

THE SOCIETY FOR PENNSYLVANIA ARCHAEOLOGY
75th ANNUAL MEETING
April 23-25, 2004

Program

[Abstracts](#)

Friday, April 23, 2004

- 9:00 am - 12:00 pm PAC Business Meeting
- 12:00 pm - 5:00 pm Bookroom Setup/Sales
- 12:00 pm - 1:00 pm Lunch
- 1:00 pm – 5:00 pm SPA Registration

PAC SESSION

Themes in the Development of Pennsylvania Archaeology: Avocational, Academic, and Applied Archaeologies

1:00 – 1:10 John P. McCarthy, John Milner Associates, Inc.
“Introduction”

1:10 – 1:30 Beverly A. Chiarulli, Indiana University of Pennsylvania
“Knowing Archaeology: 75 Years of University Based and Public Education in Pennsylvania”

1:30 – 1:50 Kurt Carr, Bureau for Historic Preservation, Pennsylvania
Historical and Museum Commission
"A History of Compliance Archaeology in Pennsylvania"

1:50 – 2:10 Christine Kula and Ira Beckerman, Cultural Resources Section,
Bureau of Design, Pennsylvania Department of Transportation
"Archaeology in the 21st Century at PENNDOT: Recent Successes, New Challenges"

2:10 – 2:30 Break

2:30 – 2:50 Brian L. Fritz, Clarion University of Pennsylvania
“The Role of Avocational Archaeology in Pennsylvania”

2:50 – 3:10 Joseph Schuldenrein, Geoarcheology Research Associates Inc.
“The Status of Pennsylvania Geoarchaeology: An Assessment of Achievements
and Shortcomings”

3:10 – 3:30 Daniel G. Roberts and John P. McCarthy, John Milner Associates,
Inc.
“The Development of Consulting Archaeology in Pennsylvania, 1966 – Present”

3:30 – 4:00 Discussion

6:00 pm - 8:00 pm SPA Board Meeting

8:00 pm - Midnight Hospitality

Saturday, April 24, 2004

8:00 am – 3:00 pm Registration

8:00 am - 9:00 am SPA Business Meeting

9:00 am - 9:05 am Welcome

GENERAL SESSION

Moderator – Mary Miles

9:05 am – 9:25 am W. J. Holland, Carnegie Museum, and Western
Pennsylvania Archaeology a Century Ago, by David R. Watters, Section of
Anthropology, Carnegie Museum of Natural History

9:25 am - 9:45 am A New Monongahela Culture House Type Revisited, A
Reply To George and Herbstritt: Where’s the Beef? by William C. Johnson,
Michael Baker ., Inc. and Jay Babich, Society for Pennsylvania Archaeology

9:45 am - 10:05 am Discovery of a 1739 Prayer House at Ephrata Cloister, by Stephen G. Warfel, Senior Curator, Archaeology, The State Museum of Pennsylvania

10:05 am - 10:25 am Plain People or Fancy Friends?: Interpreting a Quaker Farmstead Site in Chester County by Daniel N. Bailey, A.D. Marble & Company, Inc.

10:25 am - 10:45 am Break

10:45 am - 11:05 am Application of Geophysical and Geological Field Methodologies to Archaeological Site Evaluation and Assessment by Frank J. Vento, Clarion University of Pennsylvania

11:05 am - 11:25 am Neutron Activation Analysis of Steatite from the Leetsdale Site (36A1480) by Frank J. Vento, Clarion University of Pennsylvania

11:25 am - 11:45 am The Real Late Woodland in Western Pennsylvania by Mark A. McConaughy

11:45 pm - 1:00 pm Lunch

LATE WOODLAND SESSION

Moderator – James Herbstritt

1:00 pm - 1:20 pm The Meade Island Culture, A Complex Early Late Woodland Occupation of the Middle Allegheny River Valley by Stanley W. Lantz, Ohio Valley Chapter 22, SPA

1:20 pm - 1:40 pm The Wind People and the Drew Phase by Richard L. George

1:40 pm - 2:00 pm Late Woodland/Late Prehistoric Settlement in the Central Allegheny Valley by Beverly A. Chiarulli and Sarah W. Neusius, Indiana University of Pennsylvania

