

The Walhonding Valley Late Prehistoric Sites Project: The Analysis of Flotation Samples from the Crawford and Tri-Mac/Olinger Sites in Coshocton County, Ohio

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Introduction

The Walhonding River is formed by the junction of the Kokosing River and the Mohican River near the village of Walhonding in west central Coshocton County, Ohio. After flowing some 18 miles to the east, the Walhonding River merges with the Tuscarawas River to form the Muskingum River near the center of the county at the town of Coshocton. Along the hillsides above the Walhonding River are extensive outcrops of Upper Mercer Flint that reach a maximum thickness of 17 feet near the Village of Nellie. These flint outcrops were heavily utilized by native peoples for tool and weapon production throughout the prehistoric period, and the terraces along the valley are littered with the remains of workshops, camp sites, and villages.

Walhonding Valley Late Prehistoric Sites Project

Fieldwork in the Walhonding Valley was begun in 1990 by Jim Morton and Nigel Brush. By 2006 this work had grown into the Walhonding Valley Late Prehistoric Sites Project. The purpose of this project is to examine how native peoples living in the Walhonding Valley adapted to three periods of short-term climate change that occurred during a one-thousand-year period from A.D. 700 to 1700: the Dark Age Cold Period (A.D. 400 to 900), the Medieval Warm Period (A.D. 900 to 1300), and the Little Ice Age (A.D. 1300 to 1850). Since cultures around the world were severely impacted by the two cold periods (before and after the Medieval Warm Period), it is assumed that native peoples living in the Walhonding Valley were similarly affected by these short-term climatic shifts. This project will attempt to document how peoples living in the Walhonding Valley adapted to these cold periods in terms of their: (1) settlement system (i.e. types of sites, types of features, distribution of sites, and intensity of occupation) and (2) subsistence system (i.e. animals being hunted, wild foods being gathered, plants being cultivated, raw materials being utilized, and types of tools being made). In this context, flotation samples from storage and refuse pits can tell us much about the plants being used during this time period.

The Walhonding Valley Late Prehistoric Sites Project has a two-fold focus: (1) to identify triangular point sites in the Walhonding Valley that were occupied between A.D. 700 and 1700, and (2) to conduct limited excavations at sixteen of these sites. Four triangular point sites will be selected for excavation from each of four separate time periods: (a) Intrusive Mound: A.D. 700 to 1000, (b) Cole: A.D. 1000 to 1300, (c) Philo/Belmont: A.D. 1300 to 1500, and (d) Wellsburg: A.D. 1500-1700. The Project has thus far identified some 25 triangular point

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sites in the Walhonding Valley. Magnetometer surveys or excavations have now been conducted at two Intrusive Mound sites (Tri-Mac/Olinger and Lapp-South) and three Wellsburg sites (Speckman-West, Cullison, and Crawford).

The Crawford Site

The Crawford Site is located on a high terrace on the south side of the Walhonding River in central Coshocton County, Ohio. This site was identified as a Late Prehistoric Site on the basis of triangular points which had previously been surface-collected from the site by Ron Ashman and Dave Woodmansee who live in the nearby town of Coshocton. In the summer and fall of 2011, Dr. Jarrod Burks from Ohio Valley Archaeology, Inc. and Jeff Dilyard of Rowsburg, Ohio, spent two days performing a magnetometer survey of the site and identified a total of 116 “significant” magnetic anomalies in a four-acre area. Professor Nigel Brush of Ashland University directed excavations at this site from the summer of 2011 through the fall of 2013. He was assisted in this work by Jeff Dilyard, Professor P. Nick Kardulias, members and volunteers of the Ashland/Wooster/Columbus Archaeological and Geologic Consortium, and students from Ashland University and the College of Wooster (Figures 1 and 2). Artifacts recovered from these excavations were processed in the Rock Storage Laboratory at Ashland University by Dr. Jonathan Bowen and Consortium members.



Figure 1. Jeff Dilyard and John Grimm excavating at the Crawford site (note elk antler on plastic sheet).



Figure 2. John Grimm exposing elk antler in Feature 60 at the Crawford site.

