in the northern section of the unit, few artifacts discovered near the foundation.

Block 13 Lot 4 EU 8

Excavation Unit 8 was inserted due east of EU3, 90 feet north and 15 east of the southwestern corner of Block 13 Lot 4. Team Y excavated Level A1 to an arbitrary depth of 0.5ft. with an opening elevation of 767.752 ft. above mean sea level (amsl) and its closing elevation was 767.043 amsl. The soils in this level were 10YR 3/2 loam and the artifacts in the unit were as follows: brick (n=5); nails (n=23); charcoal (n=13); flat glass (n=5); vessel glass; (n=107); milk glass (n=14); brown glass (n=11); stoneware (n=41); whiteware (n=50); and metal fragments (n=18); and a milk glass button.

“Excavating in sod is difficult; we realized we dug too deep”

-Courtney Ng [NSF-REU student]

Level A2 was excavated to an arbitrary depth of 0.5ft. The opening elevation was 767.043 amsl with a closing elevation of 766.881 amsl. The soils in A2 continued as the plow zone with a color of 10 YR 3/2 loam. The artifacts in Level A2 were vessel glass (n=21), flat glass (n=1), milk glass (n=4), mortar (n=3), nails (n=19), metal fragments (n=9), charcoal (n=34), bone (n=2), stoneware (n=7), whiteware (n=8), and slag (n=2).

“There were long strips of charcoal in the unit”

-Beatrice Adams [NSF-REU student]

Team Y excavated Level B1 as an arbitrary level of 0.5 ft. Level B1’s average opening elevation was 766.881 ft. amsl and the average closing elevation was 766.436 ft. amsl. Level B1 was sub-plow zone, encompassing two deposits: 10 YR 4/4 clay and cellar fill 10 YR 3/2 loam. The dividing line between cellar fill and sub plow zone extends the entire width of the unit and does not capture the southeastern corner of the house foundation. The artifacts recovered from Level B1 were nails (n=53), brick (n=11), mortar (n=34), metal fragments (n=28), whiteware (n=6), stoneware (n=15), vessel glass (n=32), flat glass (n=47), charcoal (n=155), bone (n=108), and a bone button. EU 8 was terminated upon completion of Level B1.

“We finished the level after exposing parts of the foundation”

-Tyrell Yarbrough [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 8

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER	10YR 3/2	LOAM	767.752	767.043	Historic-period artifacts including glass, ceramics, metal, bricks, and nails
I	A2	PLOW ZONE	10YR 3/2	LOAM	767.043	766.881	Historic-period artifact continue and charcoal is now present
II	B1	CELLAR FILL ----- SUBSOIL	10YR 3/2 ----- 10YR 4/4	LOAM ----- CLAY	766.881	766.436	The excavation unit is divided with foundation stones in the north and builders trench in the south.

Block 13 Lot 4 EU 9

Excavation Unit 9 is a 5ft. x15ft. unit which connects the southern portion of EU7 and the eastern section of EU 8. EU1 was located 90 feet north and 30 east of the southwestern corner of Block 13 Lot 4. The discovery of the foundation's northeast corner in EU7 indicated that a unit larger than the usual 5 x 5 should be established in order to uncover the eastern wall. Team Y excavated Level A1 to an arbitrary depth of 0.5ft. with an opening elevation of 768.013 ft. above mean sea level (amsl) and its closing elevation was 767.634 amsl. The soils in this level were 10YR 3/2 loam and the artifacts in the unit were as follows: brick (n=120); mortar (n=20); flat glass (n=91); vessel glass; (n=207); milk glass (n=23); brown glass (n=15); stoneware (n=89); whiteware (n=85); metal fragments (n=60); nails (n=21); doorknobs (n=2); charcoal (n=18); bone (n=5); and slag (n=10).

