2008 Excavations at Hematite, Lyon County, Kentucky 
Preliminary Report

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Introduction
In May-June, 2008, the Murray State University summer archaeology field school began what we hope will be a long-term investigation of the former town of Hematite, in Trigg and Lyon Counties, Kentucky, now part of the U.S. Forest Service’s Land Between the Lakes. Work began on May 27 and concluded on June 27, with a small crew consisting of the director, two students, and occasional volunteers. The project consisted of preliminary topographic and remote sensing survey of the target area, and concluded with excavation of a 3 x 3 m unit designed to investigate one of several potential features indicated by fluxgate gradiometer and resistivity survey data.

Background
The Hematite community was established with the construction of Center Furnace in 1852. The furnace operated in three episodes, from 1852 through the Civil War, again in 1879-1883, and finally from 1905-1912 (Wallace 1992; Wallace 2002).

Oral informants in the mid-1970s would not have remembered any but the last operation of the furnace. One, Rowena Payne, said that “when the furnace stopped operating, the people all moved away” (interview by MarJean Heisler, 1976, in LBL files). However, Robert Wise (field notes at LBL) cites informant testimony that the company store was torn down in the late 1930s, suggesting that at least some residents remained. The 1936 USGS Mont quadrangle depicts three buildings in close vicinity to the furnace, of which one probably was the store, and a church somewhat to the east, as the only structures remaining at that time.

The size of the community is undetermined. Rowena Payne recalls that “There were a lot of houses. It was the thickest settled place. A lot of them didn’t even have floors in them. They were usually just one room and a side room” (interview by MarJean Heisler, 1976, in LBL files). Much of the housing in the latest episode of settlement must have been quite insubstantial and will be difficult to detect.

The African American population of the first occupation period was likely to have been made up of enslaved workers. Other workers in the western Kentucky iron industry included some of the first Chinese laborers to have arrived in the United States.

The archaeology of slavery as practiced in American historical archaeology has concentrated on plantation sites of British colonial and post-colonial heritage (see, for example,

Some work on northern and urban sites has begun, but relatively little. Warren Perry has been documenting the presence of slaves in New England, generally ignored by northern-oriented histories that place all the ills of racism in the South (Gidwitz 2005). Of course, there are Baker’s (1980) Black Lucy’s Garden and Deetz’s (1977) Parting Ways, but a technical report on the latter has apparently not been published.

Servants’ quarters are generally poorly documented in urban settings. To call Hematite “urban” would stretch the term, but there is even less archaeology of small-town slave occupations than there is of urban slave occupations. Will Hematite’s African-American neighborhood archaeologically resemble a plantation slave village, or an urban pattern, or neither? An archaeology of comparative slavery will require investigations of a variety of urban, rural, and industrial settings (as well as a cross-cultural perspective [Wesler 2008]).

Archaeology of the Chinese in America began somewhat later and remains quite limited compared to African-American archaeology. Many early publications on Overseas Chinese sites were limited in scope (Akin 1992; Farris 1979; Beals 1980; Olsen 1983; Schulz and Lortie 1985), but other studies broaden the range of topics (Braje et al. 2007; Diehl et al. 1998; Evans 1980; Etter 1980; Langenwalter 1980; Greenwood 1980; Schuyler 1980; and papers in Wegars 1993). Enough is known to make a few generalizations. Chinese immigrants to America struggled to retain traditional ways, but were hampered by the lack of East Asian goods in local markets. Patterns of ceramic use, foodways, coins and other tokens, and opium paraphernalia have been useful markers of Chinese occupation.

Historical archaeology in western Kentucky so far has concentrated on sites of middle class to wealthy Euroamerican landowners (Wesler 1984a, 1984b, 1987, 1993, 2004, 2005). One project directed by this author, at Columbus-Belmont State Park, may have investigated a site of poorer and possibly African American inhabitants, but the artifacts are still in analysis and no conclusions have been reached. Thus African American sites are under- or even un-represented in this region. The archaeology of the western Kentucky Chinese has not been attempted.

Research questions

The informational kiosk at Center Furnace presents a map which places “slave quarters” in the lowland area on the north side of the community (Figure 1). Apparently based on oral testimony, the kiosk map is an artist’s rendering, and somewhat difficult to reconcile with the actual landscape. As noted above, it is unlikely that an informant in the 1970s would have a direct memory of slave quarters. The area may have been remembered as the former site of slave quarters, or have been an African American section of town in the final phase of settlement (or in all three phases of settlement). The lowland that appears to correspond to the area depicted on the map is now a prairie/wildlife viewing area in the bottoms of Negrorow Branch (Figure 2), the name of which can be taken as toponymic corroboration for the informant’s memory of where the African American settlement was located. The current gravel road at the west edge of the prairie, leading north over Negrorow Branch, may be identified with the road on the kiosk map, along which the African American houses are depicted. This is the area to be investigated for
this project, with the overall goal of ascertaining whether an African American occupation can be identified.