Approximately half of the 116 magnetic anomalies identified by Dr. Jarrod Burks at the Crawford Site were tested with a soil probe to a maximum depth of five feet in order to identify deep storage or refuse pits that might contain significant cultural materials. Based on these soil probes, 22 magnetic anomalies were chosen for excavation and 21 were subsequently found to contain cultural materials. The majority of these features initially served as cylindrical storage pits that were later abandoned or reused as earth ovens or refuse pits (Figures 3 and 4). Over 600 flint tools, stone tools, and pottery sherds were recovered from these features. Although small amounts of bone and shell were also excavated, these materials were not well preserved in the soils of this terrace.

Chronologically diagnostic artifacts included Madison, Fresno, and Fort Ancient Points, bi-pointed knives, bifacial scrapers, Wellsburg Simple Stamped Pottery, and Cole Collared

Pottery. Based on these diagnostic artifacts, nine of the features were identified as Wellsburg (A.D. 1500 to 1700), six as Cole/Philo (A.D. 1000 to 1500), and six as indeterminate.

The Tri-Mac/Olinger Site

The Tri-Mac/Olinger Site is located on the first terrace on the south side of the Walhonding River, only .75 mi east of the Crawford Site. This site was identified as a Late Prehistoric Site on the basis of points and pottery that had been surface-collected or recovered from test excavations by Jim Morton of Columbus, Ohio. In the winter of 2012, Dr. Jarrod Burks from Ohio Valley Archaeology, Inc. and Jeff Dilyard of Rowsburg, Ohio, spent two days performing a magnetometer survey of the site; they identified a total of 16 “significant” magnetic anomalies in the eastern portion of the four-acre survey area. (Additional anomalies were identified in the central and western portions of the site, but these have not yet been plotted, probed, or excavated). Professor Nigel Brush of Ashland University directed excavations at the site during the winter and spring of 2012. He was assisted in this work by Jeff Dilyard, as well as members and volunteers of the Ashland/Wooster/Columbus Archaeological and Geologic Consortium (Figure 5). Artifacts recovered from these excavations were processed in the Rock Storage Laboratory at Ashland University by Dr. Jonathan Bowen and Consortium members.



Figure 3. Exposed bottom of Feature 41, a cylindrical storage pit at the Crawford site.

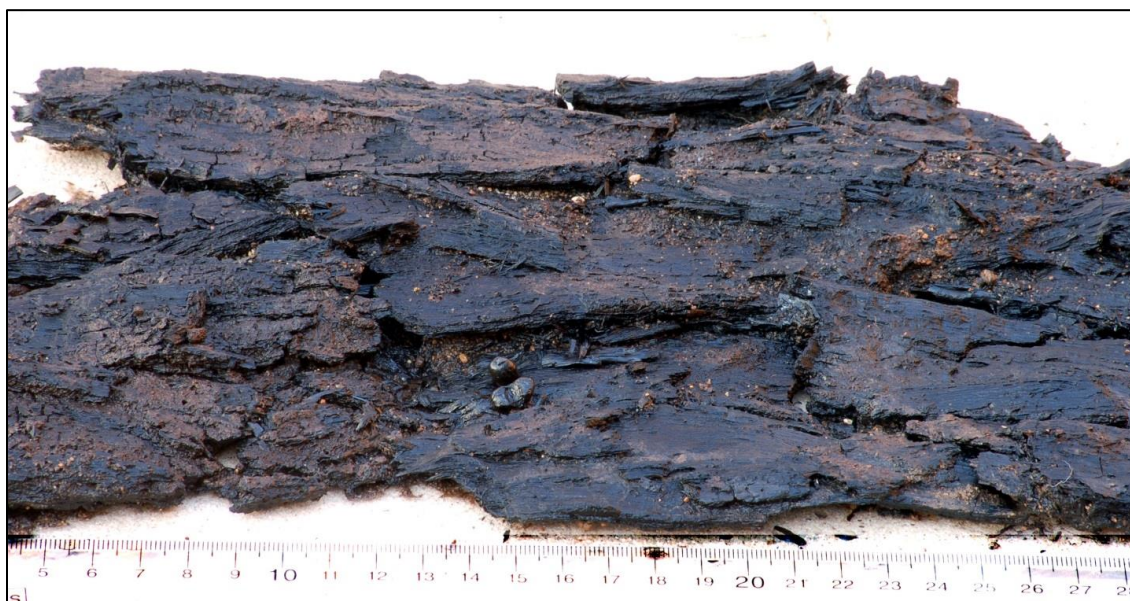


Figure 4. Woven oak bark matting from floor of Feature 45, a cylindrical storage pit at the Crawford site (grass stems and corn kernels on surface of matting). (scale in mm)



Figure 5. Feature 2: Jim Acton and James Morton working on Feature 2, an earth oven at the Tri Mac-Olinger site.