"There was lots of glass in the plow zone"

-Tyrell Yarbrough [NSF-REU student]

Level A2 was excavated to an arbitrary depth of 0.5ft. The opening elevation was 767.634 ft. amsl with a closing elevation of 767.159 ft. amsl. The soils in A2 continued as plow zone with a color of 10 YR 3/2 loam. The artifacts were extremely dense along the western portion of EU9. The artifacts recovered from Level A2 were vessel glass (n=982), flat glass (n=140), milk glass (n=3), brick (n=346), mortar (n=66), nails (n=116), metal fragments (n=293), clothing buckle (n=1), bone (n=27), stoneware (n=182), whiteware (n=132), a pocket knife, shell (n=3), furniture tack (n=2), milk glass button (2 ½), shotgun shell (n=1), shoe eyelet (n=2), bolts (n=2), flatware handle (n=1), hardware (n=12) and slag (n=12).

"It took us all afternoon to sort and count the ceramics"

-Courtney Ng [NSF-REU student]

The team excavated Level B1 (5ft.x10ft) only in the north-central section of EU9 in order to define the brick rubble pile. Excavating to the lower portions of the brick as a guide, Level B1 was excavated at 0.1ft.with an average opening elevation of 767.159 ft. amsl and an average closing elevation of 767.152ft. amsl. Level B1 was sub-plow zone composed of 10YR 4/2 sandy loam. Level B1 was nearly the same color and composition as Level A2, however it was below the depth of historic plow and for this reason the archaeologists refer to Level B as the "sub-plow zone". The artifacts recovered from Level B1 were nails (n=30), tack (n=1), brick (n=37), mortar (n=10), whiteware (n=74), stoneware (n=36), vessel glass (n=310), brown glass (n=15), flat glass (n=27), charcoal (n=22), burnt wood (n=1), pipe pieces (n=2), bone (n=8), and a metal button.

"While troweling we ran into a soil color change associated the foundation"

-Tyquin Washington [NSF-REU student]

Level B2 was the southern section of EU9 (a 5ft.x5ft.unit) and excavated as an arbitrary level of 0.5 ft. Level B2's average opening elevation was 767.145 ft. amsl and the average closing elevation was 766.455 ft. amsl. The soil from this layer was 10 YR 4/2 sandy loam. The artifacts from Level B2 were brick (n=11), mortar (n=4), nails (n=46), flat glass (n=16), vessel glass (n=18), whiteware (n=6), metal fragments (n=8), bone (n=7), and a penny. The 1862 penny was situated underneath a stone thought to be part of the foundation.

“While excavating we discovered a 1862 penny under a foundation stone”

-Meaghan Alston [NSF-REU student]

The team excavated Level B3 as an arbitrary level of 0.5 ft. Level B3's average opening elevation was 766.455 ft. amsl and the average closing elevation was 765.847 ft. amsl. During the excavation of this layer the builders trench became visible in the southern wall and displayed 10YR 5/4 clay. The remainder of the unit is cellar fill 10YR 3/2 sandy loam. Foundation stones from Feature 12 are situated along the southern and east walls of EU9. Artifacts from this depth were charcoal, whiteware (n=2), flat glass (n=3), vessel glass (n=2), and nails (n=7). Excavation of EU9 was terminated with the exposure of Feature 12.

“Last day in the field and we uncovered the southeast corner of the house”

-Margaret Wolf [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 9

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER	10YR 3/2	LOAM	768.013	767.634	Historic-period artifacts including glass, ceramics, metal, bricks, and nails
I	A2	PLOW ZONE	10YR 3/2	LOAM	767.634	767.159	Heavy density of brick and mortar in the west central section of the unit.
I	B1	SUB PLOW ZONE	10YR 4/2	SANDY LOAM	767.159	767.145	Rubble pile produces large amounts of stoneware and glass.
II	B2	FEATURE FILL	10YR 4/2	SANDY LOAM	767.145	766.455	1862 penny discovered under foundation stones.
II	B3	FEATURE FILL	10YR 3/2 ----- 10YR 5/4	SANDY LOAM ----- CLAY	766.455	765.847	Southeastern corner of the foundation located in this layer.

Block 13 Lot 4 EU 10

Excavation Unit 10 is a 10ft.x10ft.unit surrounded by the excavation units described above and was intended to increase exposure of the house cellar. EU10 is located 95 feet north and 15 east of the southwestern corner of Block 13 Lot 4. The team excavated Level A1 to an arbitrary depth of 0.5ft. with an opening elevation of 767.898 ft. above mean sea level (amsl) and a closing elevation of 767.297 amsl. The soils in this level were 10YR 3/2 loam and the artifacts in the unit were as follows: brick (n=75); flat glass (n=10); vessel glass; (n=216); brown glass (n=39); stoneware (n=137); whiteware (n=197); nails (n=38); charcoal (n=5).