In the longer term, we hope to expand the investigation to other sections of Hematite, towards a full characterization of the ethnic and socioeconomic diversity within the town.

Specific questions to be addressed at Hematite include:

1. Was Hematite abandoned between episodes of iron production, or did a small community remain?

2. Can we securely identify African American occupations?

3. Do the African American occupations cluster in a single area of the community?

4. How do the African American homes’ architectural and artifact patterns before the Civil War compare to contemporaneous plantation sites such as the Hermitage?

5. Was the material quality of life better for African-Americans after Emancipation than before?

6. Can we identify sites of the Chinese laborers? Were they quartered in the same area(s) as the African Americans, or were they segregated?

7. Can the various socioeconomic and ethnic groups in Hematite be distinguished on an assemblage patterning level (cf. Wesler 2004, 2005), or will other markers such as socioeconomic indexing be more successful?

The current project also is designed to investigate data produced by remote sensing instruments that are new to the MSU archaeology program. We are in the learning process regarding the use of these instruments and what they can tell us, and the African-American section of Hematite is providing a useful field laboratory.

Survey

The project began with the placement of two yellow PVC datum stakes on the east side of the gravel road, at arbitrary locations. The southern datum became the prime datum for the project, while the northern stake established an arbitrary grid-north line parallel to the road (to which, hypothetically, a historic settlement would have been oriented). In the absence of a GPS location, the director designated the prime datum as 0N-0E and 100 meters assumed elevation (AE). The crew recorded all locations and elevation data by reference to the prime datum, using both a farmer’s level and a total station.

The crew surveyed grid points at 20 m intervals, creating a measured area from 40S-100N and 0-50E. The surveyors marked each grid node with a ½” PVC pipe with a cap drilled to receive a flag, and a wire-staffed survey flag. Additional survey with the total station produced a topographic map of the immediate locality (Figure 3).
With the help of Dr. Anthony Ortmann of MSU’s Geosciences Department, the crew employed a fluxgate gradiometer to survey the strip of grid squares along the road, 0-93N0-20E, with a cutout 50-60N0-10E around a large pine tree (Figure 4). Unfortunately one of the surveyors carried or wore metal, overlooked during preparation for the survey, and the data from 40-80N and north of about 88N were compromised.

However, the data from the southern two units, 0-20N0-20E and 20-40N0-20E, provided interesting information, especially as mapped as a contour rather than grayscale image (Figure 5). The data reveal several large magnetic targets (probable metal objects), two possible feature patterns, and two subtle rectangular patterns at the east side of the transect.

The crew then attempted to map the distribution of metal artifacts using standard metal detectors, flagging the “hits,” and recording the flag locations with the total station (Figure 6). In the southern part of the survey area, the number of metal locations was extremely dense. It became clear that the soil was full of slag and hematitic gravel, and the surveyors abandoned this method.

Finally, the crew surveyed 0-20N0-20E using a Martin-Clark soil resistivity meter. The resistivity data (Figure 7) suggested a north-south linear pattern and an anomaly at roughly 2-4N8-10E. The latter seems to coincide with a potential feature as noted in the flux gradiometer data (Figures 4 and 5).

**Excavation**

For the initial test, the director chose to investigate the area of the squarish gradiometer pattern and metal target in the northeastern part of 0-20N0-20E (Figure 5). The crew established a 2 x 2 m square at 14-16N14-16E, expecting to expand westwards and southwards to cross the square-pattern boundary and to expose the metal target.

The crew stripped the sod as Level 0, and shovel-skimmed the underlying soil as Level 1. All soils were screened through $\frac{1}{4}”$ (6.35 mm) mesh hardware cloth. All recovered materials other than modern organics (grass, roots and bugs) were placed in bags marked with the site, location, and date, and transported back to the Murray State University Archaeology Laboratory for later washing and cataloguing. The crew photographed and mapped each excavation level as it was completed.

The soils of Level 1 consisted of medium brown loam with abundant gravel, including slag, hematitic sandstone, and blocky chert. The excavators defined the base of Level 1 as a transition to a lighter-colored soil of a somewhat more clayey consistency, which is consistent with the Lindside silt loam identified by Humphrey (1981) at this location. The crew expanded the unit westward one meter, 14-16N13-14E. Field observation suggested that the density of historic artifacts was greater than in 14-16N14-16E, an idea that will be tested during analysis. Linear stains at the top of the silt loam interpreted as plow scars and recent artifacts (including aluminum pop-tabs noted in the screen and a non-returnable glass bottle neck mapped at the base of Level 1) indicate that Level 1 is a plowzone tilled at least as recently as the later 20th century.
After a soil core in the northeast corner showed no change in the underlying silt loam to at least 30 cm depth, the deeper deposit was defined as subsoil.