Eleven of the 16 magnetic anomalies identified by Jarrod Burks in the eastern portion of the Tri-Mac/Olinger Site were tested with a soil probe to a maximum depth of five feet in order to identify deep storage or refuse pits that might contain significant cultural materials. Based on these soil probes, eight magnetic anomalies were chosen for excavation but only four were subsequently found to contain cultural materials. Three of these features were earth ovens (Figure 6); the fourth was a fire hearth surrounded by a living floor. Some 381 flint tools, stone tools, bone tools, and pottery sherds were recovered from these features (76% of which were pottery sherds from Feature 13). Chronologically diagnostic artifacts included Jacks Reef Corner Notched, Raccoon Notched and Madison Points, as well as cord-on-cord pottery (Figure 7). Based on these diagnostic artifacts, all four features containing artifacts were identified as Intrusive Mound (A.D. 700 to 1000).

Flotation Samples: Crawford Site

A \$1200 Essenpreis Grant was obtained from the OAC in order to pay for the analysis of six flotation samples that were recovered from six subsurface features at the Crawford and Tri-Mac/Olinger sites in the fall of 2011 and the winter of 2012. These six samples were submitted



Figure 6. Feature 2, an earth oven at the Tri-Mac/Olinger site, displaying three separate periods of use.

to Karen L. Leone at Leone Consulting LTD in Hillard, Ohio for analysis at \$200 per sample (Karen is now paleoethnobotanist/principal investigator with Gray & Pape, Inc. in Cincinnati). Three of these soil samples were from the Crawford Site (Features 26, 27, and 46) and three were from the Tri-Mac/Olinger Site (Features 2, 3, and 13). Leone subsequently volunteered to analyze one additional soil sample from the Crawford Site (Feature 117) and one additional soil sample from the Tri-Mac/Olinger Site (Feature 4). In addition, two soil samples and three charcoal samples from Features 41 and 45 at the Crawford had previously been analyzed by Leone Consulting. This work was funded by grants from the Program in Archaeology at the College of Wooster and the Department of Chemistry/Physics/Geology at Ashland University.

The Crawford Site charcoal and soil samples were from two Cole/Philo features (26 and 27), and from four Wellsburg features (41, 45, 46, and 117). The two Cole/Philo features that were analyzed were bowl-shaped concentrations of dark soil ranging from 85 to 104 cm in depth.



Figure 7. Intrusive Mound cord-on-cord rim sherd from Feature 13, an earth oven at the Tri-Mac/Olinger site.

The only botanical materials recovered from the Feature 26 flotation sample were one sumac seed and one grass stem fragment. Most of the wood charcoal was so highly fragmented that only two pieces of oak (*Quercus sp.*) and one fragment of elm/hackberry (Ulmaceae family) could be identified. The wood charcoal from Feature 27 contained fragments of oak (*Quercus sp.*), hickory (*Carya sp.*), and honeylocust (*Gleditsia triacanthos*), as well as a small quantity of hickory nutshell and one sumac seed. In addition, six specimens of twigs and buds were recovered that may have been used as fire starter material or attached to branches used as firewood. The presence of sumac seeds and hickory nut shell may suggest these two features were being used in the late summer or fall. Leone (2013a) goes on to note in her report that, “the botanical assemblage from the two Cole features provides no evidence to suggest that these contexts were used for domestic activity that included the harvesting or processing of plant foods.”

