THE OHIO ARCHAEOLOGICAL COUNCIL

NEWSLETTER

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Archaeology Education at OHS

Martha Otto and Brad Lepper
Ohio Historical Society

The Ohio Historical Society has been in the business of educating Ohioans about the state's cultural heritage almost since it was founded in 1885. In recent years, those activities have become much more formalized with curricula designed to dovetail with the Ohio Department of Education's model programs in social studies, the requirements for various proficiency tests, and the Ohio history classes required for all fourth grades. We have been involved with two programs which may be of interest to OAC members.

"DISCOVER ARCHAEOLOGY!" is designed to introduce students to the science of archaeology and Ohio's prehistoric cultures. It is not intended to train students to excavate sites on their own. It allows them to sample the procedures of modern archaeology so they can gain a greater understanding of scientific methods and an appreciation of what can be learned about and from the past.

The day-long program begins with a brief orientation before the class begins the excavation of a "site" located beneath a shelter just outside the Ohio Historical Center. Each student team trowels and screens the soil in their assigned 1-meter unit, takes measurements, and makes scale drawings of the distribution of artifacts and features. Back in the Archaeology Classroom, each team identifies what they have found (artifacts and faunal material), using resources in the classroom. Finally each team reports its findings to the class, and, through class discussion, the group as a whole interprets the site. Since our site includes artifacts (from our undocumented collections) and features representing Archaic and Fort Ancient cultures, we can discuss differences between hunting/gathering groups and settled agriculturalists. The final activity is a tour of "The First Ohioans" exhibit with emphasis on the Archaic and Late Prehistoric displays.

While most of the participating classes have ranged from third to eighth grade, we have also offered the program for adult-child teams and for senior citizens. For more information about DISCOVER ARCHAEOLOGY!, please contact Martha Otto.

Archaeology will be the primary focus of the Ohio Historical Society's distance learning programs for the 1998-99 school year. Distance learning involves live tele-conferencing with classrooms across the state, or, theoretically, across the continent. We are working to develop partnerships with institutions such as the Smithsonian Institution, the Columbus Museum of Art, and the Battelle Memorial Institute to bring to Ohio's students distance learning programs designed to increase public awareness and appreciation of our rich prehistoric heritage.

The "Dig Ohio" programs will include three units: the Science of Archaeology, Daily Life in Prehistoric Ohio, and Mounds and Moundbuilders. Each unit will include individual programs related to the unit themes.

In addition, the OHS web page (www.ohiohistory.org) now includes an electronic encyclopedia of prehistory and history. "Ohio History Central" will present interactive timelines covering the entire human occupation of Ohio, from the Ice Age Paleoindians through the historic era. This encyclopedia will be updated and will continue to grow over the next five years. For more information on these programs, please contact Brad Lepper.

IN THIS ISSUE

OAC Legislative Issues Committee Report

Submitted by Al Tonetti, Chair

The *Ad Hoc* Legislative Issues Committee, is composed of Kitty Butterworth, Martha Otto, Kevin Pape, Jeff Reichwein (Board Liaison), Shaune Skinner, and Al Tonetti (Chair). This report covers legislative issues information since the May 15, 1998 OAC membership meeting.

State Legislation

You can reach any member of the Ohio General Assembly or get information concerning legislation by contacting the Legislative Information Office at 1-800-282-0253. Please forward the results of all communications with the Ohio General Assembly concerning archaeological issues to Al Tonetti at the OAC address or by telephone at (614) 268-2514, Fax (614) 268-7881, or email: atonetti@aol.com .

Substitute House Bill 429 (revisions to vandalism and desecration statutes)

The bill was approved by the Senate and signed by the Governor on July 1. The bill becomes effective September 30. To receive a copy of the bill contact your state representative or senator. The bill clarifies that the vandalism and desecration statutes pertain to cemeteries, and that cemeteries include places where American Indians human remains and associated burial objects are found.

House Bill 710 (revisions to the Ohio Department of Natural Resources' industrial mineral mining permit process)

The bill had three hearings before the House Agriculture and Natural Resources Committee, and is now being reworked by its sponsor, Rep. Rose Vesper (R-New Richmond, Clinton County). There is considerable opposition to this bill by the industrial minerals mining industry. Although industrial minerals mining, this does not include coal, has a considerable adverse effect on archaeological and historic sites in Ohio, ODNR's permit process does not consider such effects, nor does this bill seek to address them.

Federal Legislation

You can reach any member of the U.S. Congress at 1-800-962-3524. Please forward the results of all communications with the U.S. Congress concerning archaeological issues to Al Tonetti at the address listed above.

H.R. 1522 (amendments to the National Historic Preservation Act)

The bill was passed by the House on May 19 and is now before the Senate Subcommittee on National Parks, Historic Preservation, and Recreation. The bill reauthorizes revenue deposits of royalties from offshore oil leases into the Historic Preservation Fund, which helps fund State Historic Preservation Offices and the Advisory Council on Historic Preservation.

H.R. 2893 (amendments to the Native American Graves Protection and Repatriation Act)

On June 10, the Society for American Archaeology and the Society for Historical Archaeology presented joint testimony to the House Committee on Resources in support of this bill, which would provide for appropriate scientific study and repatriation of human remains and cultural items for which a cultural affiliation is not readily ascertainable. A complete text of this testimony can be found on the Internet at www.saa.org . This is an important amendment to NAGPRA and you are urged to educate yourself about this bill.

OAC Forum on the Training of Archaeologists for Careers in Cultural Resource Management

Al Tonetti
ASC Group, Inc.

At the May 15 membership meeting, the afternoon session addressed the growing debate and concern within the anthropological community about the preparedness of undergraduate and graduate students for careers in cultural resource management. Six archaeologists working in Ohio gave their perspectives on this issue. Representing academia were Dr. Elliot Abrams, Ohio University, and Dr. William Dancey, The Ohio State University. Representing cultural resource management firms were Ms. Marcy Gray, Gray and Pape, Inc., and Dr. Nancy Ross-Stallings, Cultural Horizons, Inc. Representing students were Mr. John Schweikart, The Ohio State University and ASC Group, Inc., and Ms. Catherine Mickelson, The Ohio State University. The forum was introduced by Education Committee member Al Tonetti and moderated by Dr. David Snyder, Ohio Historic Preservation Office.