2:00 pm- 2:20 pm The Consol Site (36Wm100) Four Occupations of the Late Woodland Village by Robert Oshnock, Westmoreland Archaeological Society, Chapter 23, SPA

2:20 pm - 2:40 pm Break

2:40 pm - 3:00 pm The (Non-) Village People: Late Woodland Life at Non-Village Sites by Paul Raber, Heberling Associates, Inc., Alexandria, Pennsylvania

3:00 pm - 3:20 pm Late Woodland/Late Prehistoric Cultures of the West Branch Susquehanna River Valley: Old Sites – Many Uses by James T. Herbstritt, Pennsylvania Historical and Museum Commission

3:20 pm - 3:40 pm Water From A Deeper Well: An Analysis of Final Cordage Twist Direction on Woodland Pottery from the Central and Northern Susquehanna Drainage by Andrew Wyatt, Temple University, Philadelphia, Pennsylvania

3:40 pm – 4:00 pm Investigations at 36LA1100, a Shenks Ferry Village in Lancaster County by Douglas C. McLearen, Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission, Harrisburg, PA

4:00 pm - 5:30 pm Primitive Games

6:00 pm - 6:30 pm Cash Bar

6:30 pm - 9:00 pm Dinner Banquet and Awards

Re-present-ing the Past: Brazilian Rock Art in Context by Reinaldo Morales Jr, Ph.D., Department of Art, Clarion University of Pennsylvania

9:00 pm - 10:00 pm Auction

9:00 pm - Midnight Hospitality Suite

Sunday, April 25, 2004

GENERAL SESSION

Moderator – Edmund Dlutowski

8:30 am - 8:35 am Opening Remarks

8:35 am - 8:55 am An Inventory of Western Pennsylvania Rockshelters by Bill Tippins, Allegheny Chapter No. 1, SPA

8:55 am - 9:15 am The Zimmermann Site – Its current place in Delaware Valley Archaeology by Fred Assmus, Forks of the Delaware Chapter 14, President of the Orange County Chapter of the New York State Archaeological Association and member of the Eastern States Archaeological Federation.

9:15 am - 9:35 am An Examination of Data Recovered from the Pitt Gas Mound (36Gr254), an Early Woodland Burial Locality in Greene County, Pennsylvania by Marc Henshaw, Western Michigan University and Shawna Owens, California University of Pennsylvania

9:35 am - 9:55 am A Discussion of Mortuary Behavior at the Hughes H. Jones Site, a Late 12th century Monongahela Site in Greene County, Pennsylvania by Jayme Kopecek and Stanley Marcovitch, California University of Pennsylvania

9:55 am - 10:15 am Break

10:15 am - 10:35 am A Seventeenth Century Tribe of the Upper Susquehanna by David J. Sorg

10:35 am - 10:55 am Recent Testing at the Kings Jasper Quarry, Lehigh County, Pennsylvania by Kurt W. Carr and Douglas C. McLearn, Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission, Harrisburg, PA

10:55 am - 11:15 am Prehistoric Site Distribution in the Allegheny National Forest: A View from the Upper Clarion Watershed by Susanne M. Haney, IUP Archaeological Services, Indiana University of Pennsylvania

11:15 am -11:35 noon Low Cost Ground Resistivity at Stoystown Cemetery West by Brian L. Fritz, Clarion University

11:35 am – 11:55 am Historic Hill Cemetery – Does it Contain Remains of General Anthony Wayne’s Cantonment at Legion Ville? by Patrick Riley and Bill Johnson

11:55 Closing Remarks

SPA Annual Meeting 2004 Abstracts

Assmus, Fred *The Zimmermann Site*

This paper is a retrospective of the Zimmermann Site, 36PI14 which was excavated in the 1960's by Lenape Chapter #12 (now defunct) of which the author was a member and Treasurer. The Site was a large stratified river terrace site with six occupation zones. This paper is the only way to see the site under excavation and see some of the artifacts recovered. The relationship of this site with other excavated sites in the Delaware Valley will be discussed.