The four Wellsburg features at the Crawford site that were analyzed were cylindrical storage/refuse pits that ranged from 112 to 191 cm. in depth. A total of 274 grass stem segments

were recovered from these four pits. In her report, Leone (2013a) notes that “three of the four Wellsburg pit features (Features 41, 45, and 46) appear to have been bark and grass-lined food storage pits for maize and beans – that, once emptied, the linings were burned and the pits were subsequently used for refuse disposal.” Wood charcoal dominated the flotation materials from all four features (90% by weight) with oak (*Quercus sp.*) being the most common (85%), followed by hickory (*Carya sp.*, 11%), walnut/butternut (*Juglans sp.*, 3%), and maple (*Acer sp.*, 1%) (Figure 8).

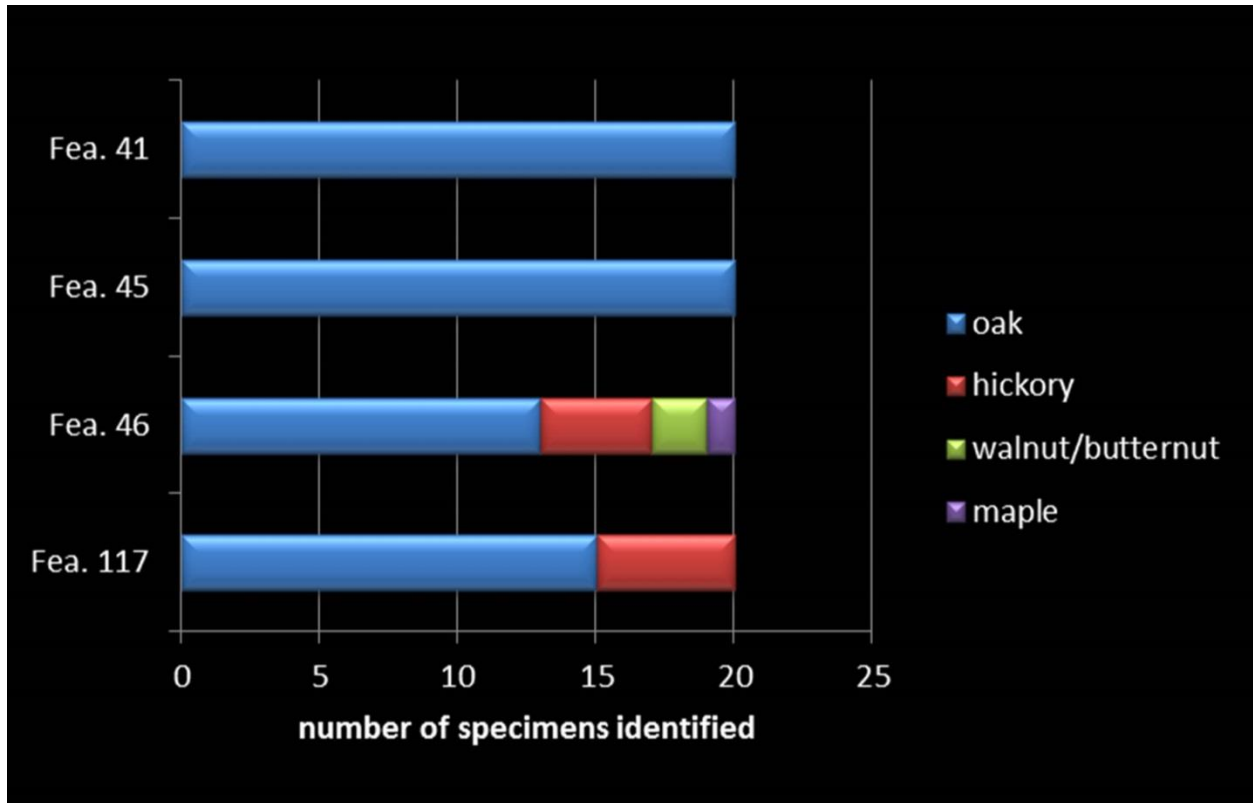


Figure 8. Crawford Site: Flotation samples of wood.

Feature 41 contained oak wood and bark charcoal; a sample of woven oak bark matting was recovered from the bottom of this feature. The majority of the 386 corn kernels and 25 corn cupules recovered from the Crawford Site were from Features 41 and 46. Four squash (*Cucurbita pepo*) rind fragments were also recovered from Feature 41. Wild plant seeds included: 2 grass (Poaceae), 1 bedstraw (*Galium sp.*), and 2 bulrush (*Scirpus sp.*).