Following ten minute presentations from the panelists, an open exchange of ideas between the panelists and the audience ensued. Some panelists prepared information that was distributed to the audience, and the forum was tape-recorded. A summary of the discussion will be available by year's end. For further information contact Al Tonetti.

Preliminary Report on the Excavation of 33DL27, an Early Late Woodland Village in Central Ohio

John F. Schweikart and Al Tonetti
ASC Group, Inc.

Introduction

From June 15 to July 11, 1998, ASC Group, Inc., under contract with the city of Westerville, Ohio, conducted a publicly-assisted excavation on the portion of 33DL27 to be affected by the Polaris Parkway-Maxtown Road Extension in the city of Westerville, Orange Township, Delaware County, Ohio. This area is a fast-growing northern suburb in the Columbus metropolitan area. Although ASC Group, Inc. began collecting background data on the project in 1987 as a Section 106 undertaking, the 1998 excavation was not subject to federal regulation.

33DL27 is located on a terrace and 100-year flood plain along the east bank of Alum Creek on private property leased by Acorn Farms, Inc., a nursery specializing in container-grown plants, trees, and shrubs. Immediately prior to the initiation of the excavation, the portion of the site to be affected by the project was acquired through eminent domain by the city of Westerville. Based on the distribution of artifacts found on the surface by avocational archaeologists, it is likely that much of 33DL27 extends outside road construction limits, in an area likely to be developed for commercial purposes following completion of the highway.

An important objective of this investigation was to provide an opportunity for public involvement in the form of volunteer participation and tours of the investigation in progress. On June 7, 1998, a public information meeting was held at the Westerville Public Library in order to provide information on how interested persons and groups could become involved with ASC Group, Inc.'s investigations. Approximately 70 people attended. ASC Group, Inc. began investigations on June 15, 1998. Volunteer participation and public tours began on June 23, 1998, and continued until July 11, 1998.

John Schweikart, M.A., served as field supervisor and principal investigator, Alan Tonetti coordinated the public participation and public relations, and Gary Thornhill, Ph.D., served as project manager.

Research Design

On the basis of information gained from the initial reconnaissance survey (McDaniel et al. 1993) and the assessment survey (Church 1996), sufficient data, provided from analysis of diagnostic artifacts in association with features from the site's early Late Woodland component (ca. 1500 -1300 B.P.), was recovered to determine that 33DL27 was eligible for inclusion in the National Register of Historic Places under criterion D, for its demonstrated potential to yield information important in prehistory, particularly during the early Late Woodland period. Since previous investigations by Church (1996) produced distributional data of artifacts recovered from both the ground surface and from plow zone contexts, the primary objective of the excavation was to relocate the subsurface features identified by Church (1996), and to document overall feature distribution (site pattern) and contents within the portion of 33DL27 to be affected by the highway.

The primary objectives relating to research questions addressed by the excavation dealt with 1) chronology: to obtain diagnostic artifacts and associated radiocarbon dates from feature context in order to ascertain the time and duration of the prehistoric occupations at the site, focusing on the early Late Woodland component (earlier Late Archaic and Early Archaic components were represented by surface finds of diagnostic projectile points); 2) site function: to recover, analyze, and describe diagnostic tools from site components in order to determine the functional context and diversity of site contents; 3) site design: to identify and obtain data from features and activity areas in order to determine the spatial organization of the site; 4) subsistence/settlement systems: to obtain floral and faunal remains and related feature data in order to interpret subsistence procurement and settlement patterning, and 5) culture change: to obtain reliable chronological, functional, spatial organization, and settlement/subsistence data from components represented by features in order to interpret and explain changes in regional cultural systems through time and over space.

Investigations began with the creation of a topographic map utilizing a TOPCON® Total Station and Husky® Data Collector. These devices were also used to plot the location of all soil anomalies identified during the investigation. It was determined that the most cost-efficient and timely means of accomplishing objectives within the time frame available was to utilize a self-loading pan to remove topsoil from

across the portion of 33DL27 to be affected by construction of the highway. Recently, during investigations of a large early Late Woodland village site which may share similarities with 33DL27, a similar mechanical excavation strategy was found to be highly effective in identifying subsurface features (Shott et al. 1990). Soil anomalies were investigated by hand to determine if they represented prehistoric features, and to document and recover all relevant information. Equipment used included an 11-yard self-loading pan and D-6 bulldozer to remove topsoil, a backhoe to trench a single large (midden?) feature, and a sludge pump to drain ponding rainwater. Activities conducted during this investigation were documented on 35 mm black-and-white print film, 35 mm color slide film, and 8 mm video camera.

After excavations were completed on July 11, 1998, all cultural features identified during the data recovery were coated with a thin layer of powdered agricultural lime in order to highlight their form from the surrounding soil. On July 12, 1998, oblique aerial photographs and video imagery of the excavated features were taken by ASC Group, Inc. personnel from light aircraft provided by Dana Aviation, Inc., Columbus, Ohio.

Sub-topsoil examination of approximately 8,000 sq m (94 percent of the portion of the site within the project right-of-way), was achieved by mechanically stripping off the plow zone with the self-loading pan. The goal of this technique was to expeditiously expose nearly all of the site within the project right-of-way, identify potential features, and characterize feature distribution across the site. Initial efforts were hampered by frequent heavy rains in combination with large and deep nursery stock root holes which caused the self-loading pan to bog down and smear the topsoil/subsoil interface. This problem was addressed by employing a D-6 bulldozer to remove the surface vegetation of wet grass and weeds and to level-out some of the larger root-ball holes. Once areas had been scraped to the topsoil/subsoil interface by the self-loading pan, ASC Group, Inc. personnel followed behind at a safe distance and flagged all soil anomalies.