“I am finally getting the hang of flattening floors and squaring walls”

-Tyrell Yarbrough [NSF-REU student]

Level A2 was excavated to an arbitrary depth of 0.5ft. The opening elevation was 767.297 ft. amsl with a closing elevation of 767.026 amsl. The plow zone continued in A2 as a 10 YR 3/2 loam. The artifacts recovered from Level A2 were vessel glass (n=374), flat glass (n=160), brown glass (n=20), brick (n=52), mortar (n=40), charcoal (n=13), nails (n=57), bone (n=5), stoneware (n=133), whiteware (n=91), slag (n=40), button (n=1), and a pocket watch.

“I found a pocket watch.....that was really exciting”

-Beatrice Adams [NSF-REU student]

Team Y began excavating Level A3 as an arbitrary level of 0.5 ft. but encountered a charcoal lens at 0.3ft.and terminated the level. Level A3's average opening elevation was 767.026 ft. amsl and the average closing elevation was 766.898 ft. amsl. Level A3 was cellar fill 10 YR 3/2 loam with 10 YR 2/2 charcoal inclusions. Artifacts from Level A3 were separated into four sections: SW, SE, NW, and NE. Those location in the SW region were nails (n=26), brick (n=6), mortar (n=1), metal fragments (n=55), whiteware (n=12), stoneware (n=15), vessel glass (n=95), flat glass (n=51), brown glass(n=20), slag (n=14), charcoal (n=14), bone (n=2), shotgun casing (n=1), Mason jar lid, and a porcelain doll leg. The artifacts recovered from the SE were flat glass (n=20), vessel glass (n=58), charcoal (n=14), whiteware (n=13), stoneware (n=13), nails (n=25), brick (n=3), bone (n=2), metal fragments (n=21), and a shotgun casing. The NE yielded flat glass (n=15), vessel glass (n=20), brown glass (n=3), milk glass (n=1), mortar (n=10), whiteware (n=10), nails (n=10), brick (n=14), charcoal (n=3), and metal fragments (n=6). Artifacts in the NW were flat glass (n=10), vessel glass (n=60), brown glass (n=5), milk glass button (n=1), shell button (n=1), slag (n=4), whiteware (n=10), stoneware (n=3), brick (n=2), nails (n=11), mortar (n=2), charcoal (n=10), bone (n=4), metal fragments (n=12), and a 1903 penny. A later cleaning of the floor and walls yielded a spoon, Mason milk glass (n=3), Mason jar metal lid (n=1), flat glass (n=4), vessel glass (n=7), brown glass (n=3), clean bottle neck (n=1), stoneware (n15), whiteware (n=16), metal spike (n=1), Hurricane lamp wick and apparatus. EU10 was terminated after the A3 floor cleaning.

“Artifact density was different so we divided the unit into four cardinal directions”

-Tyquin Washington [NSF-REU student]

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BLOCK 13, LOT 4
 EXCAVATION UNIT 10

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER	10YR 3/2	LOAM	767.898	767.297	Historic-period artifacts including glass, ceramics, metal, bricks, and nails
I	A2	PLOW ZONE	10YR 3/2	LOAM	767.297	767.026	Large amounts of glass and stoneware discovered in this layer.
I	A3	FEATURE FILL	10YR 3/2	LOAM	767.026	766.898	Artifact density was in higher proportions in the east and south when compared to north and west.

Block 13 Lot 4 EU 11

Excavation Unit 11 is a 5ft.x15ft.unit which extends west from EU1. Discovery of the northern foundation in EU 1 and 7 required that a larger unit be inserted in order to uncover the remainder of the north wall. EU11 was located 105 feet north and 5 east of the southwestern corner of Block 13 Lot 4. Team Y excavated Level A1 to an arbitrary depth of 0.5ft. with an opening elevation of 767.594 ft. above mean sea level (amsl) and a closing elevation of 767.235 ft.amsl. The soils in this level were 10YR 3/2 loam and the artifacts in the unit were as follows: brick (n=19), flat glass (n=40), vessel glass, (n=95), milk glass (n=1), brown glass (n=18), stoneware (n=17), whiteware (n=50), metal fragments (n=5), nails (n=12), charcoal (n=4), slag (n=1), and a button.