Feature 45 had the highest amount of wood charcoal (all oak); two samples of woven oak bark matting were recovered from the bottom of this feature. Although only two corn kernels were found in Feature 45, it produced 10 of the 21 bean (*Phaseolus vulgaris*) fragments found in these four features. Wild plant materials included 5 grass seeds (Poaceae).

Feature 46 contained wood charcoal from oak, hickory, walnut/butternut, and maple. This feature also contained carbonized hickory nut and black walnut shells. In addition to a large number of corn kernels and corn cupules, this feature also produced 11 of the 21 bean (*Phaseolus vulgaris*) fragments, as well as two squash (*Cucurbita pepo*) seeds. Wild plant seeds included 2 sweetgum (*Liquidambar styraciflua*), and 1 chenopod (*Chenopodium sp.*).

Feature 117 contained wood charcoal from oak and hickory, carbonized hickory nut and acorn shells, as well as nutmeats (probably hickory nut). Although no cultivated seeds were found in this feature, it did contain a number of wild plant seeds, including: 5 cherry (*Prunus serotina*), 7 winged pigweed (*Cycloloma atriplicifolium*), 5 bedstraw (*Galium sp.*), 1 bulrush (*Scripus sp.*), 1 pondweed (*Potamogeton sp.*), 1 white ash (*Fraxinus americana*), and 1 grass seed (Poaceae), as well as 15 unidentified seeds that were too fragmented to classify.

To summarize, the seed assemblages from each of the four features are quite distinctive. Feature 41 contains seed remains indicative of corn storage, while Feature 45 contains seed remains indicative of bean storage. On the other hand, Feature 46 contains the entire suite of “three sisters” cultigens that include corn, beans, and squash. And in contrast, Feature 117 provides no evidence of cultigens whatsoever but, instead, contained small quantities of wild fruit, a multiple of seeds from six different environmental tree and plant species, and 15 unidentified seeds that were too fragmented to classify (Figure 9). Moreover, all four features contained environmental/weed seeds that would suggest at least a summer and fall occupation of the site (Leone 2013a).

