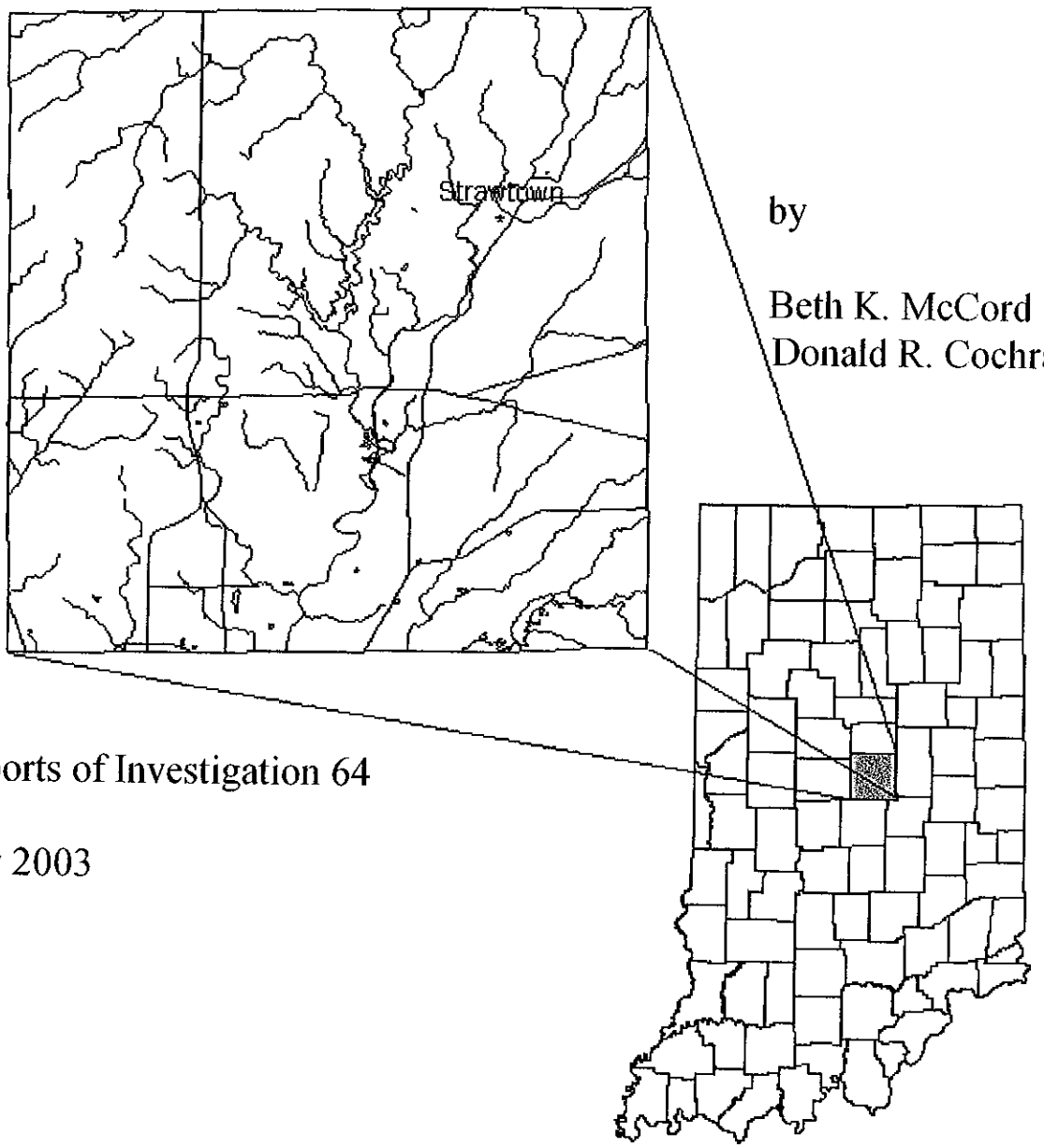
An Archaeological Survey of the Taylor Property at the Strawtown Prairie, Hamilton County, Indiana



by

Beth K. McCord
Donald R. Cochran

Reports of Investigation 64

July 2003

Archaeological Resources Management Service
Ball State University
Muncie, Indiana

An Archaeological Survey of the Taylor Property at the Strawtown Prairie, Hamilton County, Indiana

by

Beth K. McCord
Donald R. Cochran

Reports of Investigation 64

July 2003

Archaeological Resources Management Service
Ball State University
Muncie, Indiana

ACKNOWLEDGMENT OF STATE AND FEDERAL ASSISTANCE

This program receives federal financial assistance for the identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964 and Section 504 of the Rehabilitation Act of 1973, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin or handicap in its federally assisted programs. If you believe you have been discriminated against in any program activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, U.S. Department of the Interior, Washington, D.C. 20240.

The activity that is the subject of this archaeological project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior. However, the contents and opinions do not necessarily reflect the view or policies of the Department of the Interior.

ACKNOWLEDGMENTS

We greatly appreciate the assistance of the Hamilton County Parks and Recreation Department for the opportunity to conduct this project. Mr. Allen Patterson and his staff were diligent and enthusiastic in assisting us with this project.

The students that enrolled in field school and did the majority of the field work were a generous crew. Thanks to Michelle Anderson, Eric Efaw, Alison Julian, Anne Kramer, Jan Northam Josh Slaven Michael Strachan and Christina Whalen for your participation. Thanks also to Carrie Kissel who donated several days of her time. Some of the cleaning and initial sorting of materials was completed by the students named above, but the bulk of the laboratory processing and site form preparation was conducted by Eric Efaw, Jan Northam, and Seth Rosenburg. Seth provided invaluable assistance with cataloguing, database construction, site form completion and anything else we needed. Thank you all.

Other ARMS staff and students were integral in completing this project. Christina Whalen performed the tedious secretarial tasks such as payroll and supply orders associated with this project. As always, Mitch Zoll provided stability in the lab schedule to allow this project to run smoothly. Thank you both.

Mark Cantin, Curtis Tomak and Brad Kolderhoff freely contributed their expertise on chipped stone raw materials. Their help is greatly appreciated. Mark Cantin and Russel Stafford reviewed our interpretation of the geomorphology of the flood plain area and provided insightful comments on this complex area.

We also thank the Division of Historic Preservation and Archaeology and Ball State University for making this project possible. This project has been funded in part by a Department of the Interior grant administered by the Division of Historic Preservation and Archaeology, Indiana Department of Natural Resources. Thank you Steve Kennedy, Malia Savarino and Jim Mohow for your assistance. The remaining funds for this project were furnished by Ball State University. Thanks to Jay Javed for managing the accounting for this project.

ABSTRACT

The Archaeological Resources Management Service conducted a FY2002 Historical Preservation Fund Grant to survey the portion of the Taylor property owned by Hamilton County Parks and Recreation located south of the Strawtown-Cicero Pike. The survey documented 89 new archaeological sites and recovered over 3000 artifacts. In addition, two sites were intensively investigated to recovery additional information and augers were excavated in the flood plain portion of the project area to sample buried deposits. The data acquired during the survey showed that the Taylor property was occupied by prehistoric peoples from at least 8,000 B.C. through the Historic period, with a regionally unique presence of Middle Woodland peoples of about 2,000 years ago. The survey data also showed that the Strawtown area was a boundary region for aboriginal peoples throughout its occupational history. Data recovered from the augers showed that archaeological deposits are buried in the flood plain portion of the property. Overall, the project demonstrated that the Taylor property contains numerous and unique archaeological deposits with the potential to address many regional research problems of considerable importance both locally and within the broader region of the Midwest. There can no longer be any doubt that the Taylor property contains many archaeological sites that are most likely eligible for listing on the State and National Registers of Historic Places.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

The Archaeological Resources Management Service (ARMS) at Ball State University conducted a FY 2002 Historic Preservation Fund Grant to inventory and evaluate archaeological resources within and adjacent to the White River Valley near Strawtown, Hamilton County, Indiana (Figure 1). When the Hamilton County Parks and Recreation Department acquired the 750 acre Taylor Property in the White River Valley just west of Strawtown, Indiana, a unique archaeological research opportunity was created. Most of the land along the Upper White River is privately owned, has been developed, or utilized for gravel mining. The large flood plain in the bend of the White River Valley was recorded as a 300 acre prairie in the 1821 General Land Office Surveys (Brown 1821). Such a large prairie in the closed canopy forest of central Indiana was a unique environment that would have affected aboriginal land use in the area. Cultural manifestations documented in the Strawtown area were Middle Woodland, Albee, Oliver, Oneota, historic Delaware, and early Euroamerican (Brown 1821, Hixon 1988, Cochran et al. 1993, McCord 2002, White et al. 2002).

The Hamilton County Parks and Recreation Department developed a Master Plan to guide the formation of the park to provide local recreational opportunities and establish a unique opportunity to explore the natural and cultural history of Hamilton County and the White River (Anonymous 2002). Features planned within the southern half of the Taylor Property (the area surveyed by ARMS) include a central meeting area that would contain a 60 acre lake, a beach, beach house, boat ramp, picnic shelters, parking areas, a central event lawn, a playground, and an archaeology interpretive demonstration area. A southern complex will include a lodge, conference center and restaurant, picnic shelters, a playground, equestrian facilities, an interpretive farm, parking areas, a sledding hill, a toboggan run, a challenge course and a water treatment wetland. Other plans involve the reforestation of some of the agricultural land and reconstruction of the prairie in other portions of the agricultural land, a pedestrian bridge across the White River to the present campground, and multi-use trails across the park area. Features planned within the northern half of the Taylor Property (the area surveyed by IPFW) include an archaeological interpretative center and restored Native American village associated with the Strawtown Enclosure, a maintenance facility, tower overlook, canoe launch, a wetland, two archaeology interpretive demonstration areas, parking areas and multi use trails across the park area, reforestation of some of the agricultural land and reconstruction of the prairie in other portions of the agricultural land.

This report summarizes the completion of a systematic pedestrian survey of that portion of the Taylor Property that is south of Strawtown-Cicero Pike that encompassed approximate 450 acres of land The objectives of the survey were to locate and provide an inventory of the historic and prehistoric archaeological sites that occur within the project area and allow for preliminary evaluations of the significance of individual sites. The goals also include an assessment of the project area for the potential to contain buried archaeological sites and to determine where subsurface reconnaissance should be conducted. The data presented will allow for the planning of

Site Locations Confidential
Not For Public Disclosure

Figure 1. Location of Strawtown, Hamilton County, Indiana.

future archaeological investigations and for management decisions regarding the development of the property.

Central Indiana and the Tipton Till Plain region has been a focus of Ball State archaeologists for the past 40 years. Ball State has conducted hundreds of compliance surveys, several regional surveys (Harlos 1967; Rodeffer 1967, 1968; Morris 1968, 1969, 1970; Hobson 1968, 1969; Buehrig and Hicks 1982; Anuszczyk and Cochran 1984; Stephenson et al. 1984; Cochran and Buehrig 1985; James and Cochran 1985; Burkett and Hicks 1986; Holsten and Cochran 1986; Conover 1988; Cree 1991; Cree et al. 1994; Angst 1994; Angst 1997; McCord 2002), excavated a variety of prehistoric sites (Ferguson 1970; Swartz 1973, 1976, 1982; Cochran and James 1986; Cochran et al. 1988; Cochran 1988; Cree and Cochran 1991; Kolbe 1992; Zoll et al. 1991; McCord and Cochran 1994; McCord 1996; McCord 1998; McCord 2001) and developed models of prehistoric use and occupation of the region (Stephenson et al.1984, Cochran et al. 1990, Cochran 1994, McCord and Cochran 1996, McCord and Cochran 1998). The extensive data collected over the years has led the authors to examine the till plain region from a regional perspective (Binford 1972) and a variety of viewpoints. One view is to examine the region to fulfill the basic goals of archaeology: construct cultural chronologies, reconstruct past lifeways and define cultural processes (Thomas 1998). A second view is to examine the region from the perspective of cultural ecology to study the interaction and adaptation of humans and the environment (Butzer 1984). Ongoing reanalysis of regional data in a critical manner has led us to a contextual approach wherein the data is networked to test and retest hypotheses and theories of meaning (Hodder 1992). Our final view is, therefore, one of postmodern "deconstruction" in which critical analysis and contextualization are used to determine "how our various rhetorical forms convey and distort reality" (Thomas 1998:486).

Given the history and background of the archaeology in central Indiana, we view the Taylor Property at Strawtown as a unique environmental and archaeological setting and a number of regional research problems were stimulated. A few of the questions we felt were of interest are listed below.

1. What is the relationship between the Taylor Village Oneota component and the Oliver Phase component(s) at the Strawtown site?
2. What is the cultural and chronological relationship between the Albee Phase and the Oliver Phase?
3. A Middle Woodland component has been identified at the Strawtown site and in the field to the east. Is the Middle Woodland component related to Middle Woodland sites as reflected in Anderson Mounds and other earthworks in east central Indiana or is it related to a western Havana tradition?
4. What is the cultural affiliation(s) of the burials reported from the gravel pit just to the northwest of the Strawtown enclosure?

While this project was not conceived to specifically address these questions, it was anticipated that the Taylor Property would contain information relative to these research

questions as well as others. The project was designed to provide data to address the following:

1. Define the density, distribution and potential significance of the surface sites within the project area.
2. Define the chronology of the occupation of the Strawtown prairie.
3. Test the Woodland settlement model proposed by McCord and Cochran (1996).
4. Refine the historic Delaware use and settlement of the Strawtown prairie.
5. Evaluate the potential for buried cultural deposits within the project area.
6. Investigate the Oneota occupation of the Strawtown prairie within the context of the Late Prehistoric Period of central Indiana.
7. Acquire data relevant to land use planning and interpretation of the aboriginal settlement of the Strawtown prairie.

Of the approximate 450 acres of land that could be surveyed, approximately 360 acres could be addressed by pedestrian survey. Other portions of the area include woods bounding the White River and slough channels, and an abandoned farmhouse and associated buildings. The field work resulted in the discovery of 89 previously unrecorded archaeological sites. Two sites were subject to intensive survey by controlled surface collection and/or shovel tests. The prehistoric sites ranged from isolated prehistoric lithic finds to large scatters of lithics and ceramics. Several sites have historic components, but no early historic occupation or use of the area was discovered during the project.

BACKGROUND

To assist with the interpretation of the data collected during this project, a review of the natural and cultural setting was undertaken. The background information presented in this report includes environmental and archaeological information concerning the project area, Hamilton County and the surrounding region.

Environmental Setting

Location

The project area is approximately 485 acres in size [redacted] This area is within the White River Township of Hamilton County, Indiana. It is located in central Indiana and is bounded to the east by Madison County, to the south by Hancock and Marion counties, to the west by Clinton and Boone counties, and to the north by Tipton County. The county is approximately 256,640 acres in size (Hosteter 1978:1). Hamilton County is the most rapidly growing county in Indiana (Anonymous 2002) and development is most readily apparent in the southern half of the county in and around Fishers, Carmel, and Noblesville.

Geology

The structural framework of Indiana is divided into three general areas: the Illinois and the Michigan Basins which are separated by the Cincinnati Arch and its branches of the Findlay and Wisconsin Arches (Gutshick 1966:9). Hamilton County and the project area are within the broad region of uplift known as the Cincinnati Arch (Gutshick 1966:10-17). The Cincinnati Arch can be divided into smaller bedrock physiographic zones. In Hamilton County, these zones are the Bluffton Plain and the Scottsburg Lowland (Schneider 1966:54). The project area is within the Scottsburg Lowland (Schneider 1966:54).

The bedrock of Hamilton County contains Devonian limestone, Silurian rocks and Devonian and Mississippian shale (Gutschick 1966:5), but limestone and dolomite of Silurian and Devonian Age predominates (Gefell 1983:16). Limestone bedrock is noted as outcropping along the West Fork of the White River near Clare and Strawtown, on Fall Creek above Geist Reservoir and on Stoney Creek east of Noblesville (Gefell 1983:17).

The limestone outcrops have not been sampled for chert, but could contain Liston Creek or Fall Creek chert. To the east of the project area in Section 2, Township 19 North, Range 6 East an outcrop of shale along the White River is overlain by 5 or 6 six feet of Liston Creek limestone (Cummings and Schrock 1928:64-65). Liston Creek chert is a component of the Liston Creek Limestone Member (Cantin 1994:25). Known chert outcrops from the central Indiana region include Liston Creek, Kenneth and Attica (Cantin 1994). No bedrock sources are

Site Locations Confidential
Not For Public Disclosure

Figure 2. The location of the project area as shown on the USGS 7.5' Omega and Riverwood, Indiana Quadrangles.

identified for Fall Creek chert, but the Liston Creek limestone and a local cherty conglomerate have been identified as potential sources (Lumbis and Cochran 1984). Chert has been identified in the glacial till in the region (Gooding 1973:13-14). Identified cherts in the glacial till include Fall Creek chert, found within the project area during this survey and on previous investigations of the surrounding region (ie. Stephenson 1984, Hixon 1988, Cree 1991).

Glacial History

Glacial drift covers the bedrock in most areas of Hamilton County (Gefell 1983:17). The Kansan, Illinoian and Wisconsinan glacial episodes all covered the county leaving drift that varies between a few feet to over 400 feet (Gefell 1983:21-23). The Wisconsin glaciation deposits buried the previous glacial episodes and all of the surface glacial land forms in the county are part of the Cartersburg Till Member of the Trafalgar Formation (Wayne 1963, Wayne 1966:26, Gefell 1983:23). The Trafalgar formation is composed primarily of a massive calcareous conglomeritic mudstone, (a compact but uncemented sandy, silty, matrix) with scattered beds of gravel, sand and silt (Wayne 1963:45).

Unconsolidated sediments overlie the Trafalagar Formation in some areas and were deposited extraglacially as the Atherton Formation (Wayne 1963:31, Wayne 1966:26). These sediments of gravel, sand, silt and clay were derived primarily from glacial outwash and were sorted and deposited by meltwater currents, wind action or in the quiet waters of glacial lakes (Wayne 1963:31). Most of the Atherton Formation sediments in the project area would belong to the outwash facies. This facies consists of stratified coarse-grained sediments which were deposited in sheets and by glacial meltwater currents in valley fill (Wayne 1963:32). Extensive outwash deposits were documented in the county along the White River and some of its major tributaries. Areas of peat and muck were found in outwash terraces and glacial sluiceways in ridge and ground moraines. Kames were also noted in outwash deposits (Gefell 1983:25).

The outwash facies of the Atherton Formation intertongues and intergrades with other formations in the state and it is disconformably overlain by the Martinsville Formation in most of the state (Wayne 1963:32). This is the case within the project area. The Martinsville Formation sediments are post glacial in age, composed of recent alluvium of silt, sands and gravels, and only occur on the flood plains of streams (Wayne 1963:28-29).

Physiography

Hamilton County lies within the Tipton Till Plain physiographic division of Indiana, a member of the Till Plain Section of the Central Lowland Province of the United States (Schermerhorn 1967:83). This gently rolling, almost featureless plain is almost entirely composed of glacial till and only slightly modified by post glacial stream erosion. The flat till plain is broken by end moraines, eskers, esker troughs and meltwater drainages (Schneider 1966:49-50).

The description of the Tipton Till Plain region has been recently revised by Gray (2000).

The Tipton Till Plain is redefined as the Central Till Plain Region and subdivided into physiographic sections. The project area is located within the New Castle Till Plains and Drainageways, but is near the boundary of the newly defined Tipton Till Plain section. The New Castle Till Plains and Drainageways section is characterized as a relatively featureless plain of low relief dissected by a crisscross pattern of meltwater features. Tunnel valleys fed the West Fork of the White River, several tributaries of the East Fork of the White River and the several forks of the Whitewater River. The Tipton Till Plain is defined as a till plain with low relief with extensive area of ice-disintegration features.

The surface topography of the county varies from gently undulating ground moraine to hummocky areas of ridge moraine. Kames were noted that ranged from 20 to 30 feet above the surrounding terrain. Areas of the greatest local relief occurred along the White River and its main tributaries when gently rolling outwash terraces met old glacial meltwater channels and abrupt changes in elevation occurred (Gefell 1983:16). The project falls within areas identified as outwash terrace, flood plain and recent river terrace (Gefell 1983). Outwash terraces may vary physiographically from broad, nearly flat plains to areas cut by erosional meltwater channels leaving sloping gravelly knolls and ridges. The flood plain area would also be variable and could contain areas of water margin, insular and point bars, cutbanks, backwater pockets, the flood plain proper, flood plain depressions and flood plain or recent river terraces (Waters 1992).

Valley Development

The valley of the west fork of White River and most river valleys in the glaciated region of Indiana were created by glacial meltwater (Cumings and Schrock 1928:27-37). As the glacial ice melted and retreated to the north, the flat till plain was inundated with water and numerous broad valleys leading southward and southwestward were created (Malott 1922:109). In northeast Indiana, the modern major tributaries follow old sluiceway valleys that were entrenched along the front edge of each of the crescentic end moraines. The modern rivers and streams are underfit in the broad glacial sluiceways (Malott 1922:109).

The valley of the west fork of the White River at its headwaters in Randolph County is flat and poorly developed and the flood plain is narrow (Figure 3). The headwaters originate in the till plain and the northerly flow is affected by elevation. Downstream between Union City and Winchester, the valley follows the south margin of the Union City moraine and the entrenched glacial sluiceway as the flow turns to the west. The valley becomes wider and deeper and the river begins to meander. At the west edge of Muncie the valley no longer follows the southern edge of the moraine, but continues west following one of the sluiceway valleys. In western Madison County the river meanders in loops ½ mile wide and the flood plain can also be as much as ½ mile wide. By the time the river reaches Strawtown in Hamilton County, the valley is almost one mile wide and the river continues to meander. At Strawtown the valley makes a sharp bend to the south. The sluiceway valley south of Strawtown is broad and the modern river and flood plain are confined to a narrower portion of the Pleistocene valley. The modern river valley and flood plain at Indianapolis and to the south can be up to 2 miles wide in the sluiceway valley that

Upper White River Valley

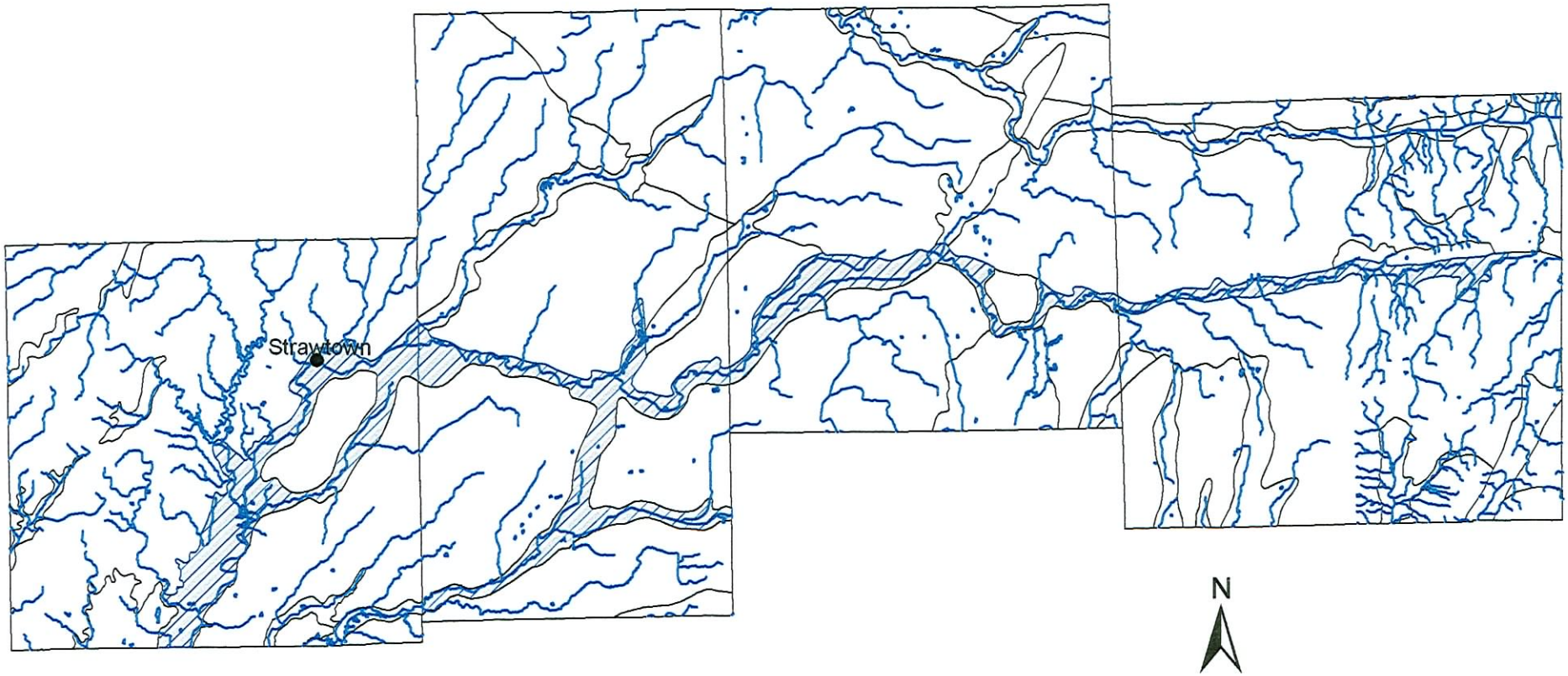


Figure 3. The White River Valley in Hamilton, Madison, Delaware and Randolph counties.

is 4 or 5 miles wide and over 75' deep (Burger et al. 1971, Gray et al. 1972, and Gray et al. 1979).

Specific to the project, the White River valley is a glacial sluiceway and the modern river channel and its tributaries fill the valley at Strawtown (Figure 4). Bedrock is reported near Strawtown in the valley northeast of Noblesville (Cumings and Schrock 1928:31), but no outcrop has been documented in the project area. The current valley physiography and hydrology patterns have been inherited from the glacial sluiceway formation ancestral to the White River and Duck Creek drainages that are presently underfit in the sluiceway valleys. Evidence for another Holocene age river channel can be seen in the flood plain landform within the project area. A large slough bordering the outwash terrace in the central area of the project indicates this was once a major drainage channel. This slough may have served as one channel for a multi-channel Holocene river system that has been filled. The slough presently serves as a backwater floodbasin. Several lateral swales serve as flood channels draining to this southern slough during times of flooding. Parent material for soil development within the project area consists of glacial till, glacial outwash, and alluvium.

Soils

The project area is within two soil associations that are found in valley settings. The Ockley-Westland-Fox soil association is characterized by deep and moderately deep soils over sand and gravel, that are nearly level to strongly sloping, well drained and very poorly drained, medium textured and moderately fine textured sediments that formed in outwash on terraces (Hosteter 1978:4). The Shoals-Genesee soil association is characterized by deep, nearly level, somewhat poorly drained and well drained, medium textured soils that formed in alluvium on flood plains (Hosteter 1978:4). The soil phases mapped within the project are presented in Table 1 (Figure 5).

While the soils can be broken into two basic groups of flood plain and terrace soils, there is variation in the formation and age of the soils. The Alfisols within the project began forming after the last glaciation typically under a deciduous forest vegetation (Fanning 1989:268). Alfisols form primarily from eluviation (downward movement of dissolved or suspended material within soil) and illuviation (deposition of material in an underlying soil layer leached out of an overlying soil layer) of silicate clay and iron oxides (Fanning 1989:267). The age of the Mollisols in the project is more variable; mollic epipedons have been noted to form in fewer than 900 years, but they could be as old as the last glaciation (Fanning 1989:256-257). They most likely developed in native grasslands since they have high levels of calcium humates (Fanning 1989:255-256). Mollisols form primarily from calcification or "the underground decomposition of organic matter, especially grass roots, in the presence of calcium", faunal bioturbation and eluviation and illuviation (Fanning 1989:255). The Entisols within the project are likely the youngest soils, since they occur in the flood plain and form from an accumulation of alluvium (Fanning 1989:229).

Site Locations Confidential
Not For Public Disclosure

Figure 4. Aerial photographs showing the project area.

Site Locations Confidential
Not For Public Disclosure

Figure 5. Soils mapped within the project area.

Table 1 Soils within the Project				
Soil Phase	Drainage	Parent Material	Physiography	Soil Order
Ross loam(Ro)	well drained	alluvium	flood plain	Mollisol
Genesee silt loam (Ge)	well drained	alluvium	flood plain	Entisol
Shoals silt loam (Sh)	somewhat poorly drained	alluvium	flood plain	Entisol
Sloan silty clay loam, sandy substratum (Sx)	poorly drained/ ponded	alluvium	flood plain	Mollisol
Ockley silt loam, 0 to 2% slopes (0cA)	well drained	outwash	terrace	Alfisol
Ockley silt loam, 2 to 6% slopes, eroded (OcB2)	well drained	outwash	terrace	Alfisol
Fox clay loam, 9 to 18% slopes, severely eroded (FxC3)	well drained	outwash	terrace/upland	Alfisol
Nineveh loam, 0 to 2% slopes (NnA)	well drained	outwash	terrace	Mollisol
Fox loam, 0 to 2% slopes (FnA)	well drained	outwash	terrace/upland	Alfisol

The soils identified within the project all had the potential to support or attract human occupation. The Shoals and Sloan soils were not likely areas of habitation because of poor drainage characteristics and use as overflow channels, but they would have supported wetland vegetation and fauna that were potential food and raw material resources. The remaining soils were well drained and could have supported human habitation and a varied woodland and prairie biotic community. However, the majority of the project area has been cultivated and the potential for intact archaeological deposits is, therefore, greatly reduced. The eroded Ockley and Fox soils further reduce this potential. The Genesee and Ross soils are subject to flooding and while this may have hampered occupation, the alluvium may have buried cultural deposits. These soils have the best potential to contain intact subsurface/sub-plowzone archaeological deposits within the project area.

Water Resources

Water resources are extremely important to human occupation and influence human habitation. Hamilton County contains a wide variety of water resources such as springs, wetlands, small intermittent streams, year round flowing streams, seasonally flowing streams, and the White River.

Hamilton County is in the Upper White, West Fork Watershed (Kingsbury 1970). The drainage pattern for the county is regionally dendritic and locally parallel to sub-parallel (Gefell 1982:9). Drainage is best developed along the White River and its main tributaries, Cicero Creek, Duck Creek and Stony Creek, since they are entrenched in the ground and ridge moraines. Drainage in most of the county is still controlled to some extent by old glacial sluiceways. The erratic behavior of the White River at Strawtown is possibly a product of the conjunction of the White River and Duck Creek sluiceways.

There are some small, closed drainage basins in the county. Most are related to small infiltration basins or kettles. Some of the depressions may be associated with till covered sink holes in limestone bedrock (Gefell 1983:9). There are no natural lakes in Hamilton County. Geist and Morse reservoirs are the largest man-made lakes in the county serving industrial and municipal purposes. Other man-made ponds are the result of farming and gravel quarry operations (Gefell 1983:11).

Water resources that are within the project area include the White River, several intermittent streams, and wetlands. The large slough in the central portion of the project area has the lowest elevation in the project area and serves as a large expanse of wetland. This slough holds water year round at the northwest end.

Climate

The modern climate of Indiana is described as a "humid, mesothermal-microthermal, continental climate" (Newman 1966:171). This refers to Indiana's lack of average humidity less than 50% and cold periods of winter and hot periods of summer (Newman 1966:171). Northern Indiana is within the microthermal unit which has a cool temperature climate like those found farther north and east, whereas southern Indiana is a part of the mestothermal unit which has a warm temperature climate similar to those areas in the south and west (Newman 1966:171). Since Hamilton County is in central Indiana, it experiences alternate flows of cool Canadian air with tropical air from the south and causes daily and seasonal variability in the climate (Hosteter 1978:1).

The temperature and precipitation data presented was collected in Hamilton County between 1941 and 1973 (Hosteter 1978:2, 60). The average winter temperature is 29 degrees and the average minimum temperature is 20 degrees. The average summer temperature is 72 degrees and the average daily maximum temperature is 84 degrees. The total annual precipitation

is 21.6 inches. The precipitation in the spring and early summer generally exceeds precipitation in the winter, but it is fairly evenly distributed.

Local climatic influences can be created by several natural features within the landscapes that human populations could anticipate. These areas would have affected prehistoric and historic utilization of the local environment and created site selected environments. Newman (1966:174) refers to these areas as "meso-climates" and states that they are mainly caused by wind patterns produced by natural landforms such as major river valleys, the shore area around large lakes, high plateau areas and springs (Newman 1966:174-176).

The modern climate of Indiana is of course not an accurate reflection of the climate over the last 12,000 years. As other archaeologists have noted (e.g. King 1993:236), the reconstruction of paleoclimates have been hampered by ambiguous climatic data that have been used to support conflicting interpretations. Climatic change has been documented and can be discussed in generally accepted terms.

As the glacial ice retreated at the end of Wisconsin Ice Age, the interglacial or Holocene period began a shift to warmer climate with conditions characterized as cool and moist. A warming period known as the Hypsithermal interval occurred between 9000 and 4000 years ago. During the Hypsithermal the precipitation may have decreased by 10 to 25% and the mean July temperature may have been 0.5 to 2^0 C higher than today. After the Hypsithermal the temperature has generally decreased and the precipitation has increased. A noted cool and wet climate is documented for the Little Ice Age (ca. AD 1450 to 1850), but alternating intervals of cool and wet with warm and dry has been suggested (Delcourt and Delcourt 1991, Holloway and Bryant 1985).

Climate is a significant factor in driving ecological processes. It regulates disturbance regimes such as wildfire, wind damage and flooding that in turn dictate the landscape mosaic. Environmental changes can result in new conditions that have profound effects on biota (Delcourt and Delcourt 1991:1, 152).

Biotic Communities

Flora

As the climate shifted in Indiana after the end of the Pleistocence, so did the plant species. Table 2 presents the transformation of the vegetative sequence constructed by Shane (1976) to reflect the general changes that took place with the region since the retreat of the glacial ice. Table 2 is a regional generalization and of course does not cover the project area specifically. Vegetative responses have not been recorded in sediments from the Great Lakes Region (Holloway and Bryant 1985:237).

Table 2
Vegetation Sequence of Central Indiana
(Cochran and Buehrig 1985:9, after Shane 1976)

<table>
<tr><td>AD 2000</td><td rowspan="2">Historic</td><td rowspan="8">Deciduous Forest</td></tr>
<tr><td>AD 1000</td></tr>
<tr><td rowspan="2">0</td><td>Late Woodland</td></tr>
<tr><td>Middle Woodland</td></tr>
<tr><td>1000 BC</td><td>Early Woodland</td></tr>
<tr><td>2000 BC</td><td rowspan="2">Late Archaic</td></tr>
<tr><td>3000 BC</td></tr>
<tr><td>4000 BC</td><td rowspan="3">Middle Archaic</td><td rowspan="2">Prairies and Open Vegetation</td></tr>
<tr><td>5000 BC</td></tr>
<tr><td>6000 BC</td><td rowspan="2">Deciduous Forest</td></tr>
<tr><td>7000 BC</td><td rowspan="2">Early Archaic/ Late Paleo Indian</td></tr>
<tr><td>8000 BC</td></tr>
<tr><td>9000 BC</td><td rowspan="8">Early Paleo Indian</td><td>Pine Maximum</td></tr>
<tr><td>1000 BC</td><td rowspan="2">Conifer-Deciduous Woodland</td></tr>
<tr><td>11000 BC</td></tr>
<tr><td>12000 BC</td><td>Boreal Forest</td></tr>
<tr><td>13000 BC</td><td>Park Tundra</td></tr>
<tr><td></td><td>Tundra or Open Areas</td></tr>
<tr><td>14000 BC</td><td>Periglacial Zone</td></tr>
<tr><td>15000 BC</td><td>Wisconsin Ice</td></tr>
</table>

With historic documentation, more detailed descriptions of the vegetation in central Indiana can be given. The historic forest descriptions should be representative of the decidious vegetation occurring during the Woodland period. Petty and Jackson's (1966) study of the natural vegetation of Indiana in 1816 show Hamilton County within the beech-maple forest association. The beech-maple forest developed from the mesophytic forest as northward postglacial migration occurred. Beech-maple forests usually have beech as the most abundant canopy tree with sugar maple co-dominate in the canopy and dominant in the understory. Other species occurring in beech-maple forests include: black walnut, white oak, burr oak, red oak, tulip poplar, white ash, American elm, slippery elm, cork elm, basswood, black gum, hickory sassafras and black cherry. Small tree understory is generally either redbud-dogwood-blue beech or dogwood-hop hornbeam. Shrub layers usually include pawpaw, spicebush, greenbriar, elderberry, leatherwood, wahoo and maple-leaf viburnum. The most prominent herbs occur in the spring with rue anemone, jack-in-the-pulpit, spring beauty, cutleaf toothwort, pretty bedstraw, mayapple, false Solomon's seal and wild ginger.

Generalized maps of forest associations do not account for smaller areas of different vegetation. Due to the setting, the project area would have also contained areas of flood plain forest and prairie. A study of flood plain forests along the East and West forks of the White River found the following species dominant: silver maple, sycamore, American elm, cottonwood, hackberry, cork elm, box-elder, black willow, white ash and red elm (Petty and Jackson 1966:276). The same study found the predominance of hawthorn, redbud, wild plum, hop hornbeam and flowering dogwood in the understory, elderberry, spice bush, wahoo, swamp-privet, wafer-ash and pawpaw in the shrubbery and poison-ivy, gapes, green briar, trumpet creeper and Virginian creeper in the vines (Petty and Jackson 1966:276). Beech and tulip poplar would have been important in flood plain forests in pre-Euroamerican times, but are now absence due to the clearing of the forests for agriculture and more widely fluctuation stream levels (Petty and Jackson 1966:277).

