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2. Archeological Data Recovery Field Investigations at Site 33RO1059

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In June and July 2006, a team from the Midwest Archeological Center conducted field investigations for an archeological data recovery project at site 33RO1059. They were assisted by Hopewell Culture National Historical Park (HOCU) personnel and by students from Nebraska, Virginia, Ohio, and Illinois, who participated in the project as part of the University of Nebraska's archeological field school, directed by Dr. Mark Lynott. Additional expertise was provided to the project by Dr. John Weymouth, Dr. Rinita Dalan, Bruce Bevin, and Dr. Rolfe Mondell; respectively, they conducted gradiometer survey oversight and data analysis; a magnetic soil susceptibility study; additional geophysical survey; and a geomorphological study.

Site 33RO1059 is non-earthwork Hopewell site that is located adjacent to the extensive earthwork complex—the Hopewell site (33RO27). Part of HOCU's Hopewell Mound Group unit, site 33RO1059 is situated in a formerly cultivated field on an alluvial terrace overlooking the North Fork of Paint Creek to the south. The project was initiated because archeological resources were being threatened by the erosion occurring along the southern edge of the field and the National Park Service determined it was necessary to protect the site from additional damage. Site management alternatives included mitigation of impacts through mechanical stabilization or excavation. The latter was chosen because it would prevent the loss of site resources through data collection, but would not require the extensive amount of ground disturbance necessary for the construction alternative or impact natural stream dynamics.

Previous investigations at 33RO1059 were undertaken in 2003 and 2004 and included geophysical survey, surface collection, and evaluative testing based on results from the geophysical survey (DeVore and Bauermeister 2003; Bauermeister 2004; Burkes 2004). The archeological materials identified during those investigations led to the conclusion that the site may have been occupied when the nearby earthwork complex was in use and thus may contain important information about Hopewell settlement patterns adjacent to the earthworks. The implementation of the data recovery project provided archeologists an excellent opportunity to address specific research questions about this site, including:

1) What type of Hopewell settlement is represented at site 33RO1059?

2) Is there chronological control in the archeological record that indicates contemporary use with the Hopewell site, and if so, is there evidence of seasonality that indicates what time of year the earthworks may have been used?

3) What is the relationship between site 33RO1059 and other nearby non-earthwork sites with Middle Woodland components?

The 2006 investigations targeted four 20-x-20-meter block areas within the defined mitigation area, a 38-meter wide corridor along the stream bank that includes the projected extent of erosion and a buffer zone, for archeological excavation. Three of the blocks were identified, through surface collection and geophysical survey, as having good potential to contain

additional archeological resources while the fourth block was located where resources were not expected, thereby serving as a test for how survey results were interpreted. Block 1 was situated in the southwest section of the field where the majority of previously identified Hopewell artifacts and features were recorded. Block 2 served as the test block; it was located in the southeast section of the field. Blocks 3 and 4 were contiguous west to east and were placed approximately midfield toward what would be the northern boundary of the mitigation area. These two blocks straddled a linear ridge that bisects the site along a southwest to northeast diagonal. This landform is natural in origin and interpreted as a point bar created from ancient river movement.

Figure 1. Test unit excavations within Block 1.

To start, the plow zone from each block was removed using a backhoe and the floors were skim shoveled by hand to reveal any soil stains or potential cultural features. Next, the blocks were resurveyed with a FM36 fluxgate gradiometer, using the same technique and methodology applied to the area in 2003. Select areas within the blocks were then subject to additional geophysical surveys by Dr. Dalan and Bruce Bevin. This strategy is providing archeologists a unique opportunity to compare geophysical data from the same area both with and without the plow zone stratum. A total of 41 suspected features were identified through visual inspection of the 4 blocks. Individual test units were placed over each of potential features and nine additional test units were placed where anomalies appeared in the geophysical data, but were not exposed in the floor **(Figure 1)**. As a result of the excavations, 13 features were determined to be cultural in nature, with eight of those located in Block 1 **(Figure 2)**, four in Block 3, and one in Block 4.