All soil anomalies and cultural features were shovel-shaved, troweled, and mapped using the TOPCON®. Those anomalies that could be clearly identified as the remnants of nursery stock root-ball holes, tree roots, plow scars, or rodent disturbances, were eliminated from further investigation. Plan views were drawn for each anomaly suspected of being a cultural feature. Photographs were taken for the majority of anomalies. Particularly small or faint anomalies not likely to show up in photographs were not photographed. If an anomaly appeared to be a cultural feature, it was cross-sectioned and one-half of the matrix was removed using trowels, dental picks, and brushes, as necessary. Generally the southern half was excavated. However, this was modified in certain circumstances where a cross-section of a different portion of a given anomaly would better reveal its form in profile. In certain cases, the entire feature fill was excavated in order to maximize the recovery of significant artifacts, and to examine a variety of feature forms in their entirety. Small features (generally under 30 cm in diameter) were often excavated with a "D" handle spade to expedite the recovery process. During the last two days of the excavation, nearly all anomalies were excavated using shovels since no further investigation would be possible prior to road construction, and the destruction of these anomalies was imminent. Excavated fill from each anomaly was screened through .64 cm hardware cloth to retrieve artifact content. If an anomaly was determined to be noncultural or not pertinent to the research design based on its overall plan, profile, or matrix contents (e.g., root-ball scars left by nursery equipment removing trees), further investigation ceased. Conversely, if a soil anomaly was determined to be a cultural feature pertinent to the research design it was mapped and photographed in profile, and a soil/flotation sample of 3 liters was collected from the north half for flotation analysis.

While artifacts from the plow zone were not specifically collected as a part of the investigation, temporally diagnostic items, such as spear or arrow points, were collected. All artifacts encountered in feature context were documented according to their placement within the feature and internal level when possible. Since 3 liters of fill from features excavated in profile was kept for flotation, the heavy fraction can be used as a "constant volume sample" with which to ascertain what, if any, artifact classes were being lost. When large fragments of charcoal were encountered they were collected and sealed in aluminum foil for possible submission as ^{14}C samples. Fire-cracked rock encountered within feature context was counted and weighed, but was not collected.

Results

An area approximately 50 m N-S by 170 m E-W (ca. 8500 sq m) was mechanically exposed. Two hundred and twelve soil anomalies were identified, mapped, and drawn in plan view. Of the 212 soil anomalies, 56 (or 26 percent) were determined to be natural or not germane to the research design. The remaining 156 anomalies were determined to be cultural features, of which 135 (or 86.5 percent) were examined both in plan view and profile. Feature types identified include post molds, "high" bell-shaped pits, cylindrical-shaped pits, U-shaped pits, shallow basins, hearths, and sheet middens. Artifacts recovered include substantial amounts of Newtown-like ceramics, a relatively meager chipped stone assemblage that includes various Lowe Flared Base and Triangular projectile points, and a few fragments of ground stone celts and slate pendants or gorgets. A sandstone elbow pipe was also recovered from

feature context. Few faunal remains were recovered, but those that were include mammal, fish, reptile, and molluscan remains. Over 400 liters of feature fill were recovered, along with numerous ^{14}C samples. Flotation of feature fill has been completed and analysis in underway. Radiocarbon samples are being processed for submission, and arrangements are being made for faunal analysis. Together, these assemblages should provide sufficient data to address basic research questions associated with the site's chronology, function, design, settlement/subsistence, and culture change.

No human remains were encountered. At least two mounds in the immediate vicinity of 33DL27 were reported by informants to have been destroyed by relatively recent commercial and residential development. These mounds may have been the location of human burial for a portion of the village's early Late Woodland occupants. At least two substantial collections of lithics from avocational surface collections at the site exist, and we are pursuing their examination. A technical report and a general report for distribution to the public will be completed in 1999.

Public Participation

In just three weeks, over 600 individuals contributed over 2,000 hours of labor to the excavation, and public involvement continues with volunteer assistance in processing artifacts and other materials at laboratory facilities at ASC Group, Inc. Public interest and exposure was also enhanced by favorable media coverage on radio, television, and in the newspapers. Public involvement was positive in terms of enhancing the recovery process itself, and in terms of fostering beneficial public relations for all parties involved. Once analysis and reporting is completed, another public information meeting will be held to share with the volunteers and others the results of the research at 33DL27.

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EARLY PALEOINDIAN POINT FROM SHERIDEN CAVE

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On July 19, 1998, an early Paleoindian fluted point was discovered in sealed archaeological deposits at the Sheriden Cave site (33Wy252) in Wyandot County, Ohio. The point was found during the excavation of a large block of sediment located near the back of the cave. The excavation was carried out by volunteers from Kent State University, Ohio Archaeological Society, the Nobles Pond FORCE, and the Cleveland Museum of Natural History working under the direction of Dr. Ken Tankersley (Kent State University). At a depth of 27 cm below datum, workers uncovered a complete projectile point measuring 36.2 mm in length, 16.5 mm in width, and 4.5 mm in thickness. The point was located approximately 70 cm away from where a complete carved and incised, split-bone foreshaft was discovered in 1995 (Tankersley 1998:7). The sediment layer from which the fluted point and bone foreshaft were recovered also contained chert microdebitage, charcoal, a cervical vertebra of a snapping turtle (*Chelydra sepentina*) displaying cut marks, and disarticulated bones of the extinct flat-headed peccary (*Platygonus compressus*). A suite of nine AMS radiocarbon determinations--which range in age from 10,550 to 10,970 uncalibrated radiocarbon years b.p.--are associated with this same layer and support the assignment of the archaeological and paleontological materials to the terminal Pleistocene (Tankersley 1998:8).

The projectile point from Sheriden Cave most closely resembles Holcombe points recovered in southeastern Michigan (Fitting et al. 1966). As shown in Figure 1 (below), the point has a deeply convex base, straight basal margins (which exhibit grinding), and heavy resharpening of the distal end. The point was produced by pressure flaking and, in this respect, resembles Crowfield points from southern Ontario (Justice 1987:24). Preliminary examination of the (as yet unwashed) point, showed that the raw material most closely resembles Delaware chert. Under low magnification, several small patches of organic residue--which may represent the remains of an adhesive used in hafting--were visible on discrete areas of the specimen.

Given the geologic context and suite of AMS radiocarbon dates, this discovery suggests that co-traditions were present in eastern North America during the late Pleistocene. In other words, our view of Paleoindian traditions is shifting to a multilineal perspective. Whatever cultural complex the Sheriden Cave material is associated with, it is contemporary with Vail and Debert in the northeast, Gainey in New York, and Dalton in the Southeast. Perhaps the best archaeological analog for the Sheriden Cave discovery is Goshen on the High Plains which demonstably overlaps with both Clovis and Folsom.