The General Land Office (GLO) survey in 1821 recorded several expanses of prairie at Strawtown (Brown 1821). The GLO records indicate in Sections 3 and 4, Township 19 North, Range5 East the Strawtown Prairie contained 300 acres of corn (Brown 1821:21). Central Indiana prairies were usually small and scattered seldom covering more than a few hundred acres outside of the prairie peninsula of northwestern Indiana. Such a large prairie in the forests of central Indiana was unique and must have had an impact on the aboriginal populations. Both warm season and cool season species of grass occur in Indiana prairies providing a continuous and prolonged cover from early spring to early fall (Petty and Jackson 1966:289).

Besides documenting a large prairie, the GLO records also noted a variety of flora within Sections 3, 4, 9 and 10. These included in no particular order: white oak, burr oak, red oak, Spanish oak, hickory, ash, buckeye, cherry, walnut, hackberry, locust, sugar maple, spicebush, hornbeam, elm, hazelnut, briar, dogwood, maple, pawpaw, sycamore, ironwood, beech (Brown 1821).

The only archaeological site in Hamilton County with floral analysis is from the Late Prehistoric Strawtown Enclosure (12-H-883) (White et al. 2002) located on the Taylor Property north of Strawtown Avenue. Analysis of flotation samples revealed the presence of several cultivated and wild floral species (Bush 2002:199-205). Corn was the most important cultivated crop. Little barley, goosefoot, maygrass and probably sunflower were also documented, but due to the small amounts their cultivated status was uncertain. Nutshell at the site was dominated by hickory, but walnut and hazelnut were also present. Other wild plants identified at the site included bramble, strawberry, sumac, bedstraw, purslane and grape/virginia creeper.

Fauna

The animals living in Indiana would have changed from the end of Pleistocene through Holocene times. Various Pleistocene age fauna have been found in Indiana. Early twentieth century accounts list bison, giant beaver, caribou, Virginai deer, dire wolf, elk, horse, mammoth, mastodon, musk-ox, peccary, sloth and perhaps moose (Moodie 1929, Lyon 1936). More recent investigations have expanded this list to include moose, caribou, black bear, giant short-faced bear, giant tortoise, white-tailed deer, Canadian goose, armadillo, jaguar, sabertooth tiger and camel (Richards 1984).

In 1816, an estimated 66 species of mammals were present in Indiana (Mumford 1966:475). Some of the common mammals found in Indiana include opossum, eastern cottontail, eastern chipmunk, white-tailed deer, beaver, deer mouse, white-footed mouse, meadow vole, pine vole, muskrat, southern bog lemming, Norway rat, coyote, red fox, gray fox, raccoon, long-tailed weasel, various species of squirrels, mice and shrews. Twelve species are listed as exterminated from Indiana and include bison, wapiti, porcupine, gray wolf, red wolf, black bear, fisher, eastern spotted skunk, wolverine, river otter, mountain lion and lynx (Mumford 1966:475).

Historic sources also report a large variety of other fauna in Indiana. Webster (1966:455-473) identifies 366 species of birds. A total of 177 species of fish have been identified (Gammon and Gerking 1966:401-425). Approximately 200 species of mollusks and 400 species of crustaceans occurred in Indiana waters. Approximately 82 species of amphibians and snakes have been identified (Minton 1966:426-451). The species can be subdivided into 19 species of salamanders, 2 species of toads, 11 species of frogs, 6 types of lizards, some 30 types of snakes, and 14 turtle varieties (Minton 1966:426-451).

Faunal analysis from archaeological sites in Hamilton County is limited. A preliminary analysis of the faunal material from the Late Prehistoric Strawtown Enclosure (12-H-883) (White et al. 2002) found a diverse and distinctive composition of species (Garniewicz 2002:206-210). White-tailed deer dominated the sample, but elk, bear, dog, porcupine, raccoon, gray fox, muskrat, beaver, gray squirrel, chipmunk and mice were documented. Relatively small amounts of birds including turkey, grouse and passenger pigeon were noted. Several species of turtle and tortoise were found, but fish were poorly represented. A preliminary review of the faunal material recovered from the surface of the Taylor Village (12-H-25) was also dominated by deer, but bear,

wapiti and beaver were well represented (Cochran et al. 1993). Occupation of Taylor Village ranges from Early Archaic to Late Prehistoric, but the material is dominated by an Oneota component.

Summary

As the ecological and natural setting of the project area changed and evolved over the last several thousand years, human settlement would also have changed. Settlement and use of resources within the project area would have been influenced by potential plant and animal resources and, conversely, may have influenced changes in flora and fauna (Delcourt and Delcourt 1991:87-89). The diversity of habitats that existed in the project area would have attracted prehistoric populations for the wide variety of natural resources available as food and raw materials in the production of tools, clothing, adornment and shelter.

Archaeological Background

In this section, we review the archaeological background that is relevant to the flood plain and terrace portions of the Taylor property that were surveyed during this project. Specifically, we reviewed the background information for data relevant to an understanding of what archaeological resources we should expect to find within the property, both in terms of the types and densities of archaeological data, as well as the history of use of the landscape. Throughout the background research for this project, we were aware that the research universe represented a unique environmental setting and that while previous archaeological research could inform our expectations, the Taylor property could contain very different patterns of land use in comparison with the rest of the region.

The Strawtown enclosure and nearby cemetery have been recorded in the archaeological literature for well over a century (Cox 1879, Helm 1880) (Figure 6). Eggan (1930), Householder and others acquired surface collections from in and around the Strawtown enclosure (Griffin 1966:257-267), and area artifact collectors carried out clandestine forays into the fields when they were able to hide in the corn (ARMS records). Although many archaeologists tried to obtain permission to work there, no systematic excavations were carried out prior to 2000 (White et al. 2000). A number of large scale archaeological surveys were conducted around the Taylor property and in Hamilton and adjacent counties during the 1980s and 1990s (Ellis 1982, Brinker 1984, Conover 1988, Hixon 1988, Cree 1991) but systematic archaeological research on the Taylor property prior to the acquisition of the property by Hamilton County Parks was limited to a single contract survey (Stillwell 1996).

The history of investigations at the Strawtown enclosure is adequately covered in Hixon (1988) and White et al. (2000). It is not repeated here since our research was focused on the flood plain and terrace located south of the enclosure site. Information on culture history and land use relating the enclosure to the results of our survey is included in a following section of this report.

Site Locations Confidential
Not For Public Disclosure

Figure 6. Location of the Strawtown Enclosure and burials in relation to the project area.

The only known survey of our research area was carried out by Stillwell (1996) during a reconnaissance associated with the reconstruction of Strawtown Avenue. Although the right-of-way width was not specified in Stillwell's (1996) report, based on information on file at ARMS, it appears that the new right-of-way was about 9 m wide on the south side of Strawtown Avenue within our project area. In this area, only one archaeological site, 12-H-792, was discovered. The site contained few artifacts and fire-cracked rocks, but, because it was situated on Ross soils, it was recommended for subsurface reconnaissance (Stillwell 1996:9-10). In addition, the entire right-of-way along the south side of the road within our project area was recommended for subsurface reconnaissance because of the presence of alluvial soils in this area (Stillwell 1996:13). The report noted that artifacts recovered during the reconnaissance were curated at the Archaeological Consultants of Ossian office (Stillwell 1996:8). Subsequent to the Stillwell survey, ARMS prepared a proposal for testing of site 12-H-792 and subsurface reconnaissance of the alluvial areas along Strawtown Avenue (McCord 1996). The proposed testing of site 12-H-792 and the subsurface reconnaissance were approved by DHPA in a letter dated March 24, 1997. However, the road widening project was completed without testing of site 12-H-792 or the subsurface reconnaissance as recommended by Stillwell (1996) and approved by DHPA. Additional information about site 12-H-792 is contained in the Results Section.

In addition to the Stillwell survey, the only other recorded archaeological information pertaining to our study area was two sites (12-H-469 & 12-H-471) documented from the General Land Office Surveys (McCord 2002). These two sites were cornfields recorded on section lines during the 1821 GLO survey of Hamilton County. The cornfields were not identified as Native American or Euroamerican, but the records indicate that the flood plain portion of our study area was one large cornfield at that time. Euroamerican settlements were nearby at Strawtown and just downriver (McCord 2002).

A number of archaeological studies have been conducted in and around the Taylor Property (Hixon 1988, Cree 1991) and in similar environmental settings along the upper reaches of the White River (Little 1970, Dorwin 1971, Ellis 1982, Brinker 1984, Conover 1988, Justice 1993, Angst 1994, Plunkett et al. 1995, McCord & Cochran 1996, McCullough 2000, Carmany 2002, McCord 2002, White et al. 2002, Cantin et al. 2003). These reports were reviewed for background information relevant to the research questions addressed during our project.

Density

Site and artifact densities associated with specific landforms are relevant to defining settlement patterns and past land use. ARMS has investigated site and artifact densities in the till plain region of Indiana for many years (eg. Cochran 1994) and we have compiled densities for specific landforms based on thousands of acres of systematic survey. In addition, we have used a consistent artifact classification system (Cochran 1991) that allows comparison between projects. Several projects conducted by ARMS and others have specific relevance to defining expectations of site and artifact densities relevant to the survey of the Strawtown flood plain and adjacent outwash terrace in the Taylor property.

For the flood plain area, four projects contain information on site and artifact densities comparable to our survey area. These include the research carried out by Ellis (1982), Hixon (1988), Cree (1991) and Carmany (2002). The four surveys covered sizeable expanses of flood plain and low terraces in the valley of the White River in the Strawtown vicinity. Carmany (2002) surveyed over 100 acres of flood plain and low terrace upstream of the Taylor property. Her survey figures are not exactly compatible with the other three because they include shovel test results. Shovel tests will not produce the same results as surface survey because the shovel probe sampling involves such smaller samples (see the Controlled Surface Collection section). Conover (1988) surveyed portions of the White River Valley in Madison County. Site density figures from her project are included here, but her report does not contain an artifact breakdown that could be compared with the other projects. Cree's (1991) research was a continuation of survey and research methods in use by ARMS for many years. Ellis (1982) surveyed a large expanse of flood plain and low terrace near Conner Prairie; his artifact categories were translated into classes compatible with those in use by ARMS. Hixon (1988) surveyed flood plain areas adjacent to the Taylor property and the materials were classified in ARMS categories.

Table 3 shows the breakdown of site and artifact densities for these projects. The table reveals considerable variability in site and artifact densities in the projects that were compared. The Carmany and Hixon data are apparently the most compatible while the Cree data is the lowest. His sample of only 8 acres suggests sampling error as a contributing factor.

Table 3
Valley Site and Artifact Densities

	Carmany	Conover	Cree	Ellis	Hixon	Totals
Acres	124	399	8	400	345	877
Sites	13*	152	4	27	35	79
Site		1/2.62	1/2.0 A	1/14.8 A	1/9.86 A	1/11.10 A
Artifacts	557	-	11	570	1551	2689
Artifacts/site	42.8	-	2.75	21.1	44.31	34.04
Artifacts/acre	4.49	-	1.37	1.42	4.49	3.06

*This project included shovel probe survey while the others did not.

Based on the average of the numbers in Table 3 and expecting that our survey will include about 350 acres of flood plain, we could expect to find 32 sites and 1071 artifacts during our survey. However, given the range expressed in the numbers derived from the other surveys, we might have as few as 23 sites and 480 artifacts or approach 175 sites and 1571 artifacts. Obviously, our sample size is currently inadequate to accurately predict the density of archaeological resources in the flood plain zone. If the Taylor property is unique as is suggested by the natural setting, densities generated from other surveys could be different from those

actually present in the study area.

Previously conducted projects with relevance to the outwash terrace area of the Taylor property include Conover (1988), Hixon (1988) and Cree (1991). As with the valley zone, Conover's (1988) survey did not include artifact counts for the outwash terrace zone. The comparison of site and artifact densities for these three projects are shown in Table 4.

Table 4
Outwash Terrace Site and Artifact Densities

	Conover	Cree	Hixon	Total
Acres	233	152	210	595
Sites	117	69	69	255
Site density	1/1.99 A	1/2.21 A	1/3.05 A	1/2.3 A
Artifacts	-	787	423	1210
Artifacts/site	-	11.4	6.13	8.76
Artifacts/acre	-	5.16	2.01	3.34

Based on the site densities obtained during prior projects, we can expect a site density of one site per 2.3 acres in the outwash terrace zone with an average density of 8.76 artifacts per site. Site densities were fairly consistent at one site for between 2 and 3 acres between the three surveys although artifact densities varied more widely. It is expected that as the sample size increases, the density figures will become more predictable in this zone.

Based on the figures in Table 4, we should expect to find approximately one site for every 2 acres surveyed on the terrace, or about 45 sites. Artifact densities in these sites should be far lower than in the valley zone with only about 9 artifacts per site or 3-4 artifacts per acre. These expectations indicate that there are significant differences in land use between the two zones.

One other measure of land use related to the densities of sites in the two zones was identified. Several investigators noted a high correlation of sites with Ross soils when those soils were present. Ellis (1982) noted that 67% of the sites in his 400 acre survey area were on Ross soils and Hixon (1988) found 43% of the sites in the valley were on Ross soils. These numbers support the earlier association between sites and Ross soils noted by Stephenson (1984) and reinforced by McCord & Cochran (1996).

Chronology

The surveys used to delineate site and artifact densities also provided useful information on the chronologies of occupation in the two zones under consideration. In addition, other sources were also reviewed to define a culture history of the survey area.

Valley Zone

Table 5 shows a chronological ordering of diagnostic artifacts recovered from similar flood plain and low terrace zones along the Upper White River Valley. The data used in the table were extrapolated from the reports since the various reports did not present the data in the form used for this tabulation. It is also important to note that Late Prehistoric/Late Woodland triangular points are not functionally equivalent to other point types since they represent arrow points. Frequency comparisons with other point types which served as knives/dart/spear points are thus not equal. The table is intended to convey relative densities of diagnostic points within the valley zone.

Table 5
Valley Zone Chronological Periods
Diagnostic Points

	Carmany	Conover	Ellis	Hixon	Totals
Late Woodland/ Late Prehistoric	4	3	11	25	43
Late Woodland	0	0	0	1	1
Middle Woodland	2	0	3	0	5
Early Woodland	0	2	2	1	5
Late Archaic	3	5	2	4	14
Middle Archaic	0	1	1	0	2
Early Archaic	0	7	0	3	10
Late Paleoindian	0	0	0	0	0
Early Paleoindian	0	0	0	0	0

Table 5 clearly shows that Late Prehistoric/Late Woodland triangular points occurred in the greatest frequency in the valley zone. The next highest frequency occurred during the Late Archaic period followed by the Early Archaic. The Early Archaic data appears skewed by the Conover (1988) survey and may reflect differences in the Early Archaic use of the narrower river valley in Madison County as opposed to the broader valley in Hamilton County. It is interesting to note that none of the surveys reported Paleoindian artifacts suggesting that the valley was either not inhabited by Paleoindian groups or that these early sites may be buried in alluvial/colluvial deposits.

Table 6 shows a more detailed breakdown of diagnostic artifacts recovered from the valley zone. Only three projects reported these artifacts in a manner that allowed their inclusion in the table. The purpose of the table was to ascertain the frequencies of ceramics from the surveys and to determine if specific point types were repeatedly occurring in the valley zone. As with Table

5, the numbers of ceramic sherds are not equivalent to the numbers of point types, but again serve as a measure for comparison.

Table 6
Diagnostic Artifacts from Valley Zone

	Carmany	Ellis	Hixon	Total
Oliver ceramics*	0	0	1	1
Bowen ceramics*	0	0	4	4
Albee ceramics	2	0	0	2
ceramics	14	27	90	131
triangular points	4	11	25	40
Jack's Reef point	0	0	1	1
Lowe point	1	1	0	2
Lamellar blade	1	2	0	3
Adena point	0	2	1	3
Late Archaic stem	0	1	1	2
Riverton	2	1	2	5
Lamoka	1	0	0	1
Brewerton	0	0	1	1
Matanzas	0	1	0	1
Bifurcate	0	0	1	1
Kirk/Palmer	0	0	2	2

*As used here, Oliver ceramics and Bowen ceramics are used to differentiate between the two ceramic traditions as defined by Dorwin (1971). Oliver ceramics reflect a Ft. Ancient decorative tradition and Bowen ceramics reflect a Woodland decoration tradition.

Table 6 reveals a number of interesting comparisons. First, Oliver, Bowen and Albee ceramics were represented in the decorated sherds, although in low numbers. Most sherds were unclassified body sherds. Triangular points were consistently present in each of the three projects. Middle Woodland artifacts were few in number, but the presence of three Middle Woodland bladelets was surprising. These artifacts are rare in the region (Cochran 2002). Early Woodland was represented by Adena points in two surveys, again rare artifacts for the region (McCord and Cochran 1996). The Archaic was represented by examples from Early through Late periods, but Riverton points were the only consistent types across the surveys. Overall, the diagnostic artifacts from these surveys show that the valley of the White River was intensively used by Late Woodland/Late Prehistoric peoples and somewhat sporadically by peoples of all but the

Paleoindian time periods. Late Archaic Riverton groups were somewhat consistently using the valley zone, although apparently not in high numbers.

Based on this information, we could expect to find a higher density of Late Woodland/Late Prehistoric artifacts and sites in the valley zone of the Taylor property during our survey. In addition, we can expect to find a variety of other components, including rare Early and Middle Woodland sites, although not in high numbers.

Outwash Terrace Zone

The outwash terrace zone within the project area is represented by a relatively flat terrace with a sharp, steep slope into the valley. Although it is a terrace feature, it is most like the edge of the upland and river valley in the upper reaches of the White River drainage. For the purposes of the background analysis of the expected occupation in this zone, we compared several projects that surveyed this zone. From these projects we developed Tables 7 and 8. Table 7 shows the range of diagnostic points recovered during the surveys.

Table 7
Outwash Terrace Zone Chronological Periods
Diagnostic Points

	Conover	Hixon	Totals
Late Woodland/ Late Prehistoric	1	1	2
Late Woodland	0	1	1
Middle Woodland	1	0	1
Early Woodland	1	2	3
Late Archaic	3	9	12
Middle Archaic	1	2	3
Early Archaic	4	6	10
Late Paleoindian	0	1	1
Early Paleoindian	0	1	1

Table 7 is interesting in comparison with the data from the valley zone. Table 7 shows that the majority of the diagnostic points date to the Late Archaic and Early Archaic periods. The Woodland periods occur in much lower frequencies than in the valley zone. Table 8 shows the breakdown of specific diagnostic artifacts recovered from Hixon's (1988) survey of a comparable zone. Other reports did not present the data needed to be incorporated into the table.

Table 8 Diagnostic Artifacts from the Outwash Terrace Zone Hixon (1988) Survey	
Triangular Points	1
Jack's Reef	1
Adena	1
Gary	1
McWhinney	1
Riverton	2
Lamoka	1
Table Rock	1
Matanzas	1
Brewerton	2
Archaic Side Notched	2
Amos	1
Kanawha	2
LeCroy	1
Wabash Diagonal Notch	1
Thebes	2
Unfluted	1
Fluted point	1

Table 8 shows that no ceramics were found in Hixon's (1988) survey outside the valley zone. Ceramics rarely occur outside the valley zone in the Upper White River drainage except in very low frequencies and on rare occasions (Conover 1988, Stephenson 1984). These data indicate that Woodland settlement patterns in the Upper White River drainage are primarily focused on the valley floor. In addition, Table 8 shows that Archaic age sites predominate on the upland edge of the valley, also a pattern noted for the till plain region (Cochran 1994, Holsten & Cochran 1986). Interestingly, Riverton points occurred in both zones about equally suggesting a broad scale use of the Upper White River drainage environment. Paleoindian points were also found in the upland edge of the valley, again, a location where these rare points are most frequently found (Tankersley, Smith & Cochran 1990).

Summary

A review of the background information on site and artifact density and history of land use shows that we can expect to find differences between the outwash terrace zone and the valley zone within the areas of the Taylor property we will survey. Based on prior research, the outwash terrace zone should have a higher site density but a lower artifact density than the valley zone. In addition, we expect to find that the outwash terrace zone has a higher number of diagnostic Archaic age artifacts while the valley zone will be dominated by diagnostic Late Woodland/Late Prehistoric artifacts. Also of particular importance for regional research was the presence of Early and Middle Woodland artifacts in the valley zone. These sites are exceedingly rare in the region in spite of the numerous Early and Middle Woodland earthworks (McCord & Cochran 1996). Their presence in the valley zone in the vicinity of the Taylor property indicates that important regional settlement data is likely to be present in the survey area.

Culture History

Overall, we can expect that the Taylor property will contain important information for addressing a number of archaeological research questions, particularly in relation to culture history and settlement patterns. We continue the review of the archaeological background through a discussion of more specific archaeological constructs that are expected to occur in the Taylor property. An outline of the prehistoric culture history for the till plain region is shown in Table 9. In this section, we focus the discussion on diagnostic artifacts and settlement patterns relative to what we can expect to find in our survey area. Specifically we summarize historic occupation of the area and discuss the Taylor Village component of the Oneota Tradition, the Oliver Phase, the Albee Phase, Early and Middle Woodland Scioto and Havana sites, McKinley site and the Riverton presence in the area. Other unnamed components are also addressed in the following review.

Table 9* Culture History of Indiana				
Chronology	Period	Archaeological Unit	Points	Ceramics
AD 1000 - 1650	Late Prehistory	Caborn-Welborn Oneota Angel Vincennes Prather Western Basin Ft. Ancient Oliver Yankeetown	Triangular Cluster	Caborn-Welborn Fisher-Huber Angel Vincennes Western Basin Ft. Ancient Oliver Yankeetown
AD 600 - 1200	Late Woodland	Albee Newtown Intrusive Mound Allison-LaMotte	Triangular Cluster Jack's Reef Corner-Notched Racoon Side Notched Steuben Chesser Lowe	Langford Western Basin Albee Newtown Jack's Reef Allison-LaMotte
200 BC - AD 600	Middle Woodland	Allison-LaMotte Havanna Scioto Mann Adena	Steuben Chesser Lowe Baker's Creek Snyders Robbins	Allison-LaMotte Havanna Morton Goodall Scioto Mann Late Crab Orchard McGraw Adena Plain New Castle Incised
1,000 - 200 BC	Early Woodland	Crab Orchard Marion	Robbins Adena Cresap Meadowood Kramer Dickson Gary Motley Cypres	Crab Orchard Marion Thick Fayette Thick

Table 1(cont.) Culture History of Indiana				
Chronology	Period	Archaeological Unit	Points	Ceramics
3,000 - 1,000 BC	Late Archaic	Shell mound Riverton Glacial Kame Red Ochre Bluegrass Maple Creek French Lick	Turkey-tail Riverton Brewerton Table Rock Lamoka Karnak McWhinney Late Archaic Stemmed Matanzas	
6,000 - 3,000 BC	Middle Archaic		Matanzas Karnak Stanley Godar Raddatz	
8,000 - 6,000 BC	Early Archaic	Jerger Bifurcate Kirk Thebes	Kanawha LeCroy St. Albans MacCorkle Palmer Kirk Decatur Thebes St. Charles Charleston Lost Lake Big Sandy	
8,000 - 8,500 BC	Late Paleoindian		Dalton Plainview Holcombe Quad Hi-Lo Agate Basin	
10,000 - 8,000 BC	Early Paleoindian	Clovis	Cumberland Clovis	
*Table created in 2001 from the following sources: DHPA 1999, Lewis 1996, Fagan 1991, Justice 1987, Kellar 1983, and Swartz 1981.				

Historic Period

During the historic era, Native Americans documented within central Indiana included the Miami, Delaware, Shawnee, Mohican, Naticoke and Potatwatomi (Gipson 1938). The Delaware presence was perhaps the most demonstrable during the historic era. The Delaware had the permission of the Miami, Potawatomi and Piankashaw to settle along the White River by at least 1794, but may have been there earlier (Weslager 1972:332-333). By 1801, the Delaware had well established villages along the Upper West Fork of the White River (Gipson 1938). The number of villages along this portion of the White River has been reported as between 11 (Gibson 1938:11) and 15 (Thompson 1937:196-205), but the reported villages may not have all been Delaware settlements (McCord 2002). "The remains of an old Indian Village", presumably Delaware, was reported in the 1821 GLO notes a few miles east of the project along the White River (Brown 1821:47)(12-H-468). During the war of 1812, a village at Strawtown was reportedly occupied by a squadron of Kentucky cavalry for the defense of the old men, women and children while the warriors served as scouts and guides for General Harrison (Brown 1884:28). Another report states that Harrison garrisoned Strawtown in the fall and winter of 1811 and assisted moving the old men, women and children to Ohio due to unrest with the Miami (Brown 1884:28). Another Delaware village, known as Sarah Town, was reported as "one mile south and west of the present Strawtown" (Thompson 1937:203). Brother Luckenbach, a Moravian missionary, referred to Sarah Town as a small Indian village (Gipson 1938:611), but elsewhere it is noted as one of the three largest Delaware towns (Ferguson 1972:59). Several attempts have been made to relocate the Delaware villages reported along the White River, but have been unsuccessful (Rodeffer 1967, Gardner 1970, Conover 1988, Gaw 1991, 1994, McCord 2002). The Delaware ceded all their lands in Indiana in 1818 with the signing of the St. Mary's Treaty (Weslager 1972:351). Most of the White River Delaware gathered at William Conner's trading post in the late summer of 1820 and began their journey to new lands in Missouri (Thompson 1937:124).

The first white settler recorded in Hamilton County was William Connor. William Conner and his brother John were established traders. William left the Delaware Village of Anderson Town in 1802 and established his trading post along the White River south of present day Noblesville (Thompson 1937:46). He built a log cabin and an Indian occupation apparently grew around it (Thompson 1937:46, 112). After the Delaware moved out of Indiana, Conner took a European wife and built the first brick house in the county in 1823 (Thompson 1937:126-133). An employee of William Conner's, George Shirts moved his family to an area south of Noblesville in 1819 and during the same year the Finch family moved 2 or 3 miles north of Conner's Trading Post (Campbell 1962:39). In 1818 or 1819, John Shintaffer settled near Strawtown and operated a trading post (Campbell 1962:208). White River Township was named in 1823 when the county was formed and reorganized in 1833 (Campbell 1962:208). The first brick house in the present White River Township was built in 1827 by Zenas Buckwith.

No early historic Native American or Euroamerican settlement has been documented within the project area, per se. However, GLO notes from 1821 document extensive cornfields on the prairie along the common boundary lines of Sections 4 and 9 and Section 3 and 4,

Township 19 North, Range 5 East (Brown 1821). The "300 acres in corn" would imply an extensive agricultural investment. The Delaware are reported to have left the area a year prior to this description, so the cornfields were likely the product of Euroamerican settlement. The houses and gardens of two persons, Johnston and Lambert, are recorded along the common section line of Section 9 and 10, within one-half mile of the project area (Brown 1821:21). The GLO meander notes also record a "Christian Burying ground - 15 fresh interments" (Brown 1821:38), just to the northwest of the present cemetery in Section 3 that is adjacent to the Taylor Property north of Strawtown Ave.

Historic records provide little information on the development of the Strawtown community. Strawtown is noted on an 1876 county atlas (Anonymous 1968)(Figure 7). D. Petry and J. Coy are noted as property owners within the project area, but no houses are shown. Of interest on the 1876 atlas is the configuration of the roads around Strawtown. The atlas shows a road along the northern boundary of Sections 9 and 10 and the road crosses the White River in Section 9. This road is no longer evident.

Prehistoric Period

Late Prehistoric

Oneota Tradition

The Oneota occupation of central Indiana is currently not well known. Two components have been identified: Taylor Village and the Smith Valley Complex (Cochran, McCord & Richards 1991, McCullough 2000). As currently known, only the Taylor Village component has relevance to the Taylor property.

Taylor Village (12-H-25) is located across the White River from the Strawtown enclosure. The site was documented by Jack Householder and the artifacts from the site are curated at the Indiana State Museum. Taylor Village is a multicomponent site with an occupational history spanning the Early Archaic through the Oneota Tradition. The unique Oneota occupation is represented by distinctive shell tempered ceramics with associations to other cultural complexes to the north and west. The western connection is evident in the numbers of bifacial endscrapers made from Attica chert which were recovered from the site. Bifacial endscrapers are diagnostic of a post A.D. 1400 time period (Brown and O'Brien 1990, Finney and Stoltman 1991, Railey 1992) and the source of Attica chert is primarily along the Wabash River near LaFayette, Indiana. Taylor Village artifacts also included a bar-shaped sandstone shaft abraider, distinctive of Oneota components elsewhere (Gibbon 1986). A radiocarbon assay obtained from carbon collected from a Taylor Village rim sherd dated to 560 +/- 40 BP (Beta 156650), or calibrated at 2 sigma to AD 1320 to 1350 and AD 1390 to 1440 (McCord and Cochran 2002). No other site in central Indiana has a similar concentration of Oneota materials.

Given that the Taylor Village site is located immediately across the White River and near

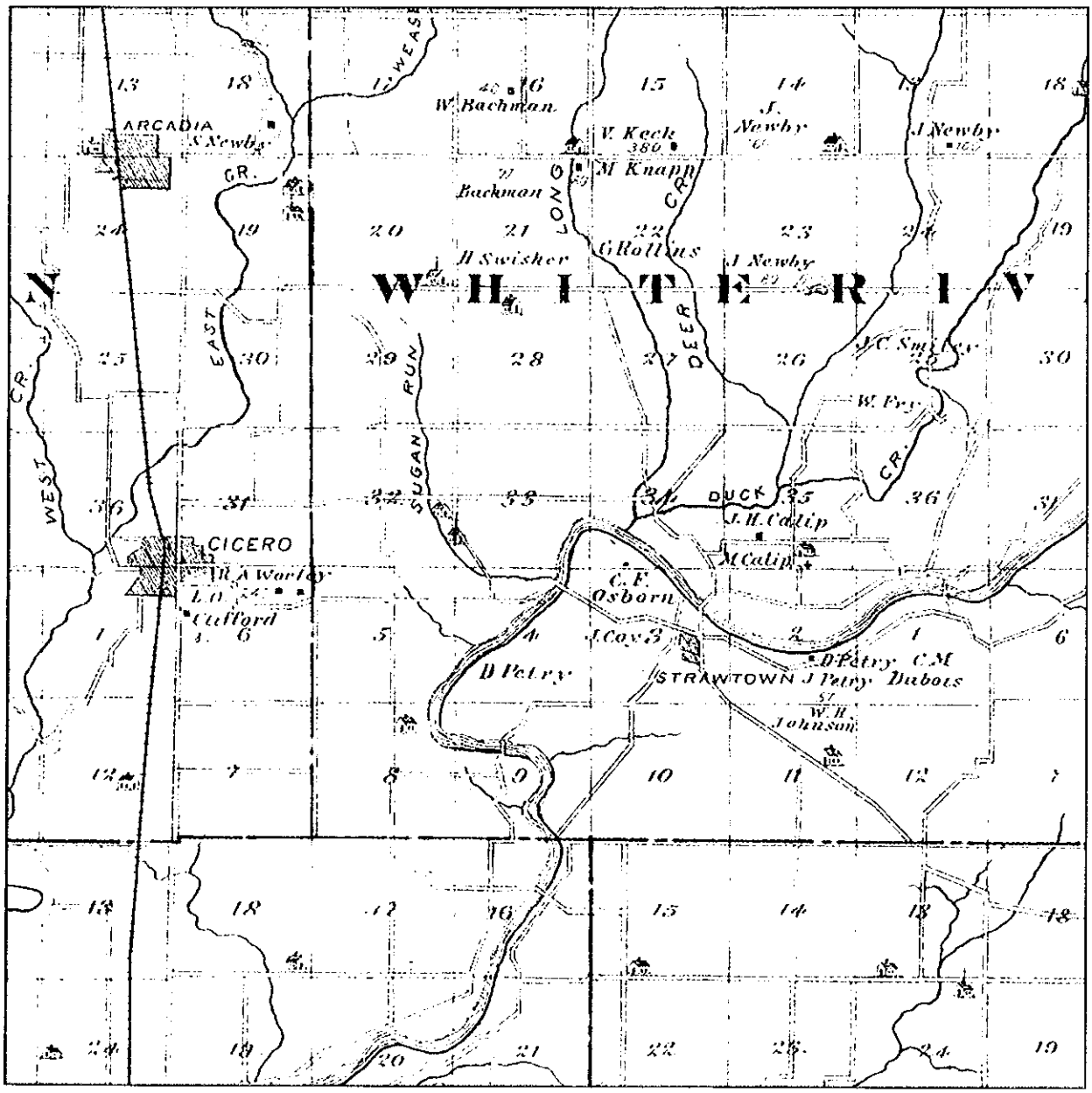


Figure 7. 1876 Atlas of Hamilton County.

to the project area, we expect to find evidence of this component within the survey area. However, we currently know so little of the Taylor Village component settlement pattern in the region, our expectations could be misguided.

Oliver Phase

The Strawtown enclosure (12-H-883) has long been associated with the Oliver Phase and other Late Woodland/Late Prehistoric sites in the Indianapolis area (Lilly 1937, Helmen 1950, Griffin 1966, Dorwin 1971, McCullough 1992, 2000). Since we were reviewing the archaeological background to anticipate the types of archaeological materials to expect to recover during our survey of the Taylor property, a thorough review of the literature on the Oliver Phase was conducted. At its core, the Oliver Phase is a ceramic culture, but a unique ceramic culture because, as currently defined, it incorporates at least two and possibly more ceramic traditions.

The Oliver Phase was first identified from sites in the Indianapolis area where surface collections contained a mixed assemblage of ceramics with suggested affinities to Fort Ancient, Oneota and Great Lakes Woodland wares (Helmen 1950, Griffin 1966, Dorwin 1971, McCullough 1991, 2000). Griffin (1966, 1978), the preeminent authority on Midwestern ceramics, noted similarities to ceramic traditions to the north and west for the Late Woodland and Oneota connections and to the southeast for the Ft. Ancient connections. Dorwin's (1971) analysis of the Bowen site ceramics echoed Griffin's views. Further, the Bowen site analysis supported the co-occurrance of different ceramic traditions both in a site as well as in features (Dorwin 1971, McCullough 1991, 1992). However, the distribution of ceramics within the site showed that the different ceramic traditions were concentrated in different parts of the site (Dorwin 1971, McCullough 1991), that is, while they were associated in some features, they were predominantly spatially separated (McCullough 1991). This phenomenon of separation is further documented in site assemblages that contain only one ceramic tradition rather than a mixing, for example at Moffit Farm (12-H-6/46) (McCullough 2000:304). At other sites, one ceramic tradition predominates, and the Ft. Ancient decorative techniques are increasingly prevalent on sites south and east of Indianapolis (McCullough 2000). However, these differences are subsumed in current definitions of the Oliver Phase (Redmond & McCullough 2000, McCullough 2000) and investigators define certain aspects of the phase based on only one ceramic tradition. For example, the defined distribution of the Oliver Phase is based on the Ft. Ancient ceramic tradition (McCullough 2000:77).

The ambiguities inherent in the ceramics associated with the Oliver Phase are compounded when settlement patterns are addressed. As noted above, not all sites contain mixed ceramic assemblages. And it is currently impossible to identify Oliver Phase sites without the presence of ceramics. While Redmond (1991) identified Oliver Phase hunting camps on the basis of triangular points alone, until we are able to separate Oliver Phase triangular points from Albee triangular points and those of other Late Woodland/Late Prehistoric groups, we cannot identify Oliver Phase hunting camps. And, while the Oliver Phase is defined as "a sedentary, village-dwelling society" (White et al. 2002:8) the range of site types identified with the Phase contradict this

general characterization. The majority of Oliver Phase sites that have been documented are small dispersed farmsteads and linear settlements paralleling rivers and tributary streams (Redmond 1991, McCullough 2000:78, White et al. 2002:8). In addition, current definitions of Oliver settlements overemphasize stockaded Oliver Phase villages and their comparability to Ft. Ancient sites. First, out of the many Oliver Phase sites that have been identified and tested (McCullough 2000:106), only three are documented with stockades. The internal settlement pattern of those three sites do share the presence of stockade walls and pit features with Ft. Ancient and other palisaded villages, but the arrangement of features within the sites is not comparable to the Sunwatch site as is often cited (Redmond 1994:6, McCullough 2000: 76, 295). At Sunwatch, a central plaza is surrounded by concentric rings of burials, pit features, and houses just inside the stockade wall (Heilman & Hoefer 1981, Drooker and Cowan 2001:94). The stockaded Oliver Phase sites have pit features just inside the stockade wall (Redmond and McCullough 2000:670) and not near the plaza as in Ft. Ancient villages. To date, only one Oliver Phase house has been documented (Redmond and McCullough 2001:670), and it is at a site that is late in the Oliver sequence (McCullough 2000:294-296). No evidence of structures was documented in the completely excavated Bowen site (Dorwin 1971) suggesting further variability within the Phase. Thus, as with the ceramics used to define the Phase, we are faced with an ambiguous definition of an Oliver Phase settlement pattern.

Much of the current interpretation of the Oliver Phase rests on an hypothesized migration of Ft. Ancient people into central Indiana from the Cincinnatti, Ohio area (McCullough 2000). This migration is predicated on the idea that Ft. Ancient populations expanded into new territory for growing crops due to population pressure (McCullough 2000). However, at least two lines of evidence argue against such a migration. First, Bush's (2001a:328, 2002) analyses of Oliver Phase diet shows that it is not like Ft. Ancient diets, and, second, the hypothesized migrating populations did not bring Ft. Ancient material culture other than ceramics into central Indiana (McCullough 2000). In fact, ceramics with Ft. Ancient decorative patterns are documented all the way into the Lake Erie basin (Brose 2001:54). A compelling argument could be made that the Ft. Ancient type ceramics in southeastern and central Indiana simply represent diffusion of ideas from a core area centered along the Ohio River in the Cincinnatti, Ohio area rather than a migration of Ft. Ancient people.