The crew then expanded one meter to the south, 13-14N13-16E, but kept the materials from each of the 1 x 1 m units separate so that laboratory analysis may test whether the artifact density gradient observed previously can be verified. The soil at the base of 13-14N13-14E, in particular, emanated an odor of deteriorating organic material. In these units, soil staining at the top of the subsoil was more widespread and variable in color than the plow scars, and a number of artifacts were embedded in the stained soils (Figure 8). Although the stain appeared rather amorphous, it was defined as Feature 1 (Figure 9).

On excavation with small tools, Feature 1 took on a generally rectangular shape, oriented at a diagonal to the project grid. Feature 1 appears to have a channel entering it from the west. The feature contained numerous artifacts including large pieces of iron (Figure 10). The crew piece-plotted a number of iron, ceramic and glass artifacts. After removing the heavy iron, the excavators removed another 10 cm (approximately) of feature fill, exposing still more artifacts (Figure 11). At this point, time constraints prevented completing the excavation of Feature 1.

On June 27, 2008, the crew backfilled the unit after placing a modern ceramic tile with the legend “MSU 2008” as well as larger pieces of slag and gravel at the top of the undisturbed Feature 1 fill to mark the limit of the excavation. The excavators replaced the nails marking the corners of the 3 x 3 m unit with ½” capped PVC pipes and removed all other metal markers from the excavation area.

Preliminary conclusions

It is clear from the quantities of historic artifacts recovered that the excavation was in the vicinity of a historic occupation. Further analysis will be required to determine whether the occupation can be attributed to an African American population.

Feature 1 was the only undisturbed deposit documented, and its original function is unknown, although its final function as a trash receptacle is evident. One artifact of note, recovered from Feature 1, was a small clear class bottle embossed with the legend Vaseline Cheesbrough New York. Vaseline was first marketed around 1870 [http://www.unileverusa.com/ourbrands/personalcare/vaseline.asp](http://www.unileverusa.com/ourbrands/personalcare/vaseline.asp). Therefore the filling of Feature 1 post-dates the Civil War. Further research will be necessary to clarify when this type of jar was manufactured.

The gradiometer data, supplemented by the resistivity data, indicate that there are several other features in the vicinity that may be investigated in future years.

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References

Akin, Marjorie Kleiger  

Baker, Vernon G.  


Beals, Herbert K.  

Braje, Todd J., Jon M. Erlandson, and Torben C. Rick  

Deetz, James F.  

Diehl, Michael, Jennifer A. Walters and J. Homer Thiel  

Evans, William S. Jr.  

Etter, Patricia A.  

Gidwitz, Tom  
2005 Freeing captive history. *Archaeology* 58(2):

Greenwood, Roberta S.  

Howson, Jane E.  

Humphrey, Maurice E.  

Langenwalter, Paul E. II  

Olsen, John W.  

Orser, Charles E. Jr.  

Orser, Charles E. Jr.  

Orser, Charles E. Jr.  

Orser, Charles E. Jr.  

Orser, Charles E. Jr.  

Otto, John Solomon  
Potter, Parker B., Jr.  

Schulz, Peter D., and Frank Lortie  

Schuyler, Robert L.  

Singleton, Theresa A. ed.  


South, Stanley, and Randolph Widmer  

Wallace, Betty Joe  
1992 *Between the Rivers: History of the Land Between the Lakes*. Austin Peay State University, Clarksville, TN.

Wallace, Carrie Lee Lane  

Wegars, Priscilla ed.  

Wesler, Kit W.  
1984a A spatial perspective on artifact group patterning within the houselot. *Proceedings of the Symposium on Ohio Valley Urban and Historic Archaeology* II:37-44.


1993  Preliminary testing at the Lloyd Tilghman House, Paducah, Kentucky.  Ohio Valley Historical Archaeology 10:1-5.

2004  Exploring assemblage patterning in Western Kentucky and Southeast Missouri historic sites.  Ohio Valley Historical Archaeology 19:7-22.


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What you see before you is all that is left of an iron furnace that operated here from the 1840s to 1912. These quiet hills were once alive with the sound of axe blows and falling trees, the shouts of teamsters and the rumble of carts on the roads. The air hung heavy with smoke and the smell of melting iron ore.

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