Figure 1: Obverse and reverse faces of Paleoindian point from Sheriden Cave (actual size).
(Drawing by Carl Szafranski.)

The point is curated in the Department of Archaeology, Cleveland Museum of Natural History, and future investigations will include expert identification and analysis of organic residues, determination of raw material source, and a formal description of the point and its archaeological and geological context to be published in the near future. Careful, systematic excavations of the remaining archeological deposits at Sheriden Cave will continue into the foreseeable future.

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Notes from the Field: An Update from the Stubbs Earthworks Site

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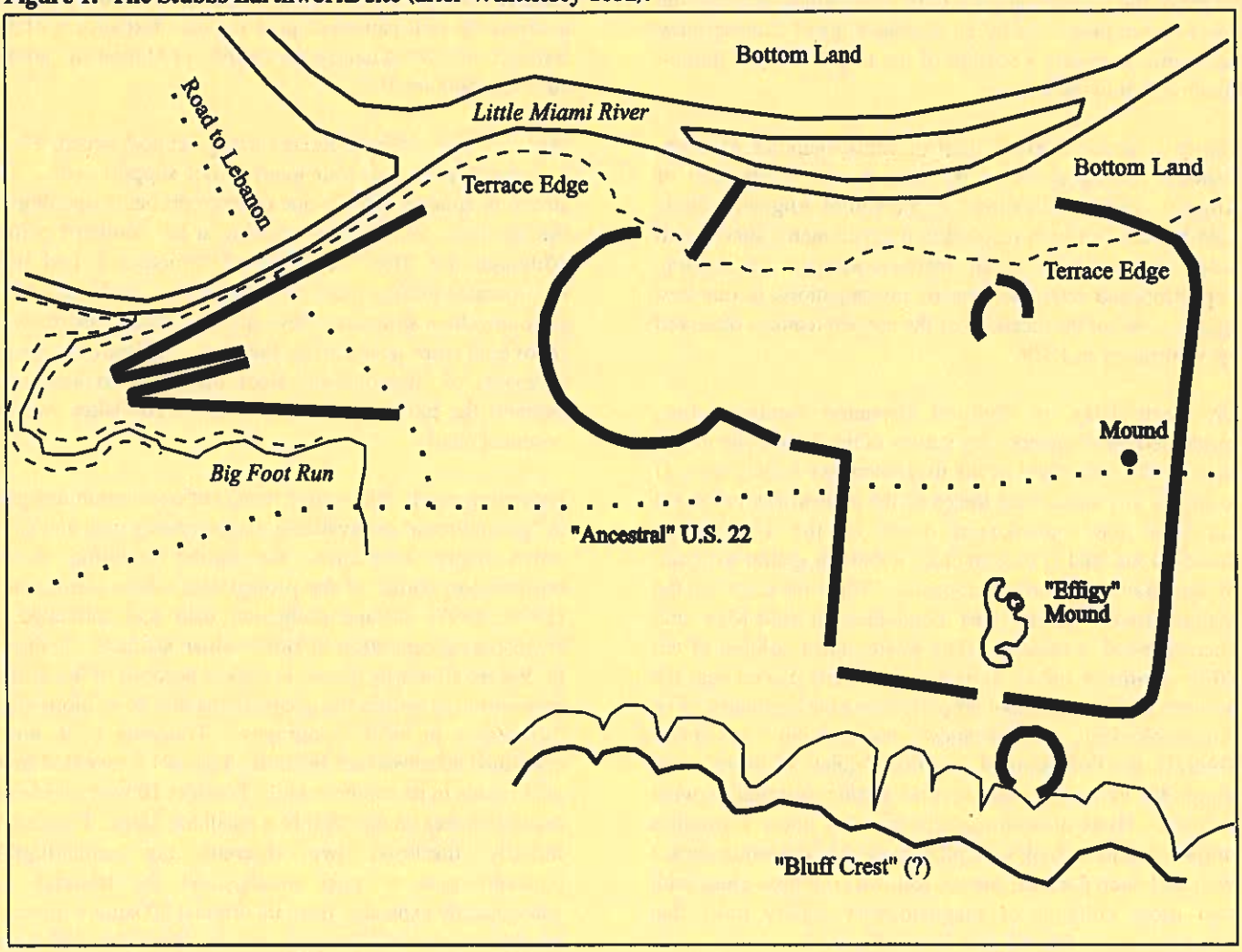
Ted S. Sunderhaus
Robert A. Genheimer
Cincinnati Museum Center

In November 1997, Warren County voters passed a local school bond issue to fund construction of a new Little Miami High School near Morrow, Ohio. The 86-acre school board property occupies most of the surviving remnants of the Stubbs Earthworks site, 33-Wa-1, once an extensive geometric Hopewell earthworks. Following the bond issue's passage, several area archaeologists met with school officials to discuss ways to ameliorate the unintended consequences of the school's construction, stressing the importance of the site as the only partially intact large geometric earthwork site still known to survive in southwestern Ohio. A series of working meetings and a public presentation to the school board led to an agreement permitting the Cincinnati Museum Center to conduct a large-scale salvage investigation of the Stubbs Earthworks site prior to the onset of construction in October 1998.

Cincinnati Museum Center archaeologists Frank Cowan, Robert Genheimer, and Adjunct Research Associate Ted