If we look to sites in the vicinity of the Taylor property to acquire guidance for what to expect for sites related to the Oliver Phase that may be found during our survey, we can find good models. Just downstream from the Strawtown locality are the locations of the original sites identified with the Oliver Phase. These sites include Oliver Farm, Bosson, Jose, Bowen, and Moffit Farm. In terms of location, these sites are situated in the White River Valley on terrace and flood plain soils. A wide array of artifact types were recovered from surface and excavated contexts. All except Moffit Farm contain mixed assemblages of Late Woodland and Ft. Ancient ceramic traditions, but in general the sites are multicomponent. Where detailed documentation has occurred, as with Moffit Farm (McCord 1997) artifacts indicate occupation from the Early Archaic through Late Woodland/Late Prehistoric. These sites are known to contain a variety of features including hearths, pits, human burials, dog burials and post molds. Calibrated

radiocarbon dates indicate a range of occupation that falls primarily in the A.D.1200 to 1300 period (McCullough 2000:104, 303-327).

Outside the valley, Oliver Phase components have also been recorded in settings like the outwash terrace. For instance, the McKinley site, although dominated by a Late Archaic occupation, contains a Late Woodland/Late Prehistoric component identified with the Oliver Phase. The site is on a bluff overlooking a flood plain prairie setting (Justice 1993). Upstream from the Strawtown locality, Conover (1988) documented a ceramic assemblage related to the Oliver Phase from the Hobb's Knobs site. This site is also situated on the upland edge of the valley overlooking Ross soils.

Thus, during the survey of the Taylor property, we could expect Oliver Phase components to be present in both the valley and the outwash terrace survey areas. Both areas contain the potential for substantial components including sites with a variety of features. In addition, any Oliver components identified in the survey area have the potential to help clarify the definition of the Oliver Phase.

Late Woodland

Albee Phase

The Albee Phase is a Late Woodland culture defined primarily from ceramics. Overall, the Albee Phase represents a regional expression of a generalized Late Woodland culture that is spread widely across the Midwest (Halsey 1976). Most of the Indiana data on the Albee Phase is from cemeteries but a few habitation sites have been recorded and at least partially excavated. As currently defined, the Albee Phase is marked by the presence of Albee Cordmarked ceramics (McCord and Cochran 1998). While the ceramics changed through time, the hallmark of Albee ceramics is a wedge-shaped collared rim. Decoration often occurs as tool impressions across the crest of or just below the collar. Oblique tool impressions also sometimes occur on the inside of the lip. Later in the Albee sequence, castellated rims occur. Other artifacts diagnostic of the Albee Phase include triangular points and chipped stone gouges (Cochran et al. 1988).

While Albee Phase sites are recorded in a broad swath across central Indiana, no dense concentrations of sites are recorded. Cemeteries, such as the Commissary and Hesher sites in Henry County (Swartz 1971, Cochran et al. 1988) are normally in sand and/or gravel deposits along the upper edges of river valleys (McCord and Cochran 1998). The larger habitations are recorded in the river valleys, normally on well drained flood plain soils. The Van Nuys site is a very large Albee Phase habitation situated in the river valley just below the Commissary and Hesher cemeteries (McCord 1998). Where habitations have been excavated, as at the Morell-Sheets site in Montgomery County (McCord and Cochran 1992) and the Jarrett site in Delaware County (McCord 2002), a variety of features were recorded including hearths, pits, midden and dog burials. No structures have yet been found. Floral remains from Morell Sheets and Jarrett show that Albee Phase peoples were cultivating native plants and maize, although the latter seems

to represent a small part of the diet (Bush 1994, 2001b). Too few habitation sites have been excavated to allow definitive general statements about the Phase.

Little data on Albee Phase habitations has been recorded in the Strawtown vicinity although Albee Phase ceramics have been reported from such nearby sites as Oliver Farm, Haueisen, Taylor Village and Jarrett (McCullough 2000, Cochran et al. 1993, McCord 2001). Also, the cemetery recorded in the edge of the outwash terrace northwest of the Strawtown enclosure is in a location favored for Albee cemeteries. Based on what is currently known, we expect to find evidence of the Albee Phase, especially in the valley at the Taylor property. Gravel deposits along the valley edge of the outwash terrace may contain Albee Phase burials.

Unnamed Early Late Woodland

Prior to the Albee Phase, evidence for another Late Woodland occupation of central Indiana is present. This component is identified by Jack's Reef points and ceramics (Seeman 1992). Jack's Reef points represent the earliest arrow points in the region (Justice 1987, Seeman 1992) but they occur in very low frequencies in the region. Jack's Reef points were formerly associated with the Albee Phase, but more recent research has shown that they are not directly associated with Albee ceramics (McCord & Cochran 1992, 1998). Jack's Reef points are associated with what is known as the Intrusive Mound Culture in Ohio (Seeman 1992) and an Intrusive Mound component has been recorded at Windsor Mound in Randolph County (McCord 1996). To date no ceramics related to this component are identified in the upper White River Valley.

Although the data base on this unnamed component is small, prior surveys in the vicinity of the Taylor Property recovered two Jack's Reef points, one each in the two zones under investigation. Thus, we expect that additional data may be recovered during our survey.

Middle and Early Woodland

Unnamed Late Middle Woodland

Like the early end of the Late Woodland, the Late Middle Woodland occupation of the till plain region is undefined. This segment of the archaeological record is identified with the Newtown Phase in the Ohio Valley (eg. Railey 1996) and the Allison-LaMotte culture of the Lower White/lower Wabash of Indiana (Barth 1991). Both units are identified by expanding stem points and diagnostic pottery. Expanding stem points are found in the till plain region but have not yet been associated with ceramics nor found in dated context. The settlement pattern has not been defined.

Hopewell and Adena

The west fork of the White River has been identified as a boundary between the Ohio

Scioto Hopewell tradition and the Illinois Havana Hopewell tradition (Munson 1986, Cochran and McCord 2001). East of Strawtown on the upper reaches of the White, Big Blue and Whitewater Rivers in east central Indiana is a unique regional grouping of Early and Middle Woodland earthworks marking the western boundary of the Scioto tradition in central Indiana (McCord and Cochran 1996, Cochran and McCord 2001). Long term research with these sites shows that the archaeologist's Adena and Hopewell Complexes are contemporaneous and parts of the same ceremonial system (McCord and Cochran in press). However, in spite of the numerous earthworks, contemporary habitations are exceedingly rare (McCord and Cochran 1996). The few sites that are recorded appear to be focused on the river valleys and it has been proposed that habitation sites for this period may be buried in alluvial/colluvial deposits (McCord and Cochran 1996). As reported earlier in this background, evidence for both Early and Middle Woodland components were recorded in surveys conducted in the Strawtown vicinity (Ellis 1983, Hixon 1988, Carmany 2002). Little is known about the Havana Hopewell tradition in the area although these sites are better known further south along the White River in Greene County (Kellar 1983).

While a number of human burials have been exhumed and reported from the Strawtown area during graveling operations (Eggan 1930, Hixon 1988), one burial in particular is intriguing. This burial was brought to Ball State University during Hixon's (1988) research project. The burial was reportedly recovered from gravel deposits along the outwash terrace edge south of the Strawtown enclosure. Artifacts found with the burial included a conch shell dipper, beads, copper artifacts, points and two Middle Woodland lamellar blades made from Flint Ridge chalcedony. As currently known, this is the only Middle Woodland burial reported from outside an earthwork in the region. The association of Middle Woodland lamellar blades and Flint Ridge chalcedony is a regional pattern that has been previously reported (McCord and Cochran 1996). Two similar blades were reported from the 2001 IPFW project: one was recovered inside the enclosure and the other was found in the valley on 12-H-3 (Cochran 2002). Thus, data exists that shows that the vicinity of the Strawtown enclosure was used by Middle Woodland peoples for both mortuary purposes and for habitation. To date, this relative concentration of Middle Woodland data on the occupation and use of the Strawtown area is unequalled in other parts of the upper White River Valley (McCord and Cochran 1996).

From this background we expect that both the outwash terrace and the valley in the Taylor property may contain Early and Middle Woodland sites and artifacts. The presence of these sites within the property have the potential to yield information on Early and Middle Woodland settlement and subsistence systems not currently documented throughout the till plain region.

Late Archaic

The McKinley Site and Riverton

The Late Archaic of central Indiana is very poorly defined. Although Late and Early Archaic diagnostic artifacts are among the most frequently recovered during surveys in the region (Brinker 1984, Conover 1988, Cree 1991), little research beyond the identification phase has been

carried out. Many Late Archaic sites have been excavated in the unglaciated regions of the state (eg. Munson 1980), but incredibly few have been excavated in the till plain region (eg. Little 1970, Jenkins 1971, Cree and Cochran 1991). The McKinley site is an exception. This site, located on the valley edge overlooking a flood plain prairie just south of the Strawtown area, is the most thoroughly excavated site with a Late Archaic component in the region. The site was excavated in the early 1950s by Jack Householder and others and the materials documented in Little's (1970) MA thesis. A reanalysis of the McKinley site artifacts and stratigraphy was summarized by Justice (1993).

The McKinley site contained a dense midden and a long history of use ranging from the Early Archaic though the Late Woodland/Late Prehistoric periods. The dominant component was of Late Archaic age. Diagnostic artifacts for this component were McWhinney points also considered diagnostic of the Central Ohio Valley Archaic centered in the Cincinnati, Ohio area (Justice 1993). Justice (1993:4) estimated the age of this occupation at ca. 2750 to 1200 B.C. Thus, the Late Archaic settlement at the McKinley site was connected with Late Archaic developments to the south and east. Munson (1980) had earlier included the McKinley site in the French Lick Phase of southern Indiana while Little (1970) suggested connections to the Shell Mound Archaic of Kentucky.

In addition to the Central Valley Archaic represented at the McKinley site, Riverton culture components (Anslinger 1986) were identified in low but consistent numbers in the local surveys reviewed during the background research. For instance, three surveys in the valley zone recovered Riverton points as did Hixon's (1988) survey of the upland edge in the Strawtown vicinity. Although numbers were low, it was interesting that the Riverton points were consistently in both zones. Cree's (1991) survey of Hamilton County recorded only two Riverton points, however. Central Indiana appears to be on the northern edge of the range of Riverton Culture (Anslinger 1986:61, Justice 1987:130-132).

Middle Archaic

Very little can be said about the Middle Archaic in the till plain region, primarily because few Middle Archaic point types are found and no analyses of Middle Archaic settlement patterns in the region have been conducted (Cree 1992).

Early Archaic

Early Archaic points are some of the more commonly found types in the till plain region (Cochran 1994), but only minimal analyses of settlement patterns have been conducted (Holsten and Cochran 1986). Some evidence for settlement pattern differences within the Early Archaic have been documented (Wepler and Cochran 1983:104-108), but remain unexplored.

Paleoindian

The Paleoindian occupation of central Indiana has been broadly documented (Cochran et al. 1990). These data revealed that unlike other regions, Early Paleoindians in central Indiana occupied a wide variety of landforms and sites with multiple fluted points were most often recorded in river valleys (Cochran et al. 1990). Detailed analysis of Early and Late Paleoindian components in the Upper White River drainage have not been undertaken.

Summary

A review of the culture history relevant to the Taylor property indicates that we could expect to find data relevant to much of the human past in central Indiana. No documented early historic Native American or Euroamerican settlement is noted directly in the project area, but early historic activity in the Strawtown area was substantial and we expect to find information relating to this period. For the prehistoric period we expect to find data relevant to Late Prehistoric and Woodland components, in particular. However, it is clear that the archaeological data is heavily skewed toward these later periods. The lack of research and syntheses of Archaic and Paleoindian occupation in the region greatly inhibits our ability to understand or interpret their presence in central Indiana.

ARCHAEOLOGICAL SURVEY

Introduction

The purpose of this project was to inventory and evaluate archaeological resources within and adjacent to the White River Valley of the Hamilton County Park property near Strawtown, Indiana. Of the 450+/- acres of land that could be surveyed, approximately 360 acres were addressed by pedestrian survey. Other portions of the area include woods bounding the White River, other drainage channels and an abandoned farm complex. The pedestrian survey resulted in the documentation of 89 previously unrecorded archaeological sites. The sites ranged in age between the late Paleoindian and Historic period and from isolated finds to large scatters of cultural material. A review of the surface survey and the sites documented follows. Appendix A contains individual site summaries for more detailed information. In addition, two prehistoric sites were intensively surveyed by controlled surface collection and/or shovel tests and subsurface deposits were sampled through auger tests. The intensive survey and augers are documented in later sections of this report.

Methods

This project was conducted by ARMS personnel and Ball State University field school students. The investigations were authorized under DHPA permit # 200226. The majority of the project was devoted to a systematic survey of the area. The field survey was executed using pedestrian transects spaced at 10 meter intervals. A consistent survey interval of 10 meters was maintained throughout the surface reconnaissance in order to acquire systematic data for calculating artifact densities. Sites and areas that had poor surface visibility (<30%) were re-surveyed after field conditions improved due to plowing and weathering. Some sites were re-surveyed multiple times to recover additional data. While a 10 meter interval was consistently used for originally defining sites, transect spacing for re-surveyed areas varied between 0.5 meters and 10 meters. To minimize the sampling bias of data collected at differential intervals (under 10 meters), artifacts and information collected from the original survey and re-survey were kept separate. Of course, the sample was still biased to some degree by factors beyond our control such as ground surface visibility. The areas surveyed by pedestrian transects had between 30 and 95% ground surface visibility. All artifacts, excluding fire-cracked rock and brick, were collected and bagged by site specific provenience. Fire-cracked rocks and bricks were counted in the field, but were not collected. Artifact locations were assigned temporary site numbers and recorded on a 2' contour map of the area and the site coordinates were collected with a Sokkia Axis^3 GPS using the 1927 NAD datum. Field notes were maintained by the author and the crew.

All artifacts were taken to the ARMS laboratory for processing, identification, analysis and temporary curation. Artifacts were cleaned, classified and catalogued. Definitions used for classifying prehistoric lithic materials were included in Appendix B. Metrical attributes and raw material identification were recorded as appropriate. Lithic raw materials were identified by comparison with reference samples and published descriptions on file in the ARMS laboratory.

Prehistoric ceramics were compared with published sources in the region. Historic artifacts were identified and dated using several references (Feldhues 1995, Fike 1984, IMACS 1984, Loftstrom et al. 1982, Majewski and O'Brien 1987, Miller 1995, Nelson 1964, Newman 1970, ODOT 1991). Notes, standardized forms, maps and photographs were reviewed and prepared for illustration and curation. State site numbers were obtained and a DHPA Sites and Structures Inventory form was completed for each site identified during the project. The GPS site coordinates collected during this project and digitized topographic maps, aerial photographs, soil surveys and 2' contour maps were download from http://danpatch.ecn.purdue.edu/~caagis/ftp/gisdata/data.html, http://www.co.hamilton.in.us/gis/download.html, and Engel et al. (n.d.) and imported into ARCGIS 8.3 to create spatial maps and figures for this report. All artifacts acquired during this project remain the property of the Hamilton County Parks and Recreation Department and were temporarily curated at ARMS. All materials generated by this project were accessioned under # 02.27.

Results

Approximately 363 acres were covered by the systematic field survey. The survey was conducted entirely in the valley environmental zone and subdivided into an outwash terrace and flood plain. The field survey recovered 3198 prehistoric artifacts, 120 historic artifacts and 17 other objects (bone and charcoal) from 89 previously unrecorded sites. Over 3000 fire-cracked rocks were noted.

Survey Area

Of the approximate 363 acres surveyed by this project, approximately 87 acres (24%) were surveyed on the outwash terrace (Figure 8). The outwash terrace ranged from a nearly flat plain on the eastern end to a dissected ridge and swale topography in the central area and western end. The northwest corner of the outwash terrace was stripped for fill during the construction of the landing strips in the flood plain (post 1974) (Allen Patterson, personal communication 2002). Deflation of the field in this locality was noted, but artifacts were still recovered from the area. The northern edge of the outwash terrace slopes steeply down to the flood plain, while the western end slopes more gently. Thirty-one sites were recorded on the terrace. The sites ranged from isolated finds to over 19,000 m^2 in size and from Late Paleoindian to Late Woodland and Historic in age.

Approximately 276 acres (76%) were surveyed on the flood plain. The flood plain was separated into three survey zones based partially on field boundaries and partially on physiographic differences (Figure 8). Flood plain area 1 was located in the southwest corner of the project area at a bend in the White River. This area contains the largest portion of Genesee soils that were surveyed. Ross soils were also present. Several deep swales cut across the nearly level plain. Alluvium from spring flooding was noted in the southern portion of this area and no surface sites were encountered in this area. Nine sites with Early Archaic, Middle Woodland, Late Woodland and Historic components were identified. Sites ranged in size between

Site Locations Confidential
Not For Public Disclosure

Figure 8. Survey Areas.

approximately 600 and 61,745 m^2.

Flood plain area 2 was south of the White River and north of the landing strip (Figure 8). This area was nearly flat, but shallow and deep swales cut across the area in several places. On any rise in elevation prehistoric materials were encountered and the swales became the defining boundaries for sites. The area was dominated by Ross soils, but small areas of Nineveh and Fox loams and Genesee silt loam also occurred. Seventeen sites were recorded in this area and Early Archaic, Late Archaic, Middle Woodland, Late Woodland and Historic components were documented. The smallest site recorded in this area was approximately 100 m^2 and the largest site was approximately 172,085 m^2 (17 ha or 42.5 acres).

Flood plain area 3 was south of the White River and north of the outwash terrace (Figure 8). The area was nearly flat to depressional with shallow swales cutting across the area. Ross soils occurred in this area, but large areas of Shoals and Sloan soils were present. The major topographic feature in this area was a large slough channel that borders the intersection of the flood plain and the outwash terrace. Many of the flood plain swales drain into this large slough. Standing water was present in the slough throughout the year creating a wetland. Small sites with low artifact densities dominated this area. Thirty-two sites ranging from isolated finds to 20,150 m^2 were found in this area. Early, Middle and Late Woodland, Late Prehistoric and Historic components were documented.

Artifacts

Table 10 provides a list of the artifacts recovered by category. The definitions of prehistoric artifact classes used are contained in Appendix B. Point types were classified using Justice (1987). Prehistoric pottery and historic artifacts were classified using a variety of published references and are discussed below. Artifacts are listed by individual site in Appendix C.

Table 10 Artifacts Recovered			
Category	No.	Category	No.
Unmodified flakes	2202	Points	80
Modified flakes	369	Point fragments	29
Block	5	Other Chipped Stone	24
Cores	199	Gorget fragment	1
Bifaces and biface fragments	53	Celt fragment	1
Bipolar	28	Hammerstone	6
Endscraper	5	Anvil	4
Graver	2	Hammerstone/Anvil	3
Perforator	7	Pottery	252
Bladelets	4	Historics	123
Bifacial endscraper	1	Bone	9
Triangular bifaces	3	Charcoal	2

Prehistoric Artifacts

A total of 3198 prehistoric artifacts were recovered during the field survey. Only a few artifacts were diagnostic of a particular prehistoric age; pottery, points, and specialized tools including bifacial endscraper and bladelets. Of the 109 points and point fragments, 75 were attributable to time period.

Lithics

Raw Materials

The majority (92%) of the prehistoric artifacts were manufactured from lithic raw materials and residents of the Taylor property had a wide array of stone raw materials available to them (Table 11). The predominant local chipped stone source was Fall Creek chert (Cantin 1994, Cochran 2002) from the river and till gravels. The glacial gravels also contained a wide assortment of cherts, with many look alikes to cherts from other sources (Cochran 2002). In addition, a number of foreign cherts were identified in the stone artifacts. Principally, cherts from outside the Strawtown area were from western Indiana (Attica) (Cantin 1994), south central and southern Indiana (Indian Creek, Wyandotte)(Cantin 1994), Ohio (Flint Ridge and Zaleski)

(Converse 1994) and Illinois (Burlington) (Myers 1970). Quartzite and Indian Creek chert, two of the raw materials used in the artifacts from the Taylor property, require additional discussion in order to clarify misconceptions about them that were previously published by Cochran (2002).

Table 11
Raw Material Frequency

Material	No.	Percentage
Fall Creek	2603	89.53
Quartzite	146	5.03
Attica	54	1.86
Indian Creek	24	0.83
Unknown	24	0.83
Wyandotte	22	0.76
Allens Creek	11	0.38
Laurel	6	0.21
Flint Ridge	5	0.17
Jeffersonville	4	0.14
Burlington	2	0.07
Delaware	2	0.07
Kenneth	1	0.03
Plummer	1	0.03
Upper Mercer	1	0.03
Zaleski	1	0.03

Quartzite

During the analysis of artifacts recovered during McCullough's 2001 investigation of the Strawtown enclosure (12-H-883) and 12-H-3 (White et. al 2002), Cochran (2002) discussed quartzite associated with artifacts from these two sites. McCullough took samples of the quartzite to the 2001 Midwest Archaeological Conference in La Crosse, Wisconsin, where the samples were identified as Hixton Quartzite or a variant by Wisconsin archaeologists. Based on this information and observations made by Cochran, the quartzite was identified as Hixton Quartzite (Cochran 2002). Subsequently, additional research indicated otherwise.

Part of the impetus for taking another look at the quartzite was comments by collegues that Late Woodland/Late Prehistoric peoples would not use material from so far away. While triangular points are most often made from local materials (eg. Converse 1994:134), some Oneota groups used exotic cherts (eg. Moffat 1994) and triangular points from Oliver Phase sites in south central Indiana were made from cherts whose sources were in excess of 100 km away (McCullough and Wright 1996). While I (Cochran) was willing to let the data speak for itself and deal with the problem of interpreting an exotic raw material from Wisconsin in assemblages in central Indiana, I decided to review the identification of the quartzite. I pulled many samples from the IPFW excavations and surface collections from the Strawtown enclosure and 12-H-3 as well as quartzite artifacts recovered during our 2002 survey at the Taylor property. I reviewed the samples under the microscope and again compared them with samples of Hixton quartzite. In addition, I reviewed the few samples of quartzite collected from the glacial till during the summer of 2002. I also discussed the problem with collegues. Discussions with Mark Cantin were instrumental in helping me compare the material from the till with the archaeological samples. I also sent samples of the quartzite to Brad Kolderhoff, an Illinois archaeologist who is an authority on Illinois cherts (Kolderhoff 1985).

What I discovered during the reanalysis was that the till samples and the archaeological samples of quartzite were the same. During the earlier analysis, I had overlooked the chert inclusions in the quartzite archaeological samples. Every archaeological sample has at least some of the same inclusions that characterize the till samples. The difference was in the biased sample of till quartzites we had collected: they were highly brecciated while the archaeological samples were only sometimes highly brecciated. In addition I searched for additional samples of quartzite. I checked gravel bars in streams in Hamilton County, and I checked the gravel bar under the SR 37 Bridge over the White River at Strawtown. I found a few more samples and they were consistent with those from the till and the archaeological samples. I also collected a sample of the same quartzite from the creek bed adjacent to the Moffit Farm site (12-H-6). Quartzite was identified in the artifacts from that site as well (McCord 1997).

I also reviewed a number of collections both up and down river from the Taylor property. There was a noticable increase in the frequency of quartzite flakes and cores in the Strawtown area with a noticeable fall off both up and down stream. A quartzite sample recovered from the till in Madison County was in the ARMS reference collections, but quartzite usage in artifacts in Madison County was far lower than in Hamilton County (Cochran 1984). The review of artifacts also revealed that quartzite usage in diagnostic artifacts in the region was almost exclusively limited to triangular points. I had recognized this pattern previously and even stated emphatically that the quartzite was "definitely" not Hixton (Cochran 1984:34), but obviously had forgotten that earlier conclusion.

Thus, it appears that the quartzite associated with artifacts in the Strawtown area was derived from a local source. Currently it appears that the source for the quartzite was the river and outwash gravels. Some of the quartzite does not appear highly weathered and it may derive from a bedrock source somewhere in central Indiana. To confuse matters more, the chert

inclusions in the orthoquartzite appeared to be Fall Creek chert. Fall Creek chert often times has a cortex that is not highly worn and appears similar to a sandstone matrix. This presents an interesting problem for further analysis.

It is also interesting that the quartzite is associated almost exclusively with triangular points. I had earlier thought that the quartzite might be associated with the Oneota occupation in the area, believing that the Oneota connection to the Hixton quartzite source area in southwestern Wisconsin might account for the local use (Cochran 2002). This scenario does not now appear feasible, but the question still remains: which Late Woodland/Late Prehistoric component(s) used quartzite? Knapping quartzite is different from knapping chert (eg. Callahan 1976:166-167), and it seems odd that people unfamiliar with knapping quartzite would select it from the till. Triangular point technology is not one easily duplicated - they are far more complicated than simply pressure flaking a thin flake into a point (Moore 1990:55-69) - and selecting quartzite for triangular points would add to the difficulty of producing a predictable product. As with the source for the quartzite, this association appears to represent an additional research objective for understanding the Late Woodland and/or Late Prehistoric components in the Strawtown area.

"Kaolin" chert

During the analysis of the 2002 IPFW lithic artifacts, I noted a distinctive chert which I identified as Kaolin based on published descriptions (DeRegnaucourt and Georgiday 1998:176-177 , and images of Kaolin chert published on the Internet (Anonymous 2003). This material bothered me as no other association between Kaolin chert and central Indiana had been made. During the reanalysis of the quartzite, I also investigated the "Kaolin" chert further. I sent samples of the chert along with the quartzite to Brad Kolderhoff. He reported that the chert is definitely not Kaolin and sent samples of Kaolin Chert for our reference collection. On December 6, 2002, I showed samples of the "Kaolin" chert to Mark Cantin and Curtis Tomak, both recognized authorities on Indiana cherts. Cantin thought it could be a high quality Indian Creek chert and related it to material from a site in Lawrence County, Indiana. He suggested Greene and Owen Counties, Indiana as a possible source. Tomak did not think it was typical Indian Creek chert and he identified it as distinctly similar to chert he has sourced in Owen County. Tomak is unofficially calling this chert Southport Chert but has not yet published information on it. Incidentally, I had previously shown a small sample of the chert to Cheryl and Pat Munson. Pat noted that it looked like a high quality Indian Creek chert. After additional reference to samples of Indian Creek chert and further discussion with Mark Cantin, it was decided that this material should be called Indian Creek chert. Thus, the earlier identification of "Kaolin" chert artifacts from the Strawtown enclosure and 12-H-3 should be relabelled as Indian Creek chert.

Indian Creek chert has been identified in triangular points from Oliver Phase sites south of Indianapolis (McCullough and Wright 1996). The presence of this material in triangular points in the Strawtown area may be diagnostic of Oliver Phase components. Additional research is necessary to support this idea.

Diagnostic Artifacts

During the survey, a number of diagnostic lithic artifacts were recovered (Table 12) (Appendix D). Points dominated the diagnostic lithic artifacts. A single bifacial endscraper and four fragments of lamellar blades were the other diagnostic lithics. In the following discussion, the diagnostic artifacts are presented in chronological order beginning with the most recent types.

Table 12
Diagnostic Lithic Artifacts

Artifact	Number
Triangular Point	56
Bifacial Endscraper	1
Jack's Reef Point	1
MW Expanding Stem	1
Lamellar Blades	4
Snyders	2
Robbins	1
Unclass. Contracting Stem	1
Late Archaic Barbed	1
Unclass Late Archaic	2
Riverton	1
Lamoka	1
Table Rock	1
Matanzas	4
Unclass Early Archaic	1
Kanawha	1
St. Charles	1
Hardin Barbed	1
Hi Lo	1

Late Woodland/Late Prehistoric

Points diagnostic of the Late Woodland/Late Prehistoric Period were the most numerous. A total of 56 were found in both survey areas. These points included both the Madison (Justice 1987) and Commissary (Filkins 1988) types (Figure 9). The Madison triangle is a very broadly defined type that incorporates considerable variability in both shape and technology. These points were manufactured and used between ca. 800-1600 A.D. (Justice 1987:224-227). In the Ohio Valley, the most widely used subclassification for triangular points is Railey's (1992) classification of Ft. Ancient points in Kentucky. This system requires testing with triangular points from dated contexts in central Indiana before it can be appropriately applied to the area. It is currently not possible to subdivide triangular points associated with the Albee Phase, Oliver Phase, the Oneota Tradition or other unnamed phases in central Indiana. The problem is, however, under investigation by Wright (1998) and Cochran is involved in research to differentiate triangular points by resharpening and hafting technology.

Raw materials associated with triangular points are shown in Table 13.

Table 13
Raw Materials Associated with Triangular Points

Attica	1
Fall Creek	47
Indian Creek	3
Quartzite	5
Unknown	3
TOTAL	59

The associations are interesting in that they show connections for some of the Late Woodland/Late Prehistoric components to the south and west. Both Indian Creek and Attica chert sources are located between 50 and 100 km from the Taylor property (Cantin 1994). The majority of the triangular points are made from the local sources of Fall Creek and quartzite.

Late Woodland

Only one point diagnostic of the Late Woodland period alone was recovered (Figure 10b). This point, a Jack's Reef Corner Notched type (Justice 1987:217), dates to the early part of the Late Woodland period, ca. A.D. 900 (Justice 1987:217-218). This type represents the earliest arrow point form in the region. While Jack's Reef points are associated with the Intrusive Mound Complex at Windsor Mound in east central Indiana (McCord 1994) no Phase, Horizon (eg.

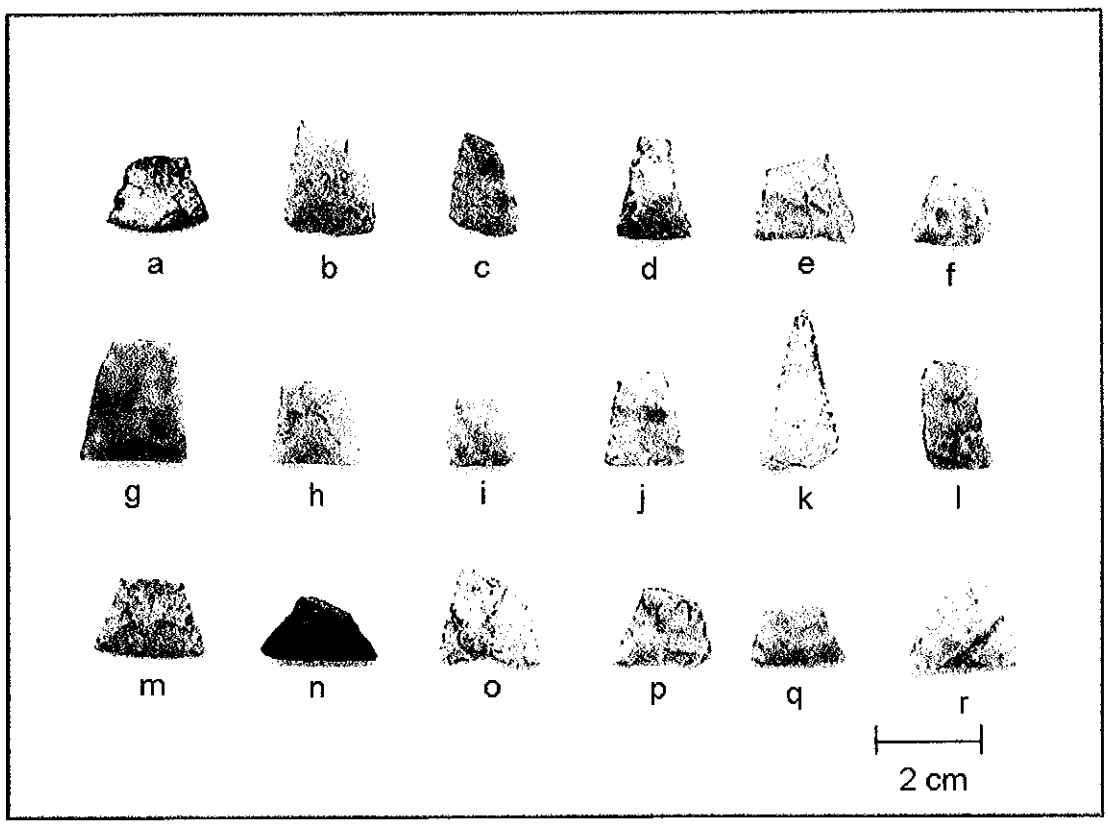


Figure 9. Range of Triangular points recovered: a) 12H993f, b) 12H1004, c) 12H994, d) 12H1005, e) 12H984, f) 12H1074, g) 12H991, h) 12H1007, i) 12H1019, j) 12H997, k) 12H987a, l) 12H993c, m) 12H993c, n) 12H1000, o) 12H993c, p) 12H1005, q)12H993d, and r) 12H997.

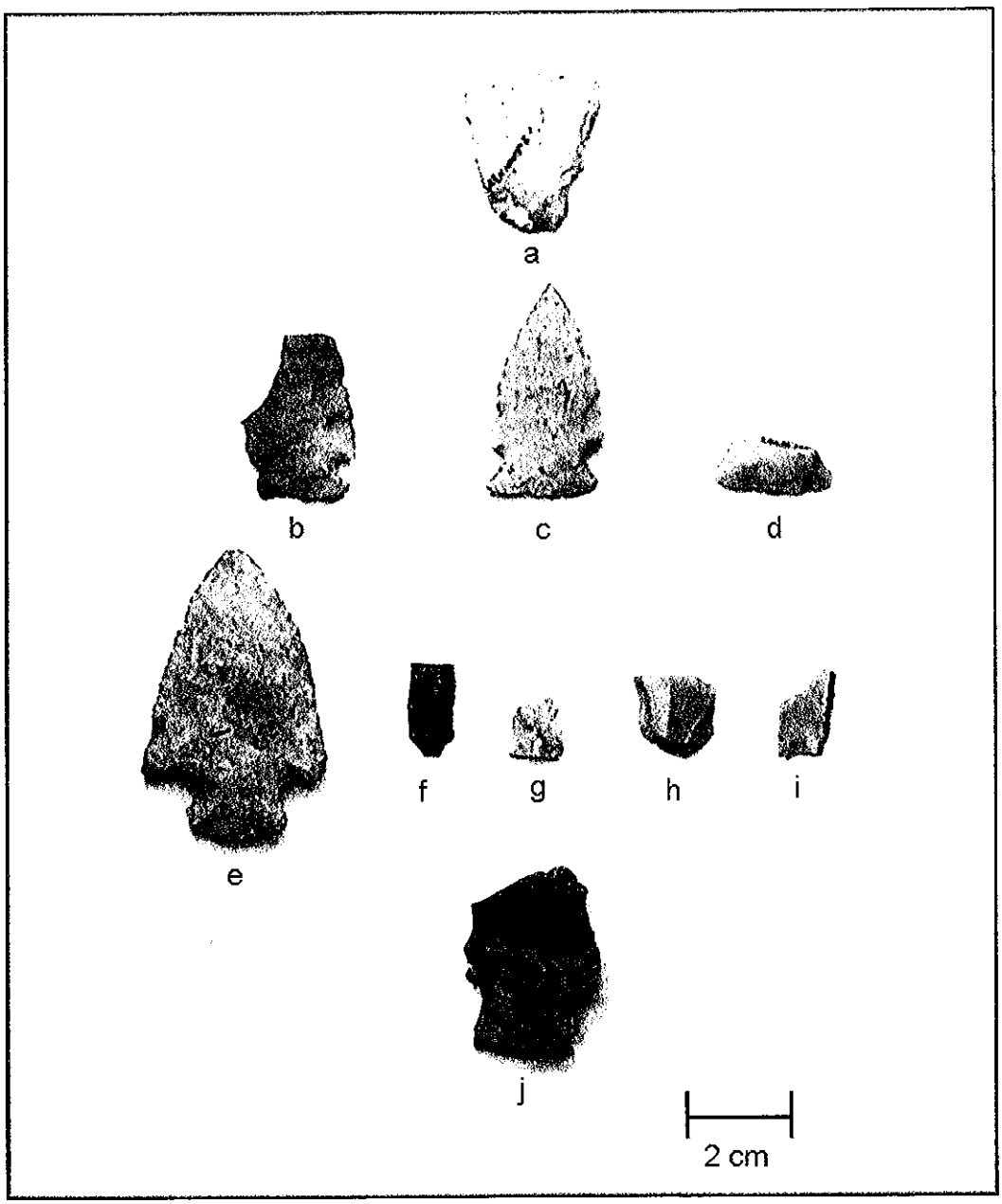


Figure 10. Middle and Late Woodland and Late Prehistoric artifacts: a) bifacial endscraper (12H1005), b) Jack's Reef (12H939), c) Middle Woodland Expanding stem (12H1009), d) Snyders (12H987A), e) Snyders (12H1082), f) blade (12H1073), g) blade (12H939), h) blade (12H993), i) blade (12H955), and j) Robbins (12H1005).

Seeman 1992) or other archaeological unit has yet been identified for this time period in the till plain region. The point was made from heat treated Fall Creek chert.

Late Middle Woodland

The Late Middle Woodland period is represented by one artifact, an unclassified expanding stem point (Figure 10c). The point has attributes of a number of types such as Lowe, Bakers Creek, and Steuben (Justice 1987) but appears to represent a generalized form of the type. The point is made from Fall Creek chert. These point types date around A.D. 300-500 (Justice 1987:208-214) and are diagnostic of an unnamed post-Hopewell occupation in the region.