Bailey, Daniel N. *Plain People or Fancy Friends?: Interpreting a Quaker Farmstead Site in Chester*

This paper presents the results of multi-phase excavations at the Hoopes House Site (36Ch732), an eighteenth- through nineteenth-century farmstead in London Grove Township, Chester County. This significant site represents one of the few rural Quaker sites to ever be archaeologically investigated in southeastern Pennsylvania. The site was continually occupied by a series of Quaker families beginning around 1730 and continuing into the late 1800s. Excavations uncovered the structural remains of the original stone and log dwelling, a stratified domestic refuse midden, and other features. Through artifact analysis and document research, the project team investigated a series of research issues: site formation and preservation; the role of African-Americans at the site; and the often cited, but poorly understood concept of Quaker "plainness". This work was performed by A.D. Marble & Company, Inc. for PENNDOT, District 6-0 as part of Section 106 compliance in association with roadway improvements to State Route 41.

Carr, Kurt W. and Douglas C. McLearn *Recent Testing at the Kings Jasper Quarry, Lehigh County, Pennsylvania*

The King's Quarry Site (36LH2), located in the Reading Prong region of eastern Pennsylvania, is one of six remaining jasper quarries mapped by the late James Hatch and reported in 1994. A housing development has been proposed for this site and the Commonwealth Archaeology Program conducted archaeological testing there over a three-week period during the spring of 2003. These investigations included controlled surface collections and developing profiles of prehistorically excavated quarry pits in what appeared to be the most intensively mined area of the site. Several charcoal samples were collected from the profile which documented a prehistoric excavation over eight meters deep. A Paleoindian fluted preform along with other typical Paleoindian tools were recovered from the perimeter of the quarry pit. This talk will present the initial results of the investigation and will focus on describing the profile and the

activities of the prehistoric miners.

Chiarulli, Beverly A. and Sarah W. Neusius *Late Woodland/Late Prehistoric Settlement in the Central Allegheny Valley*

Several recent archaeological investigations in Indiana County, PA have provided new information concerning Late Woodland/Late Prehistoric use of the central part of the Allegheny watershed. Excavations have been conducted by IUP Archaeological Services and the IUP Anthropology Department's Archaeological Field School at sites in the Crooked Creek, Loyalhanna and Conemaugh-Black Lick drainages. This work has contributed ceramic and other assemblages, radiocarbon dates, ethnobotanical and faunal data and some indication of structural features at several sites. These kinds of information suggest that well-known cultures such as the Monongahela, Mead Island, and McFate may not fully encompass the cultural variability present in Western Pennsylvania after the Middle Woodland period.

Fritz, Brian L. *Low Cost Ground Resistivity at Stoystown Cemetery West*

A long standing wish of archaeologists around the world is to have the capacity to see into the ground before any soil is turned over. Proving, or at a minimum suggesting the presence or lack of archaeological remains prior to intrusive excavation saves time, reduces project costs, and limits disruption to locations that may be ecologically or culturally sensitive. The use of ground resistivity measurements as a form of remote sensing for archaeological remains has been used by archaeologists around the world for many decades. Unfortunately, the cost of manufactured ground resistivity equipment is prohibitive for most low budget archaeological projects. This paper explores a low cost alternative to manufactured ground resistivity equipment and the methodologies of its use for archaeological applications.

George, Richard L. *The Wind People and the Drew Phase*

The plain and decorated pottery of the Drew Phase of Monongahela represents a very unexpected cultural product in the Upper Ohio Valley. This is said because there is no known Middle or Late Woodland pottery in the area from which it could be derived. It is, thus, suggested that Drew Phase people arrived in the Upper Ohio Valley bringing with them their rich, shell tempered pottery tradition, and other distinct attributes, around A.D. 1100. Since the WPA make-work projects in the late 1930's and early 1940's, 25 Drew Phase sites have been partially excavated or tested, and 13 of these have been carbon dated. None of these assays are later than the very early 15th century A. D. Secondly, there is no late Monongahela pottery that can seriously be considered to be related to Drew Phase pottery, with it's high percentage of plain ware and, sometimes, elaborate

decoration.