“Digging a 5 x15 was difficult due to the slope of the terrain”

-Courtney Ng [NSF-REU student]

Level A2 was excavated to an arbitrary depth of 0.5ft. The opening elevation was 767.235 ft. amsl with a closing elevation of 766.842 ft. amsl. The soils in A2 continued the plow zone that was a 10 YR 3/2 loam. The artifacts recovered from Level A2 were vessel glass (n=55), flat glass (n=54), brown glass (n=8), milk glass (n=1), brick (n=7), nails (n=46), metal fragments (n=9), bone (n=27), stoneware (n=17), whiteware (n=39), leather (n=3), charcoal (n=6), and a horse shoe fragment.

“There are fewer artifacts in this unit than others”

-Courtney Ng [NSF-REU student]

Team Y began excavating Level A3 as an arbitrary level of 0.5 ft. but encountered a charcoal lens at 0.1ft.and terminated the level. Level A3’s average opening elevation was 767.842 ft. amsl and the average closing elevation was 766.742 ft. amsl. Level A3 was cellar fill 10 YR 3/2 loam with 10 YR 5/8 clay in the floor of the western portion and 10 YR 7/6 clay in the eastern portion. Artifacts recovered from the level were nails (n=35), mortar (n=3), metal fragments (n=15), whiteware (n=9), stoneware (n=5), vessel glass (n=25), flat glass (n=33), brown glass (n=2), slag (n=2), charcoal (n=1), bone (n=1), and a shell.

“We saw a clear color change in the western portion of the level”

-Beatrice Adams [NSF-REU student]

The team excavated Level B1 as an arbitrary level of 0.5 ft. with an average opening elevation of 766.742 ft. amsl and an average closing elevation of 766.427ft. amsl. Level B1 is sub-plow zone composed of 10YR 3/2 sandy loam in the central region, 10YR 4/2 sandy loam mottled with 30% 10 YR 5/4 in the west and 10 YR 4/2 clay mottled 20% with 10 YR 5/4 clay while the eastern portion. The artifacts recovered from Level B1 were nails (n=35), metal fragments (n=59), brick (n=7), mortar (n=4), vessel glass (n=55), brown glass (n=4), flat glass (n=37), charcoal (n=6), burnt wood (n=1), slag (n=4), and bone (n=2).

“Lots of glass and metal but not much else”

-Tyrell Yarbrough [NSF-REU student]

Team Y began Level B2 as an arbitrary 0.2 ft. level in order to determine the extent and depth of the clay in the eastern section. Level B2's average opening elevation was 767.427 ft. amsl and the average closing elevation was 766.219 ft. amsl. The soil color and texture was identical to B1, 10YR 3/2 sandy loam in the central region, 10YR 4/2 sandy loam mottled with 30% 10 YR 5/4 in the west and 10 YR 4/2 clay mottled 20% with 10 YR 5/4 clay while the eastern portion. The artifacts in B2 were vessel glass (n=13), brown glass (n=2), nails (n=13), bone (n=1), stoneware (n=7), and charcoal (n=1).

"Digging was slow searching for soil patterns"

-Beatrice Adams [NSF-REU student]

With the eastern and western clay sections defined, archaeologists continued excavations in EU11 by subdividing the unit into a 5ft.x5ft. section adjacent to the western clay soils. The team started excavation of Level B3 as an arbitrary level of 0.5 ft. but encountered charcoal at 0.1ft. depth. B3's average opening elevation was 767.260 ft. amsl and the average closing elevation was 766.157 ft. amsl. The soil from this layer was 10 YR 3/2 sandy loam. The artifacts from Level B3 were charcoal (n=2), slag (n=1), mortar (n=3), nails (n=5), flat glass (n=4), whiteware (n=7), stoneware (n=4), and metal fragment (n=1).