Middle Woodland

Two points and four lamellar blade fragments are diagnostic of the Middle Woodland occupation of the Taylor property (Figure 10d-i). The points are classified as Snyders (Justice 1987:201-204) and have an associated date range of between 200 B.C. and A.D. 400. The lamellar blades date to the same time period (Converse 1994). All of the blades and one of the Snyders points are made from Flint Ridge chert suggesting connections with the Scioto Hopewell tradition of Ohio. The more complete Snyders point is made from Fall Creek chert. Most Snyders points in central Indiana are made from Burlington chert from Illinois (Hicks 1992). The four lamellar bladelet fragments found during this survey combined with the two reported from the 2001 IPFW project at the Strawtown enclosure represents a total of six lamellar bladelets that have been found in the Strawtown area. Recently, Carmany (2003) reported an additional bladelet from a survey just upstream from the Taylor property. These seven bladelets are significant when compared to the fact that only 12 were on record from the Upper White River as of 1996. Thus, this relative concentration indicates an unusual frequency of Middle Woodland activity in the Strawtown area.

Early Woodland

One Robbins point (Justice 1987: 187-189) made from Wyandotte chert was found (Figure 10j). Robbins points are thought to date to the Early Woodland Period, between about 500 B.C. to A.D. 200 (Justice 1987:188) although McCord and Cochran (2000) have shown that these points occur in direct association with Middle Woodland Snyders points in east central Indiana sites. Early Woodland points are extremely rare in the region.

Late Archaic

The Late Archaic Period was represented by six point types and an untyped point: Late Archaic Barbed, Riverton, Lamoka, Table Rock and an Unclassified Late Archaic point (Figure 11). These types represent different components that date across the span of the Late Archaic Period (Table 14). An unclassified contracting stem point (Figure 11a) most likely dates to the Late Archaic Period.

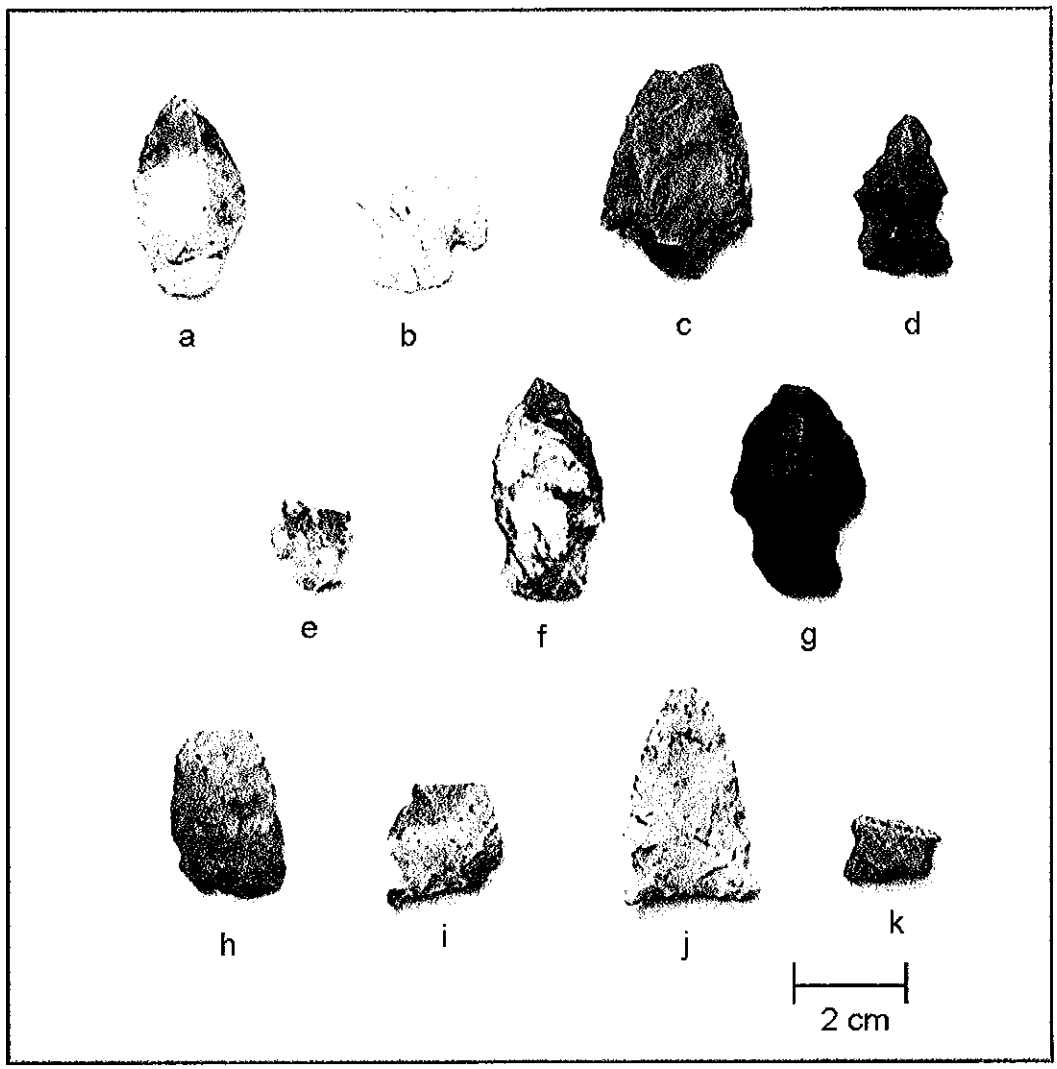


Figure 11. Late Archaic points: a) Contracting Stem (12H993c), b) Late Archaic Barbed (12H954), c) Unclassified Late Archaic (12H959), d) Unclassified Late Archaic (12H1003), e) Riverton (12H988c), f) Lamoka (12H963), g) Table Rock (12H992), h) Matanzas (12H963), i and j) Matanzas (12H939), k) Matanzas (12H949).

Table 14 Late Archaic Point Chronology			
Type	Dates	Number	Reference
Late Archaic Barbed	1500-600 B.C.	1	Justice 1987:183-184
Riverton	1600-800 B.C.	1	Anslinger 1986
Lamoka	3500-1800 B.C.	1	Justice 1987:127-129
Table Rock	3000-1000 B.C.	1	Justice 1987: 124-127
Unclassified Late Archaic	3000-1000 B.C.	1	Justice 1987
Matanzas	3700-2000 B.C.	4	Justice 1987: 119-121

The Late Archaic Barbed, Riverton, Lamoka and Matanzas points were made from Fall Creek chert. The Unclassified Late Archaic point was made from Wyandotte and the Table Rock Point from Zaleski chert from Ohio. The number of Matanzas points is interesting in comparison with the other Late Archaic components. All four of the Matanzas points were found on the outwash terrace.

Middle Archaic

No points diagnostic of the Middle Archaic were found.

Early Archaic

The Early Archaic Period is represented in the project area by four points (Figure 12): a Kanawha (Justice 1987:95-97), a St. Charles (Justice 1987:57-58), a Hardin Barbed (Justice 1987:51-53) and an untyped point fragment with Early Archaic technology similar to Kirk Corner Notched points (Moore 1992). All of the points are made from Fall Creek chert. The Kanawha point indicates an occupation on the later end of the Early Archaic, around 6200 B.C. (Justice 1987:95) while the other three points are earlier in the sequence. The Hardin Barbed point is a rare form in the region and is "almost without exception" (Justice 1987:53) associated with relict prairies. The presence of the Hardin Barbed point in the Taylor property is well to the east of the distribution of the type as defined by Justice (1987:53).

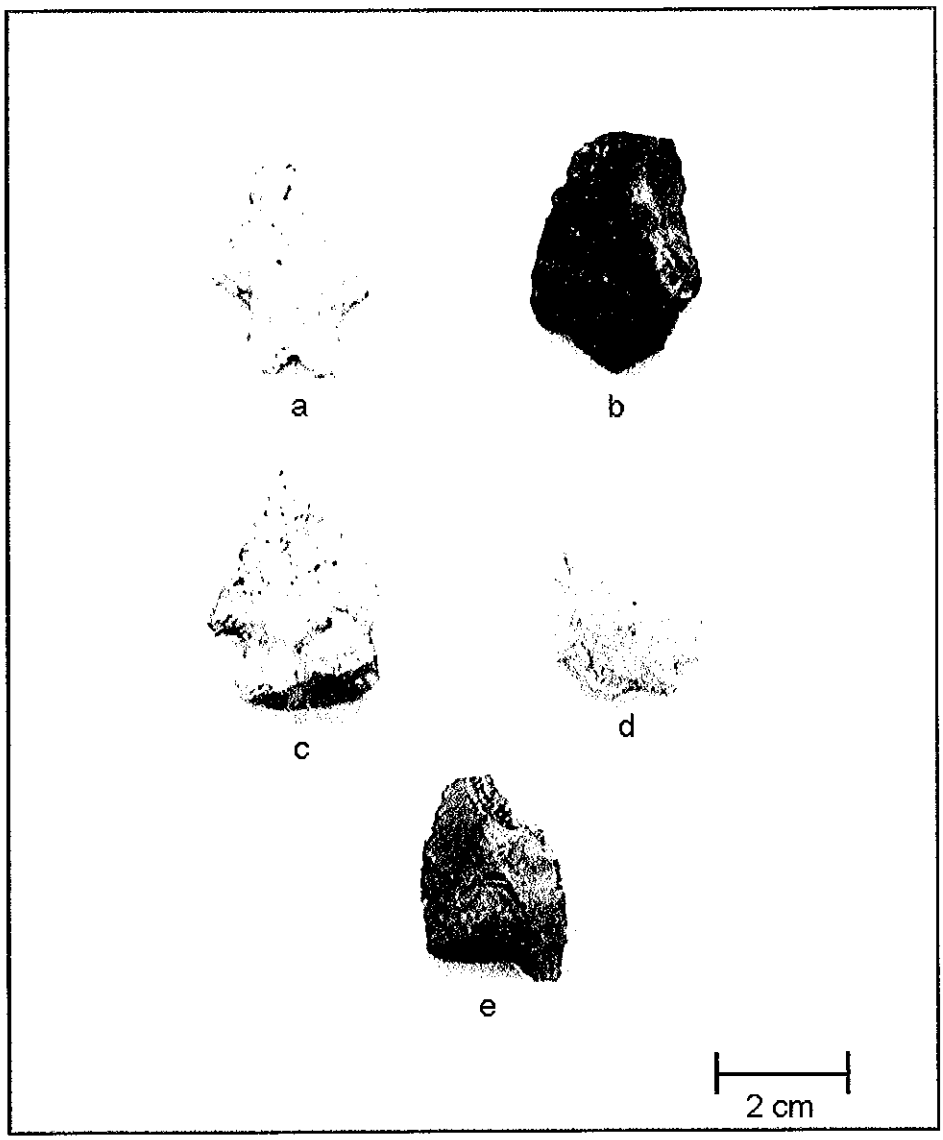


Figure 12. Paleoindian and Early Archaic points: a) Kanawha (12H998), b) Unclassified Early Archaic (12H987D), c) Hardin Barbed (12H991), d) St. Charles (12H963), and e) Hi-Lo (12H937).

Paleoindian

Only one Paleoindian point (Figure 12e) was found during the survey of the Taylor property, but even one point from this period is an unusual find. The point, a Hi-Lo (Justice 1987:44-46), dates to the Late Paleoindian/Early Archaic period of ca. 8,000 B.C. The point is made from Attica chert. Central Indiana is on the southern limit of the distribution of the Hi-Lo point, and when combined with the Attica chert from which it is made, suggests a north and west connection for the Late Paleoindian component it represents. The point was an isolated artifact found on the outwash terrace.

Pottery

The surface survey recovered 252 pottery sherds from 27 sites. Only one terrace site, 12-H-959, contained pottery and the other pottery producing sites were located on the flood plain. All but one of the sherds were grit tempered; the one exception was shell tempered. The majority of the sherds were classified as body sherds (n=234), but 12 rims and 6 necks were also recognized. The majority of the sherds showed evidence of weathering and had eroded (n=105) or exfoliated (n=46) surfaces. When the surface treatment could be determined, cord marking was dominant (n=76), followed by a small number of fabric marked (n=12) and plain (n=13) surfaces. The rims and decorated ceramics were compared to regional types in an effort to discern the cultural affliation. Most of the sherds did not display diagnostic attributes and were assigned to an undefined Woodland time frame. Thirteen of the sherds did have attributes that warrant further discussion.

One rim sherd from 12-H-987 may represent a Middle Woodland component. The sherd has a plain/smoothed surface treatment and the thickness of the sherd tapers at the lip (Figures 13c and 14c). The lip is flattened. The paste of the sherd is very well mixed and more reminiscent of Middle Woodland manufacture than Late Woodland. The sherd is not decorated, so the Middle Woodland assignment is only tentative. Middle Woodland and Late Woodland components are represented in the diagnostic lithics at 12-H-987.

Two sherds appear to fit descriptions of Late Woodland Albee ceramics (Winters 1967, McCord and Cochran 1994). One large cord marked rim sherd from site 12-H-985 displayed a wedge shape collar, but the top of the lip was missing (Figures 13b and 14b). Linear tool impressions occurred across the crest of the collar. An eroded rim sherd from site 12-H-993c had a wedge shaped collar (Figures 13e and 14e). The lip was flattened. The sherd had been decorated with linear tool impressions placed across the crest of the collar.

Two sherds, one from site 12-H-959 and one from site 12-H-1006, showed very similar attributes. Both sherds were small, plain rims that showed slightly thickened rim strips (Figures 13a, 14a, 13l and 14l). Each sherd had wide, shallow oblique tool impressions placed on the thickened portion of the exterior of the sherd. This decorative motiff is seen in Ft. Ancient

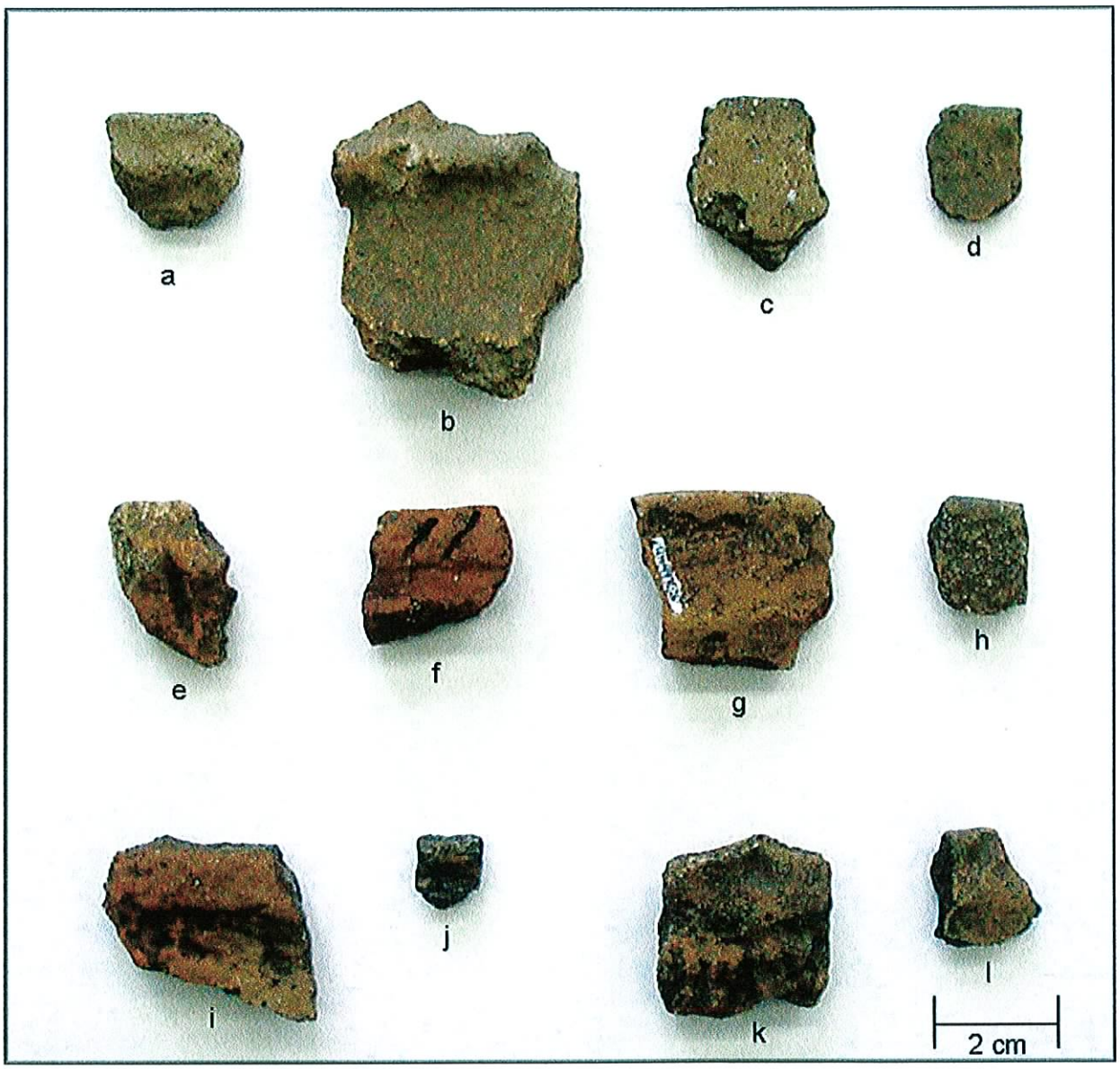


Figure 13. Rimsherds collected during the survey: a) H-959, b) H-985, c) H-987, d) H-991, e) H-993c, f) H-993f, g) H-993c, h) H-993f, i) H-993, j) H-1005, k) H-1005, and l) H-1006.

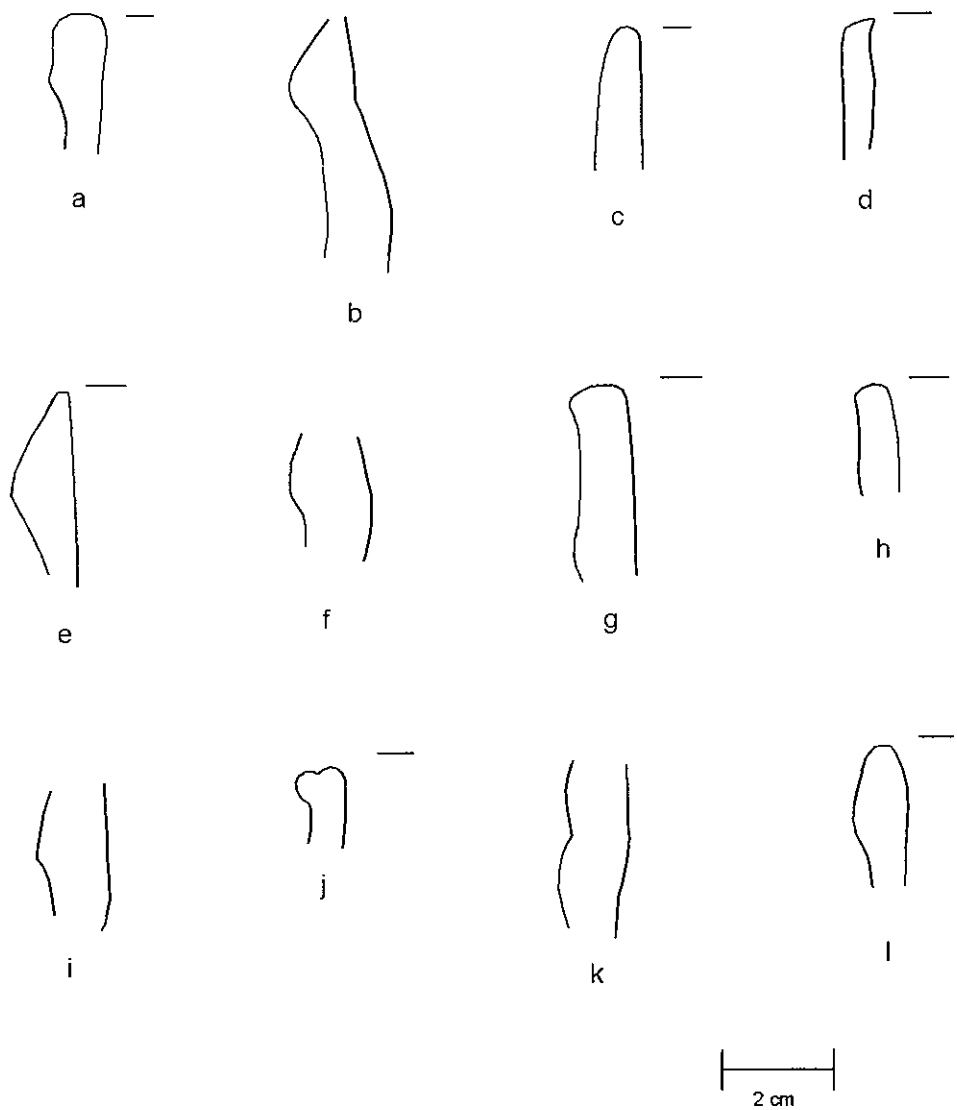


Figure 14. Rim profiles.

ceramics (Griffin 1966) and is associated with the Oliver Cordmarked type and the Oliver Phase in central Indiana (Dorwin 1971, McCullough 1991, 2000). The neck portion of the vessel is missing so it was not ascertainable if the guilloche design that often accompanies the oblique impresssions in Oliver Cordmarked ceramics was present.

Another rim sherd from site 12-H-993f displayed a horizontal row of thin incised oblique lines (Figures 13f and 14f). The rim had been thickened and the decoration was placed across the thickened portion. The top of the lip was missing. The decoration is reminiscent of a style found at the Strawtown site (12-H-3/883) and Moffit Farm (12-H-46) (McCullough 1991), and usually more has than one row of oblique lines. Since the upper section of the rim was missing, it is unknown how many rows of decoration occurred on the rim. This decorative style has been associated with the Oliver phase (McCullough 1991, 2000).

A plain rim with flattened lip was recovered from 12-H-993c (Figures 13g and 14g). The rim has a high profile, but is not decorated. The rim height suggests a Late Woodland affiliation and it might be comparable with such types as Bowen Cordmarked, plain variety (Dorwin 1971).

Two thin rim sherds recovered from sites 12-H-991 and 12-H-993f may be of Late Woodland origin (Figures 13d, 14d, 13h and 14h). Both have plain surfaces and flat lips. Neither sherd is decorated.

One partial rim sherd from 12-H-993 has an eroded surface (Figures 13i and 14i). The lip section of the rim is missing. The rim does show thickening, but no decoration on the thickened portion was noted. The sherd is most likely Late Woodland in age.

One rim sherd from 12-H-1005 had a channeled lip (Figures 13j and 14j). The rim was exfoliated and very small. The channeled lip suggests a Late Woodland affiliation (Winters 1967, McCullough 1991).

Another partial rim from site 12-H-1005 has a cordmarked surface (Figures 13k and 14k). There appears to be a portion of a wide, but shallow tool impression on the exterior surface. The lip portion of the rim is missing. The sherd is fairly thick and most likely Late Woodland in age.

One body sherd from 12-H-993f had been tempered with shell. The tempering made this sherd unique in the ceramic assemblage. The surface of the shell was eroded, so the surface treatment was no longer visible. Shell tempering in the Strawtown region could be related to some Oliver Phase ceramics (Dorwin 1971, McCullough 1991, 2001) or to Oneota ceramics like those recovered from Taylor Village (12-H-25). The paste appeared more closely related to Late Woodland wares rather than Taylor Village ceramics.

Historic Artifacts

The survey recovered 120 historic artifacts from 12 sites. The historic artifacts were

classified and dated using several sources (Loftstrom et al. 1982, IMACS 1984, Majewski and O'Brien 1987, ODOT 1991, Feldhues 1995). Table 15 provides a listing of historic materials by general category. For a complete listing of historic artifacts by individual site, see Appendix A.

Table 15
Historic Artifacts

Category	No.	Category	No.
Brick	4	Mortar	1
Coal/slag	19	Plastic	1
Concrete	1	Porcelain	4
Crescent wrench	1	Redware	1
Field tile	8	Shotgun shell	1
Glass	27	Stoneware	23
Harness ring	1	Unidentified metal frag.	2
Horseshoe	1	Unidentified brass frag	1
Insulator, porcelain	1	Whiteware	18
Ironstone	2	Wire	1
Metal bucket frag	1		

The majority of the historic artifacts either date to the 20th century or have open ended date ranges from between the early 19th century to the present. Of the 120 historic artifacts, 86 were recovered from site 12-H-953. The other eleven sites that had a historic component contained only a few historic artifacts. Only a few of the artifacts have diagnostic attributes that date to the early 19th century. The glass and ceramics are the most temporally sensitive and are discussed in more detail (Figure 15).

Twenty four fragments of glass were recovered during the survey including 7 aqua container fragments, 1 aqua flat fragment, 4 amber container fragments, 4 clear container fragments, 2 milk glass canning lid liner fragments, 1 milk glass container fragment, 2 green container fragments,1 opaque container fragment and 1 cobalt blue container fragment. Most of the glass has open ended production dates and is still being manufactured. The milk glass and cobalt blue glass have production dates from ca. 1890 to 1960 (IMACS 1984). The aqua glass fragments (ca. 1800 to 1910) are the only glass artifacts that may date to the early Historic period.

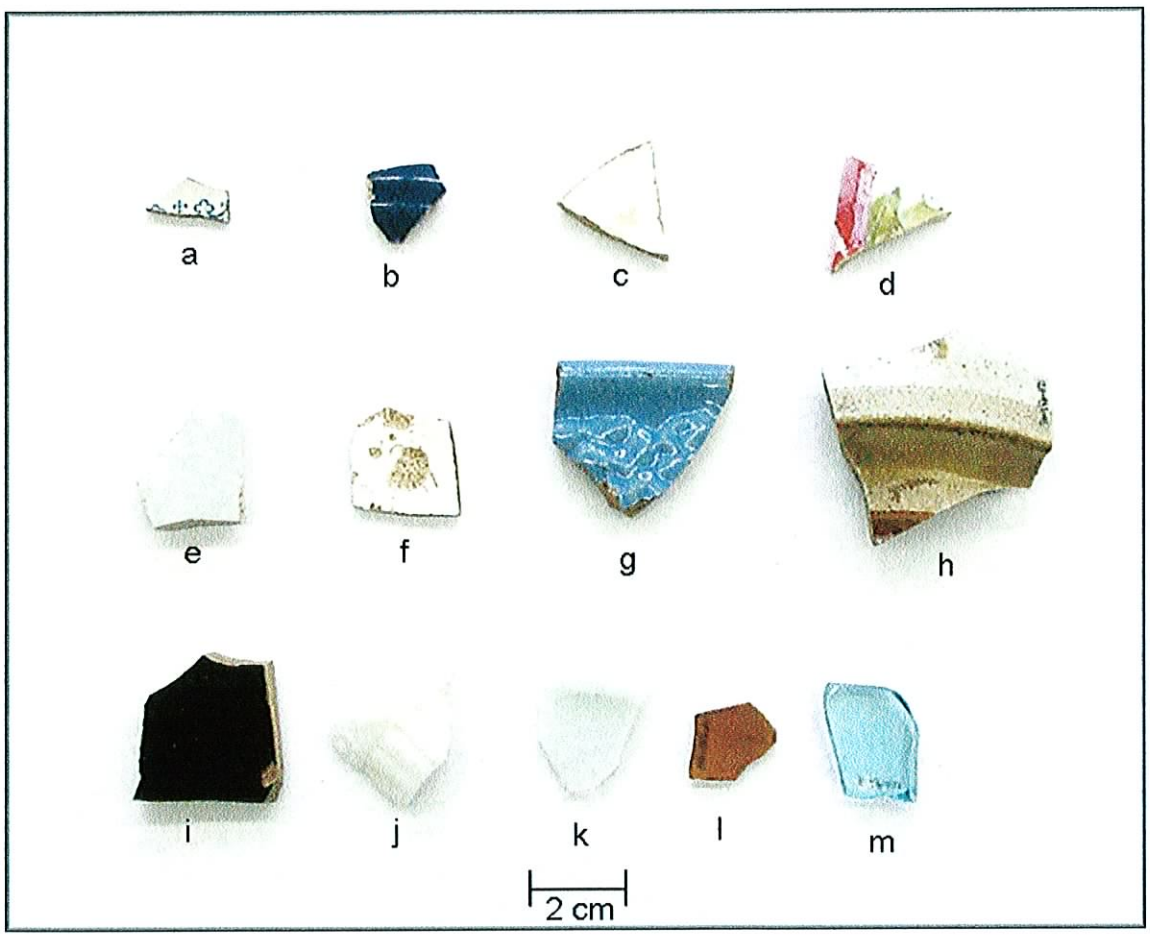


Figure 15. Range of historic artifacts collected: a) blue transferprint whiteware, b) flow blue whiteware, c) green floral whiteware, d) polychrome floral transferprint porcelain, e) ironstone, f) embossed whiteware, g) blue glazed stoneware, h) brown glazed stoneware, i) Albany glazed stoneware, j) molded milkglass container, k) milkglass canning lid liner, l) amber container glass, and m) aqua container glass. All artifacts from site 12-H-953 except (a) from site 12-H-962.

Forty-nine historic ceramic fragments were found by the survey. These included 23 fragments of stoneware, 18 fragments of whiteware, five porcelain fragments, two ironstone fragments and one redware fragment. Like the glass, most of the ceramics have open ended production dates and are still being manufactured. The stonewares all have a buff paste and are all likely American Buff wares (ODOT 1991). A variety of glazes were identified on the stonewares, but the dark brown exterior glaze with a lighter interior glaze was most common. The whitewares were dominated by plain surfaces that date ca. 1820 to present (ODOT 1991). The whitewares did include one flow blue sherd (ca. 1820 to 1870, ODOT 1991), one sherd with a hand painted green floral design (ca. 1840 to 1860, (Loftstrom et al. 1982)), and one blue transfer print sherd (ca. 1830 to 1860, Lofstrom et al. 1982)). The porcelain ceramics included two plain container fragments, one insulator, one container fragment with an apparent orange colored glaze, and one container sherd with a polychrome floral transfer print (ca. 1840 to present)(Majewski and O'Brien 1987). The ironstones are plain and date ca. 1840 to present (Majewski and O'Brien 1987). The one redware fragment may date to the mid to late 1800s (Feldhues 1995). The three decorated whiteware sherds are the only ceramics that can be definitely dated to the early-mid 19th century.

The majority of the historic components recovered during the survey likely represent late 19th or 20th century debris. Only one site, 12-H-953, had a substantial historic occupation. This site was recorded in a cultivated field adjacent to an existing farm. This farm building is not shown on the 1876 atlas for Hamilton County (Anonymous 1968), but does appear on a 1912 soils map of the county (Hurst et al. 1912). Only a few of the artifacts collected from this site, indicate an early 19th century occupation. Most of the artifacts could be related to a mid 20th century occupation. Further evaluation of the farm and site 12-H-953 is recommended to determine if this site is significant. Site 12-H-962 contained one blue transfer print sherd and no other historic artifacts, therefore, it is unlikely that this site represents a significant historic occupation. An 1876 county atlas shows a road passing near this site (Anonymous 1968).

Sites

Only one site had been recorded within the project area, prior to this survey. In 1996, site 12-H-792 was encountered during a Phase I survey prior to a road realignment project along Strawtown Avenue (Stillwell 1996)(Figure 16). The site was recorded in the new alignment as 200 m^2 and contained three unmodified flakes, one modifed flake, and three fire-cracked rocks. Due to well drained alluvial soils at the site, it was recommended for further archaeological assessment. No further assessment of the site was ever conducted, however, and it is believed that site 12-H-792 was destroyed by the road construction. The topographic map and sketch map included with the site form of 12-H-792 provide somewhat conflicting information on the location of the site. If the site were not destroyed by road construction, it could be part of sites 12-H-996, 1001 or 1002 (Figure 19). Since site 12-H-792, was recorded in the new road alignment, it was assumed to have been destroyed and was not re-identified during this project.

This project recorded 89 previously unrecorded archaeological sites (Figures 17 to 19).

Site Locations Confidential
Not For Public Disclosure

Figure 16. Location of site 12-H-792 according to Stillwell (1996).

Site Locations Confidential
Not For Public Disclosure

Figure 17. Sites recorded.

Site Locations Confidential
Not For Public Disclosure

Figure 18. Sites recorded.

Site Locations Confidential
Not For Public Disclosure

Figure 19. Sites recorded.

Thirty-one sites were recorded in the terrace zone and 58 sites were recorded for the flood plain zone. Summaries for each site are contained in Appendix A. Table 16 provides a summary of the recommendations for each site (Figure 20). Twenty-five of the terrace sites were not considered eligible for listing on the State or National Register and no further work was recommended. Five of the terrace sites contained quantities of artifacts and fire-cracked rock to be potentially eligible for Register listing and testing was recommended. One site, 12-H-953, was a historic scatter located in the field next to an existing farm complex. Further evaluation of this site and the farm complex is needed before a recommendation can be given. Forty-one of the flood plain sites did not have a surface manifestation that appeared Register eligible, but are located on alluvial soils and a subsurface reconnaissance was recommended. Seventeen of the flood plain sites appear to be potentially eligible for listing on the State or National Registers and are located on alluvial soils. These sites were recommended for testing and subsurface reconnaissance.

Table 16
Recommendations*

Recommendation	Sites
Not significant/not Register eligible (n=25)	12-H-935, 936, 937, 938, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 954, 956, 957, 960, 961, 962, 964, 965
Testing (n=5)	12-H-939, 955, 958, 959, 963
Further evaluation (n=1)	12-H-953
Not significant/Subsurface reconnaissance (n=41)	12-H979, 980, 981, 982, 983, 994, 995, 996, 998, 999, 1001, 1003, 1004, 1008, 1010, 1011, 1012, 1013, 1014, 1015,1016, 1017, 1018, 1019, 1020, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082
Testing/Subsurface reconnaissance (n=17)	12-H-984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 997, 1000, 1002, 1005, 1006, 1007, 1009
* Refer to Augers section for areas without associated sites.	

Density

Site density and artifact density information can be presented in numerous ways. In an effort to impose the least amount of bias possible, the density figures presented were obtained from data collected in the same manner, ie. artifacts only collected at a 10 meter survey interval. Artifacts from re-surveys or surveys conducted at different intervals were not included. Unfortunately, the data is still biased by factors such as surface visibility that were not constant across the project area.

The site density for the project was examined at several levels (Table 17). As shown in

Site Locations Confidential
Not For Public Disclosure

Figure 20. Recommendations for the sites.

Table 17, the flood plain area was broken into three regions (see Figure 8). Each of these regions was spatially distinct and showed different patterns of site and artifact density. Flood plain areas 1 and 2 show a similar density of sites, but the number of artifacts recovered from flood plain area 2 was dramatically higher. Flood plain area 3 had the highest site density, similar to the terrace setting, but these two areas also included several isolated finds. Flood plain areas 1 and 2 included very large sites.

Table 17
Site and Artifact Density

Area	Acres Surveyed	No. of Sites*	Total Prehistoric Artifacts*	Site Density*	Artifacts per Site*	Artifacts per Acre*
Terrace	87	30 [31]	475 [599]	2.90	15.83	5.46
Flood Plain 1	67	8 [9]	123 [440]	7.44	15.38	1.84
Flood Plain 2	141	13 [17]	1281 [1740]	8.29	98.54	9.09
Flood Plain 3	68	32	408	2.13	12.78	6.00
Total Flood Plain	276	53 [58]	1812 [2588]	4.76	34.18	6.57
Total	363	83 [89]	2287 [3187]	4.08	27.55	6.30

* Number of prehistoric sites/artifacts included in site density and artifacts per site from original 10m walkover. Number in [ ] is the total sites/artifacts recorded by the entire survey.

Tables 18 through 21 provide another presentation of density figures that takes into account the site size. They show the breakdown of the prehistoric artifact density per m^2 for each site by the survey area. The small sites (approximately 100 m^2) and isolated finds had highest densities of artifacts. The larger sites that were recommended for testing had the next highest density. The tables also show the average site size and the average prehistoric artifact density per m^2 for each survey area. Flood plain area 3 had the smallest sites and the highest artifact density. The outwash terrace had somewhat larger sites and lower artifact densities. Flood plain area 2 had the largest sites but the artifact density was comparable to the terrace. Flood plain area 1 sites were somewhat smaller than flood plain area 2, but the artifact density was the lowest of all the areas. A comparison between the terrace setting and all of the flood plain found that the terrace sites were smaller (approximately 4300 m^2 compared to 10,000 m^2 for the flood plain), but the average prehistoric artifact density was very similar (approximately one artifact per 225 m^2 for the terrace and one artifact per 245 m^2 for the flood plain).