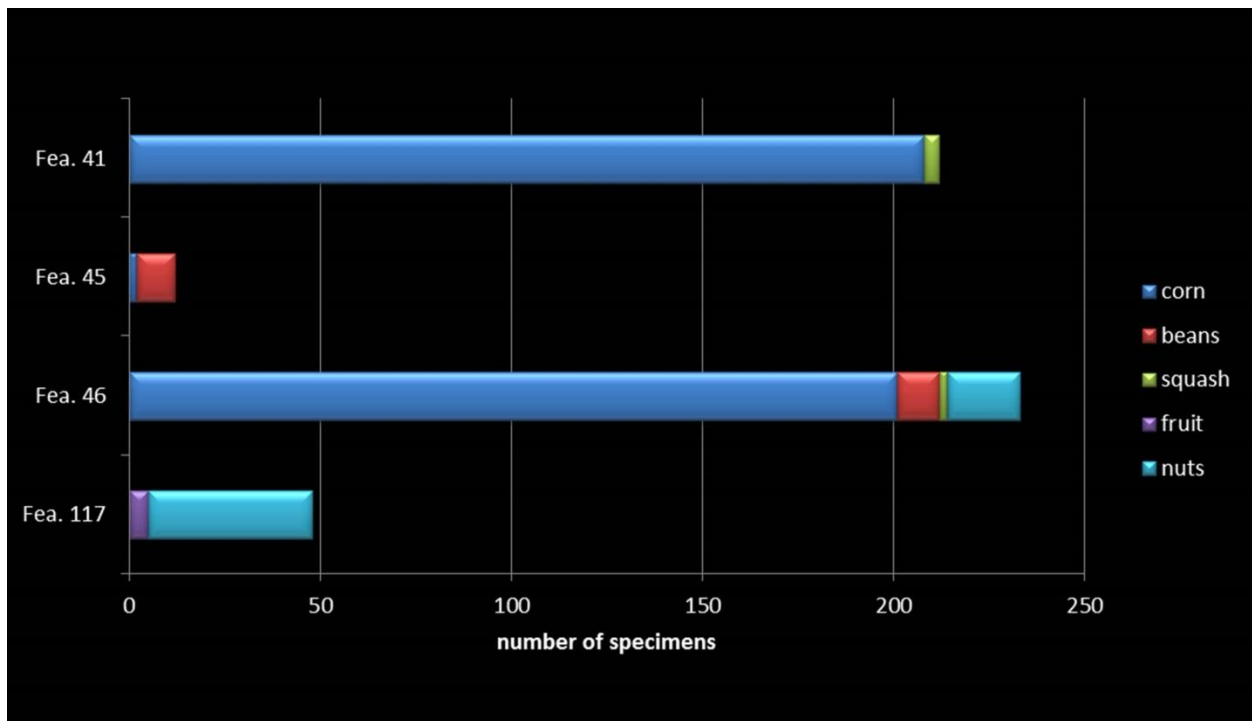


Figure 9. Crawford Site: Flotation samples of plant foods.

Flotation Samples: Tri-Mac/Olinger Site

The Tri-Mac/Olinger Site soil samples were collected from four Intrusive Mound (A.D. 700 to 1000) features: 2, 3, 4, and 13. Feature 4 was a small fire hearth that was surrounded by a compacted living floor, although no post molds were found to indicate that a structure was present. The other three features were earth ovens that varied in depth from 60 to 130 cm. Wood charcoal dominated the plant materials recovered from these four features (96% by weight) with sycamore (*Liquidambar styraciflua*) being the most abundant at 32%, followed by walnut/butternut (*Juglans sp.*, 22%), black locust (*Robinia pseudoacacia*, 18%), elm/hackberry (Ulmaceae, 11%), honeylocust (*Gleditsia triacanthos*, 10%), oak (*Quercus sp.*, 6%), and hickory (*Carya sp.*, 1%). Leone (2013b) notes that “There is no apparent pattern of wood density by feature type (i.e. hearth vs. earth ovens). The wood fragments in both samples from Feature 13 were large, for the most part, suggesting that this wood assemblage was burned *in situ*.”

Feature 13 was the only feature from which other types of plant materials were recovered, including: 471 fragments of butternut shell and 123 pieces of nutmeat, 7 grape seeds, 26 fragments of squash (*Cucurbita pepo*) rind, and 4 grass stem segments. This feature also contained the bulk (77%) of artifacts recovered from these four features, including 289 pottery sherds, 4 flint tools, 1 anvil stone, and 1 bone awl. The other three features, as Leone (2013b) points out, “provide no evidence to suggest that they were in proximity to domestic activity that included plant food processing.” Therefore, Leone (2013b) suggests that the Tri-Mac/Olinger Site was likely a resource extraction camp rather than a residential base camp.

Conclusion

In conclusion, flotation samples from four Intrusive Mound (A.D. 700 to 1000) features at the Tri-Mac/Olinger Site provided no evidence for the cultivation of wild native plants or the “three sisters,” except for the fragments of squash rind in Feature 13. This site seems to have been used as an extraction site, apparently for harvesting butternuts. Flotation samples from two Cole/Philo (A.D. 1000 to 1500) features at the Crawford Site also lack any evidence of cultigens or plant extraction – other than a few fragments of hickory nut shell. On the other hand, the samples from four Wellsburg (A.D. 1500 to 1700) features at the Crawford Site contain evidence for both the cultivation and/or storage of corn, beans, and squash, as well much more limited evidence for the use of some wild plants, such as cherries, walnuts and hickory nuts, as well as grasses. No doubt our planned future excavations at 14 other Late Prehistoric sites in the Walhonding Valley will greatly enrich and expand this very brief outline of plant use that we have been able to assemble from these 10 features at the Crawford and Tri-Mac/Olinger sites.

References Cited

Leone, Karen L.

2013a Paleoethnobotanical Analysis of the Crawford Site, Coshocton County, Ohio. Report submitted to Dr. Nigel Brush and Dr. P. Nick Kardulias via an OAC Essenpreis Grant.

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Leone, Karen L.

2013b Paleoethnobotanical Analysis of the Tri-Mac/Olinger Site, Coshocton County, Ohio.

Report submitted to Dr. Nigel Brush and Dr. P. Nick Kardulias via an OAC Essenpreis Grant.