Sunderhaus initiated fieldwork in early May. At the time of this writing (Labor Day weekend), we are still in the field and expect to continue fieldwork for at least another month. This account, then, is truly preliminary and represents a highly summarized update of our progress and field impressions. The Stubbs Earthworks site (33-Wa-1) in Warren County, Ohio was first illustrated by Charles Whittlesey in 1852 (Figure 1), based on a survey conducted in December 1839. Whittlesey's map indicates that, in composite, the earthworks included 2.7 km of embankment walls, covering an area of approximately 35 hectares. Whittlesey noted that the geometric earthworks had already long been under cultivation and that even the most prominent embankment wall measured only "two feet high by twenty broad" (Whittlesey 1852:8). The large conjoined circle-and-rectangle earthworks and associated crescentic earthworks must have been plowed down to invisibility shortly thereafter, because Whittlesey's map remains the only map known to illustrate the entire earthworks. Whittlesey's W-shaped external "gateway" persisted much longer and was the subject of a long-standing controversy about whether or not it was a "serpent effigy" (White 1986). Correlating Whittlesey's map to the modern landscape has always been problematic. Much of the difficulty is due to extensive gravel mining north of modern U.S. 22, which completely removed much of the extensive outwash terrace and destroyed most of the site during the 1960's and 1970's. Another significant problem in placing the earthworks on the landscape, however, was Whittlesey's indication that the southern edge of the earthwork complex abutted "bluffs of marl and limestone 200 to 250 feet high" (Whittlesey 1852: Plate II). Such a prominent topographic feature simply doesn't exist anywhere in the area implicated by Whittlesey's map. We presently suspect that Whittlesey mapped, but did not label, a treeline along a small drainage that still crosses the surface of the outwash terrace. When his maps and handwritten notes were prepared for publication, some ten or eleven years after the 1839 survey, Whittlesey's lithographer may have misinterpreted the field-sketched "treeline" and meandering brook as meant to represent a bluffline. Indeed,

Figure 1. The Stubbs Earthworks site (after Whittlesey 1852).



the rather jumbled published text describes the "high limestone bluff" immediately before apologies for the poor survey conditions, and is then followed by reference to the bluff crest Fort Ancient site. We suspect the published text may have concatenated Whittlesey's field notes about the Stubbs Earthworks with notes about other local earthworks. Based on an accumulating body of circumstantial evidence, we are inclined to think that Whittlesey may have been a competent enough land surveyor, but lacked somewhat in editorial and proof-reading skills.

Aerial photographs, flown in April 1986, show faint linear soil stains that might be remnant traces of the southern portion of the rectangular embankment wall depicted in Whittlesey's map. The linear features crosscut property lines, a fence line, and a road. They do not correspond to topographic features or to discernable patterns of soils variability; indeed, they cross several of the low ridges and swales that characterize the surface of the terrace. In conjunction with other evidence, we view these traces as indications that the school property contains the southeastern corner of the rectangular earthwork embankment and that the low mound, preserved by an Archaeological Conservancy easement, is merely a portion of the larger "effigy" mound documented by Whittlesey.

Figure 2 is a schematic map of the Cincinnati Museum Center's investigations of the site, current to the end of August. The investigations, to the end of August, include 2.84 hectares of high-resolution magnetometry survey and 1,347 square meters of machine-assisted excavation. Superimposed over the area of investigations is our best "guestimate" of the locations of the earthen features observed by Whittlesey in 1839.

Dr. Berle Clay, of Cultural Resource Analysts, Inc., conducted the magnetometry survey of the Stubbs site in two stages. The objectives of the magnetometry survey were 1) to locate any subsurface traces of the earthworks (we'd not yet seen the embankment traces on the 1986 aerial photographs) and 2) to gain clues about the spatial structure of detectable subsurface deposits. The first stage of the magnetometry survey was conducted in mid-May and encompassed .8 hectares. The westernmost column of ten 20-by-20-meter survey units was arbitrarily placed near the western side of the school property along the boundary of an Archaeological Conservancy preservation easement. Overall, the field seemed generally "quiet" in terms of its magnetic variability, but several distinct anomalies were evident. Hints of northeasterly trending linear anomalies initially led us to think we'd blundered upon the embankment wall and ditch features, and we followed up those clues with two more columns of magnetometry survey units that extended to the East 60 grid line in Figure 2.

Four excavation transects, ranging in size from 20-by-4-meters to 31-by-5-meters, were then excavated to gain an archaeological understanding of the magnetic variability. The plow zone was stripped from each transect with a smooth-edged backhoe bucket, and all surfaces were shovel-shaved and/or hand-troweled for evidence of subsurface features. Transect 1, placed to crosscut subtle, but lengthy linear anomalies, demonstrated that some patterns of magnetic variability were due to natural undulations in the surface of the gravel deposits underlying the loessic topsoil. Transects 3 and 5 each yielded a single pit feature in concordance with sharp, localized magnetic anomalies. The smaller Transect 4, placed with regard to relatively high surface sherd densities, yielded a single post mold.

Transect 2, selected for excavation because a very large, strong dipole anomaly, initially uncovered a few shallow and very indistinct pit features within a prairie soil A/B-horizon. After excavating the barely visible features in Transect 2, we used the backhoe to strip off the remaining prairie topsoil above the B-horizon in search of the source of the strong magnetic signal. Intruding into the clay-rich B-horizon was a series of well-patterned post molds. Expansion of the transect uncovered nearly the entirety of Hopewell "house" structure (Figure 3).