Table 18
Density of Terrace Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY* (1:m2)
12H935	UnP	108.0	2	2		3		NS	54.00
12H936	UnP	72.0	4	4		2		NS	18.00
12H937	LPaleoindian	1875.0	2	2		7		NS	937.50
12H938	UnP		1	1				NS	0.00
12H939	LA, MW, LW, H	19350.0	139	139	2	175+		Testing	139.21
12H940	UnP		1	1				NS	0.00
12H941	UnP	7875.0	7	7		40		NS	1125.00
12H942	UnP	8925.0	10	10		10		NS	892.50
12H943	UnP	5250.0	8	8		20		NS	656.25
12H944	UnP	1800.0	5	5		10		NS	360.00
12H945	UnP	36.0	2	2				NS	18.00
12H946	UnP		1	1				NS	0.00
12H947	UnP	1350.0	2	8		15		NS	675.00
12H948	UnP	1800.0	3	3		10		NS	600.00
12H949	LA		1	1				NS	0.00
12H950	UnP	450.0	3	3		4		NS	150.00
12H951	UnP	54.0	1	1		2		NS	54.00
12H952	UnP		1	1				NS	0.00
12H953	UnP, H	8700.0	5	5	83	20	1	Further evaluation	101.16
12H954	LA	36.0	2	2				NS	18.00
12H955	MW	9851.0	73	73		100+		Testing	134.95
12H956	UnP		1	1				NS	0.00
12H957	UnP	36.0	2	2				NS	18.00
12H958	UnP, H	13875.0	45	45	3	150+		Testing	308.33
12H959	EA, LA, EW, LW	9620.0	104	104		200+		Testing	92.50
12H960	UnP	900.0	1	1		10		NS	900.00
12H961	UnP	3150.0	3	5		20		NS	1050.00
12H962	LW, H	3600.0	2	8	9	25		NS	1800.00
12H963	EA, LA, H	9112.0	38	142	1	100		Testing	239.79
12H964	LW	3600.0	2	8		18		NS	1800.00
12H965	UnP	900.0	4	4		12		NS	225.00

	TOTALS	112325.0	475	599	101	853	1		

Table 18 (cont.)
Density of Terrace Sites

* Artifact Density = only original 10 m walkover, no fcr

Artifact Density of 12H953 is for historic artifacts

31 sites, 6 Isolated Finds

AVG SITE SIZE (m2) = **4317.71** (not including isolates or 12H953)

AVG PREH ARTIFACT DENSITY (1:m2) = **223.33** (not including isolates or 12H953)
(total area/total orig preh artifacts)

Table 19
Density of Flood Plain Area 1 Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY* (1:m2)
12H979	W	2025.0	7	7		8		NS/SSR	289.29
12H980	UnP	600.0	2	2		3		NS/SSR	300.00
12H981	W	4050.0	6	6		5		NS/SSR	675.00
12H982	UnP	4200.0	1	1		6		NS/SSR	4200.00
12H983	UnP	3000.0	1	1		3		NS/SSR	3000.00
12H984	LW	12350.0	59	59		50		Testing/ SSR	209.32
12H985	LW	38455.0	17	55		150+		Testing/ SSR	2262.06
12H986	W	24920.0	30	30		100+		Testing/ SSR	830.67
12H987a	MW, LW,H	16570.0	x	183	1	25	1	Testing/ SSR	0.00
12H987b	W	11515.0	x	31		3		Testing/ SSR	0.00
12H987c	LW	17705.0	x	35		10		Testing/ SSR	0.00
12H987d	EA, LW	15955.0	x	30		25		Testing/ SSR	0.00
	TOTALS	151345.0	123	440	1	388	1		

* Artifact Density = only original 10 m walkover, no fcr

x Original and Resurvey were not separated, and were not included in density

9 sites, no Isolated Finds

AVG SITE SIZE (m2) = **16816.11**

AVG PREH ARTIFACT DENSITY (1:m2) = **728.46** (excludes 12H987)
(total area/total orig preh artifacts)

Table 20
Density of Flood Plain Area 2 Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY (1:m2)
12H988		17500.0	58	58					301.72
12H988a	UnP	4250.0		25		50		Testing/ SSR	0.00
12H988b	W	6400.0		24		50		Testing/ SSR	0.00
12H988c	LA, H	6850.0		67	1	175		Testing/ SSR	0.00
12H989	LW	2025.0	x	52		15		Testing/ SSR	0.00
12H990	LW	28800.0	x	149		200+	5	Testing/ SSR	0.00
12H991	EA, LW	4200.0	x	65		25		Testing/ SSR	0.00
12H992	LA, LW	13500.0	x	77		25		Testing/ SSR	0.00
12H993a	LW	10045.0	24	24		20	2	Testing/ SSR	386.35
12H993b	UnP	23250.0	12	12		40		Testing/ SSR	1937.50
12H993c	LA, LW, H	80630.0	507	507		250+	1	Testing/ SSR	158.41
12H993d	LW	11400.0	181	181		200+	1	Testing/ SSR	62.98
12H993e	LW	41710.0	60	60		75		Testing/ SSR	695.17
12H993f	MW, LW	5050.0	140	140		100+	2	Testing/ SSR	36.07
12H994	LW	1800.0	17	17		10		NS/SSR	105.88
12H995	UnP	100.0	1	1		5		NS/SSR	100.00
12H996	UnP	2700.0	4	4		10		NS/SSR	675.00
12H997	LW	38275.0	92	92		70		Testing/ SSR	416.03
12H998	EA	11000.0	16	16		30		NS/SSR	687.50
12H999	UnP, H	7950.0	30	30	4	10	4	NS/SSR	265.00
12H1000	LW, H	18250.0	58	58	13	50		Testing/ SSR	314.66

Table 20 (cont.)
Density of Flood Plain Area 2 Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY (1:m2)
12H1001	UnP	5400.0	8	8		20		NS/SSR	675.00
12H1002	W	11700.0	49	49		35		Testing/ SSR	238.78
12H1003	UnP	6000.0	18	18		20		NS/SSR	333.33
12H1004	LW	1800.0	6	6		10		NS/SSR	300.00
	TOTALS	343085.0	1281	1740	20	1495	14		

* Artifact Density = only original 10 m walkover, no fcr

x Original and Resurvey were not separated, and were not included in density

17 sites, no Isolated Finds

AVG SITE SIZE (m2) = **20181.47**

AVG PREH ARTIFACT DENSITY (1:m2) = **229.23** (excludes sites 12H989, 990, 991, 992)
(total area/total orig preh artifacts)

Table 21
Density of Flood Plain Area 3 Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY* (1:m2)
12H1005	EW, LW, LP, H	10650.0	100	100	5	100+		Testing/ SSR	106.50
12H1005b	LW	9500.0	118	118		100+		Testing/ SSR	80.51
12H1006	LW	5750.0	19	19		3		Testing/ SSR	302.63
12H1007	W	4050.0	16	16		4		Testing/ SSR	253.13
12H1008	UnP		1	1				NS/SSR	0.00
12H1009	MW, LW	12650.0	34	34		50		Testing/ SSR	372.06
12H1010	UnP	100.0	2	2				NS/SSR	50.00
12H1011	UnP	225.0	6	6		3	1	NS/SSR	37.50
12H1012	UnP		1	1				NS/SSR	0.00
12H1013	UnP		1	1				NS/SSR	0.00
12H1014	UnP	600.0	6	6		1		NS/SSR	100.00
12H1015	W	1800.0	8	8		5		NS/SSR	225.00
12H1016	UnP		1	1				NS/SSR	0.00

Table 21 (cont.)
Density of Flood Plain Area 3 Sites

SITE	COMPONENT	AREA (m2)	ORIG PREH	TOTAL PREH	HIST	FCR	OTHER	RECOM	PREH ART DENSITY* (1:m2)
12H1017	UnP		1	1				NS/SSR	0.00
12H1018	UnP	1350.0	4	4		1		NS/SSR	337.50
12H1019	LW	1350.0	4	4				NS/SSR	337.50
12H1020	UnP	100.0	2	2				NS/SSR	50.00
12H1067	UnP	1200.0	11	11		4		NS/SSR	109.09
12H1068	UnP		1	1				NS/SSR	0.00
12H1069	UnP	450.0	1	1	1	1		NS/SSR	225.00
12H1070	UnP	2000.0	13	13		5		NS/SSR	153.85
12H1071	W		1	1				NS/SSR	0.00
12H1072	UnP	100.0	2	2				NS/SSR	50.00
12H1073	MW		1	1				NS/SSR	0.00
12H1074	LW	400.0	11	11		1		NS/SSR	36.36
12H1075	UnP	200.0	4	4				NS/SSR	50.00
12H1076	UnP	100.0	2	2				NS/SSR	50.00
12H1077	UnP		1	1				NS/SSR	0.00
12H1078	UnP	900.0	4	4				NS/SSR	225.00
12H1079	UnP	800.0	5	5		3		NS/SSR	160.00
12H1080	W	1200.0	5	5		4		NS/SSR	240.00
12H1081	UnP	3000.0	13	13		10		NS/SSR	230.77
12H1082	MW	1250.0	9	9		4		NS/SSR	138.89
	TOTALS	59725.0	408	408	2	299	4		

* Artifact Density = only original 10 m walkover, no fcr

x Original and Resurvey were not separated, and were not included in density

32 sites, 9 Isolated Finds

AVG SITE SIZE (m2) = **2596.74** (not including isolates)

AVG PREH ARTIFACT DENSITY (1:m2) = **137.03** (not including isolates)
(total area/total orig preh artifacts)

Several archaeological surveys have site and artifact density information that could be compared with the results of this survey (Ellis 1982, Conover 1988, Hixon 1988, Cree 1991, Carmany 2002; see Archaeological Background). Data is only comparable at a general level due to variability in survey conditions and oftentimes survey methodology (ie. transect interval and lumpers vs. splitters). The comparative information reviewed was specific to flood plain and outwash terrace environmental zones. As Tables 18 to 21 showed, there was considerable variability in the site and artifact densities. The averages compiled for the flood plain zone from previous surveys of 877 acres were one site per 11.10 acres, 34.04 artifacts per site and 3.06 artifact per acre surveyed. This survey documented one site per 4.76 acres, 34.18 artifacts per sites and 6.57 artifacts per acre surveyed. The results of this survey had a higher site density and artifacts per acre surveyed, but very similar numbers of artifacts per site were recorded. The

averages compiled from previous surveys of 595 acres of the outwash terrace zone were one site per 2.3 acres, 8.76 artifacts per site and 3.34 artifacts per acre surveyed. This survey documented one site 2.90 acres, 15.83 artifacts per site and 5.46 artifacts per acre surveyed. In comparison, this survey had a slightly lower site density, higher number of artifacts per site and higher number of artifacts per acre.

A comparison of this survey with other regional surveys again showed considerable variability in the site and artifact densities. This variability could be due to variances in survey conditions, survey intervals and/or site recording methods. This survey was the most similar to results found by Hixon (1988) and Carmany (2002) and these surveys were in close proximity to the project area and Strawtown. The relationships of these surveys may be a product of the unique nature of the Strawtown area. Prehistoric settlement and utilization may have been different at Strawtown.

None of the surveys used for comparison included density figures complied taking the site size into account (artifacts per m2), or tabulations of an average site size by environmental zone. As Tables 18 to 21 demonstrate, a fuller understanding of an average type of site encountered by environmental setting can be achieved. These figures can provide additional insights to prehistoric settlement patterns.

Chronology

The survey documented occupation from the Historic to late Paleoindian period within the project area (Figures 21 to 29). The majority of the sites were of unknown prehistoric age. Thirteen sites were multicomponent prehistoric sites. Eleven sites had historic components, but these also had a prehistoric component. Table 22 provides a listing of site by temporal period. Since some of the sites were multicomponent, they are listed in more than one temporal period.

Pages 77 through 85 Removed

Site Locations Confidential
Not For Public Disclosure

Figure 21. Historic components.

Table 22 Site Chronology		
Period	Terrace Sites	Flood Plain Sites
Historic (n=11)	12H939, 962, 963	12H987, 988, 993, 999, 1000, 1005
Unclassified Prehistoric (n=48)	12H935, 936, 938, 940-952, 956, 957, 960, 961, 965	12H980, 982, 983, 995, 996, 1001, 1003, 1008, 1010-1014, 1016-1018, 1020, 1067-1070, 1072, 1075-1079, 1081
Undefined Woodland (n=10)		12H979, 981, 986-988, 1002, 1007, 1015, 1071, 1080
Late Woodland/Late Prehistoric (n=21)	12H939, 959, 962, 964	12H984, 985, 987, 989, 990, 991, 992, 993, 994, 997, 1000, 1004, 1005, 1006, 1009, 1019, 1074
Middle Woodland (n=7)	12H939, 955	12H987, 993, 1009, 1073, 1082
Early Woodland (n=2)	12H959	12H1005
Late Archaic (n=8)	12H939, 949, 954, 959, 963	12H988, 992, 993
Early Archaic (n=5)	12H959, 963	12H987, 991, 998
Late Paleoindian (n=1)	12H937	

In total, 54 prehistoric components were identified within the sites recorded (Table 23). The terrace had 27.8% of the identified components while the flood plain had 72.8 %. Keep in mind that the survey of the terrace accounted for approximately 24% of the area surveyed and the flood plain was approximately 76% of the area surveyed.

Table 23 Frequency of Identified Prehistoric Components			
Component	Terrace (%)	Flood Plain (%)	Total (%)
Undefined Woodland	0.00	18.52	18.52
Late Woodland/ Late Prehistoric	7.40	31.48	38.88
Middle Woodland	3.70	9.29	12.99
Early Woodland	1.85	1.85	3.70
Late Archaic	9.26	5.56	14.81
Middle Archaic	0.00	0.00	0.00
Early Archaic	3.70	5.56	9.26
Late Paleoindian	1.85	0.00	1.85

Examining the distribution of the sites by temporal period may help define the use and settlement of terrace and flood plain settings. Late Woodland/Late Prehistoric components dominated the survey and particularly the flood plain zone. This use was expected from the background research of previous surveys in the White River Valley (Ellis 1982, Conover 1988, Hixon 1988, Carmany 2002). Middle Woodland components were surprisingly the second most frequent encountered in the flood plain by this survey. The other surveys reviewed found Late Archaic and Early Archaic components in higher frequency than Middle Woodland. Early Archaic and Late Archaic were the third most frequent components in the flood plain. The rarity of Early Woodland components in the flood plain suggested by previous surveys was confirmed by this survey. No Paleoindian or Middle Archaic presence was documented in the flood plain. Paleoindian components were not encountered by previous surveys of the valley either.

Late Archaic components were the most commonly identified in the terrace zone. This again is comparable to previous surveys of outwash terraces along the White River (Conover 1988, Hixon 1988). Unlike the previous surveys though, Late Woodland/Late Prehistoric was the second most frequent component in the terrace. Previous surveys indicate Early Archaic components are second most frequent followed by Middle Archaic and Early Woodland, and Late Woodland/Late Prehistoric, Middle Woodland, and Paleoindian. This survey found Early Woodland and Paleoindian occurred in the lowest frequency in the terrace zone and Middle Archaic was absent.

To further refine the prehistoric land use, the distribution of diagnostic artifacts was examined. Table 24 shows the range of diagnostic points recovered by this survey. This information is compared to previous surveys in the region (Ellis 1982, Hixon 1988, Carmany 2002).

Table 24
Chronology by Diagnostic Artifacts

Artifacts	Terrace	Flood plain
Bowen ceramics*		1
Oliver ceramics*	1	1
Albee ceramics		2
Ceramics	1	245
Bifacial endscraper		1
Triangular points/bifaces	3	53
MW Expanding Stem point		1
Lamellar blade	2	2
Synders point		2
Robbins point		1
Riverton point		1
Lamoka point	1	
LA Barbed Cluster	1	
LA Contracting Stem		1
LA point	1	
Matanzas point	4	
Bifurcate point	1	
Kanawha point		1
St. Charles point	1	
EA point fragment		1
Hardin-Barbed point		1
Hi-Lo point	1	

* As used here, Oliver ceramics and Bowen ceramics are used to differentiate between the two ceramic traditions as defined by Dorwin (1971). Oliver ceramics reflect a Ft. Ancient decorative tradition and Bowen ceramics reflect a Woodland decorative tradition.

Late Woodland/Late Prehistoric artifacts were the most commonly recovered diagnostic artifacts. As noted previously, these components dominated the flood plain. Late Woodland/Late

Prehistoric artifacts were also recovered in the terrace zone, but with less frequency. Pottery was mainly recovered from the flood plain, but one site, 12-H-959, located on the outwash terrace edge contained a small ceramic assemblage. From the identified ceramic types, differences in Oliver and Albee land use is suggested. Albee ceramics only occurred in the flood plain. The Woodland style Bowen ceramics also occurred only in the flood plain, but the Ft. Ancient style Oliver ceramics appeared in both the flood plain and the outwash terrace.

Middle Woodland lamellar bladelets were recovered in both the flood plain and terrace settings. Bladelets had only been reported in flood plain settings in previous surveys of the area (Ellis 1982, Carmany 2002). Other diagnostic artifacts appeared to be distributed exclusively in either the flood plain or the terrace. However, Riverton and Kanawha points have been recovered from the terrace zone (Hixon 1988), and Lamoka and Mantazas points have been recovered in the flood plain (Carmany 2002, Ellis 1982).

Summary

The archaeological survey documented 89 new archaeological sites and over 3,000 artifacts. Diagnostic artifacts showed a range of occupation in the Taylor property from the Late Paleoindian through the Historic Periods with a predominance of Late Woodland/Late Prehistoric materials. Only the Late Paleoindian component was unanticipated. As expected, site densities differed between the terrace and flood plain zones and differential usage of the zones was recorded in the distribution of diagnostic artifacts. The Late Woodland/Late Prehistoric materials were primarily found in the flood plain zone while Archaic materials were predominantly found in the terrace zones. These distributions were expected. The Early Archaic occupation of the flood plain zone was somewhat unexpected and the density of Middle Woodland components was unique for the region

INTENSIVE SURVEY

In addition to the field survey, two sites,12-H-959 and 12-H-985, were subject to intensive survey. Both sites were large prehistoric artifact scatters. Site 12-H-959 was located in the uplands with the terrace edge to the north and site 12-H-985 was located in the flood plain bordered by the slough to the east (Figures 17 and 18).

Site 12-H-959

Methods

The discovery of pottery at site 12-H-959, made this site unique among the other terrace sites. Due to the large surface area and quantity of artifacts, the site was selected for a controlled surface collection and shovel tests. The site was located on a low ground moraine ridge with slopes to the east and west and the terrace edge to the north. Surface materials recovered from this site covered an area approximately 90 m E/W x 120 m N/S. It appeared that the northern half of the site contained a somewhat higher density of materials. A 5-meter grid was established across the northern end of the site area and aligned to the axis of the ridge to create 159 collection squares. It extended 50 meters south from the edge of the woods (terrace edge) and 40 meters on each side of the spine of the ridge to incorporate roughly one-third of the surface scatter of material (Figures 30 & 31). All artifacts and fire-cracked rocks were collected from each 5 m^2 block in a 10 minute timed sample and bagged by proveinence. A 10% random sample of the collection squares was selected and a 50 cm^2 shovel test was excavated to provide preliminary data on the subsurface deposits at the site. The shovel tests were excavated as one natural level to the base of the plowzone. All excavated soil was screened through 6.4 mm wire mesh and all artifacts and fire-cracked rocks were bagged by provenience and shovel test forms were completed. The grid coordinates were recorded by a GPS. The laboratory methods outlined under the surface survey were utilized for the materials collected by the intensive survey.

Results

Before presenting the results of the intensive survey, a brief review of the pedestrian transect survey follows. The original pedestrian survey with visibility between 50 and 85% and a 10-meter survey interval documented 104 prehistoric artifacts and over 200 fire-cracked rock. The northern half of the site was re-surveyed after the controlled surface collection and after the field had been disked and weathered. The survey interval was 5 meters and surface visibility was 90 to 95%. The resurvey recovered an additional 64 prehistoric artifacts. The artifact density recorded from the pedestrian surveys ranged between one artifact per 103.8 m^2 (original survey) and one artifact per 66.7 m^2 (original and resurvey data). Late Archaic and Late Woodland/Prehistoric components were documented.

Site Locations Confidential
Not For Public Disclosure

Figure 30. Area of the controlled surface collection at site 12-H-959.

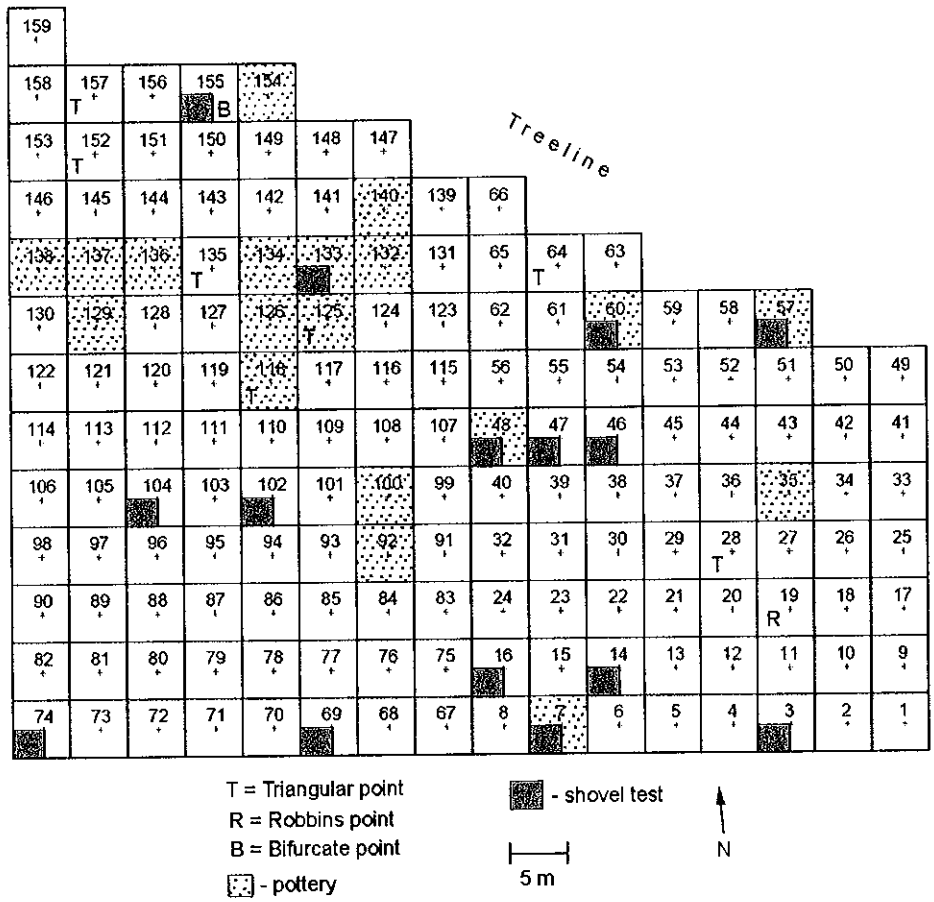


Figure 31. Controlled surface collection grid at 12-H-959 showing the location of the shovel tests and diagnostic arifacts.

Controlled Surface Collection

A total of 159 collection squares were established. The collection grid encompassed a 36.8% sample of the surface extent of the site. The controlled surface collection recovered more artifacts, yielded a much higher density of artifacts and added diagnostic artifacts to expand the chronology of occupation at the site.

Artifacts

From the squares a total of 1345 prehistoric artifacts, eight historic or natural articles (field tile, coal, bone and charcoal) and 1488 (58.9kg) fire-cracked rocks were recovered (Table 25). For a complete listing of artifacts by class from each collection square see Appendix E.

Table 25
Prehistoric Artifacts Recovered

Artifact	No.	Artifact	No.
Unmodified flakes	1125	Bifurcate point	1
Modified flakes	55	Point fragments	2
Block flakes	47	Other chipped stone	6
Cores	41	Anvil/hammerstone	3
Bipolar	4	Anvils	2
Bifaces and biface fragments	22	Hammerstones	5
Endscraper	1	Pottery - rims	2
Graver	1	Pottery - body sherds	21
Triangular points	7	Fire-cracked rock	1488 (58.9kg)
Robbins point	1		

Diagnostic points were represented by one bifurcate point fragment, a Robbins point and seven Triangular points (Figure 32). Two point fragments could not be classified by type or temporal period. The basal fragment of the bifurcate point was manufactured from Attica chert. The point most likely represented a Kanawha due to the straight sides of the stem and the smaller bifurcate notch, but it was more judicious to classify it as a bifurcate. The Robbins point was complete and manufactured from Flint Ridge chert. The Triangular points were all fragments. Only one was nearly complete, but the distal tip was missing. Six of the seven were proximal fragments with only one distal fragment. The proximal fragments were all uniform in basal width. Six were manufactured from Fall Creek chert and one was from quartzite. The Triangular points

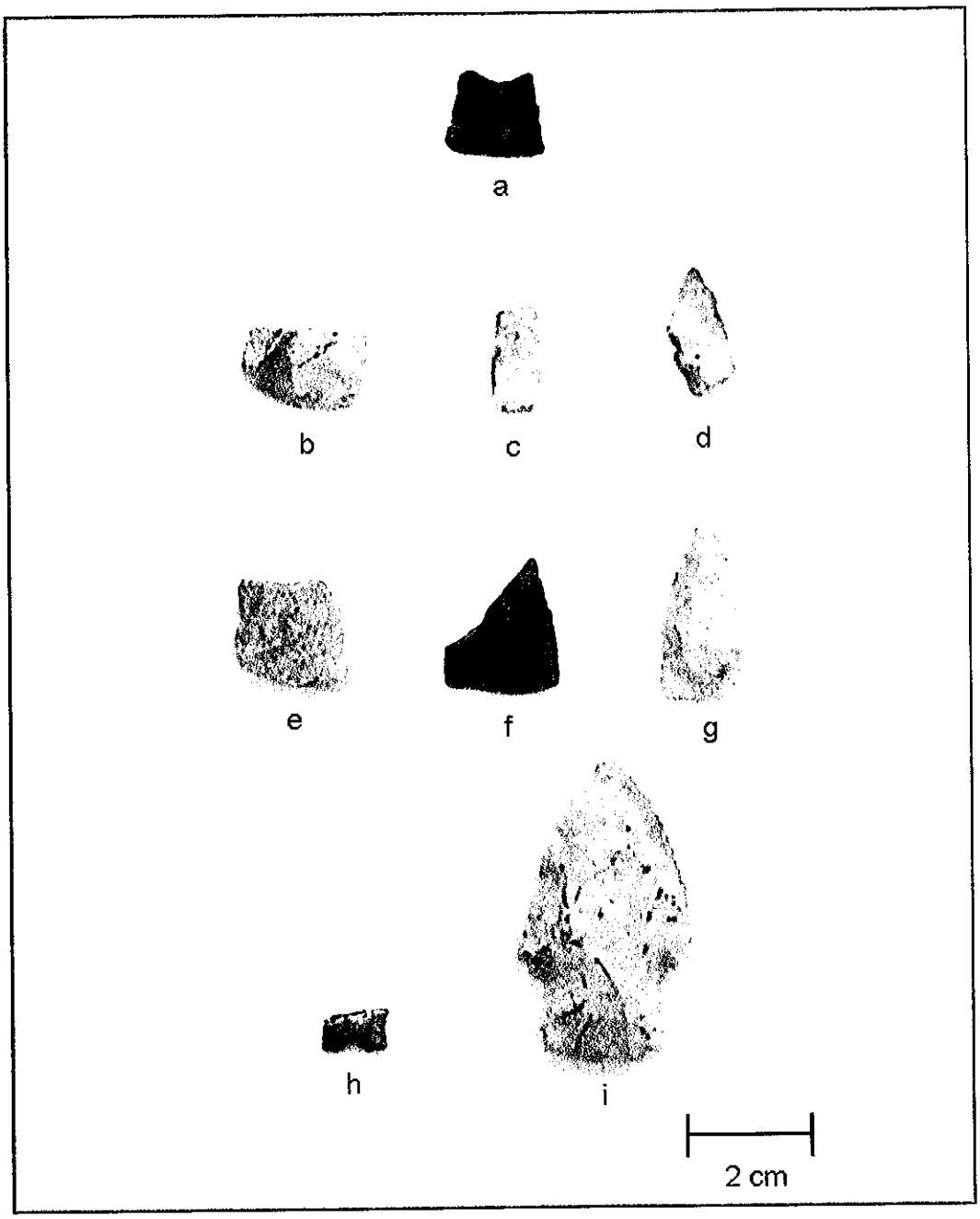


Figure 32. Points from the controlled surface collection at 12-H-959: a-g) Triangular points, h) bifurcate point fragment and i) Robbins.

appeared comparable enough to represent one Late Woodland/Prehistoric component.

Only 2 other formal lithic tools were recovered. An endscraper of Fall Creek chert was found in Block 33. The endscraper was highly polished on the distal end. It was small and worn and likely reached the end of its use life. A graver of Fall Creek chert was recovered from Block 24. The graver spur showed end damage from use.

Twenty-three grit tempered sherds were recovered from the controlled surface collection. The majority of the sherds showed evidence of weathering and had eroded or exfoliated surfaces. When the surface treatment could be determined, cord marked, fabric marked and plain surfaces were evident. Only 2 small rims were recovered (Figure 33). One rim was eroded and had exfoliated sections of the exterior face. The rim was thickened and had a flat lip. The other rim was thin and very weathered and eroded. The ceramic assemblage would appear to represent one component. While the rims recovered during the controlled surface collection were not very diagnostic, one rim recovered from the original survey was decorated with oblique tool impressions. This decorative motif has been associated with the Oliver Phase (Dorwin 1971; McCullough 1991, 2000).

The raw material of the chert artifacts was identified and summarized in Table 26. The majority of chert artifacts (97%) were manufactured from the locally available Fall Creek chert and quartzite. Exotic sources represented by Attica, Wyandotte, Allens Creek, Flint Ridge and Indian Creek were minimally represented, accounting for approximately 2% of the cherts utilized. Unknown types accounted for approximately 1% of the chert.

Table 26
Cherts Utilized

Chert	No.	%
Allens Creek	3	0.23
Attica	16	1.22
Fall Creek	1212	92.73
Flint Ridge	1	0.08
Indian Creek	1	0.08
Quartzite	55	4.21
Wyandotte	5	0.38
Unknown	14	1.07
Total	1307	100.00

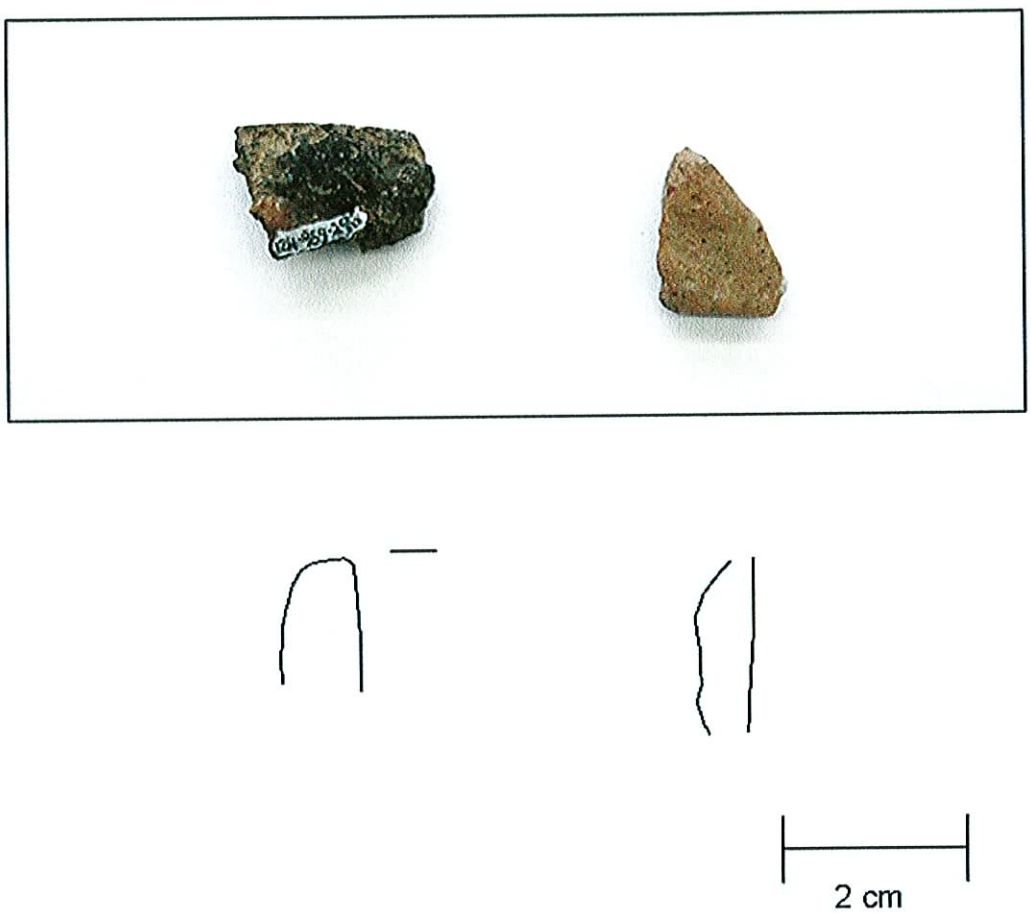


Figure 33. Rim sherds from the controlled surface collection of 12-H-959.

Density

Figure 34 shows the distribution of artifacts and fire-cracked rock recovered by count. In general, the greatest number of artifacts and fire-cracked rocks followed the natural ridge and fell off to the east and west. Blocks 43, 68, and 132 had high numbers of artifacts and account for several of the peaks shown on Figure 34. Likewise, blocks 20, 44, 53, 65, 100 and 155 had high numbers of fire-cracked rocks and result in peaks. The distribution of diagnostic points and pottery shows more in the western half of the collection grid, particularly in the northwest quarter of the grid. This pattern may be the result of either prehistoric activity, erosion or the collection strategy. The higher numbers of pottery and triangular points may indicate a discrete activity area in that locality. The northwest quarter was not as steeply sloping as other areas away from the ridge and may not have been as heavily eroded as the other areas. The northwest quarter was the last area surveyed and the crew may have been better at distinguishing pottery. Since, each of the explanations is plausible, further exploration of the site will be necessary to determine why pottery and points occurred in higher numbers in the northwest quarter.

The overall artifact density recorded from the controlled surface collection was 1 artifact per 2.96 m^2. The fire-cracked rock density was one fire-cracked rock per 2.67 m^2. Appendix F shows the density of material by collection square. The controlled surface collection obviously provided better data on this site than the pedestrian survey. The overall controlled surface collection density of one artifact per 2.96 m^2 compared to one artifact per 103.8 m^2 was markedly different. The controlled surface collection was much more intensive, but it was also performed where the highest number of artifacts had been discovered by the transect survey. In comparing the density of the artifacts from the controlled surface collection to the original survey, the original survey sampled approximately 2.85% of the site contents.

Chronology

Site 12-H-959 was multicomponent. The bifurcate point fragment and Robbins point added additional components to the original survey. The site was represented by Early Archaic, Late Archaic, Early Woodland and Late Woodland/Prehistoric components. The one ceramic rim found in the original survey indicates an Oliver Phase occupation. The Late Woodland/Prehistoric component dominates the diagnostic artifacts, but it is not known which component dominated the site's occupation.

Shovel Tests

The 10% random sample of the collection squares chosen for shovel testing resulted in the excavation of 15 shovel tests (Figure 31). Due to time constraints, shovel tests 102 and 133 were excavated but not completely screened. The average depth of the plowzone was 26 cm below the ground surface, but ranged between 20 and 39 cm below the ground surface. The variation in the depth of the plowzone depended on the area of the site where the shovel test was located. The shallow tests were on the steeper, more eroded slopes while the deepest plowzone was located at

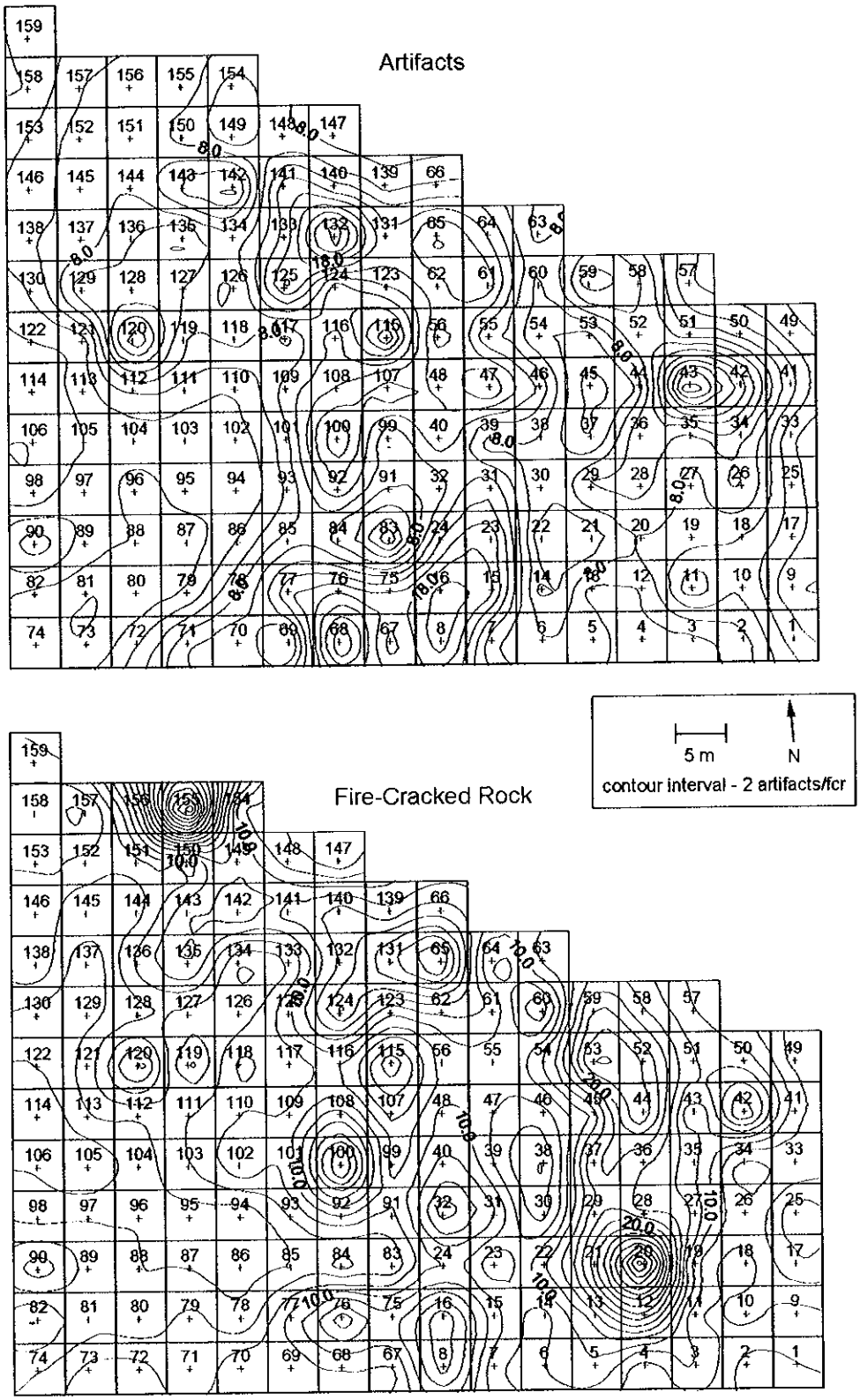


Figure 34. Artifact and fire-cracked rock densities at 12-H-959.

the field edge. No features were encountered at the base of the plowzone.