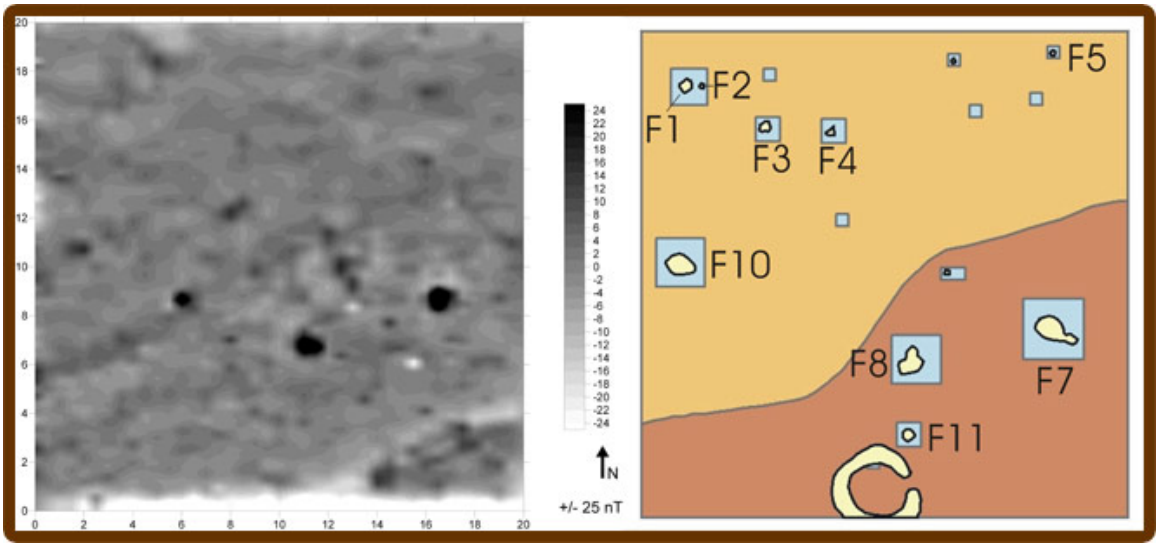

Figure 2. LEFT. Geophysical survey data from Block 1; the magnetic anomalies (black) were interpreted as probable prehistoric cultural features. RIGHT. Plan map showing the location of verified prehistoric cultural features in Block 1.

Block 1 Features 1, 3, 4, and 5 are similar in that they are circular in plan, have a fill comprised of dark brown loam and charcoal, and contain few, if any, artifacts. They are thought to be post holes, though there is no obvious patterning to their placement. Block 1 Features 10 and 11 are both oval pit features; Feature 10 yielded numerous artifacts including fire-cracked rock, debitage, pottery, and a bladelet while a single pottery fragment was all that was recovered from Feature 10.

Block 1 Features 7 and 8 are large, well-defined, circular pit features that exhibited evidence of burning and produced a substantial amount of cultural material, including numerous diagnostic Hopewell artifacts **(Figures 3-4)**. The contemporaneity of the filling of these two features was confirmed when several pottery sherds recovered from the two features were cross-mended. At least six vessels are represented in the combined pottery assemblage (n=429) and three of those have tetrapodal bases **(Figure 5)**. Fourteen bladelets, fire-cracked rock, charcoal, six bone tools, calcined bone, debitage, mica, and a pitted stone, were among the materials collected from the two features.

Figure 3. LEFT. Block 1 Feature 7 being excavated. Figure 4. RIGHT Cross-section of Block 1 Feature 8.

Figure 3. Base of tetrapodal pottery vessel found in Block 1 Feature 8.

Block 3 Features 2 and 4 and Block 4 Feature 10 are classified as possible post molds given their circular shape and dark loam fill; none yielded any artifacts. Block 3 Features 1 and 5 were small pits demarcated from the surrounding rocky soils by their fill of dark brown loam and charcoal. Feature 1 produced a bladelet and several pieces of unconsolidated fire-cracked rock.

Analysis of materials from site 33RO1059 in ongoing and the preliminary results are promising for being able to answer the research questions set forth. The Block 1 Feature 7-8 assemblage provides the best evidence for a Middle Woodland period Hopewell occupation. This unique assemblage that includes tetrapodal pots, bone tools, mica, and bladelets, suggests specialized activities were taking place at this location. In addition to the artifacts identified and collected during the field investigations, a 100% sample of feature fill was collected for flotation and further processing that will hopefully provide information about seasonality at the site. This processing, along with laboratory analysis of the bone, macro-botanical remains, lithics, and pottery are underway and radiocarbon dates from are pending. The Midwest Archeological Center will prepare a report on these findings to be completed in 2007.

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