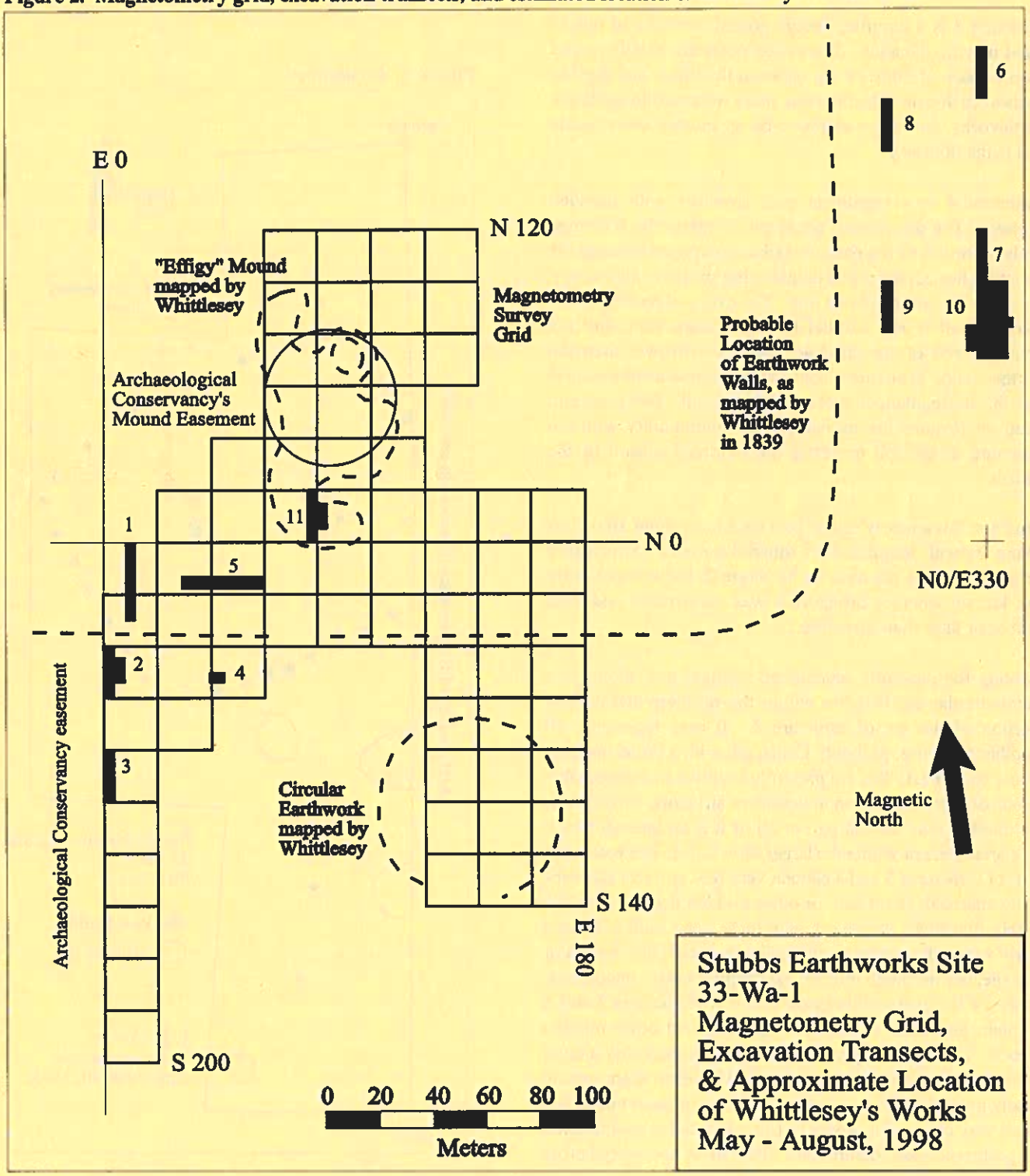
Structure 1 is an 8-by-5-meter rectangular post structure with rounded corners and four interior roof support posts. The structure appears to have one or more probable openings to the northeast and another opening at the southern corner. Although the "floor" deposits of Structure 1 had been incorporated into the plow zone, there is no doubt that this is a Hopewellian structure. Several bladelets and sherds were recovered from post molds, features, and from the deeper remnants of "trampled-in" floor midden excavated from beneath the plow zone, and all recovered flakes were of nonlocal cherts.

Following nearly 500 square meters of excavation designed to "ground-truth" the available magnetometry data and chase down major anomalies, we shifted attention to the northeastern corner of the project area where Genheimer's (1996, 1997) surface collection data had indicated an extensive concentration of Hopewellian artifacts. Transects 6 - 9 were arbitrarily placed to sample portions of the artifact concentration within the project area and to explore slight differences in local topography. Transects 6, 8, and 9 contained no subsurface features. Transect 7 revealed seven post molds in its southern end. Transect 10 was selected to expose an area on the crest of a small toe-slope. Transect 10 initially disclosed two discrete, but unintelligible, concentrations of post molds, and the transect was subsequently expanded from its original 80 square meters to an ultimate area of 408 square meters. More than 300 feature

numbers were eventually assigned within this greatly expanded Transect 10, and most proved to be unambiguous cultural features.

Figure 4 illustrates the presently discerned patterns of four Hopewell post structures. This figure is a highly simplified map of the transect in that it does not include the many post molds that have not yet been "assigned" to any particular structure. It seems very likely that there remains a fifth post structure among the residuals. Needless to say, this set of structural interpretations may change somewhat with more detailed analysis.

Figure 2. Magnetometry grid, excavation transects, and estimated location of Whittlesey's earthworks.



Structure 2 is a circular structure of about 10 meters diameter and has an opening of about 5 meters breadth on its western side. The structure has central post and seems to have an internal partitioning wall.

Structure 3 is a circular, double-posted structure of nearly eight meters diameter. The paired posts are axially paired with a space of 50 to 60 cm between the inside and outside posts of each pair. The doorway faces westward towards the earthworks, and there seems to be an interior entry baffle inside the doorway.

Structure 4 is a rectilinear post structure with rounded corners. The dimensions are about 10 meters by 6 meters. Only a portion of the eastern wall was exposed because the structure lies adjacent to a neighboring property and is very close to a buried telephone line. The exposed portion of the eastern wall is not parallel to the western wall, and the southern end of the structure may be narrower than the northern end. Structure 4 contains the remnants of a central hearth, an irregular patch of oxidized subsoil. Two large and deep pit features are probably not contemporary with the structure as one pit truncates the oxidized subsoil of the hearth.

Structure 5 is a nearly square post structure, about 10 meters along its wall lengths, with squared corners. Structure 5 largely overlaps the circular Structure 2, but it is presently not known whether Structure 5 was constructed and used earlier or later than Structure 2.

Among the presently unassigned residual post molds is a semi-circular arc that lies within the northern and eastern portion of the arc of Structure 2. It may represent still another structure, probably C-shaped, with a broad opening to the southwest. We are presently inclined to consider this group of post molds is an independent structure, Structure 6, although it may be that part or all of it is an internal bench line arrangement within the larger Structure 2. The post mold fills of Structures 3 and 4 contain very few artifacts and very little charcoal, burnt soil, or other midden debris. It seems likely that these structures may have been built and used early within the sequence of building events in this portion of the site, before much midden had accumulated. In contrast, some of the post molds associated with Structures 2 and 5 contain abundant charcoal, burnt soil, and other midden debris. These posts appear to have been pulled after a layer of surface midden had accumulated. However, there remain many post molds in the northern portion of the transect that have very clean, almost sterile, fills. A detailed examination of post mold sizes, depths, and fills will be necessary before we have a firm understanding of building sequences and uses in this portion of the site. Nonetheless, all the structures within this large block excavation are Middle Woodland. All diagnostic artifacts are Hopewell, and all of the cherts are of nonlocal origin.

Figure 3. Structure 1.