Artifacts

From the 15 shovel tests, 134 prehistoric artifacts, 1 metal washer, 1 piece of coal, and 92 (1.8 kg) fire-cracked rocks were recovered (Table 27). For a complete listing of artifacts by class from each shovel test see Appendix E.

Table 27
Prehistoric Artifacts Recovered

Artifact	No.	Artifact	No.
Unmodified flakes	115	Core	1
Modified flakes	6	Pottery	7
Block flakes	5		

The raw material of the chert artifacts is summarized in Table 28. Like the results of the controlled surface collection, the local sources of Fall Creek and quartzite dominated the assemblage at approximately 96%. Exotic sources including Allens Creek and Attica represented approximately 3% of the assemblage and unknown sources accounted for approximately 1%.

Table 28
Cherts Utilized

Chert	No.	%
Allens Creek	1	0.79
Attica	3	2.36
Fall Creek	118	92.91
Quartzite	41	3.15
Unknown	1	0.79
Total	127	100.00

No diagnostic lithics or formal tools were recovered in the shovel tests. The pottery was all grit tempered and appeared to fit the other ceramics collected from the site. Some of the sherd surfaces were eroded or exfoliated, but cord marking and fabric marking were noted. The paste would indicate a Late Woodland/Prehistoric association for the ceramics. No rims were found.

Density

The overall density of artifacts was calculated using the average depth of 26 cm for the shovel tests and resulted in one artifact per 0.0073 m^3. Fire-cracked rock density was one fire-cracked rock per 0.0106 m^3. Appendix F shows the density of material collected from each shovel test. Shovel tests 47 and 155 contained no prehistoric artifacts. The controlled surface collection and the shovel tests each provided different information on the density of material per square meter and per cubic meter, respectively. In an effort to compare area and volume, the controlled surface collection data was converted to a volume by adding 1 cm of depth to the equation and a density of one artifact per 0.0295 m^3 was obtained. The shovel probe data provided 4 times the density of artifacts compared to the controlled surface collection using this method, but comparing area and volume may not be very representative.

Summary

Site 12-H-959 contained a large number of prehistoric artifacts and fire-cracked rocks. Components documented at the site include Early Archaic, Late Archaic, Early Woodland and Late Woodland/Prehistoric. One rim sherd collected from the original surface survey suggested an Oliver Phase occupation. No features were documented at the site, but only 3.75 m^2 (0.03 % of the site area) were examined by the shovel tests. Due to the quantity and density of material recovered from the site, further investigation of this site through archaeological testing is recommended.

Site 12-H-985

Methods

The main portion of site 12-H-985 was located in an agricultural field and was surveyed by systematic pedestrian transects, but the site also extended into a wooded section of land to the east (Figure 35). To determine the site's full extent, the wooded section was shovel probed at a 10 meter interval. The shovel tests were approximately 30 cm in diameter and were excavated as one level approximately 50 cm deep. All excavated soil was screened through 6.4 mm wire mesh and all artifacts and fire-cracked rocks were bagged by provenience. After completing the shovel tests, 4- 1m^2 units were selected systematically for excavation. The units were excavated to provide preliminary information on prior plowing, the depth of the cultural deposits, and stratification of the deposits. The units were excavated in 10 cm arbitrary levels and all excavated soil was screened through 6.4 mm wire mesh. The units were excavated until cultural material was no longer encountered. Column samples were taken from each soil strata in each unit to aid in the soil description and micro-artifact recovery. Level records and profiles were completed for each unit. Unit locations were recorded in reference to a site datum established by a piece of metal rebar and the coordinates were recorded with a GPS. The laboratory methods outlined under the surface survey were utilized for the materials collected by the intensive survey. In addition after soil information was recorded from the column samples collected, the samples were

Site Locations Confidential
Not For Public Disclosure

Figure 35. Unit locations and area shovel probed at site 12-H-985.

water screened through 1.0 mm wire mesh and the remaining matrix was examined for artifacts.

Results

Site 12-H-985 was located on a low flood plain ridge approximately 185 meters north of the White River. Before presenting the results of the intensive survey, a summary of the pedestrian transect survey is reviewed. The original pedestrian transect survey with ground surface visibility between approximately 20 and 50% and a 10-meter survey interval documented 17 artifacts and over 150 fire-cracked rocks. The site was re-surveyed several times under different conditions but not in a systematic manner. An additional 38 artifacts were recovered during the re-surveys. A Late Woodland/Prehistoric component of the site was documented. One rim sherd indicated an Albee component at the site. The surface extent of the site in the agricultural field was recorded as approximately between 60 m and 120 m E/W x 380 m N/S. Material was encountered up to the field edge and to determine the site's extent, the woods that bordered the site to the east was shovel probed as discussed below.

Shovel Tests

The shovel tests were conducted in the woods between the fence row and the old slough (Figure 35). Fifty-four shovel tests were excavated in this area. Cultural material was recovered from 35 of the shovel tests. The shovel tests recovered a significant number of artifacts and extended the eastern boundary of the site approximately 30 m increasing the site area to between approximately 60 and 120 m E/W x 380 m N/S.

The shovel tests recovered 106 prehistoric and four historic artifacts (barbed wire and chain links) (Table 29). Four fire-cracked rocks (47.6 g), a deer tooth and charcoal were also encountered. For a complete listing of artifacts recovered in each shovel test see Appendix G.

Table 29
Prehistoric Artifacts Recovered

Artifact	No.	Artifact	No.
Unmodified flakes	56	Core	1
Modified flakes	6	Point fragment	1
Block flakes	2	Pottery	40

No diagnostic lithic artifacts were recovered by the shovel tests. The only formal tool recovered was one point fragment of Fall Creek chert. The pottery assemblage was all grit tempered. Surface treatments were cord marked, fabric marked or smoothed. Several sherds were eroded or exfoliated. The assemblage consisted of 39 body sherds and 1 neck sherd. The upper portion of the neck displayed a row of sequential oval tool impressions on the exterior of

the sherd (Figure 36a). The rim section of this sherd was missing so it is uncertain if the sherd was a collared form. This decoration was reminiscent of an Albee style similar to that recorded at the Morell-Sheets site (McCord and Cochran 1994). Plain or smoothed surface treatments occur rarely in Albee Phase assemblages (McCord and Cochran 1994:44), and these sherds may represent another ceramic component.

A narrow range of raw materials were recovered from the shovel tests (Table 30). Approximately 97% of the cherts utilized were locally acquired Fall Creek and quartzite. The only other material identified was Attica chert.

Table 30
Cherts Utilized

Chert	No.	%
Attica	2	3.03
Fall Creek	63	95.45
Quartzite	1	1.52
Total	66	100.00

Units

Four 1 x 1m square units were excavated near the fence line in the woods (Figure 35). The units were spaced approximately 50 meters apart to sample different areas of the site. A dark mollic epipedon was encountered in each of the units and all had similar stratigraphy. No evidence of a plowzone was found, but the secondary growth of trees and shrubs in the woods was evidence the area had been cleared at some time. Artifacts were recovered in each of the units. In total, 347 prehistoric artifacts and 17 fire-cracked rocks were recovered (Table 31). Table 32 provides a breakdown of the raw materials utilized. A discussion of the units and artifacts follows.

Table 31
Prehistoric Artifacts Recovered

Artifact	No.	Artifact	No.
Unmodified flakes	155	Triangular points	2
Modified flakes	7	Point fragment	1
Block flakes	2	Hammerstone	1
Stage 3 biface	1	Pottery	177
Biface fragment	1	Fire-cracked rock	17

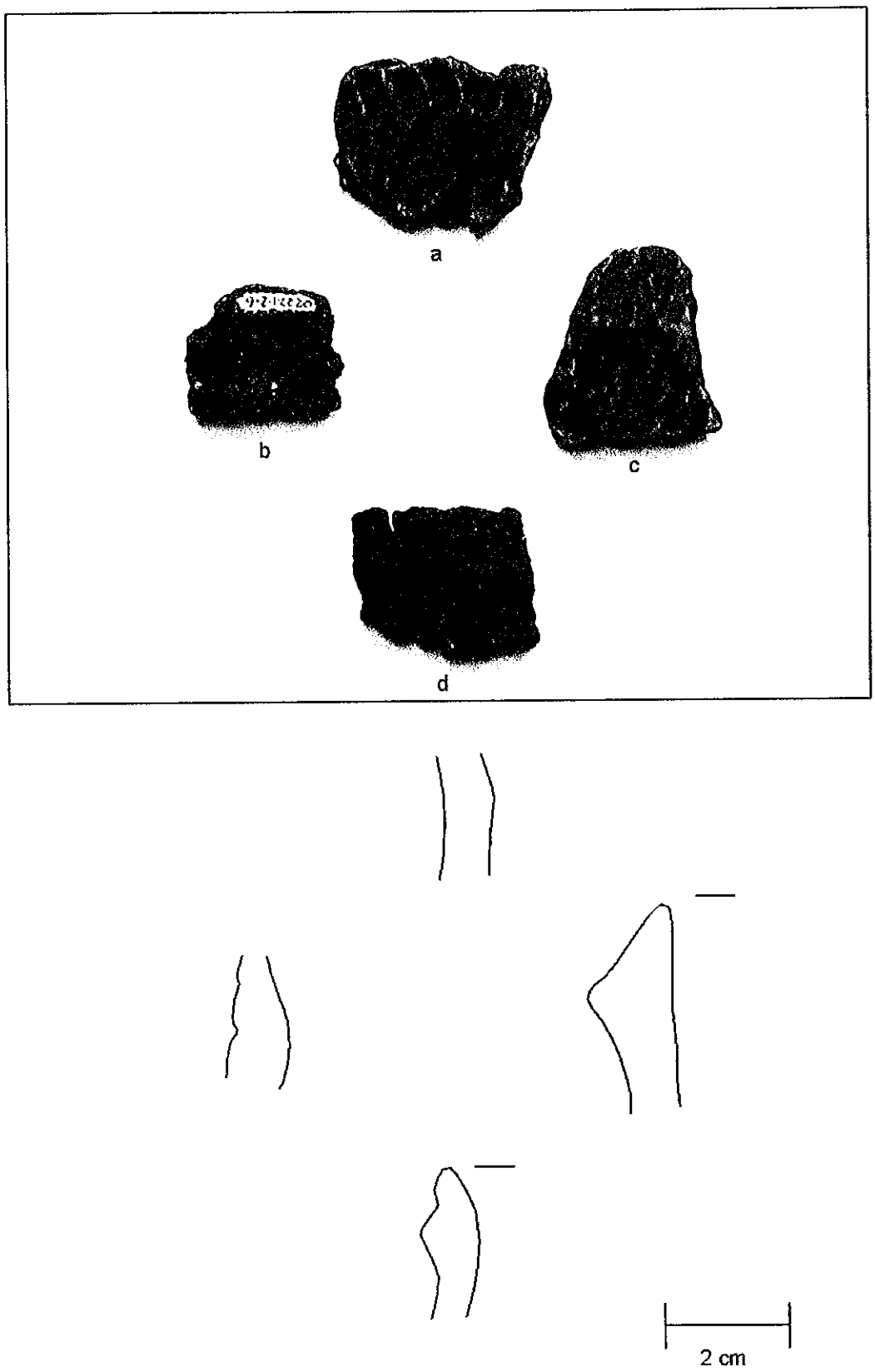


Figure 36. Pottery from intensive survey of 12-H-985: a) shovel test, b and c) Unit 4-1, and d) Unit 14-1.

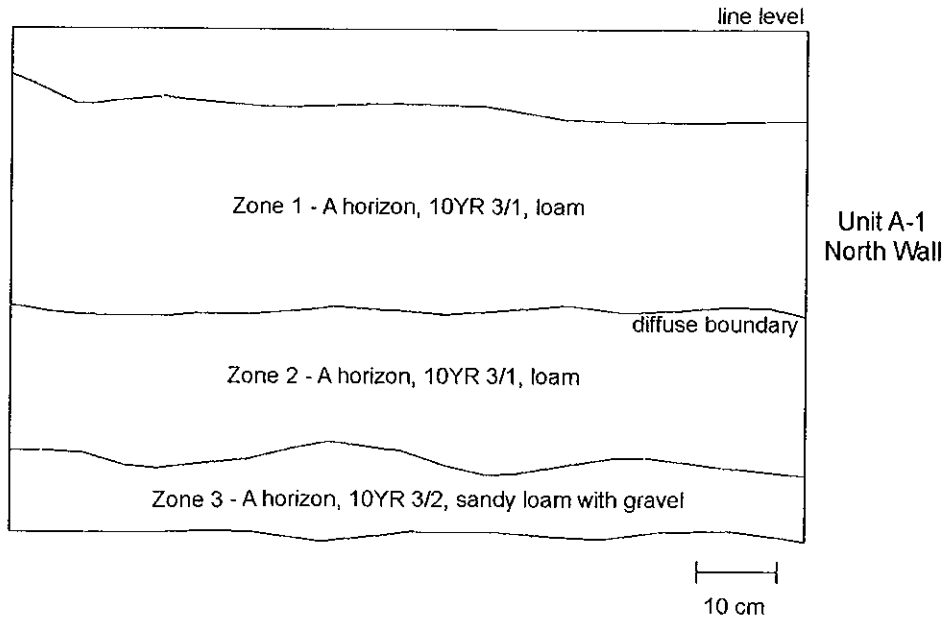
Table 32 Cherts Utilized		
Chert	No.	%
Allens Creek	2	1.19
Attica	12	7.14
Fall Creek	147	87.50
Indian Creek	3	1.79
Wyandotte	2	1.19
Quartzite	1	0.60
Unknown	1	0.60
Total	168	100.01

Unit A-1

Unit A-1 was excavated approximately 60 cm below the depth of the ground surface. Forty-eight prehistoric artifacts consisting of 29 unmodified flakes, 16 grit tempered body sherds, 1 Stage 3 biface, and 1 point fragment were recovered. Eleven fire-cracked rocks were also encountered. One piece of glass was recovered in level 1. Charcoal flecks were noted in every level except the bottom level. Level 4 contained nearly half of the materials with 22 artifacts. Materials recovered from the fine screening of column samples included one flake, one fire-cracked rock and charcoal. As Figure 37 shows, the profile documented for Unit A-1 was a gradual transition from a very dark gray silt loam to a very dark grayish brown sandy loam with gravel. An auger test placed in the bottom of the unit encountered gravel at approximately 1.1 m below the ground surface. No plowzone was apparent in the profiles.

Unit 4-1

Unit 4-1 contained the largest quantity of artifacts discovered from the units. One hundred and fifty-five artifacts were recovered consisting of 113 grit temper pottery sherds, 39 unmodified flakes, 2 modified flakes and 1 block flake. Four fire-cracked rocks were encountered and charcoal flecking was noted in levels 2 and 4. Two rims sherds suggest two separate Late Woodland components. The rim recovered from level 2 is an exfoliated exterior of a rim strip or thickened area (Figure 36b). The strip had at least two horizontal rows of linear tool impressions. This decorative motif appears similar to Bowen Cordmarked sherds (Dorwin 1971) and related to the Oliver Phase (McCullough 1991, 2000). The other rim, recovered from level 4, displays a wedge-shaped collared rim with a linear tool impression on the crest of the collar (Figure 36c). The top of the lip is missing from this sherd. This rim fits the descriptions of Albee Phase



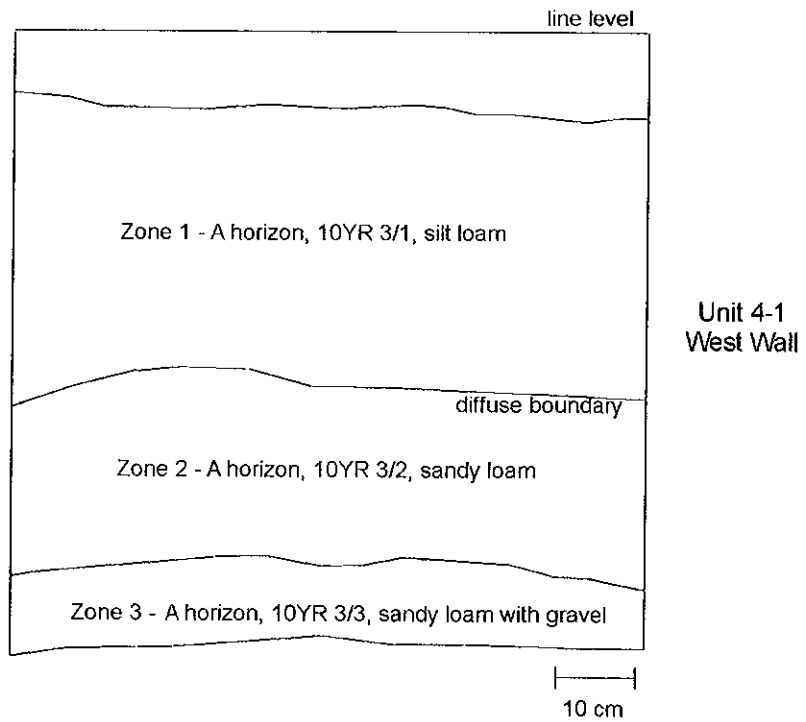


Figure 37. Profiles of Units A-1 and 4-1.

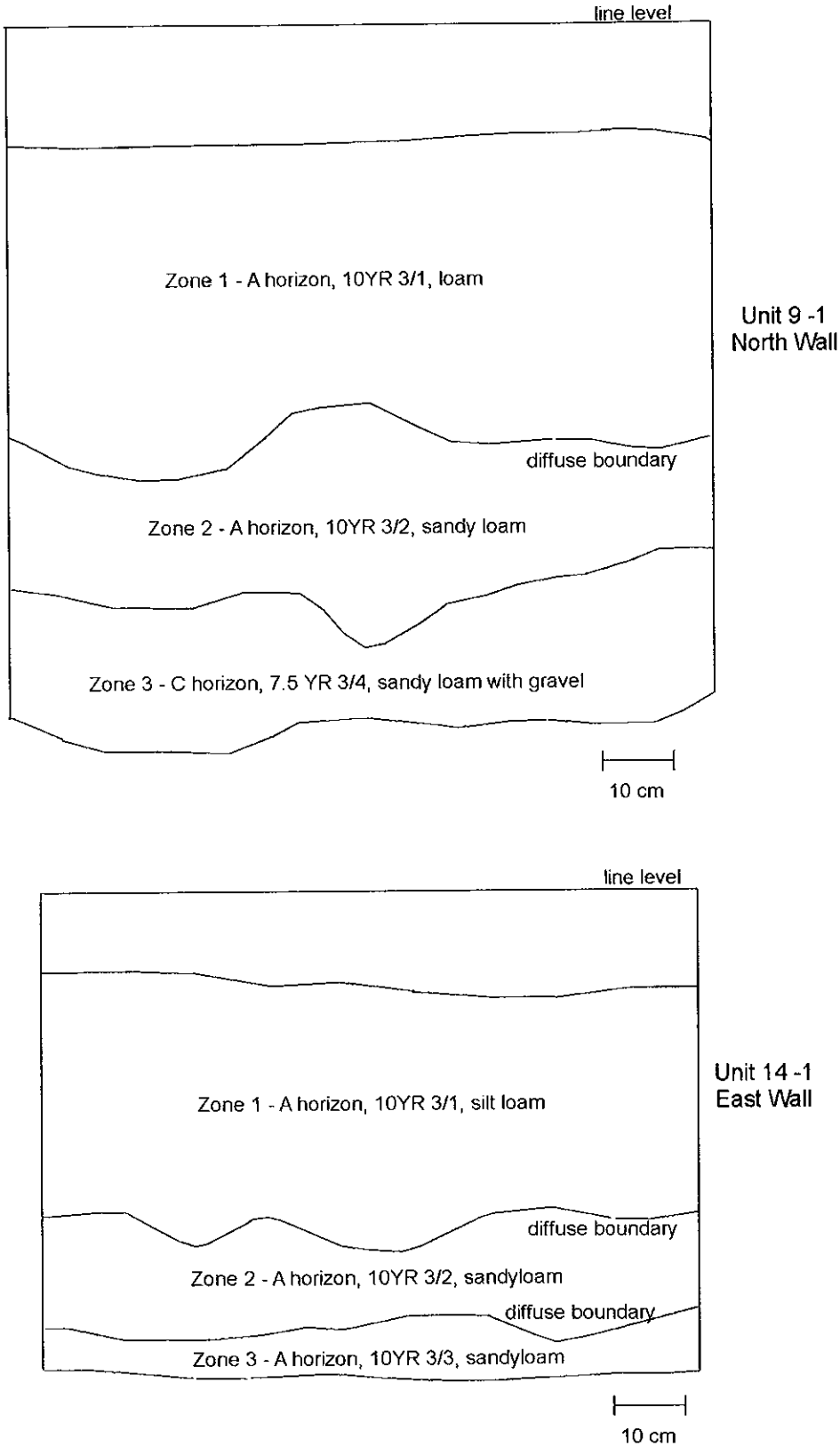


Figure 38. Profiles of Units 9-1 and 14-1.

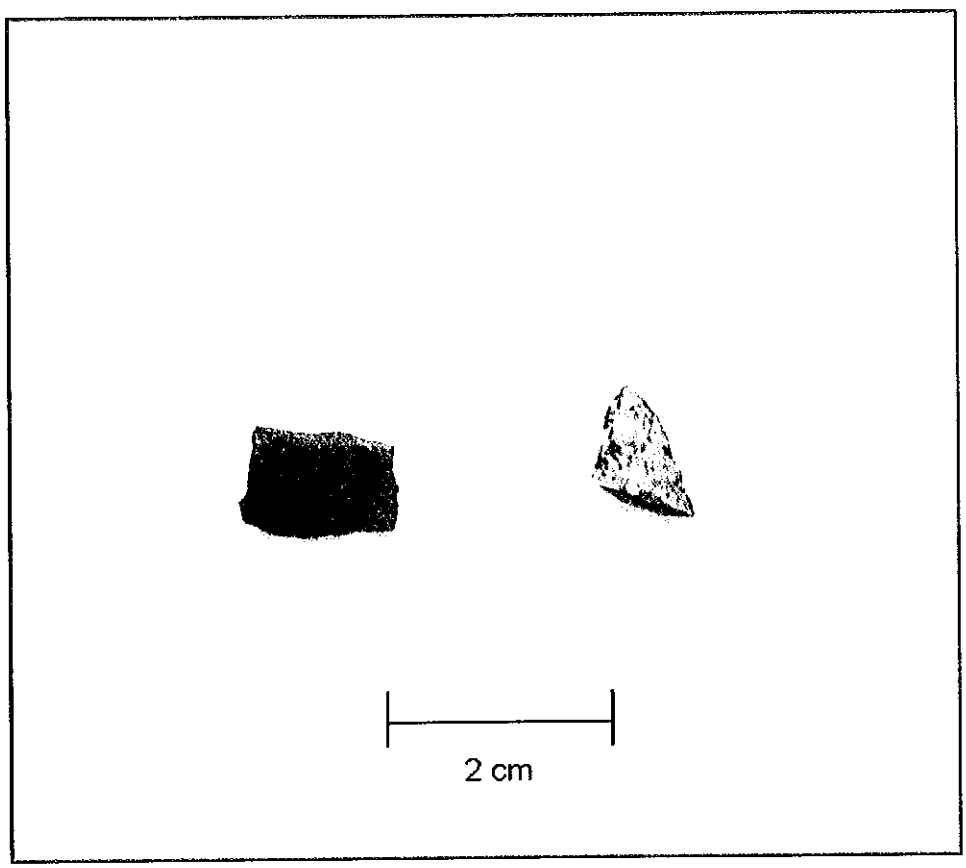


Figure 39. Triangular points from units at 12-H-985.

ceramics (Winters 1967, McCord and Cochran 1994). Almost half of the artifacts (n=55) were recovered from level 4. This quantity of material suggests a midden deposit may have been present that was indistinguishable from the naturally dark soil. Two sherds and charcoal were recovered from the fine screening of the column samples. The unit was excavated to approximately 60 cm below the ground surface. The profile documented for this unit shows a gradual transition from a very dark gray loam to a dark brown sandy loam with gravel (Figure 37). No plowzone was apparent in the profile. The presence of an Albee Phase rim in level 4 and a Bowen Cordmarked rim in level 2 suggests that the occupation of the site may have a vertical distribution, since the Albee Phase occurs ca. AD 800 to 1200 (McCord and Cochran 1994) and the Oliver Phase occurs ca. A.D. 1200 to 1450 (McCullough 2000).

Unit 9-1

Unit 9-1 was excavated to approximately 80 cm below the ground surface. From this unit 102 prehistoric artifacts consisting of 78 unmodified flakes, four modified flakes, 19 grit tempered body sherds, and one leached limestone body sherd. The limestone tempered sherd was unique. All other sherds recovered from this site were grit tempered. The sherd may represent another prehistoric component, but limestone temper has been noted as occurring in Albee Phase ceramics (McCord and Cochran 1994). Two fire-cracked rocks, one deer tooth and one piece of burned nutshell/bark were also recovered. Charcoal was noted in levels 1 through 4. Artifacts were more evenly distributed throughout the levels of this unit, but levels 4 and 5 contained the highest quantities with 20 and 21 artifacts, respectively. Materials recovered from the fine screening of the column samples included five flakes, one sherd and charcoal. The profile shows a gradual transition from a very dark gray loam to a dark brown sandy clay loam with gravel (Figure 38). No plowzone was apparent in the profile.

Unit 14-1

Forty-two prehistoric artifacts were recovered from Unit 14-1. These included 29 grit tempered sherds, nine unmodified flakes, one modified flake, one biface fragment, 2 Triangular point fragments and one quartzite hammerstone. One rim sherd recovered in two pieces has Albee Phase characteristics (Winters 1967, McCord and Cochran 1994). The sherd has a wedge-shaped collar with linear tool impressions placed on the crest of the collar and linear tool impressions on the interior of the rim (Figure 36d). The triangular point recovered in level 1 has a narrow base and was manufactured from Fall Creek chert (Figure 39). The other triangular point fragment was recovered in level 3 and represents the distal tip of a point and was manufactured from Attica chert (Figure 39). Charcoal was noted in level 3. Artifacts were distributed relatively evenly throughout the upper levels with somewhat higher numbers in level 3, but levels 5 and 6 contained no artifacts. Two sherds and charcoal were recovered from the fine screening of the column samples. The unit was excavated to approximately 60 cm below the ground surface. The profile documented for this unit shows a diffuse transition from a very dark gray silt loam to a dark brown sandy loam (Figure 38). A plowzone was not identified in the profile. An auger test placed in the bottom of the unit encountered gravel deposits at approximately 1.0 m below the

ground surface.

Summary

Intensive investigations at 12-H-985 established the boundaries of the site and recovered several hundred artifacts. Artifacts were recovered to a depth of between 60 and 70 cm below the present ground surface and stratigraphy appeared intact. The woods did not appear to have been plowed, but the area had obviously been cleared at some time in the past. Features were not identified during the excavation, but the density of material found in level 4 of Unit 4-1 suggests a midden deposit may be present. The diagnostic artifacts recovered from the site indicate a Late Woodland/Late Prehistoric occupation. The pottery assemblage from the site contained both Albee Phase (n=5) and Oliver Phase (Bowen) components (n=1). Since the pastes of Albee ceramics and Oliver ceramics could not be distinguished from one another and surface treatments are similar in both, the body sherds recovered from this site could be related to either component. The context of the rim sherds recovered in Unit 4-1 suggests there may be some vertical organization of the site since the earlier Albee sherd was found below the later Oliver sherd.

Site 12-H-985 is considered potentially eligible for listing on the State or National Registers. Deep intact cultural deposits were documented at the site and there is good potential for features. This site also has the potential to explore the relationship between the Albee Phase and Oliver Phase. Testing of this site is recommended.

AUGERS

Seven hand auger tests were excavated in the flood plain portion of the project area. The augers were performed to sample subsurface sediments and to assist in the evaluation of the potential for buried archaeological deposits.

Methods

A 10 cm diameter bucket auger was used to recover the sediment. The augers were excavated in 10 cm lifts that were bagged separately and taken to the ARMS lab. The tests were excavated in various locations over the flood plain to sample seemingly different landforms. The locations of the augers were recorded by GPS (Figure 40). The sediments recovered from the auger tests were described by Munsell color, texture and structure and were water screened through 1.0 mm wire mesh. The samples were then examined macro- and microscopically to recover any micro-artifacts present. The laboratory methods outlined under the surface survey were utilized for the materials collected by the augers.

Results

The soil descriptions from the excavated augers are presented in Appendix H. The auger tests provided limited information on the alluvial deposits located within the project area. The flood plain is a diverse system and the seven auger tests each had a unique depositional sequence. Three of the auger tests excavated identified sub-plow zone artifacts. Materials recovered from the screened auger tests is contained in Table 33.

Table 33
Materials Recovered from Augers

Auger	Depth (cm)	Material
Auger 1 (4440858 N, 587844.3 E)	0-10	2 flakes, 1 pottery, 1 bone
	10-20	1 flake
	20-30	1 flake, 1 pottery
	50-60	1 burned bone, 1 charcoal
	60-70	1 flake
	70-80	12 burned nutshell/charcoal
	90-100	2 charcoal

Table 33 (cont.) Materials Recovered from Augers		
Auger	Depth (cm)	Material
Auger 2 (4440921 N, 587568.9 E)	10-20	1 flake, 1 charcoal
	20-30	2 charcoal
	30-40	1 flake, 5 burned bone
	40-50	1 burned bone
Auger 3 (4441141N, 587556.3 E)	10-20	1 flake
	20-30	1 flake, 2 pottery, 3 charcoal
	30-40	1 flake
Auger 4 (4441744 N, 587907.3 E)	0-10	1 pottery
	30-40	9 bone, 2 charcoal
	40-50	1 pottery, 9 bone, 3 charcoal
	50-60	1 tooth fragment
	70-80	12 flakes, 2 charcoal
	80-90	8 flakes, 2 charcoal
	90-100	2 flakes
	100-110	5 flakes
	110-120	5 flakes
Auger 5 (4441937 N, 588189.4 E)	20-30	1 charcoal
Auger 6 (4441524 N, 587895 E)	0-10	3 flakes
	35-50	1 flake
	60-70	1 flake
	70-85	1 bone
Auger 7 (4441880 N, 588744.1 E)	20-30	1 coal
	110-120	1 flake (dubious)

Auger 1 was located at the southern end of the flood plain area near the White River channel (Figure 40). Alluvium from spring flooding was noted in this area and no surface sites were encountered during the survey. The sediments recovered from this auger were somewhat

Site Locations Confidential
Not For Public Disclosure

Figure 40. Location of the auger tests.

coarse (sandy loam) at the surface, but became finer (silt loam) in the lower half. The parent material of the sediments was alluvium and the deposits showed little development. The finer deposits indicate a low energy flooding, but this changed to higher energy flooding as evidenced in the coarser textures. The change in deposition/flooding may have occurred when the White River migrated into its current bed. A remnant river channel is evident to the west of the project area (Figure 40). Cultural material was recovered from the plowzone levels and between approximately 60 and 70 cm below the ground surface. The water table was encountered at approximately 1 m below the surface.

Auger 2 was also located at the southern end of the flood plain (Figure 40) . The auger was placed in between two surface sites (12-H-983 and 984). The deposits were fairly homogenous fine textured silt loams. Little development was noted and alluvium was the parent material. The fine texture indicates low energy flooding in this area. Cultural material was recovered only from the plow zone levels.

Auger 3 was located further north and farther away from the river than Augers 1 or 2 in site 12-H-987c (Figure 40). Gravel encountered at the base of the auger may indicate glacial outwash deposits, but the deposits actually sampled appeared to be alluvial in nature. The deposits were coarse textured and showed little development. The coarser deposits were likely influenced by a deep flood plain swale located to the west of the auger. During times of flooding, the swale filled with water and if the flood episode had enough energy, floodwaters would spread across the flood plain. Cultural deposits were only found in the plow zone levels.

Auger 4 was located in the central region of the flood plain near the White River in site 12-H-993a (Figure 40). Sand and gravel encountered at the bottom of the auger probe may be from glacial outwash deposits, but the remainder of the deposits appeared to be alluvial. The deposits were fine textured and showed little development. The very dark grayish brown and dark brown color of the deposits was quite deep. Cultural deposits were encountered below the plow zone between approximately 40 and 50 cm below the ground surface and between approximately 70 and 120 cm below the surface. Microartifacts were actually quite numerous between 70 and 120 cm. The auger was located to the south of the swale and break in the river levee. Deposition and burial of the cultural deposits may be influenced by both overbank flow and the flood plain splay created by the break in the river bank.

Auger 5 was located in the northern area of the flood plain and near the White River on a nearly level expanse in site 12-H-993c (Figure 40). The deposits grade from fine textured silt loams to coarser loamy sands. Gravel encountered at the bottom of the auger test may be a glacial outwash deposit. No cultural deposits were encountered in the auger test.

Auger 6 was located in site 12-H-990 to the west of the large slough in a slightly depressional area (Figure 40). The soils recovered in this area displayed the mottled and gleyed features common with poorly drained soils. The water table was encountered at approximately 70 cm below the ground surface. The deposits appeared to be formed in alluvium, and the drainage

is obviously poor. However, cultural deposits were found between approximately 35 and 50 cm and 60 and 70 cm below the ground surface.

Auger 7 was located in northern end of the project area in site 12-H-997 (Figure 40).. Coarse sands and gravels encountered at the bottom of the auger were likely from outwash deposits, and the remainder of the deposits appeared to have formed in fine textured alluvium. Little development was apparent. The flake identified from between approximately 110 and 120 cm below the ground surface is from a questionable origin. The flake does have a striking platform and flake scars are visible, but its location within sand and gravel deposits makes its context suspicious. It is not believed to be in context.

Discussion

The augers provided preliminary information on the geomorphology of the flood plain and showed that buried archaeological deposits do exist within the project area. However, the augers were not sufficient in scope or sample size to predict buried archaeological deposits across the entire flood plain region. A geoarchaeological subsurface investigation of a portion of the flood plain was conducted by the Indiana State University Anthropology Laboratory (Cantin et al. 2003) in between the fieldwork conducted during this project and the completion of this report. The ISUAL investigation will be discussed and compared with our interpretations.

The Master Plan developed for the Taylor Property for Hamilton County Parks and Recreation includes the construction of a recreational lake in the center of the property (Anonymous 2002)(Figure 41). ISUAL was contracted to conducted a geomorphic investigation with an emphasis on evaluating the potential for buried sites within the approximate153 acres to be utilized for the lake area. The investigation was conducted through the excavation of 18 backhoe trenches (totaling about 345 m^2) and 11 Giddings cores to sample all the landforms present (Cantin et al. 2003). The investigation resulted in sampling approximately 0.056% of the 153 acre project area.

The geoarchaeological investigation for the proposed recreation area presented a geomorphic model of relatively young soils that were associated with late Holocene meandering and recent overbank deposition of the White River (Cantin et al. 2003). The project area was identified as a point bar landform in the interior of a large meander of the White River. Within the meander was a succession of scroll bars that reflected the migration of the channel and two geomorphic zones were identified in the proposed recreation area (Figure 42). Zone 2 was a point bar associated with a former White River channel that is now the southern slough. The low ridge and swale topography of the zone was the product of scroll bars formed through lateral accretion. The swales served to funnel drainage to the south into the then active White River channel. After the channel was abandoned the present slough then functioned as a flood basin for the new White channel and the flood basin filled with slackwater deposits. Zone 1 was recognized as a more recent meander surface with sediments more likely associated with the latter stages of the White River's meandering and overbank deposition. This area was believed to be

Site Locations Confidential
Not For Public Disclosure

Figure 41. The master plan for the southern half of the Taylor Property developed by Hamilton County Parks and Recreation (Anonymous 2002).

Site Locations Confidential
Not For Public Disclosure

Figure 42. Geomorphic zones defined by ISUAL (after Cantin et al. 2003).

one of the last portions of the area to achieve relative stability. During the trenching, two prehistoric pit features were encountered at the base of the plowzone within surface site 12-H-993. Feature 1 contained large quantity of ceramics, lithics and faunal material. A radiocarbon date of 630 +/- 60 BP was obtained from the feature. Ceramics were identified as similar to Oliver Phase types. Feature 2 contained burned wood and charred corn. Based on the trenching and coring, it was felt there was very little potential for buried archaeological deposits in Zone 1 and most of Zone 2. In the northern portion of Zone 2 associated with site 12-H-993, a low to moderate potential for buried deposits was recognized. Site 12-H-993 was determined to be potentially eligible for the National Register of Historic Places. ISUAL did not entirely discount the potential for buried deposits, but sediments greater than about one meter below the surface were cited as products of high energy deposition and were not conducive to site preservation. Areas of poorly drained soils, were not felt to be favorable for sustained occupation. The suspected age of the sediments in the proposed recreation area was late Holocene and buried sites if encountered should not be older than Late Archaic (Cantin et al 2003).