It is here suggested that the people responsible for this distinct ceramic tradition migrated out of the Upper Ohio Valley around A.D. 1400 and that this migration was a part of the oral tradition of five Siouan speaking tribes who were living west of the Mississippi River well before the 19th century, when early observers and scholars starting paying attention to Native American origins. The five tribes who spoke the Dhegehan Dialect of Siouan are the Omaha, Osage, Kansa, Ponca and Quapa, who lived from present-day Nebraska to Arkansas. Of these, it is the Kansa, or Wind People, who are the subject of the rest of this paper and who carried on a material culture tradition that was at home in the Upper Ohio Valley for three or more centuries.

Advocating a 1200 kilometer migration based on oral tradition is easy - documenting it is something else. It is a subject that has interested Mid-western archaeologists for many years. Maybe they were looking for the Dhegehan Sioux in the wrong places!

Haney, Susanne M. *Prehistoric Site Distribution in the Allegheny National Forest: A View from the Upper Clarion Watershed*

There are a very small number of recorded prehistoric open archaeological sites in the Allegheny National Forest when compared to surrounding areas. This is particularly true with regard to open sites in upland areas, away from major rivers and streams. Generally, the upland portions of this region have been viewed by archaeologists as having been lightly utilized, if at all, by prehistoric populations. Recent surveys on the Forest conducted by Indiana University of Pennsylvania's Archaeological Services, has suggested that there are not only more sites, but more open sites in the uplands than may have been previously believed. The surveys have also found an efficient method for locating these types of sites.

This research examines possible explanations for the paucity of sites. Background research on previous site predictive models for the Forest, a reconstruction of the paleoenvironment of the region, and GIS analysis within the upper Clarion and part of the lower Clarion watershed were used to examine these explanations.

The results of this research suggest that archaeologists should reconsider previous theories of site type distribution on the Allegheny National Forest.

Henshaw, Marc and Shawna Owens *An Examination of Data Recovered from the Pitt Gas Mound (36Gr254), an Early Woodland Burial Locality in Greene County, Pennsylvania*

Over the past six years California University has conducted excavations at the Pitt Gas Early Woodland Mound. To date, approximately one-half of the mound

has been excavated. Although the mound has been impacted by non-professional excavation, investigation by California has identified the existence of intact features. The results of California's excavations are first described and then the mound is compared with data from other excavated Early Woodland mounds from southwestern Pennsylvania and northern West Virginia.

Herbstritt, James T. *Late Woodland/Late Prehistoric Cultures of the West Branch Susquehanna River Valley: Old Sites – Many Uses*

The West Branch Susquehanna River Valley is a vast region of rugged mountains and scenic valleys where the record of human land use extends back in time more than 10,000 years. In the watershed's more recent history the Late Woodland and Late Prehistoric occupations date circa 800 AD to 1450 AD. On the basis of ceramic differences and radiocarbon dates archaeologists have assigned these occupations to three archaeological complexes: Clemson Island-Owasco, Shenks Ferry and Quiggle. Using settlement, subsistence and artifactual data obtained through survey, excavation and the GIS, the research in this presentation identified four broadly defined site types: village, hamlet, rockshelter and quarry. Although the results are preliminary and the field work continues, a land use model for prehistoric settlement of the West Branch valley is beginning to emerge.

Johnson, William C. and Jay Babich *A New Monongahela Culture House Type Revisited, A Reply To George and Herbstritt: Where's the Beef?*

A decade ago, Johnson and Babich (1992, 1995) presented data documenting a new house type for the Late Prehistoric period Monongahela culture core area of the lower Monongahela and adjacent Youghiogheny river valleys. The evidence for their interpretation was documented by the cross-sectioned post molds from 24 house patterns from five components at four upland Monongahela village sites. They argued that their data indicated the former presence of houses with low out-sloping walls and, perforce, with pitched roofs with overhanging eaves. Since then, we have collected data from four additional house patterns at one of the four sites, Kirshner. As well, similar house post mold patterns have been documented at a recurrently occupied hamlet on a terrace of the Monongahela River. Recently, George (2001, 2002) and Herbstritt (2003) have -- in part -- ignored the data presented by the authors in 1992 and 1995 and in one instance, misrepresented it. As well, they have challenged the interpretation of the archaeological data presented by the authors. Here in, we present an expanded data base for Monongahela house post mold orientations as well as additional evidence to buttress our original interpretation of the evidence.