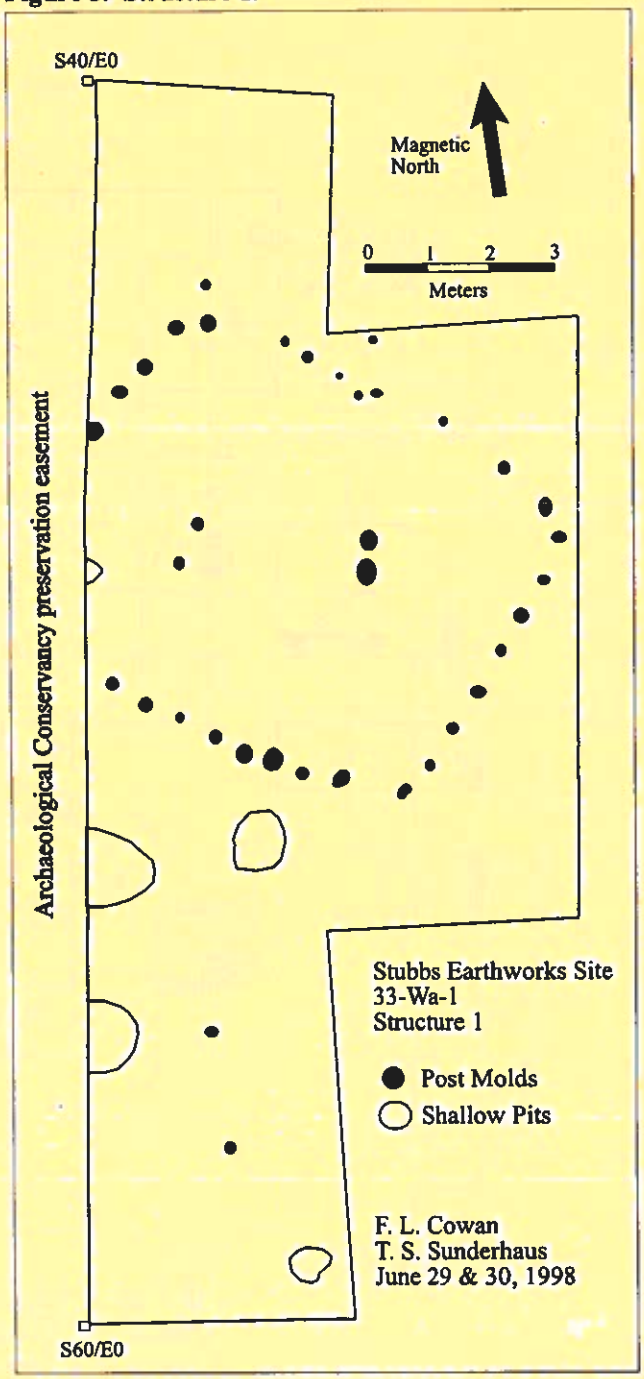
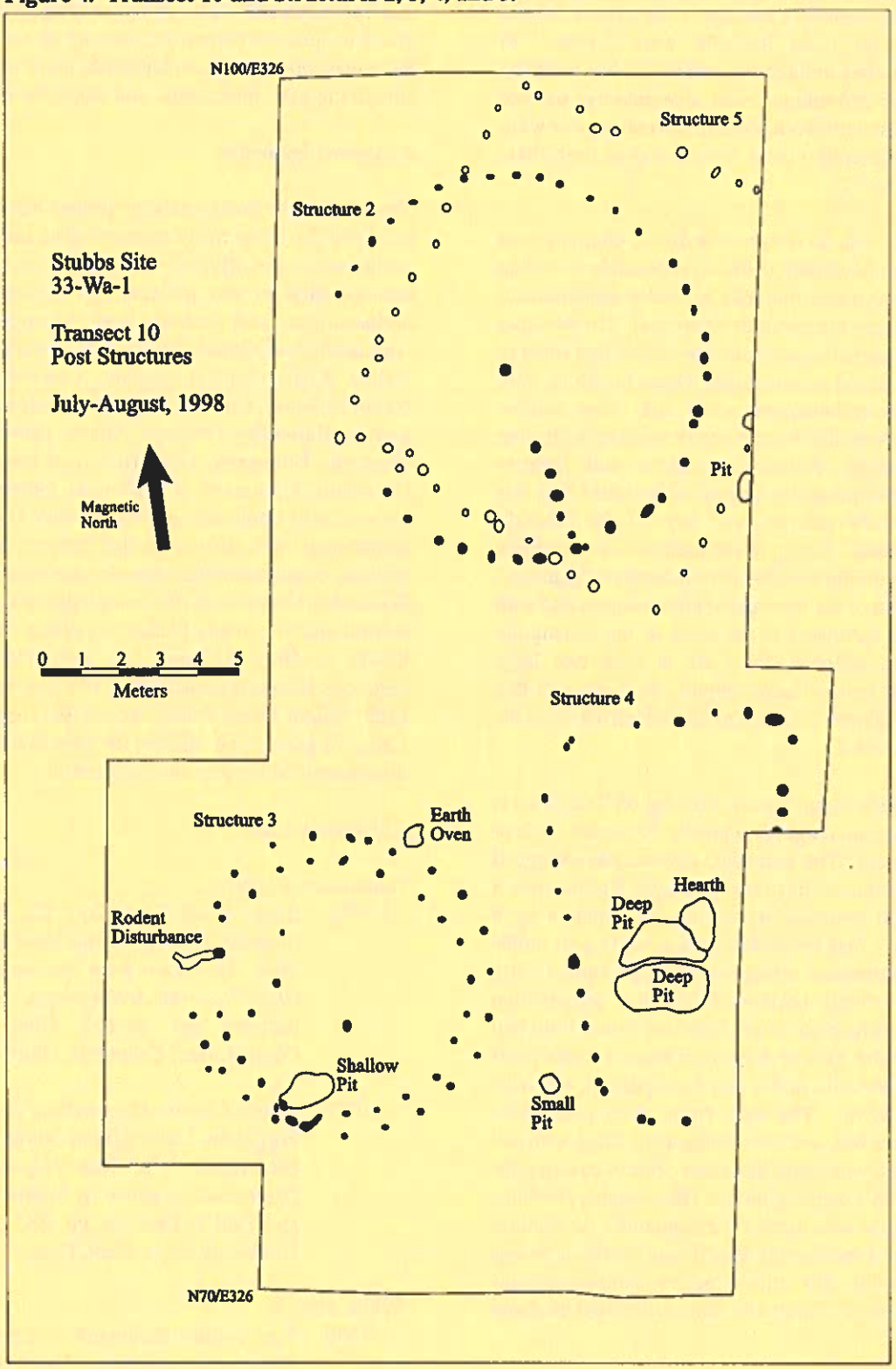


Figure 4. Transect 10 and Structures 2, 3, 4, and 5.