The interpretations and conclusions of the geoarchaeological investigation conducted by ISUAL are somewhat different from our interpretation of the flood plain area. Although the auger tests we excavated were very limited, the sediments we observed combined with the results of the surface survey of the flood plain, and our experience of working with landscapes in the glaciated region of Indiana, led us to a different view of the flood plain area in the Taylor property. First, we examined the current valley physiography and hydrology patterns at Strawtown by consulting geologic maps (Burger et al. 1971), engineering soils information (Gefell 1983), agricultural soils information (Hosteter 1978) and two foot contour maps. The physiography of the valley has been inherited from the glacial sluiceway formation ancestral to the White River and Duck Creek drainages that are presently underfit in the sluiceway valley. The large slough that presently borders the outwash terrace was once a major drainage channel. However, we believe that this was once a channel (perhaps for a glacial Duck Creek) in a bi-channel river system that has been filled, rather than the bed of a single channel river system that meandered across the valley floor until it reached it present channel. Meltwater carried in the Duck Creek sluiceway and the White River sluiceway intersected at Strawtown depositing outwash in the valley, constructing outwash terraces and carving out drainage channels. We propose the present White River channel became the dominate bed and the slough channel eventually filled in enough to cease to be a drainage channel and began to serve as a flood basin. The swales that cut across the flood plain serve as flood channels draining into this flood basin.

Second, the texture and structure of the sediments we recovered from auger tests, show little evidence to support the notion of the White migrating across the valley floor. Granted, we only excavated one auger (#7) within the area proposed for the recreational lake, the area specific to ISUAL investigation. However, ISUAL cited coarse textured deposits as evidence for the lateral accretion deposits (scroll bars) and the river migration, but when textures were actually presented in the report only fine textures (silty clay loams, silt loams or loams) were noted in the upper meter of deposits in the proposed recreation area. Coarse textures were only noted in the existing swales and the glacial outwash deposits that underlies the entire valley.

Third, the sediments show little soil development and would appear to be somewhat young, but the presence of diagnostic Early Archaic points found on the surface of three flood plain sites argue against a young age for at least certain areas of the flood plain (see Figure 28). Site 12-H-998, located within the proposed recreation area, contained a Kanawha point. Two other flood plain sites also contained diagnostic Late Archaic points. The diagnostic artifacts recovered from the surface indicated the at least portions of the flood plain were stable much longer than ISUAL proposed. While the three Early Archaic points may seem to provide only tenuous information on the antiquity of the setting, they are part of an emerging pattern of Early Archaic sites documented on the flood plain in the White River Valley (Conover 1988, Hixon 1988). This information suggests that at least portions of the flood plain were stable during the early Holocene.

Fourth, cultural material was recovered from buried contexts in three of the seven augers we excavated (Augers 1, 4 and 6). The material recovered in Augers 1 and 4 were most likely buried by overwash deposition. The number of flakes recovered in Auger 4 was surprising and may represent a substantial deposit. Auger 6 was in a poorly drained environment, but artifacts were recovered. Drainage characteristics can change over time and the present poorly drained soils should be investigated further.

While we cannot provide a detailed geomorphic analysis of the flood plain or the proposed recreational lake area, we feel there is sufficient data to contrast some of ISUAL interpretations. The ISUAL investigation sampled only a small portion of the proposed recreation area even though a variety of landforms were tested. As ISUAL recognized, their evaluation of the proposed recreation area was preliminary, and in order to develop a more comprehensive geomorphic model, additional investigations in the Taylor Property would be required (Cantin et al. 2003:55). At this point, we feel it would be premature to eliminate the possibility of buried archaeological deposits in any area of the flood plain. Granted, the sediments conducive to site preservation may not be very deep (over 1 or 1.5 meters), but buried cultural deposits do exist in the flood plain.

A draft version of this section of the report was reviewed by Dr. Russell Stafford of ISUAL. While he did not agree with some points of our interpretation, he commented that the Taylor area may contain more than a limited potential for subsurface deposits. After reviewing and considering his comments, we reached the conclusion and are in agreement with Stafford and Cantin et al. (2003:55) that a more comprehensive geomorphic model requiring additional study is necessary. The area is obviously complex and cannot be fully understood without a wider context.

Until more subsurface sampling is undertaken and we have more data, we recommend a subsurface reconnaissance for all of the alluvial portions of the project area slated for development. We have already stated our recommendations for testing of several flood plain sites (Figure 20) based on the surface materials recovered. We also recommended a subsurface reconnaissance (Phase 1c) for each of the flood plain sites to determine if sub-plow zone deposits

exist. Base on our interpretation of the flood plain setting, the surface distribution of cultural material may have little influence on buried archaeological deposits. For example, Feature 1 identified during ISUAL geomorphic study was encountered within the boundaries of site 12-H-993c and within an area of a high density of materials. However, Feature 2 was encountered with the boundaries of site 12-H-993d and in an area of very light density of materials. Therefore, there is a potential for buried archaeological materials to occur in both low artifact density sites and in areas without surface artifacts.

DISCUSSION

Research Questions

In the proposal for this project, four regional research problems were identified in the anticipation that data to address the problems could be acquired during the survey of the Taylor property. The research problems are restated below and followed by a discussion which includes the new information from the Taylor property acquired during this project.

1. What is the relationship between the Taylor Village Oneota component and the Oliver Phase component(s) at the Strawtown site?

Upon reflection, this question could better read, "relationships" since it is doubtful that only one relationship would pertain. And, to be clear, the question would also read better to change Strawtown "site" to "locality" or "area." In general, we need to have a term that covers the locality of the Strawtown prairie and its environs since there are many Strawtown "sites". In the background, we briefly discussed some of the components of the Oliver Phase and it is clear that the Phase has multiple components given its current broad definition. Given these comments, the problem would be better reframed as below:

What are the relationships between the Taylor Village Oneota component and the Oliver Phase components at the Strawtown locality?

Prior to this survey, we expected to find Taylor Village artifacts and Oliver Phase pottery within the survey area. The expectation was predicted on the presence of the Taylor Village site just across the White River to the north of the Strawtown enclosure and the presence of known Oliver Phase components at 12-H-3, and the Strawtown enclosure (White et al. 2002) as well as adjacent to the flood plain survey area (Hixton 1988). We expected that the survey data would inform modeling of the settlement patterns of the Taylor Village and the Oliver Phase components.

In fact, we only found one artifact diagnostic of the Taylor Village component, a bifacial endscraper. Oliver Phase ceramics were also present in such low numbers that we cannot really address this problem with our survey data. By including the data from the two features excavated by ISU during their geomorphological survey (Cantin et al. 2003), we can say that the Bowen component of the Oliver Phase was occupying the flood plain and most likely growing corn and other crops there. It is interesting to note that the Oliver component was virtually absent from the flood plain but dominated the ceramic assemblage recovered from the Strawtown enclosure (White et al. 2002). These data show that there are differences in settlement patterns between at least these two components of the Oliver Phase. These are the types of issues that must be addressed before we can accurately define the Oliver Phase and contrast it with the Taylor Village component.

2. What is the cultural and chronological relationship between the Albee Phase and the Oliver Phase?

While we have sufficient data to demonstrate that the Albee Phase is chronologically earlier than the Oliver Phase, there are problems with defining the relationships between the two phases. First, the Albee Phase settlement pattern is not well defined. In central and eastern Indiana, habitations are located in the valley and especially near large expanses of flood plain soils. Burials are in cemeteries that are placed into sand and gravel deposits along the upper edge of sluiceway valleys. Our current data indicates that the Albee settlement within river valleys is very similar to the Woodland component of the Oliver Phase. Oliver Phase burials are currently only known to occur within habitations, and not in separate cemeteries.

Albee ceramics, the hallmark of the Phase, were only adequately defined within the past 10 years and they show both internal change in design and decoration which mirrors broader patterns across the upper Midwest. The most recent Albee ceramics share features such as paste, collaring, castellated rims, vessel shape and exterior cord and fabric marking with ceramics assigned to the Oliver Phase. Although McCullough (2000) dismisses the Albee Phase as predecessors of the Woodland Oliver Phase ceramics, short of convincing evidence to the contrary, there are more similarities between the ceramics than differences. We see the differences as simply reflecting change within the broader Woodland ceramic tradition of the upper Midwest. In fact, an Albee to Oliver ceramic transition is the most parsimonious hypothesis, and one that requires contextual evidence to the contrary before it is dismissed.

During the survey we found about equal amounts of diagnostic Albee and Oliver Phase ceramics, both in very small numbers. Broadly speaking, from these few artifacts we can legitimately say only that both Phases were using the flood plain. Evidence suggestive of the chronological relationship between the two phases was found in site 12-H-985 where an Albee Phase sherd was underlying an Oliver Phase sherd in one test unit.

Based on our current understanding of the chronology, ceramics and settlement patterns, we view the Albee Phase as an earlier expression of the Woodland portion of the Oliver Phase. Overlapping radiocarbon dates, settlement patterns and ceramic attributes indicate connections that are not easily dismissed.

3. A Middle Woodland component was identified at the Strawtown site, at 12-H-3 and in the field east of the enclosure. Is the Middle Woodland component related to Middle Woodland sites as reflected in Anderson Mounds and other earthworks in east central Indiana or is it related to a western Havana tradition?

Munson (1986) has used the West Fork of the White River in central Indiana as the eastern boundary of the Havana Tradition. We have previously noted that the east central Indiana Early/Middle Woodland earthworks represent the western extent of the Scioto tradition (Cochran and McCord 2001). The most westerly situated site in the east central Indiana group appears to

be Anderson Mounds (Cochran and McCord 2001). Thus, it is apparent that the Strawtown locality is on the boundary of the distribution of the Havana and Scioto traditions.

Data relevant to this question was acquired during the survey of the Taylor property. First, we recovered four fragments of Middle Woodland lamellar blades. These artifacts are rare within the region and prior to our survey, only 14 were on record for all of the upper White River drainage (McCord and Cochran 1996, Cochran 2002). Combining the four bladelet fragments we recovered with the two found during the first IPFW project at the Strawtown enclosure and 12-H-3, fully one third of the recorded bladelets on record for the upper White River drainage are from the Strawtown locality. This relative concentration is unmatched in the region.

In addition to the numbers of bladelets found at the Strawtown locality, they were consistently made from Flint Ridge chert from Ohio. While Snyders points in central Indiana are often made of Burlington chert suggesting connections with the Havana Tradition (Hicks 1992), the two Snyders points found during our survey were made from Flint Ridge chert and Fall Creek chert. The Flint Ridge chert connection adds additional confirmation to the connection with the Scioto tradition. Thus the preponderance of the artifactual evidence currently indicates that the Scioto tradition is more strongly evident in the Strawtown locality than the Havana tradition. Based on the Early/Middle Woodland data acquired at the Strawtown locality, we anticipate that habitation sites with features will be contained within the Taylor property. Such sites should add significant data to our understanding of the Early/Middle Woodland occupation in the region.

4. What is the cultural affiliation(s) of the burials reported from the gravel pit just to the northwest of the Strawtown enclosure?

As with the first problem, we did not acquire data directly relevant to this problem. However, documentation of the presence of the Albee Phase occupation of the valley is indirectly relevant to the problem. In central Indiana, three Albee Phase cemeteries are currently documented: Secrest Reasoner (Black 1936), Commissary (Swartz 1981), and Hesher (Cochran et al. 1988). All three cemeteries are located in sand and gravel deposits on the east side of a sluiceway valley. Two of the cemeteries are associated with a large Albee Phase habitation site in the valley. Based on these indirect data and the association of Oliver Phase burials in habitations, we can hypothesize that the cemetery northwest of the Strawtown enclosure dates to the Albee Phase.

Research Goals

The archaeological survey for this project encompassed approximate 450 acres of land, or that portion of the Taylor property that is south of Strawtown-Cicero Pike. This report summarized the completion of a systematic pedestrian survey of the project area. The objectives of the survey were was designed to provide data to address seven goals. As is often the case, some of the goals were more successful than others. Each of these goals will be summarized below.

1. Define the density, distribution and potential significance of the surface sites with the project area.

The project area encompassed approximately 450 acres of land. Approximately 363 acres were surveyed by this project. The survey recorded 89 previously unrecorded archaeological sites. Thirty-one sites were recorded in the 87 acres surveyed in the outwash terrace setting and 58 sites were recorded in the 276 acres surveyed in the flood plain setting. The overall site density recorded during this project was one site per 4.08 acres or more specifically one site per 2.90 acres in the terrace and one site per 4.76 acres in the flood plain. A comparison between the terrace setting and all the flood plain found that the terrace sites were smaller (approximately 4,300 m^2 compared to 10,000 m^2 for the flood plain), but the average prehistoric artifact density was very similar (approximately one artifact per 225 m^2 for the terrace and one artifact per 245 m^2 for the flood plain).

Of the 89 sites recorded, 22 sites were considered potentially eligible for listing on the State or National Register and recommended for archaeological testing. Since 17 of these sites were located on alluvial soils, they were also recommended for subsurface reconnaissance. Sixty-six surface sites did not appear potentially eligible for listing. However, 41of these sites were located on alluvial soils and were recommended for subsurface reconnaissance. One site, a historic scatter, was recommended for further evaluation.

2. Define the chronology of the occupation of the Strawtown prairie.

The survey documented occupation from the late Paleoindian to the Historic period within the project area. The majority of the sites were of unknown prehistoric age. Thirteen sites were multicomponent prehistoric sites. Eleven sites had historic components, but these also had a prehistoric component.

An examination of the distribution of the sites by temporal period helped to define the use and settlement of terrace and flood plain settings. Late Woodland/Late Prehistoric components dominated the survey and particularly the flood plain zone. Late Woodland/Late Prehistoric artifacts were also recovered in the terrace zone, but with less frequency. Pottery was predominantly recovered from the flood plain, but one site, 12-H-959, located on the outwash terrace edge, contained a small ceramic assemblage. From the identified ceramic types, difference in Oliver and Albee land use is suggested. Albee ceramics only occurred in the flood plain. The Woodland style Bowen ceramics also occurred only in the flood plain. The Ft. Ancient style Oliver ceramics appeared in both the flood plain and the outwash terrace, although in much lower frequencies than either Albee or Bowen ceramics.

Middle Woodland components were surprisingly the second most frequently encountered in the flood plain by this survey. Middle Woodland lamellar bladelets were recovered in both the flood plain and terrace settings. Bladelets had only been reported in flood plain settings in

previous surveys of the area (Ellis 1982, Carmany 2002).

Patterns identified for other components were not as surprising. Early Woodland was rare in both the flood plain and terrace settings. Late Archaic components were the most common component identified in the terrace zone. No Middle Archaic presence was documented in the flood plain. Early Archaic was found in both the terrace and flood plain settings. Paleoindian components were only encountered in the outwash terrace.

3. Test the Woodland settlement model proposed by McCord and Cochran (1996).

A model for Woodland settlement in east central Indiana has been proposed as follows:

> "Most Woodland sites are found within river valleys and on modern flood plains. The dominant component that has been identified at these sites is of Late Woodland age, based on both lithic artifacts and ceramics. Early and Middle Woodland sites are among the least frequently found point types within the region. Early and Middle Woodland ceramics occur predominantly in earthworks within the region and very few are known from habitation sites. Early and Middle Woodland artifacts are also found in river valleys and on floodplain soils. Given the combination of low Early and Middle Woodland artifact frequency, and their association with floodplains, it is suggested that these sites are primarily buried in flood plains (McCord and Cochran 1996:168).

This survey was confined entirely to the valley setting and could be divided into an outwash terrace zone and flood plain zone. Therefore, settlement pertaining only to the river valley can be addressed.

The data recovered during this project supports the dominance of Late Woodland age sites within the valley and particularly on the flood plain. Several Late Woodland components recognized by ceramics were utilizing the flood plain setting and included the Albee Phase, the "Woodland complex" Bowen Oliver Phase and the "Fort Ancient complex" Oliver Phase. The "Fort Ancient complex" Oliver Phase was also present on the outwash terrace.

Middle Woodland was surprisingly well represented in the diagnostic artifacts from both the flood plain and terrace. Early Woodland was rare but occurred in both the terrace and flood plain settings. No definitive Early or Middle Woodland ceramics were identified. While the potential for buried deposits was recognized within the project area, subsurface investigations would be necessary to test for the presence of buried Early or Middle Woodland sites. The presence of Early and Middle Woodland artifacts on the surface of the flood plain demonstrates the use of this landform, but neither supports nor refutes the proposition that these sites may be buried.

This project could not entirely test the validity of the proposed Woodland settlement model. It provided supportive information on the dominant presence of Late Woodland components in the valley and particularly on the flood plain. The data recovered also documented the presence of Early and Middle Woodland components in the valley. However, the notion of Early and Middle Woodland sites buried in the flood plain sediments could neither be supported or opposed from the data collected by the surface survey.

4. Refine the historic Delaware use and settlement of the Strawtown prairie.

Historic documents indicate that the Delaware had well established villages along the Upper West Fork of the White River by 1801 (Gipson 1938). The number of villages along this portion of the White River has been reported as between 11 (Gibson 1938:11) and 15 (Thompson 1937:196-205), but the reported villages may not have all been Delaware settlements (McCord 2002). Two presumed Delaware villages were reported in the Strawtown area: "an old Indian Village" (Brown 1821:47) a few miles east of the project along the White River (12-H-468) and Sarah Town reported as "one mile south and west of the present Strawtown" (Thompson 1937:203). Several attempts have been made to relocate the Delaware villages reported along the White River, but have been unsuccessful (Rodeffer 1967, Gardner 1970, Conover 1988, Gaw 1991, 1994, McCord 2002).

Even though a Delaware village was not reported within the project area, it was hoped that some evidence of the Delaware presence in the Strawtown area would be documented. Unfortunately, no evidence of early 19th century occupation or use of the project area was encountered. The earliest historic artifacts recovered date after 1820 when the Delaware would have already left the area. Either the historic Delaware were not attracted to the expansive prairie, as prehistoric Native Americans were, are they left behind so little material evidence of their occupation it cannot be detected by traditional archaeological survey techniques. This survey did not provide any data on the Delaware settlement of the Strawtown area.

5. Evaluate the potential for buried cultural deposits within the project area.

Seven auger tests were excavated across the flood plain during this project to assist in the evaluation for the potential of buried archaeological deposits. The sediments recovered from the augers were generally fine textured from the surface to approximately 1 or 1.5 meters below the surface, indicating overwash flooding episodes that could potentially bury archaeological sites. Coarse textured sediments were associated with modern flood plain swales and glacial outwash deposits. Early and Late Archaic diagnostic artifacts recovered from the surface indicate that at least portions of the flood plain have been stable for several thousand years. Cultural material was recovered from sub-plow zone contexts in three of the seven augers we excavated. A geoarchaeological investigation performed by ISUAL for a portion of the project area determined there was between very little to a moderate potential for site burial (Cantin et al. 2003). However, we feel a larger sample of the area investigated by ISUAL should be undertaken to further evaluate the potential for buried cultural deposits. Given our assessment of the project

area, the nature of the alluvial deposits and the presence of buried cultural deposits, we feel that there is the potential for buried cultural deposits in the project area. The sediments favorable to site preservation may not be very deep (over 1 or 1.5 meters), but buried cultural deposits do exist in the flood plain. We recommend an archaeological subsurface reconnaissance (Phase 1c) for all of the alluvial portions of the project area prior to any earthmoving activities.

6. Investigate the Oneota occupation of the Strawtown prairie within the context of the Late Prehistoric Period of central Indiana.

Given the proximity of the project area to the Taylor Village site (12-H-25), an Oneota presence within the project area was anticipated. Diagnostic Oneota artifacts include ceramics, rectangular sandstone shaft abraders and bifacial endscrapers. The only diagnostic Oneota artifact recovered from the survey was a bifacial endscraper recovered in the flood plain from site 12-H-1005. While an Oneota presence was documented in the project area, it was certainly not of the magnitude identified at Taylor Village or the Strawtown Enclosure. The Oneota presence in the Strawtown area again demonstrates the uniqueness of the region and its identification as a prehistoric frontier. Further investigations of the Oneota phenomenon in this region are necessary to understand the cultural dynamics of the Late Prehistoric Period.

7. Acquire data relevant to land use planning and interpretation of the aboriginal settlement of the Strawtown prairie.

The Hamilton County Parks and Recreation Department plans to develop the Taylor Property to provide recreational opportunities as well as educational opportunities of the natural and cultural history of region. Features planned within the project area or the southern half of the Taylor Property include a central meeting area that would contain a 60 acre lake, a beach, beach house, boat ramp, picnic shelters, a central event lawn, a playground, and an archaeology interpretive demonstration area; a southern complex of a lodge, conference center and restaurant, picnic shelters, playground, equestrian facilities, interpretive farm, sledding hill, toboggan run, challenge course and water treatment wetland; reforestation of some of the agricultural land and reconstruction of the prairie in other portions of the agricultural land; a pedestrian bridge across the White River to the present campground; and multi-use trails across the park area (Anonymous 2002).

This survey acquired information on the location and potential significance of archaeological resources located within the southern half of the Taylor Property. The proposed features outlined in the Master Plan for the park will impact some potentially significant archaeological sites. Prior to the construction of some of the features associated with the southern upland area, sites 12-H-939, 955, 958, 959 and 963 will require archaeological testing if they are impacted. Several of the features may be designed to not impact the potentially significant archaeological sites. Further evaluation of the existing farm complex and site 12-H-953 needs to be conducted prior to the development of the interpretive farm in this area. Given the nature of the flood plain, an archaeological subsurface reconnaissance will be necessary prior

to any earthmoving in this region. Sites that would appear to be most likely affected by construction of the features in the central meeting area are 12-H-993, 997, 1000, 1002, 1005, 1006, 1007 and 1009. Each of these surface sites contain potentially eligible archaeological deposits and were recommended for archaeological testing. Other sites in the flood plain that would require avoidance or archaeological testing are 12-H-984 through 992.

While subsurface investigations or testing of archaeological sites may hamper the planned construction or recreational land use of the Taylor property, it should provide additional data for the educational aspects for the park. Data collected from surface surveys assist in the identification of the location of archaeological sites and a determination of the potential significance of the resources. But, the excavation of sites can provide a much larger scope of information on the nature of the occupation that can be utilized in public interpretive displays. A management plan to deal with the archaeological resources contained within the Taylor Property should be developed. Future research within the park should not be guided solely by clearance for recreational features and a management plan could help guide the education commitment of Hamilton County Parks.

Based on the resources identified within the park, the range of cultural systems throughout prehistory could be investigated (Binford 1972:150). The Strawtown area would appear to have served as a cultural frontier with fluid borders since late Paleoindian times. The park is on the boundary of the known extent of Hi-Lo points, Hardin Barbed points, the Ohio Valley Archaic Stemmed Cluster points, the Scioto and Havanna traditions, and the Oliver Phase and Oneota. It would appear that an appropriate beginning for a management plan would be to further explore the concept of this seeming cultural boundary. An exploration of the chronology and interaction of various cultural systems could be engaging to archaeologists and the public. By exploring, the range of occupation and reason for this apparent cultural boundary, all of the archaeological resources within the park could be utilized. Given the unprecedented commitment of a county park to educate the public about archaeological cultures, this is an opportunity to explore all of prehistory, not just one segment. We caution against a management plan that would focus too much on any one area of prehistory or on any one site within the Taylor Property. Of course, individual research could still explore specific research questions, such as examining the use of the local quartzite material in lithic production or exploring the relationships between the Albee and Oliver Phases. But, the research conducted within the park needs to be placed within the context of the prehistoric record and the range of cultural systems present if we hope to achieve any understanding of prehistoric cultural process.

While the excavation of certain archaeological resources may be necessary to accomplish the recreational and education goals of the Hamilton County Parks, conservation of the resources should also be considered in the management plan. The rate of urban expansion in Hamilton County is devouring archaeological resources that will never be investigated. With this in mind, the archaeological resources that exist within the Taylor Property are important to understanding the prehistory of central Indiana and should be protected to the greatest extent possible.

SUMMARY AND CONCLUSIONS

An archaeological survey of the Taylor property south of the Strawtown-Cicero Pike in Hamilton County, Indiana documented 89 new archaeological sites and over 3,000 artifacts. The project was carried out to provide land use planning information for Hamilton County Parks and to address a number of regional research questions. The data generated by the survey provided information for both objectives. The locations of the new sites recorded during the project will assist Hamilton County Parks to meet their objectives of planning for recreational and educational use of the property. The archaeological data were used to address several regional research questions related to culture history, settlement patterns, and interpretation of archaeological phases. In addition, the project intensively investigated two sites and investigated the potential for buried cultural deposits within the flood plain. Our project and the geoarchaeological investigation conducted by Indiana State University showed that there is a high potential for cultural features to exist within surface sites. In addition, our limited subsurface investigation documented buried cultural deposits and revealed that subsurface archaeological investigations are warranted within the flood plain zone. Overall, this project demonstrated that the Taylor property contains a high density of valuable archaeological resources.

This project showed that the Taylor property contains archaeological resources that are important for defining the prehistoric occupation of central Indiana. Although the property represents a unique natural setting, the archaeological resources we recorded showed that prehistoric people were using the valley for many thousands of years. In fact, the archaeological deposits suggest that a microcosm of the whole region is contained within the confines of the property. Whether hunting and gathering or cultivating domesticated crops, people returned again and again over thousands of years to the Strawtown area. The artifacts indicate that these past populations were overlapping from several directions. The Late Woodland/Late Prehistoric sites in the area demonstrate this overlapping boundary area most clearly. We found a unique concentration, relatively speaking, of Middle Woodland artifacts, a concentration currently unknown elsewhere within the region. The property, therefore, appears to contain the promise of one or more Middle Woodland domestic sites that could reveal so much about the nature of the people who built and used the ceremonial sites a short distance upstream. In addition, the presence of Albee Phase sites and artifacts holds the potential for revealing the relationships between the Late Woodland components in the region. The Oliver Phase and Oneota occupations were less well represented in the survey area, but given that they are so dominant on nearby sites, their relative absence in our survey area indicates important concepts of their land use through negative evidence. Finally, it is our contention that, based on this survey, the types and ranges of archaeological resources present in the Taylor property owned by Hamilton County Parks will be the catalyst for rewriting the prehistory of central Indiana for the next several years.

REFERENCES CITED

Angst, Michael

1994 *An Archaeological Survey of Fayette County*. Reports of Investigation 40. Archaeological Resources Management Service, Ball State University, Muncie.

1997 *Archaeological Field Reconnaissance, Cardinal Golf Club, Hamilton County, Indiana*. MS on file, Archaeological Resources Management Service, Ball State University, Muncie.

Anonymous

1968 *Illustrated Historical Atlas of the State of Indiana*. Baskin, Forster, and Company, Chicago.

2002 *Taylor Property Master Plan, Hamilton County Parks and Recreation*. MS on file, Archaeological Resources Management Service, Ball State University, Muncie.

2003 *Kaolin Chert*. www.geocities.com/CapeCanaveral/Runway/4162/Kaolin.html.

Anslinger, Michael

1986 *The Riverton Culture: Lithic Systems and Settlement Patterns*. MA Thesis, Department of Anthropology, Washington State University.

Anuszczyk, Edward & Donald Cochran

1984 *An Archaeological Survey of the Upper Wabash River Valley*. Reports of Investigation 13. Archaeological Resources Management Service, Ball State University, Muncie.

Barth, R.J., Jr.

1991 *The Allison-LaMotte and Vincennes Cultures: Cultural Evolution in the Wabash Valley*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Illinous, Urbana.

Binford, Lewis

1972 A Consideration of Archaeological Research Design. In *An Archaeological Perspective*, pp135-163, edited by Lewis Binford. Seminar Press, New York.

Black, Glenn A
1936 Excavation of a Blackford County Site. *Indiana History Bulletin* 12(5):148-152.

Brinker, Ruth
1984 *An Archaeological Survey of Late Archaic Sites in Central Indiana.* Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.

Brown, James A. & Patrick J. O?Brien
1990 *At the Edge of Prehistory: Huber Phase Archaeology in the Chicago Area.* Center for American Archaeology, Kampsville, Illinois.

Brown, Ryland T.
1884 Geological and Topographical Survey of Hamilton and Madison Counties, Indiana. *In, Indiana Department of Geology and Natural History, Fourteenth Annual Report*, edited by John Collett. WM. B. Burford, Indianapolis

Brown, Thomas
1821 Survey Map and Notes of Township 19 North, Range 5 East. General Land Office Survey Notes for Hamilton County Indiana. Microfilm on file, Archaeological Resources Management Service, Ball State University.

Buehrig, Jeanette E. and Ronald Hicks
1982 *Comprehensive Survey of the Archaeological Resources of Mounds State Park, Anderson, Indiana.* Reports of Investigation 6, Archaeological Resources Management Service, Ball State University, Muncie.

Burger, Ann M., Jane L. Forsyth, Robert S. Nicoll and William J. Wayne
1971 *Geologic Map of the 1 degree X 2 Degree Muncie Quadrangle, Indiana and Illinois.* Department of Natural Resources, Indianapolis, Indiana.

Burkett, Frank N. and Ronald Hicks
1986 *An Archaeological Survey of the Upper Big Blue River Sluiceway.* Archaeological Resources Manangement Service, Ball State University, Muncie.

Bush, Leslie
1994 Floral Material. In *Morrell-Sheets: An Albee Phase Habitation,* pp 90-103, by Beth McCord and Donald Cochran. Reports of Investigation 38. Archaeological Resources Management Service, Ball State University, Muncie.

2001a *Boundary Conditions: Botanical Remains of the Oliver Phase, Central Indiana, A.D. 1200-1450.* Unpublished Ph.D. Dissertation, Department of Anthropology, Indiana University, Bloomington.

2001b Appendix B: A New Albee Cultigen from the Jarrett Site, 12 Dl 689. In *Recovery of Two Albee Features at the Jarrett Site (12-Dl-689)* by Beth McCord. Reports of Investigation 57. Archaeological Resources Management Service, Ball State University, Muncie.

2002 Macrobotanical Remains from Strawtown Enclosure Flotation Samples. In *An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana*, by Andrew A. White, Dorothea McCullough, and Robert G. McCullough. Reports of Investigation 216, IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne, Indiana.

Butzer, Karl
1984 *Archaeology as Human Ecology*. Cambridge University Press, New York.

Callahan, Errett
1979 The Basics of Biface Knapping in the Eastern Fluted Point Tradition: A Manual for Flintknappers and Lithic Analysts. *Archaeology of Eastern North America* 7(l):1-180.

Campbell, Frank S.
1962 *The Story of Hamilton County Indiana*. Frank S. Campbell

Cantin, Mark
1994 *Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana*. MS on file at Indiana State University, Anthropology Laboratory, Terre Haute.

Cantin, Mark, John A. Schwegman, David N. Holycross, and C. Russel Stafford
2003 *Geoarchaeological Investigations of the Taylor Property near Strawtown, Hamilton County, Indiana*. Indiana State University Anthropology Laboratory Technical Report No. 34.

Carmany, Carsten
2002 *Phase Ia Archaeological Field Reconnaissance: proposed Hamilton County Park Near Perkinsville in Hamilton County, Indiana*. Landmark Archaeological and Environmental Services, Inc., Sheridan, Indiana

Cochran, Donald R.
1988 *Excavations at Mounds State Park*. Reports of Investigation 23. Archaeological Resources Management Service, Ball State University, Muncie.

1991 Chipped Stone Classification, Appendix D. Indenpendence: A Multicomponent Site in the Middle Wabash Drainage, by Beth Cree and Donald R. Cochran. Reports of Investigation 29, Archaeological Resources Management Service, Ball State University, Muncie

1993 Prehistoric Settlement in the Tipton Till Plain. In *Historic and Prehistoric Contexts in the Tipton Till Plain*, pp 2-9. Reports of Investigation 36. Archaeological Resources Management Service, Ball State University, Muncie.

1996 The Adena/Hopewell Convergence in East Central Indiana. In *A View From the Core: A Conference Synthesizing Ohio Hopewell Archaeology*, edited by Paul Pacheko. Ohio Archaeological Council, Columbus.

1998 Appendix A, Environmental and Ceremonial Setting of the New Castle Site, In *The New Castle Site Revisited*, by Beth K. McCord, pp. A1-A14. Reports of Investigation 54. Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

2002 Analysis of Lithics from Strawtown Enclosure. In *An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana*, by Andrew A. White, Dorothea McCullough, and Robert G. McCullough. Reports of Investigation 216, IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne, Indiana.

Cochran, Donald R. and Jeanette Buehrig

1985 *An Archaeological Survey on the Wabash Moraine: A Study of Prehistoric Site and Artifact Density in the Upper Wabash Drainage*. Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Cochran, Donald R. and Mary Lou James

1986 *Interim Report: 1985 Excavation at the All Seasons Site*. Reports of Investigation 20, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Cochran, Donald R., Lisa Maust, Eric Filkins, Mitch Zoll, Sharon Staley & Ronald Richards

1988 *The Hesher Site: A Late Albee Cemetery in East Central Indiana*. Reports of Investigation 24, Archaeological Resources Management Service, Ball State University.

Cochran, Donald R., Kris D. Richey and Lisa A. Maust
1990 Early Paleoindian Economies in the Glaciated Regions of Indiana. In, Early Paleoindian Economies of Eastern North America, edited by Kenneth B. Tankersley and Barry L. Isaac, pp. 143-159. *Research in Economic Anthropology*, Supplement 5. JAI Press, Greenwich, Connecticut.

Cochran, Donald, Beth McCord & Ronald Richards
1993 *Taylor Village: Analysis of a Surface Collection.* Paper presented at the 1993 Annual Meeting of the Indiana Academy of Science.

Cochran, Donald R. & Beth K. McCord
2001 *The Archaeology of Anderson Mounds, Mounds State Park, Anderson, Indiana.* Reports of Investigation 61, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Conover, Diana
1988 *A Reconnaissance Level Survey of the Valley Corridor of the Upper West Fork of the White River in Madison County, Indiana.* Reports of Investigation 32. Archaeological Resources Management Service, Ball State University, Muncie.

Converse, Robert N.
1994 *Ohio Flint Types.* Special Publication of theArchaeological Society of Ohio.

Cox, E. T.
1879 Antiquities. *Eighth, Ninth, and Tenth Annual Reports of the Geological Survey of Indiana Made during the Years 1876-77-78,* pp. 121-153, Indianapolis. Indiana Department of Geology and Natural History, Indianapolis.

Cree, Donald
1991 *An Archaeological Database Enhancement Project: A Survey of Hamilton and Marion Counties, Indiana.* Reports of Investigation 31. Archaeological Resources Management Service, Ball State University, Muncie.

Cree, Donald W., Randy Gaw, Gerald Waite, Lisa Palyo and Donald R. Cochran
1994 *Historic and Prehistoric Contexts in the Tipton Till Plain.* Reports of Investigation 36, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Cree, Beth A. and Donald R. Cochran
1991 *Independence: A Multicomponent Site in the Middle Wabash Drainage.* Reports of Investigation 29, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Cummings, Edgar R. and Robert R. Schrock
1928 *The Geology of the Silurian Rocks of Northern Indiana.* Publication 75. Indiana Department of Conservation, Indianapolis.

Delcourt and Delcourt
1991 *Quaternary Ecology: A Paleoecological Perspective.* Chapman & Hall, London.

DeRegnaucourt, Tony & Jeff Georgiady
1998 *Prehistoric Chert Types of the Midwest.* Occasional Monograph Series of the Upper Miami Valley Archaeological Research Museum No. 7. Arcanum, Ohio.

Division of Historic Preservation and Archaeology (DHPA)
1999 *Early Peoples of Indiana.* Indiana Department of Natural Resources, Indianapolis.

Dorwin, John T.
1971 The Bowen Site: An Archaeological Study of Culture Process in the Late Prehistory of Central Indiana. *Indiana Historical Society Prehistoric Research Series* 4(4).

Drooker, Penelope B. and C. Wesley Cowan
2001 Transformation of the Fort Ancient Cultures of the Central Ohio Valley. In *Societies in Eclips: Archaeology of the Eastern Woodlands Indians, A.D. 1400-1700* edited by David S. Brose, C. Wesley Cowan and Robert C. Mainfort, Jr. Smithsonian Institution Press, Washington.

Eggan, Fred
1930 Archaeological Map of Hamilton County, Indiana. On file at the Indiana Historical Bureau, County Archaeological Files. Indianapolis.

Ellis, Gary
1982 An Archaeological Survey of the Conner Prairie Tract, Hamilton County, Indiana. MS on file, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Engel, Bernie, Leighanne Hahn, Jill Jackson and Purdue University
n.d. Indiana Natural Resources and Environmental GIS Data. Two CDs distributed in cooperation with the Office of Indiana State Chemist, Purdue University, West Lafayette, Indiana.

Fagan, Brian M.
1991 *Ancient North America: The Archaeology of a Continent.* London: Thames and Hudson, Ltd.

Fanning, D.S.
1989 *Soil: Morphology, Genesis, and Classification.* Wiley, New York.

Faulkner, Charles H.
1972 The Late Prehistoric Occupation of Northwestern Indiana: A Study of the Upper Mississippi Cultures of the Kankakee Valley. *Prehistoric Research Series* V(1). Indiana Historical Society, Indianapolis.