Kopecek, Jayme and Stanley Marcovitch *A Discussion of Mortuary Behavior*

at the Hughes H. Jones Site, a Late 12th century Monongahela Site in Greene County, Pennsylvania

Burials are a common feature in many Monongahela settlements. At the Hughes H. Jones Site (36Gr4) situated along Ten Mile Creek in Greene County, excavation has recovered six burials. Using osteological information learned in a Forensic Anthropology class, together with standard osteological texts, we have attempted to discern the age, sex, and stature of the six individuals. These data, together with other information about the burials, are then combined in order to learn about mortuary behavior at the Jones Site. Finally, our findings from the Jones site are then examined in the context of early Monongahela mortuary behavior in southwestern Pennsylvania with the intent of learning something about Monongahela ideological beliefs.

Lantz, Stanley W. *The Meade Island Culture, A Complex Early Late Woodland Occupation of the Middle Allegheny River Valley*

The Meade Island Culture was named after an island in the Allegheny River near Warren, Pennsylvania. It was the dominant Early Late Woodland occupation of the Middle Allegheny River Valley from the mouth of the Conewango Creek in Warren, down river to the confluence of French Creek at Franklin and perhaps beyond. Radiocarbon dates range from circa AD1000 to AD1300 or in calendar years from AD1050 to AD 1320. This range within excavated occupations; confirm a pattern of abandonment and reoccupation. The culture exhibits complexity, with domestic structures comparable to those of the Monongahela to the south, however, surface and subterranean features are duplicated in the immediate upriver Allegheny Iroquois occupations. Furthermore, many ceramic attributes are similar to the Fort Ancient and Whittlesey Traditions of Ohio. Also, a degree of ceramic form is recognized with Monongahela.

McLearen, Douglas C. *Investigations at 36LA1100, a Shenks Ferry Village in Lancaster County*

This presentation offers preliminary results of The Commonwealth's Archaeology Program's ongoing excavations at Site 36LA1100, in west-central Lancaster County. The site is a Funk Phase, Shenks Ferry village in an upland saddle above Conestoga Creek. The property where the site is located is slated for development, but the owners have agreed to extend the time limits for investigation beyond those imposed by the State History Code. To date, the entire site has undergone a controlled surface collection, and subsurface excavations have begun. At present, a ca. ¼-acre excavation block and several long, narrow trenches have been stripped of plowzone and hand-cleaned to look for features. Features found include a section of palisade, as well as numerous post molds indicating other structural patterns. Also present are pits, hearths, and

features of undetermined function. Among those features excavated to date is a large and very rich refuse pit that sits just outside the palisade. The fill and contents suggest that the feature probably served at least mainly as a dump for materials cleaned out of hearths. Contents include charred bean and corn, varied other floral and faunal remains, bone tool fragments, portions of at least nine Funk Phase vessels, triangular projectile points, and cores and debitage of high grade quartz that was likely procured on or very near the site. Almost 100 percent of the fill was floated rather than dry-screened, and this procedure has provided for recovery of shell beads, microdebitage, and numerous additional floral and faunal specimens. The study of the site's artifacts, ecofacts, and feature and artifact patterning should shed additional light on the study of Shenks Ferry lifeways in the lower Susquehanna Valley. So far, the community patterning appears that it may be different from that of the Murry and Slackwater Sites. However, additional excavations will be needed to follow up on these observations.

McConaughy, Mark A. *The Real Late Woodland in Western Pennsylvania*

The Late Woodland (AD 400 and 1000) is an important transition stage between the Middle Woodland and Late Prehistoric Periods in Western Pennsylvania. The bow-and-arrow and cultivation of Northern Flint maize are believed to have been introduced during this interval, while participation in the Hopewellian trade network ceases. This paper will examine the Late Woodland phases from Western Pennsylvania and how they relate to the following Late Prehistoric inhabitants of the region.

