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Archaeological Investigations at the Fort Hill Earthwork Complex

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Abstract

Geophysical and archaeological investigations were conducted this past summer at the Fort Hill Earthwork Complex, located in the Rocky River Reservation of the Cleveland Metroparks. Our investigations have not only revealed when the earthworks were created and by which prehistoric culture group, but we also have uncovered data to suggest how they were constructed and for what possible purpose they may have served. In addition, we conducted extensive archival research at several local historical societies and museums looking for previously unpublished information about this site’s initial discovery in the mid-1800s and for any additional information concerning the prehistoric occupation of the Rocky River Valley.

Introduction

Until now, limited archaeological investigations have been conducted at the Fort Hill Earthwork Complex. The site was first reported and mapped by famed Cleveland archaeologist Col. Chas. Whittlesey in 1888. Whittlesey noted that the site lies atop a 100-foot-high, steeply sided plateau, located just north of where the Rocky River splits into its East and West Branches. The earthworks are located at the eastern-most end of this plateau and consists of a triple line of earthen embankments with external ditches that run roughly north/south across the corner of the plateau.

Whittlesey stated the dimensions of the earthwork as follows:

- Hilltop encloses 5 acres
- Western Wall 150 feet N/S
- Width of Walls 15 feet E/W
- Ditch between Walls 11 feet

Following Whittlesey’s discovery of the Fort Hill earthwork in 1888, no further archaeological investigations were conducted for nearly 100 years. In 1985, archaeologists from the Cleveland Museum of Natural History conducted a brief archaeological survey and assessment of the site. Though their excavations failed to recover any diagnostic artifacts, by comparing their research with another local earthwork site they tentatively assigned a Late Woodland date (AD 500-900) for Fort Hill.

Methods

While investigating the Fort Hill Earthwork Complex we employed several different research strategies besides archaeological excavations. These strategies included extensive use of LIDAR and aerial imagery as well as gradiometer and cartographic survey data.

LIDAR (Light Detection and Ranging) is a remote sensing method that uses light in the form of a pulsed laser to measure ranges to the earth. These light pulses combined with other data recorded by the airborne system generate precise three-dimensional information about the shape of the earth and its surface characteristics.

Fluxgate Gradiometer is used to measure the earth’s total magnetic field at a given location. Its application in archaeology results from the local effects of magnetic materials within the earth’s own magnetic field. Anomalies such as magnetic materials and minerals, as well as certain cultural features such as fire hearths, storage pits, and dwellings can be detected in the soil matrix. A total of 12,800 data samples were collected in the field and then downloaded into a laptop computer. The magnetic data files were then imported into GEOPLLOT software for processing.

Cartographic/Survey Data was gathered by extensively mapping the research area using a GTS 255 Topcon Total Station. The total station is a device that shoots a laser to a prism located atop a stadia rod. The laser is reflected back to the total station and measures the distance, elevation, and angle of the prism as it walked across the site. This allows our researchers to create a detailed map highlighting both the site contents and important physical/cultural features.

Archaeological Excavation

The results of the geophysical survey identified at least ten major subsurface magnetic cultural features. In order to assess, analyze, and interpret these features we conducted archaeological excavations to determine the nature of the buried magnetic anomalies. The excavations of several of these anomalies yielded organic materials which were used to radiocarbon date the initial construction phase for the earthwork and to determine its cultural affiliation and age. Our excavations helped to reveal how the earthworks were constructed as well.

Archival Research

Bridget Coyne spent the summer examining the archives of several noted repositories such as the Cleveland Museum of Natural History, the Ohio Historical Connection, the Western Reserve Historical Society, and the Hudson Historical Society looking for additional information and fieldnotes on previous investigations at Fort Hill and of the region. This archival research yielded a treasure-trove of previously unpublished information on our project area.

Analysis & Conclusions

Our research at the Fort Hill Earthwork Complex has been a tremendous success. First, charcoal recovered from a fire hearth feature beneath the middle embankment revealed a radiocarbon date of 360 to 156 BC. This date places the earliest construction phase of Fort Hill within the Early Woodland Period of Ohio Prehistory (1,000-100 BC) making this an Adena construction. Second, based on a macroscopic examination of the chertdebitage recovered at Fort Hill, we have ascertained that a majority of this material can be sourced to chert deposits native to southwestern Indiana, more than 460 miles away. Third, our cartographic survey revealed two previously unknown “gateway” mounds which would have acted as an entryway into the complex.

Through our investigations we have been able to hypothesize several possible uses for the earthwork. The site is located high up on a bluff which would make for a great strategic and defensive location. The lack of artifacts at this site also tells us that it was likely used as a religious/pilgrimage site. Finally, based on extensive astronomical observations we suspect that the earthwork complex was likely used to mark the spring and fall equinoxes. Standing between the gateway mounds and looking due east, the sun rises directly through the centerline of the site during the equinoxes.