We first found the possible earthwork embankment traces on the 1986 aerial photographs in early July while starting work on Transect 10 and its myriad post mold patterns. Realizing that, at long last, we might possibly have a handle on the location of the earthworks, we decided to focus additional magnetometry survey efforts on testing hypotheses about the

earthwork locations and seeking activity areas adjacent to major hypothesized earthwork features. Fifty-one additional 20-by-20-meter units (2.04 hectares) were surveyed in mid-July. These survey units encompassed 120 linear meters of the hypothesized embankment wall, crosscut large parts of Whittlesey's circular earthwork south of the rectangular wall, and covered the presently visible mound and its immediate surroundings (Figure 2).

The magnetometry data do not provide direct, unambiguous evidence for the embankment walls. It is possible to find in the data faint linear traces that may represent embankment walls, but those traces are certainly equivocal. On the other hand, distinctive magnetic anomalies are visible that seem to represent structures and activity areas whose locations were structured by the embankment walls and other earthen features. For example, the magnetometry maps make it clear that there are large, complex structures and features associated with the presently visible mound and that this structural complexity extends well beyond the mound's preservation easement. Strong linear anomalies are spatially associated both with the location of Whittlesey's "gateway" in the southern wall of the rectangular embankment and with his small circular earthwork to the south of the rectangular embankment. In addition, there are at least two large magnetic features inside the rectangular embankment that exhibit signatures almost identical to that which signaled the presence of Structure 1.

At the time of this writing, we are working on Transect 11, the location of a strong magnetic anomaly 20 meters south of the mound easement. The excavated transect has expanded well beyond the bounds illustrated in Figure 2 to uncover a large oblong post structure measuring 16.5 meters by 8 meters. Structure 7 may be loosely conjoined by post molds to other compartmented structures of a presumed "Big House" which extends northward into the preservation easement. The surface on which Structure 7 was built had been stripped of the natural A-horizon topsoil, large posts were placed for the walls, and a very hard-packed, clay-rich floor was laid down. The very large, deep posts were subsequently removed, and their holes were filled with soil and, in some cases, with burnt limestone prior to covering the entire surface with a capping mound fill. Notably, both the mound fill and the structure's floor contained no features other than the post molds and no artifacts or debris except within the post molds. The entire structure seems remarkably free of charcoal, burnt soil, or any other artifactual evidence of use.

Less than a month now remains before the beginning of construction earthmoving for the new high school. In the time remaining, we hope to explore several other portions of the Stubbs Earthwork site. Berle Clay's magnetometry data ensure that we will be able to focus our efforts on productive and interesting site areas. We don't usually know what we're going to encounter when we open up an area around one of these magnetic anomalies, but we do know we will encounter something new, interesting, and worth the effort.

Acknowledgements

The success the Stubbs salvage project has enjoyed thus far is largely due to the many archaeologists and other interested parties who have offered their skills, knowledge, labor, and consideration to this project. Professional and amateur archaeologists and students from Algonquin Consultants, Archaeological Conservancy, ASC Group, Central Ohio Valley Archaeological Society, Cleveland Museum of Natural History, Cultural Resource Analysts, Gray & Pape, Loyola University Chicago, Miami University, Northern Kentucky University, Ohio Historical Society, Ohio State University, University of Cincinnati, University of Illinois, University of Kentucky, and Wright State University have all contributed their efforts to this project, and many local Warren County residents has also assisted in myriad ways. We couldn't have done this work without Carl Doyle as our skillful and ever-ready backhoe operator. We offer special thanks to Gray & Pape, Inc. and 3D/International for generous financial assistance. We also want to thank the Little Miami Local School Board and, especially, George Long, for granting permission for these investigations and for their sustained interest and cooperation.

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CALENDAR OF EVENTS

October 9-12 **The Sixth Ohio Archaeological Council Conference on Archaeology: The Archaeology of History in the Ohio Region.** Ramada Hotel and Conference Center, Toledo, Ohio. Contact: G. Michael Pratt, Laboratory of Archaeology, Heidelberg College, 310 E. Market St., Tiffin, Ohio 44883, (419) 448-2070, E-mail: mpratt@mail.heidelberg.edu.

October 14-17 **The 56th Annual Meeting of the Plains Anthropological Conference.** Radisson Inn, Bismark, North Dakota. Contact: Fern Swenson, State Historical Society of North Dakota, 612 E. Blvd. Ave., Bismark, ND 58505, (701) 328-3675, E-mail: ccmail.fswenson@ranch.state.nd.us.

October 21-24 **The 1998 Midwest Archaeological Conference.** Ball State University, Muncie, Indiana. Contact: Ronald Hicks, Dept. Of Anthropology, Ball State University, Muncie, Indiana 47306, (765) 285-2443, E-mail: 00rehicks@bsu.edu.

October 29-November 1 **Annual Meeting of the Eastern States Archaeological Federation.** East Mountain Inn, Wilkes Barre, Pennsylvania. Contact: Dawn Griffiths, Pan Cultural Associates, RR #3 Box 3344E, Moscow, PA 18444, (717) 842-2708, E-mail: baird@icontech.com.

November 11-14 **The 55th Annual Meeting of the Southeastern Archaeological Conference.** Hyatt Regency Hotel, Greenville, South Carolina. Contact: Ken Sassaman, SRARP, P.O. Box 600, New Ellenton, SC 29809, (803) 725-1130, E-mail: sassamank@garnet.cla.sc.edu.

March 24-28,1999 **The 64th Annual Meeting of the Society for American Archaeology.** Sheraton Chicago Hotel and Towers, Chicago. Contact SAA headquarters, web site: www.saa.org, E-mail:meetings@saa.org.

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