Morales, Reinaldo, Jr. *Re-present-ing the Past: Brazilian Rock Art in Context*

The living arts of the Brazilian Indians are not only vivid and highly sophisticated, but offer a rich source for understanding indigenous South American art and aesthetics. The prehistoric rock art of Brazil, while also vivid and sophisticated, is much less understood. This essay introduces an interpretation of Northeast Brazilian rock art, informed by the production and reception of the living arts. Ethnographic information on the masking traditions of Central and Northeast Brazilian Indians supports the hypothesis that the prehistoric rock art served to make present ancestral personages from the mythical past. Rather than mere documentaries of masked performances, these paintings were the ancestral personages. They were made present by means of painting to fulfill a similar material and spiritual function as the personages now made present by means of masked performance.

Oshnock, Robert *The Consol Site (36Wm100) Four Occupations of the Late Woodland Village*

Four years of excavation on the Consol site by members of the Westmoreland Archaeological Society have yielded much information on this Late Woodland hilltop village located in Westmoreland County, a short distance from the Youghiogheny River. Post mold patterns from twenty-five round houses have been identified that represent four major occupations of the site. With the help of the site's six Carbon 14 dates, these occupations have been sorted out to be Drew, Monongahela and a Middle Woodland occupation. Each of the site's Late Woodland occupations is associated with a stockade. The site contains detached shallow subterranean post mold enclosed features that were internally lined with shallow troughs. The site settlement pattern indicates the early development and the usage of petal appendages connected to two of the round houses.

Raber, Paul *The (Non-) Village People: Late Woodland Life at Non-Village Sites*

Most summaries of Late Woodland and Late Prehistoric lifeways are based on the results of intensive studies of large, permanent and often fortified agricultural settlements. This perspective ignores the evidence for widespread variability in settlement patterns and types. It also underplays the fact that the inhabitants of the villages seem to have spent a considerable amount of time living in small camps and doing things other than cultivating domesticates. We can obtain a more balanced view of Late Woodland (Prehistoric) life by considering the nature of small camps, including rockshelters and other upland sites. The Late Woodland occupation of 36Hu143, the Mykut Rockshelter, offers one example of this settlement type.

Riley, Patrick and Bill Johnson *Historic Hill Cemetery – Does it Contain Remains of General Anthony Wayne's Cantonment at Legion Ville?*

The Hill Cemetery located in the Borough of Baden, Pennsylvania is a one-acre "family" cemetery founded by Johnathan Hill in 1819. Several older graves, possibly including two military officers of the Legion of the United States dating from 1793, may also be present in the cemetery. In November of 1792, when Major General Anthony Wayne built the cantonment he named Legion Ville, he surrounded his fortification by four outer redoubts numbered 1-4. Based on a contemporary sketch, Redoubt #4 was located in a position overlooking the Ohio River on the extreme northwest corner of the camp, possibly in the area of the cemetery. In 1938, George C. Hill was asked to write a short narrative of the cemetery for the centennial of Baden and wrote "the most interesting thing about the Hill Cemetery is that General Wayne built a blockhouse in one corner of the cemetery when camped at Legion Ville, the foundation of which was well known but has long since been covered." The ground surface at the Hill Cemetery does not provide any indication as to whether a portion of Legion Ville could be present. Given the impracticality of finding remnants of the fortifications with

random excavations, the area of the cemetery was first screened with a program of geophysics.

The geophysical field investigation was conducted from July 16-August 1, 2001 by D'Appolonia geophysicist Bill Johnson. Several geophysical techniques including time-domain electromagnetics for deep metal detection, magnetic gradiometry, and ground penetrating radar (GPR) were applied at the cemetery. For the most part with few exceptions, the grave markers do correspond to burials, but there appear to be more than 50 unmarked graves. Building foundations do appear to be present in the southern portion of the cemetery. The extreme southwestern corner of the cemetery might contain the partial remains of Redoubt #4, but a complete structure does not appear to be present and the location may have been disturbed by railroad tracks and erosion from an adjacent ravine. The data does indicate the presence of a series of small structures that have the appearance of being barracks or stables. The data also indicate the presence of at least 20 locations that are likely to be fire hearths or pits. The geophysical results provide an effective blueprint for archaeological excavations. A limited archaeological investigation will be conducted in the future to verify whether these subsurface features are associated with the Legion Ville site.