"With days running out we subdivided the unit to search for the NW corner"

-George Calfas [Crew Chief]

Level B4 was excavated as an arbitrary 0.5ft. level with an average opening elevation of 766.157 ft. amsl and an average closing elevation of 765.636 ft. amsl. B4's soil is cellar fill with a color of 10 YR 3/2 sandy loam. Artifacts from this level were as follows: whiteware (n=20), stoneware (n=5), brick (n=2), mortar (n=3), metal fragments (n=3), charcoal (n=4), slate (n=1), vessel glass (n=2), flat glass (n=26), and bone (n=2).

"We found quite a few bones in the unit"

-Courtney Ng [NSF-REU student]

Archaeologists continued with Level B5 as a 0.5ft. arbitrary level. B5's average opening elevation was 765.636 ft. amsl with an average closing elevation of 765.368 ft. amsl. Level B5 was darker in color than previous level; 10 YR 2/2 sandy loam. The artifact density continued to decrease yielding only the following artifacts: nails (n=10), brick (n=2), charcoal (n=3), mortar (n=6), stoneware (n=6), and flat glass (n=7). Additionally, stones similar to those in EU 1 and 7 were visible in the northern portion of Level B5. The western portion was probed and a course of stones were discovered 0.2 ft. below the bottom of B5.

"We found more small stones but not many other artifacts"

-Tyrell Yarbrough [NSF-REU student]

Level B6 was excavated as an arbitrary 0.3 level in order to expose the foundation stones in the western portion of the unit. The average opening elevation was 765.368 ft. amsl and the average closing elevation was 765.187 ft. amsl. The cellar fill was 10 YR 3/2 sandy loam. Only a few artifacts were found in Level B6: mortar (n=3); vessel glass (n=1); flat glass (n=11); nails (n=8); whiteware (n=3); and a metal fragment. Excavation of EU11 was terminated with the exposure of Feature 12.

“We were able to locate the Northwest corner of the house”

-Courtney Ng [NSF-REU student]

NEW PHILADELPHIA, PIKE COUNTY, ILLINOIS
 11 PK 455
 NSF-REU PROGRAM

BLOCK 13, LOT 4
 EXCAVATION UNIT 11

<u>mega strat</u>	<u>level</u>	<u>stratum</u>	<u>munsell</u>	<u>texture</u>	<u>opening elev. amsl</u>	<u>closing elev. amsl</u>	<u>description</u>
I	A1	SOD LAYER	10YR 3/2	LOAM	767.594	767.235	Historic-period artifacts including glass, ceramics, metal, bricks, and nails
I	A2	PLOW ZONE	10YR 3/2	LOAM	767.235	767.842	The artifact density continues in the plowzone to include the discovery of a mule shoe.
I	A3	PLOW ZONE	10YR 3/2 ----- 10YR 5/8 ----- 10YR 7/6	SANDY LOAM ----- CLAY ----- CLAY	767.842	766.742	Architectural artifacts such as brick mortar and nails were discovered in the layer.
I	B1	FEATURE FILL	10YR 3/2 ----- 10YR 4/2 mottled 10YR 5/4 ----- 10YR 4/2 mottled 10YR 5/4	LOAM ----- CLAY ----- CLAY	766.742	767.427	Metal fragments dominate the layer, soil mottling occurs in the central portion of the layer with clay in the east and west.
II	B2	FEATURE	10YR 3/2	LOAM	767.427	767.260	Soil mottling continues and

		FILL	----- 10YR 4/2 mottled 10YR 5/4 ----- 10YR 4/2 mottled 10YR 5/4	----- CLAY ----- CLAY			few artifacts are in the layer.
II	B3	FEATURE FILL	10YR 3/2	SANDY LOAM	767.260	766.157	Fewer artifacts a located in this layer.
II	B4	FEATURE FILL	10YR 3/2	SANDY LOAM	766.157	765.636	Whiteware and glass were the dominate artifact type in the layer.
II	B5	FEATURE FILL	10YR 2/2	SANDY LOAM	765.636	765.368	Soils associated with cellar fill are darker in color.
II	B6	FEATURE FILL	10YR 3/2	SANDY LOAM	765.368	765.187	Northwestern corner of the foundation located in this layer.