Sorg, David J. *A Seventeenth Century Tribe of the Upper Susquehanna*

Previous authors have demonstrated the existence of a tribe known as the Onnontioga, with political affiliations to the Susquehannocks. The present work proposes a synonymy with the "Capitannasses" of early Dutch maps, as well as a location on the West Branch of the Susquehanna in the seventeenth century.

Tippins, Bill *An Inventory of Western Pennsylvania Rockshelters*

Bill Tippins, President of Allegheny Chapter No. 1, will present the results of a three year study of rockshelter sites recorded in the PASS files for a 24 county area in western Pennsylvania. A statistical analysis of the data looks for patterns in geographic location, prehistoric usage, and current status of these unique archaeological sites.

Vento, Frank J. *Application of Geophysical and Geological Field Methodologies to Archaeological Site Evaluation and Assessment*

Over the last ten years, geomorphological, geological and geophysical field methods have become important research tools in site soil stratigraphic assessment, site evaluation and the prediction of now buried subsurface structures at archaeological sites. This paper examines through several case studies, the application and methodology for ground penetrating radar, magnetometry, resistivity and core-boring studies. In addition to on-site geophysical and remote sensing studies is the importance of

defining the evolution of the landforms (and associated soil sequences) present as well as depositional processes which have operated at the site over time.

Vento, Frank J. *Neutron Activation Analysis of Steatite from the Leetsdale Site (36A1480)*

This paper will examine the potential of Neutron Activation Analysis of Rare Earth Elements as a tool in defining the geologic source of steatite utilized by aboriginal inhabitants at the Leetsdale Site (36A1480).

Warfel, Stephen G. *Discovery of a 1739 Prayer House at Ephrata Cloister*

One of the primary goals of the Ephrata Cloister Archaeology Project is the discovery of large buildings erected and used by members of the 18th century religious commune at Ephrata. After a two-year search, the site of a 1739 prayer house was discovered and fully investigated during the summer of 2003. The structure, initially constructed for the Zionitic Brotherhood, was confiscated by the Continental Army during the winter of 1777-78 and used as hospital. Much to our surprise, post-built construction technology was employed to fabricate the prayer house.

This presentation will examine the process of discovery, assess documentary and archaeological evidence associated with the site, and evaluate its significance within the Ephrata community.

Watters, David R. W. J. Holland *Carnegie Museum, and Western Pennsylvania Archaeology a Century Ago*

W. J. Holland, second director of Carnegie Museum (1898-1922), was an advocate for, a facilitator of, and even a participant in the study of western Pennsylvania's aboriginal inhabitants. His work in promoting archaeology was noteworthy during the earlier part of his administration, from 1898-1907, when Carnegie Museum was achieving acclaim for its scientific research and gaining prestige for its innovative exhibits. Archaeological fieldwork was devoted mainly to recording petroglyphs and excavating mound sites. We identified Holland's endeavors on behalf of archaeology in unpublished documents in the Holland Archives and a few publications. These sources provide an intriguing glimpse, though unfortunately not a complete record, of archaeological research around Pittsburgh a century ago.

Wyatt, Andrew *Water From A Deeper Well: An Analysis of Final Cordage Twist Direction on Woodland Pottery from the Central and Northern Susquehanna Drainage*

Preliminary results of an ongoing study of cordage impressions on Native

American pottery from the central and northern Susquehanna River drainage indicate that preferred final twist direction was differentially distributed within the major tributaries of the drainage by the early Late Woodland period. High percentages of final “Z” twist cordage are registered on pottery from the Juniata River and the central Susquehanna drainage while even higher percentages of final “S” twist can be found along the West Branch and the North Branch above their confluence, a distribution which cross-cuts the geographic boundaries of the Clemsons Island archaeological culture proposed by Hay, et al. (1987) and Stewart (1990, 1994). Because final cordage twist direction appears to be conserved over many generations, one implication of this geographic pattern is that the makers of cordage resided within the areas of their birth, simultaneously carrying on older cordage traditions while participating in new regional developments in agriculture, burial programs, and pottery decoration.