Feldhues, William J.
1995 Guide to Identifying and Dating Historic Glass and Ceramics. Manuscript on file at the Archaeological Resources Management Service, Ball State University, Muncie.

Ferguson, Roger J.
1970 The Continued Excavation of the Van Nuys Site. A Probable Late Woodland Occupation. *Archaeological Reports* 6:5-15.

1972 *The White River Indiana Delaware: An Ethnohistoric Synthesis, 1795-1867.* PhD Dissertation, Ball State University, Muncie.

Filkins, Eric
1988 Appendix D: Type Description for Commissary Points, In *The Hesher Site: A Late Albee Cemetery in East Central Indiana.* Reports of Investigation 24, Archaeological Resources Management Service, Ball State University.

Finney, Fred A. & James B. Stoltman
1991 The Fred Edwards Site: A Case of Stirling Phase Culture Contact in Southwestern Wisconsin. In *New Perspectives on Cahokia: Views from the Periphery.* Edited by James B. Stoltman. Monographs in World Archaeology No. 2. Prehistory Press, Madison, Wisconsin.

Gammon, J.R. and S.D. Gerking
1966 Fishes. In *Natural Features of Indiana*, pp. 401-425, Alton L. Lindsey, editor. Indiana Academy of Science, Indianapolis.

Gardner, Joseph R.
1970 Exploratory Excavations for Tetepacksits's Town. *In Archaeological Reports*, No. 6, edited by B.K. Swartz Jr. Ball State University, Muncie.

Garniewicz, Rexford C.
2002 A Preliminary Analysis of Faunal Materials from the Strawtown Enclosure, In *An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana*, by Andrew A. White, Dorothea McCullough, and Robert G. McCullough. Reports of Investigation 216, IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne, Indiana

Gaw, Randy
1991 An Archaeological Records Review and Field Reconnaissance of Old Town Hill, The Reported Site of Wapicomekoke, A Historic Delaware Indian Village. Manuscript of file at the Archaeological Resources Management Service, Ball State University, Muncie.

1994 Wapicomkoke and Owenachki: An Archaeological Reconnaissance of Two Historic Delaware Villages in Delaware County, Indiana. In *Historic and Prehistoric Contexts in the Tipton Till Plain*, edited by Donald R. Cochran. Reports of Investigation 36, Archaeological Resources Management Service, Ball State University, Muncie.

Gefell, E.M.
1983 *Engineering Soils Map of Hamilton County, Indiana*. Purdue University, West Lafayette, Indiana.

Gibbon, Guy
1986 The Mississippian Tradition: Oneota Culture. In *Introduction to Wisconsin Archaeology: Background for Culture Resource Planning*. Edited by William Green, James B. Stoltman & Alice Kehoe. Special Issue of the Wisconsin Archaeologist 62(3-4).

Gipson, Lawrence Henry, ed.
1938 The Moravian Indian Mission on White River. *Indiana Historical Society Publications*, Vol. 23. Indiana Historical Society, Indianapolis.

Gooding, Ansel M.
1973 *Characteristics of Wisconsin Till in Eastern Indiana*. Department of Natural Resources Geological Survey Bulleting 49. Bloomington, Indiana.

Gray, Henry
2000 *Physiographic Divisions of Indiana.* Indiana Geological Survey Special Report 61. Indiana University, Bloomington.

Gray, Henry H., Jane L. Forsyth, Allan F. Schneider and Ansel M. Gooding
1972 *Geologic Map of the 1 Degree x 2 Degree Cincinnati Quadrangle, Indiana and Ohio.* Department of Natural Resources, Indianapolis, Indiana.

Gray, Henry H., N.K. Bleuer, John R. Hill, & Jerry A. Lineback
1979 *Geologic Map of the 1 degree X 2 Degree Indianapolis Quadrangle, Indiana and Illinois.* Department of Natural Resources, Indianapolis, Indiana.

Griffin, James B.
1966 *The Fort Ancient Aspect: Its Cultural and Chronological Position in Mississippi Valley Archaeology.* Anthropological Papers 28, Museum of Anthropology, University of Michigan, Ann Arbor.

1978 The Midlands. In *Ancient North Americans*, edited by Jesse D. Jennings pp. 243-302. WH Freeman and Company

Gutschick, Raymond C.
1966 Bedrock Geology. In *Natural Features of Indiana.* Alton A. Lindsey, editor. Indiana Academy of Science, Indianapolis.

Halsey, John R.
1976 *The Bussinger Site: A Multicomponent Site in the Saginaw Valley of Michigan.* Unpublished Ph.D. Dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Harlos, David
1967 Initial Henry County, Indiana Site Survey. *Archaeology Reports* 2, Department of Sociology and Anthropology, Ball State University.

Heilman, James M. and Roger R. Hoefer
1981 Possible Astronomical Alignments in a Fort Ancient Settlement at the Incinerator Site in Dayton, Ohio. In *Archaeoastronomy in the Americas,* pp. 157-387, Ray A. Williamson, editor. Ballena Press, Los Atos, California.

Helm, Thomas B.
1880 *History of Hamilton County, Indiana.* Kingman Brothers, Chicago.

Helmen, Vernon

1950 *The Cultural Affiliations and Relationships of the Oliver Farm Site, Marion County, Indiana.* MA thesis, Department of Anthropology, Indiana University, Bloomington.

Hicks, Ronald (editor)

1992 Native American Cultures in Indiana. Proceedings of the First Minnetrista Council for Great Lakes Native American Studies. Minnetrista Cultural Center and Ball State University, Muncie, Indiana.

Hixon, James L.

1988 *An Archaeological Assessment of the Strawtown Site and the Immediate Vicinity.* MA thesis, Department of Anthropology, Ball State University, Muncie.

Hobson, Steven L.

1968 Preliminary Report on an Archaeological Site Survey of Madison County, Indiana. In *Archaeological Reports*, No. 3, edited by B.K. Swartz Jr., Ball State University, Muncie.

1969 Addendum to Preliminary Report, Madison County Site Survey. In *Archaeological Reports*, No. 4, edited by B.K. Swartz Jr., Ball State University, Muncie.

Hodder, Ian

1992 Reading the Past: Current Approaches to Interpretation in Archaeology. Cambridge University Press, Cambridge.

Holloway, Richard and Vaughn M. Bryant, Jr.

1985 Late-Quaternary Pollen Records and Vegetational History of the Great Lakes Region: United States and Canada. In *Pollen Records of Late-Quaternary: North American Sediments* edited by Vaughn M. Bryant, Jr. and Richard G. Holloway. pp.245-280 American Association of Stratigraphic Palynologists Foundation, Austin, Texas.

Holsten, Jeffrey and Donald R. Cochran

1986 *Paleo-Indian and Early Archaic in the Upper Wabash Drainage.* Reports of Investigation 19, Archaeological Resources Management Service, Ball State University, Muncie.

Hosteter, William D.

1978 *Soil Survey of Hamilton County, Indiana.* U.S. Department of Agriculture, Washington D.C.

Hurst, Lewis A., E.J. Grimes, R.S. Hesler & H.G. Young
1912 Soil Survey of Hamilton County. *Thirty-seventh Annual Report, Department of Geology and Natural Resources*, Indianapolis, In.

IMACS
1984 *Intermountain Antiquities Computer System (IMACS) User Guide*. Bureau of Land Management.

James, Mary Lou and Donald R. Cochran
1985 *An Archaeological Survey of Jay County, Indiana*. Reports of Investigation 18, Archaeological Resources Management Service, Ball State University, Muncie.

Jenkins, William L., Jr.
1971 A Second Report on the Wisner Site: A Late Archaic Occupation Area. *Archaeological Reports* 8. Department of Anthropology, Ball State University, Muncie.

Justice, Noel
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference*. Indiana University Press, Bloomington.

1993 Cultural-Historical Perspectives of the McKinley Site. In *Current Research in Indiana Archaeology and Prehistory 1993*, edited by Brian G. Redmond. Research Reports No. 15. Glenn A. Black Laboratory of Archaeology, Indiana University.

Kellar, James H.
1983 *An Introduction to the Prehistory of Indiana*. Indiana Historical Society, Indianapolis.

King, Frances B.
1993 Climate, Culture, and Oneota Subsistence in Central Illinois. In *Foraging and Farming in the Eastern Woodland*, edited by Margaret Scarry, pp 232-254. University Press of Florida, Gainesville.

Kingsbury, Robert C.
1970 *An Atlas of Indiana*. Occasional Publication No. 5, Department of Geography, Indiana University, Bloomington.

Kolbe, Beth A.
1992 *Brookville Lake: An Archaeological Study in the Whitewater Drainage.* Reports of Investigations 35, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Kolderhoff, Brad
1985 Southern Illinois Cherts: A Guide to Silicious Materials exploited by Prehistoric Populations in Southern Illinois. MS on file, Center for Archaeological Investigations, Carbondale, Illinois.

Lilly, Eli
1937 *Prehistoric Antiquities of Indiana.* Indiana Historical Society, Indianapolis.

Little, Robert
1970 *The McKinley Site.* MA thesis, Department of Anthropology, Indiana University, Bloomington.

Lindsey, Alton A., editor
1966 *Natural Features of Indiana.* Indiana Academy of Science, Indianapolis.

Loftstrom, Ted, Jeffery P. Tordoff, and Douglas C. George
1982 A Seriation of Historic Earthenwares in the Midwest, 1780-1870. *The Minnesota Archaeologist* 41(1):3-29.

Lumbis, Barbara & Donald R. Cochran
1984 *An Archaeological Field Reconnaissance of the Correctional Industrial Complex, Madison County, Indiana.* Archaeological Resources Management Service, Ball State University, Muncie.

Lyon, Marcus W.
1936 Mammals of Indiana. *The American Midland Naturalist* 17.

McCord, Beth K.
1996 *Windsor Mound: A Synthesis of an Adena Mound in Randolph County,Indiana.* Reports of Investigation 37. Archaeological Resources Management Service, Ball State University, Muncie.

1998 *An Archaeological Assessment of Three Unique Woodland Sites in Henry County, Indiana.* Reports of Investigation 52. Archaeological Resources Management Service, Ball State University, Muncie

1999 The New Castle Site Revisited. Reports of Investigation 54. Archaeological Resources Management Service, Ball State University, Muncie.

2001 *Recovery of Two Features at the Jarrett Site (12-Dl-689), Delaware County, Indiana.* Reports of Investigation 57. Archaeological Resources Management Service, Ball State University, Muncie

2002 *The Ghosts of the Delaware: An Archaeological Study of Delaware Settlement Along the White River, Indiana.* Reports of Investigation 62. Archaeological Resources Management Service, Ball State University, Muncie.

McCord, Beth Kolbe and Donald R. Cochran

1994 *Morell-Sheets: An Albee Phase Habitation.* Reports of Investigation 38. Archaeological Resources Management Service, Ball State University, Muncie.

1996 *Woodland Sites in East Central Indiana: A Survey and Evaluation.* Reports of Investigation 43. Archaeological Resources Management Service, Ball State University, Muncie.

1998 *The Morell-Sheets Site: Refining the Definition of the Albee Phase.* Paper presented at the Midwest Archaeological Conference, Muncie, IN.

2000 *A Survey of Collections: An Archaeological Evaluation of Eight Earthworks in Eastern Indiana.* Reports of Investigation 43. Archaeological Resources Management Service, Ball State University, Muncie.

2002 Taylor Village. www.bsu.edu/csh/anthro/ARMS/current.htm#Taylor.

In press *The Adena Complex: Identity and Context in East Central Indiana.* Paper submitted for publication in Early Woodland and Adena Prehistory of the Ohio Area, Ohio Archaeological Council, Columbus.

McCullough, Robert

1992 An Overview of the Oliver Phase: A Late Prehistoric Manifestation from Central Indiana. In *Native American Cultures in Indiana* Edited by Ronald Hicks. Proceedings of the First Minnetrista Council for Great Lakes Native American Studies. Minnetrista Cultural Center and Ball State University, Muncie, Indiana.

2000 *The Oliver Phase of Central Indiana: A Study of Settlement Variability as a Response to Social Risk.* Unpublished Ph.D. dissertation, Department of Anthropology, Southern Illinois University at Carbondale.

McCullough, Robert and T.M. Wright
1996 *An Archaeological Investigation of Late Prehistoric Subsistenc-Settlement Diversity in Central Indiana*. Reports of Investigation 96-14. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.

Malott, C. A.
1922 The Physiography of Indiana. In *Handbook of Indiana Geology*, pp. 67-124, W.N. Logan, editor. William B. Burford, Indianapolis.

Majewski, Teresita and Michael J. O'Brien
1987 The Use and Misuse of Ninetheenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory* Vol. 11, edited by Michael B. Schiffer. Academic Press, Inc., San Diego.

Miller, Orloff
1995 The 1994 Archaeological Investigations at Fort Benjamin Harrison, Marion County, Indiana. Gray & Pape, Inc., Cincinnati, Ohio.

Minton, Sherman A.
1966 Amphibians and Reptiles. In *Natural Features of Indiana*, pp. 426-451. Alton L. Linsdey, editor. Indianapolis Academy of Science, Indianapolis.

Moffat, Charles R.
1994 An Analysis of Lithic Artifacts Recovered from the Tremaine Site (47 LC 95) During the Midvale Interceptor Project. *Wisconsin Archaeologist* 75(3-4):422-449.

Moodie, Roy L.
1929 *The Geological History of the Vertebrates of Indiana and their Position in the Ancient North American Fauna*. Publication 90, Indiana Department of Conservation, Indianapolis.

Moore, Mark
1990 *Diagnostic Flake Analysis: A Replication-based Method for Reconstructing Reduction Techniques, Strategies, and Technologies*. MA Thesis, Department of Anthropology, Ball State University, Muncie.

1992 A Summary of East Central Indiana Prehistoric Knapping Techniques. In *Native American Cultures in Indiana* Edited by Ronald Hicks. Proceedings of the First Minnetrista Council for Great Lakes Native American Studies. Minnetrista Cultural Center and Ball State University, Muncie, Indiana.

Morris, Benjamin J.
1968 A Preliminary Report on the Van Nuys Site, A Probable Woodland Occupation Area. *Archaeological Reports* 3:23-24

1969 Initial Excavation of the Van Nuys Site. *Archaeological Reports* 4:23-30.

1970 An Archaeological Survey of Randolph County, Indiana. *Archaeological Reports* 7:1-79.

Mumford, Russell F.
1966 Mammals. In *Natural Features of Indiana*, pp. 474-488, Alton L. Lindsey, editor. Indiana Academy of Science, Indianapolis.

Munson, Cheryl
1980 *Archaeological Salvage Excavations at Patoka Lake, Indiana: Prehistoric Occupations of the Upper Patoka River Valley*. Glenn A. Black Laboratory of Archaeology Research Reports No. 6.

Munson, Patrick J.
1986 Marion, Black Sand, Morton, and Havana Relationship: An Illinois Valley Perspective. In *Early Woodland Archaeology* edited by Kenneth B. Farnsworth and Thomas E. Emerson pp, 642-651. Campsville Seminars in Archaeology, Volume 2, Center for American Archaeology.

Myers, Thomas J.
1970 *Chert Resources of the Lower Illinois Valley*. Research Papers 2. IllinoisValley Archaeological Program, Illinois State Museum, Springfield.

Newman, James E.
1966 Bioclimate.In *Natural Features of Indiana*, pp. 171-180, Alton L. Lindsey, editor. Indiana Academy of Science, Indianapolis.

Newman, T. Stell
1970 A Dating Key for Post-Eighteenth Century Bottles. *Historical Archaeology* 4:70-75.

ODOT
1991 *Coding System Manual for the East Liverpool, Ohio Urban Archaeology Project*. Archaeology Series No. 1, Ohio Department of Transportation, Columbus.

Petty, R.O. and M.T. Jackson
1966 Plant Communities. In *Natural Features of Indiana*. Edited by Alton A. Lindsey, pp 264-296. Indiana Academy of Science.

Plunkett, J.I., M.F. Trudeau and M.A. Hilton-Plunkett
1995 *Phase II Archaeological Subsurface Investigations: Sites 12-H-15, 46, 694, 695 and 699, in Hamilton County, Indiana*. Report 95IN0057. Landmark Archaeological and Environmental Services, Sheridan, Indiana.

Railey, Jimmy A.
1992 Chipped Stone Artifacts. In *Fort Ancient Cultural Dynamics in the Middle Ohio Valley*, edited by A.G. Henderson, pp. 137-169. Monographs in World Archaeology, No. 8. Prehistory Press, Madison.

1996 Woodland Cultivators. In *Kentucky Archaeology* edited by R. Barry Lewis, pp. 79-126. The University Press of Kentucky.

Redmond, Brian G.
1991 *An Archaeological Investigation of Late Woodland Period Settlement in the East Fork White River Valley: Martin, Lawrence and Jackson Counties, Indiana*. Report of Investigation 91-15. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.

1994 *The Archaeology of the Clampitt Site (12-Lr-329), an Oliver Phase Village in Lawrence County, Indiana*. Research Reports No. 16. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.

Redmond, Brian G. and Robert G. McCullough
2000 The Late Woodland to Late Prehistoric Occupations of Central Indiana. In *Late Woodland Societies: Transformation across the Midcontinent*, edited by T. Emerson, D. McElrath and A. Fortier. University of Nebraska Press, Lincoln.

Richards, Ronald
1984 The Pleistocene Vertebrate Collection of the Indiana State Museum with a List of the Extinct and Extralocal Pleistocene Vertebrates of Indiana. *Proceedings of the Indiana Academy of Science* 93:483-504.

Rodeffer, Michael J.
1967 A Preliminary Report on an Archaeological Site Survey of Delaware County, Indiana. In *Archaeological Reports*, No. 2, edited by B.K. Swartz Jr., Ball State University, Muncie.

1968 Addendum to a Preliminary Report on an Archaeological Site Survey of Delaware County, Indiana. *Archaeological Reports* 3:42-49.

Schermerhorn, Edward J.
1967 *Soil Survey of Madison County*. U.S. Department of Agriculture, Washington, D.C.

Schneider, Allen F.
1966 Physiography. In *Natural Features of Indiana* edited by Alton L. Lindsey, pp 40-56. Indiana Academy of Science, Indianapolis.

Seeman, Mark
1992 The Bow and Arrow, the Intrusive Mound Complex, and a Late Woodland Jack's Reef Horizon in the Mid-Ohio Valley. In *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*, edited by M.F. Seeman, pp. 41-51. MCJA Special Paper No. 7. Kent State University Press, Kent Ohio.

Shane, Linda
1976 *Late -glacial and Postglacial Palynology and Chronology of Darke County, West Central Ohio*. Unpublished Ph.D. Dissertation, Kent State University.

Stephenson, Ranel P., Donald R. Cochran, Lorna Gentry Laymon and Diana R. Conover
1984 *The Archaeological Resources of the Upper WhiteRiver Drainage with Emphasis on the Woodland Period.* Reports of Investigation 12, Archaeological Resources Management Service, Ball State University, Muncie.

Stillwell, Larry N.
1996 *An Archaeological Reconnaissance Survey of the Proposed Realignment of 234th Street, Hamilton County, Indiana*. Cultural Resource Management Report 96FR4. Archaeological Consultants of Ossian, Ossian, Indiana.

Sultzman, Lee
1997 Delaware History. Http://dickshovel.com/dela.html, 12/21/99.

Swartz, B.K., Jr., editor
1971 *Adena: The Seeking of an Identity*. Ball State University, Muncie, Indiana.

Swartz, B.K., Jr.
1973 *Mound Three, White Site, Hn-10 (IAS-BSU): The Final Report on a Robbins Manifestation in East Central Indiana.* Contributions to Anthropological History, No. 1. Ball State University, Muncie, Indiana.

1976 *The New Castle Site: A Hopewell Ceremonial Complex in East Central Indiana*. Contribution to Anthropological History No. 2. Ball State University, Muncie, Indiana.

1981 *Indiana's Prehistoric Past*. University Publications, Ball State University, Muncie.

1982 *The Commissary Site: An Early Late Woodland Cemetery in East Central Indiana*. Contributions to Anthropological History NO. 3. Ball State University, Muncie.

Tankersley, Kenneth B. Edward E. Smith & Donald R. Cochran
1990 Early Paleoindian Land Us, Mobility, and Lithic Exploitation Patterns: An Updated Distribution of Fluted Points in Indiana. *North American Archaeologist* 11:301-19

Thomas, David Hurst
1998 *Archaeology*. Harcourt Brace & Company, Fort Worth, Texas.

Thompson, Charles N.
1937 Sons of the Wilderness: John and William Conner. *Indiana Historical Society Publications*, Vol. 12. Indiana Historical Society, Indianapolis.

Waters, Michael R.
1992 *Principles of Geoarchaeology: A North American Perspective*. The University of Arizona Press, Tucson.

Wayne, William J.
1963 *Pleistocene Formations in Indiana*. Indiana Department of Conservation, Geological Survey Bulletin No. 25, Bloomington.

1966 Ice and Land. In *Natural Features of Indiana*, pp. 21-39, Alton L. Lindsey, editor. Indiana Academy of Science, Indianapolis.

Webster, J. Dan
1966 Birds. In *Natural Features of Indiana*, pp. 452-473, Alton L. Lindsey, editor. Indianapolis: Indiana Academy of Science.

Wepler, William and Donald Cochran
1983 *An Archaeological Assessment of Huntington Reservoir: Identification, Prediction, Impact*. Reports of Investigation 10. Archaeological Resources Management Service, Ball State University, Muncie.

Weslager, Clinton A.
1972 *The Delaware Indians: A History.* Rutgers University Press, New Brunswick.

White, Andrew A., Dorothea McCullough, & Robert G. McCullough
2002 *An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana.* Reports of Investigation 216, IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne, Indiana

Winters, Howard D.
1967 *An Archaeological Survey of the Wabash Valley in Illinois.* Reports of Investigation 10. Illinois State Museum, Springfield.

Wright, Timothy
1998 *Madison Triangles: There Must be a Point.* Paper presented at the 1998 Midwest Archaeology Conference, Muncie, Indiana.

Zoll, Mitch, Donald R. Cochran and Beth Cree
1991 *Archaeological Intensive Assessment: Relocation of U.S. Highway 24, IDOT Project F-146-0(), Wabash/Huntington Counties, Indiana.* Reports of Investigation 30. Archaeological Resources Management Service, Ball State University, Muncie.

Appendix A

Site Summaries

Site Locations Confidential
Not For Public Disclosure

Appendix A
Site Summaries

Site: 12-H-935
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 9 m E/W x 12 m N/S
Surface Visibility: 80%
Artifacts: 1 unmodified flake (Fall Creek), 1 modified flake (Fall Creek) and 3 fire-cracked rock.
Discussion: Due to the small size of the site and the low density of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-936
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 6 m N/S x 12 m E/W
Surface Visibility: 80%
Artifacts: 2 modified flakes (Fall Creek), 1 unmodified flake (Fall Creek), 1 bipolar (Fall Creek) and 2 fire-cracked rock
Discussion: Due to the small size of the site and the low density of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-937
Figures: 1 and 2
Period: Late Paleoindian
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2 % slopes (OcA)
Size: 25 m E/W x 45 m N/S
Surface Visibility: 50 %
Artifacts: 1 unmodified flake (Fall Creek), 1 Hi-Lo Point (Attica), and 7 fire-cracked rocks
Discussion: Due to the low number of artifacts and the disturbance from plowing, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-938
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated find
Location: [redacted]
UT
Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: Isolated Find
Surface Visibility: 40%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-939
Figures: 1 and 2
Period: Late Archaic, Middle Woodland, Late Woodland and Historic
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 90 m E/W x 215 m N/S
Surface Visibility: 60 - 85%
Artifacts: 106 unmodified flakes (84 Fall Creek, 19 HT Fall Creek, 1 Jeffersonville, 1 Wyandotte, 1 unknown), 12 modified flakes (7 Fall Creek, 4 HT Fall Creek, 1 Wyandotte), 3 bipolar (Fall Creek), 8 cores (7 Fall Creek, 1 HT Fall Creek), 1 endscraper (Fall Creek), 1 point fragment (HT Fall Creek), 1 stage 3 biface (Laurel), 2 Matanzas point (1 Fall Creek, 1 HT Fall Creek), 1 Jack's Reef point (HT Fall Creek), 1 lamellar bladelet fragment (Fall Creek), 3 other chipped stone, 1 metal fragment (corroded), 1 stoneware fragment (brown glaze), and 175+ fire-cracked rock.
Discussion: While the artifact density for this site was not high, there is a potential for sub-plow zone cultural material to occur. The site requires further archaeological assessment to evaluate if intact cultural materials exist. Archaeological testing of the site recommended.

Site: 12-H-940
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated find
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes
Size: Isolated find
Surface Visibility: 70%
Artifacts: 1 unmodified flake (HT Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-941
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 75 m E/W x 105 m N/S
Surface Visibility: 40 to 80%
Artifacts: 4 unmodified flakes (3 HT Fall Creek, 1 Fall Creek), 1 modified flake (Fall Creek), 1 core (Fall Creek), 1 biface (Fall Creek) and 40 fire-cracked rock.
Discussion: Due to the low artifact density, this site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-942
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam (OcA)
Size: 85 m N/S x 105 m E/W
Surface Visibility: 50 - 80%
Artifacts: 2 modified flakes (1 Fall Creek, 1 HT Fall Creek), 7 unmodified flakes (5 Fall Creek, 2 Attica), 1 core (Fall Creek) and 40 fire-cracked rock.
Discussion: Due to the low artifact density, this site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-943
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 70 m N/S x 75 m E/W
Surface Visibility: 60 to 80%
Artifacts: 5 unmodified flakes (3 Fall Creek, 2 HT Fall Creek), 2 modified flakes (1 Fall Creek, 1 Attica), 1 Stage 4 biface (Fall Creek), 20 fire-cracked rocks
Discussion: Due to the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-944
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 40 m N/S x 45 m E/W
Surface Visibility: 70 to 85%
Artifacts: 4 unmodified flakes (Fall Creek), 1 modified flake (Fall Creek), 10 fire-cracked rocks
Discussion: Due to the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-945
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 6 m N/S x 6 m E/W
Surface Visibility: 70%
Artifacts: 2 unmodified flakes (1 Fall Creek, 1 Wyandotte)
Discussion: Due to the small size of the site and low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-946
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: Isolate
Surface Visibility: 60 %
Artifacts: 1 modified flake (HT Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-947
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: 30 m N/S x 45 m E/W
Surface Visibility: 80% (5/14/02) and 90% (6/11/02)
Artifacts: From 5/14/02 survey: 2 unmodified flakes (Fall Creek) and 15 fire-cracked rock. From the 6/11/02 survey: 5 unmodified flakes (Fall Creek) and 1 bipolar (Fall Creek).
Discussion: The site was surveyed on 5/14/02 and resurveyed on 6/11/02 after the field was plowed. Due to the low artifact density and erosion, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-948
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: 30 m E/W x 60 m N/S
Surface Visibility: 50 to 70%
Artifacts: 2 unmodified flakes (Fall Creek), 1 graver (HT Fall Creek)
Discussion: Due to the low density of artifacts and erosion, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-949
Figures: 1 and 2
Period: Late Archaic
Type: Isolated find
Location: [redacted]
Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: Isolate
Surface Visibility: 70%
Artifacts: 1 Matanzas point fragment (Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-950
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 15 m E/W x 30 m N/S
Surface Visibility: 50%
Artifacts: 3 unmodified flakes and 4 fire-cracked rock
Discussion: Due to the low density of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-951
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 6 m N/S x 9 m E/W
Surface Visibility: 50%
Artifacts: 1 unmodified flake (Fall Creek) and 2 fire-cracked rocks
Discussion: Due to the small size of the site the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-952
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
UT
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: Isolate
Surface Visibility: 50%
Artifacts: 1 modified flake (HT Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-953
Figures: 1 and 2
Period: Unknown Prehistoric and Historic
Type: Lithic scatter and Farmstead
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 60 m N/S x 145 m E/W
Surface Visibility: 50 to 75%
Artifacts: 1 ironstone rim fragment, 1 ironstone handle, 1 flow blue whiteware fragment, 1 hand painted green floral whiteware fragment, 3 whiteware base fragments, 3 whiteware rim fragments, 8 whiteware fragments, 1 embossed whiteware fragment, 1 porcelain fragment with orange glaze, 1 polychrome (floral) transfer print porcelain fragment, 1 porcelain container fragment, 1 porcelain base fragment, 1 porcelain insulator ("knox 6-S"), 1 stoneware fragment (buff paste) with brown exterior and gray interior glaze, 5 stoneware (buff paste) with brown glaze, 2 stoneware (buff paste) with brown lead exterior and brown interior glaze, 1 stoneware base (buff paste) with brown glaze, 1 stoneware (buff paste) with brown exterior glaze and unglazed interior, 3 stoneware(buff paste) with light blue glaze and embossed rim, 1 stoneware (buff paste) with gray glaze, 1 yellow molded glass fragment, 1 clear container glass fragment, 2 amber container glass fragments, 1 clear molded bottle lip, 5 aqua container glass fragments, 4 aqua flat glass fragments, 1 clear molded container glass fragment, 1 opaque container glass fragment, 1 milk glass molded container fragment, 2 milk glass canning lid liner fragments, 1 metal wire (corroded), 1 crescent wrench, 1 horse shoe, 1 metal harness ring, 1 concrete fragment, 1 mortar piece, 1 -12 gauge shotgun shell, 7 field tile fragments, 4 brick fragments, 2 plastic fragments, 9 coal slag pieces, 1 charcoal, 1 biface fragment (Fall Creek), 1 point fragment (Wyandotte), 2 modified flakes (1 Wyandotte, 1 Fall Creek), 1 unmodified flake (Fall Creek) and 20 fire-cracked rocks.

Discussion: The historic scatter appears to be associated with the farm located immediately south. While the historic scatter documented by this survey does not appear to be Register eligible, the farm complex to the south should be evaluated before a determination of significance can be made.

Site: 12-H-954
Figures: 1 and 2
Period: Late Archaic
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, to 2% slopes (OcA)
Size: 6 m N/S x 6 m E/W
Surface Visibility: 40%
Artifacts: 1 Late Archaic Barbed Cluster point fragment (Fall Creek), 1 unmodified flake (HT Fall Creek).
Discussion: Due to the small size of the site and low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-955
Figures: 1 and 2
Period: Middle Woodland
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 30 to 45 m N/S x 235 m E/W
Surface Visibility: 40 to 70%
Artifacts: 51 unmodified flakes (1 HD unknown, 1 Quartzite, 10 HT Fall Creek, 39 Fall Creek), 9 modified flakes (8 Fall Creek, 1 HT Fall Creek), 5 cores (3 Fall Creek, 1 HT Fall Creek, 1 Quartzite), 1 bipolar (Fall Creek), 1 bladelet (unknown), 1 endscraper (Fall Creek), 1 other chipped stone, 1 point fragment (Wyandotte), 1 Stage 3 biface (Fall Creek), 1 biface fragment (Fall Creek), and 100+ fire-cracked rocks.
Discussion: The site appears to be potentially eligible for listing on the State or National Registers. The site requires further archaeological assessment to evaluate if intact cultural materials exist and archaeological testing of the site recommended.

Site: 12-H-956
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated find
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: Isolate
Surface Visibility: 50%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: Since the site is an isolated find, it does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-957
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 6 m N/S x 6 m E/W
Surface Visibility: 50%
Artifacts: 1 unmodified flake (Fall Creek) and 1 point fragment (Fall Creek)
Discussion: Due to the small size of the site and low artifact density, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-958
Figures: 1 and 2
Period: Unknown Prehistoric and Historic
Type: Scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes
Size: 75 m N/S x 185 m E/W
Surface Visibility: 50 to 70%
Artifacts: 33 unmodified flakes (22 Fall Creek, 8 HT Fall Creek, 1 Jeffersonville, 1 HT Jeffersonville, 1 Upper Mercer), 6 modified flakes (Fall Creek), 1 bipolar (Fall Creek), 1 core (Fall Creek), 2 biface fragments (Fall Creek), 1 other chipped stone, 1 hammerstone, 1 stoneware fragment (buff paste) with brown glaze, 1 stoneware fragment (buff paste) with clear salt glaze on the exterior and brown glaze on interior, 1 metal buckle (corroded), and 150+ fire-cracked rock.

Discussion: The site appears to be potentially eligible for listing on the State or National Registers of Historic Places. Testing of the site is recommended to further evaluate the site's significance.

Site: 12-H-959

Figures: 1 and 2

Period: Early Archaic, Late Archaic, Early Woodland and Late Woodland

Type: Lithic scatter

Location: [redacted]

Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2) and Fox clay loam, 8 to 18% slopes, severely eroded (FxC3)

Size: 90 m E/W x 120 m N/S

Surface Visibility: 50 to 85% (survey) and 90% (resurvey)

Artifacts:

From the pedestrian survey: 63 unmodified flakes (62 Fall Creek, 1 quartzite), 30 modified flakes (29 Fall Creek and 1 Attica), 1 block flake (Fall Creek), 1 core (Fall Creek), 1 Stage 3 biface (Fall Creek), 1 triangular biface (Fall Creek), 1 point fragment (Fall Creek), 1 Late Archaic point (Wyandotte),1 other chipped stone, 1 pottery body sherd, 1 pottery rim sherd (decorated) and 200+ fire-cracked rock.

From the controlled surface collection: 1125 unmodified flakes (1044 Fall Creek, 50 quartzite, 13 Attica, 10 unknown, 4 Wyandotte, 3 Allens Creek, 1 Indian Creek), 55 modified flakes (51 Fall Creek, 2 unknown, 1 Attica, 1 quartzite), 47 block flakes (Fall Creek), 41 cores (37 Fall Creek, 2 unknown, 1 quartzite, 1 Wyandotte), 4 bipolar (Fall Creek), 22 bifaces (21 Fall Creek, 1 quartzite), 1 endscraper (Fall Creek), 1 graver (Fall Creek), 7 Triangular points (6 Fall Creek, 1 quartzite), 1 Robbins (Flint Ridge), 1 Bifurcate point fragment (Attica), 2 point fragments (1 Attica, 1 Fall Creek), 6 other chipped stone, 3 anvil/hammerstone, 2 anvil, 5 hammerstone, 2 pottery rim sherds, 21 pottery body sherds, 1488 fire-cracked rock.

From the shovel tests: 115 unmodified flakes (106 Fall Creek, 4 quartzite, 3 Attica, 1 unknown), 6 modified flakes (Fall Creek), 5 block flakes (Fall Creek), 1 core (Fall Creek), 7 pottery body sherds.

From the resurvey on 6/11/03: 40 unmodified flakes (33 Fall Creek, 6 quartzite, 1 Attica), 6 modified flakes (Fall Creek), 5 cores (Fall Creek) and 1 triangular biface (Fall Creek).

Discussion:. The site was initially surveyed on 5/15/02. A controlled surface collection of the northern 1/3 of the site occurred between 5/20/02 and 5/23/02. Fifteen 50 cm^2 shovel tests were excavated to the base of the plowzone between 5/20/02 and 5/23/02. The northern edge of the site was resurveyed on 6/11/02 after the field was plowed. Given the density of materials collected, the site appears to be potentially eligible for listing on the

State or National Registers. Archaeological testing of the site recommended to further evaluate it's significance.

Site: 12-H-960
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: 30 m N/S x 30 m E/W
Surface Visibility: 60 to 90%
Artifacts: 1 unmodified flake and 10 fire-cracked rocks
Discussion: Due to the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-961
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA)
Size: 30 m E/W x 105 m N/S
Surface Visibility: 80% (5/15/02) and 90% (6/11/02)
Artifacts: From 5/15/02: 1 core (Fall Creek), 1 other chipped stone, 1 unmodified flake (Fall Creek) and 20 fire-cracked rocks. From 6/11/02: 1 unmodified flake (Fall Creek) and 1 modified flake (Fall Creek),
Discussion: The site was surveyed on 5/15/02 and resurveyed on 6/11/02 after the field was plowed. Due to the low density of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-962
Figures: 1 and 2
Period: Late Woodland and Historic
Type: Scatter
Location: [redacted]
Soil: Ockley silt loam, 2 to % slopes, eroded (OcB2)
Size: 30 m E/W x 120 m N/S
Surface Visibility: 80% (5/15/02) and 90% (6/11/02)
Artifacts: From the 5/15/02 survey: 2 unmodified flakes (1 Fall Creek, 1 HT Fall Creek) and 25 fire-cracked rocks. From the 6/11/02 survey: 4 modified flakes (Fall Creek), 1 Triangular point fragment (Indian Creek), 1 Unclassified Stemmed point (Fall Creek), and 1 whiteware blue transferprint fragment,
Discussion: The site was surveyed on 5/15/02 and resurveyed on 6/11/02 after the field had been plowed. Due to the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-963
Figures: 1 and 2
Period: Early Archaic, Late Archaic and Historic
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 2 to 6% slopes
Size: 30 to 75m N/S x 215 m E/W
Surface Visibility: 50 to 75% (5/15 and 5/21) and 90% (6/11)
Artifacts:
From the 5/15/02 survey: 30 unmodified flakes (28 Fall Creek, 1 Attica, 1 unknown), 5 modified flakes (Fall Creek), 1 core (Fall Creek), 1 point fragment (HD Flint Ridge), 1 St. Charles point (Fall Creek), 1 field tile and 100 fire-cracked rocks.
From the 5/21/02 survey: 55 unmodified flakes (49 Fall Creek, 1 HT Jeffersonville, 5 Wyandotte). 1 modified flake (Fall Creek), 7 cores (6 Fall Creek, 1 Kenneth), 2 bipolar (Fall Creek), 1 hammerstone, 1 Stage 2 biface (Fall Creek), 1 biface fragment (Fall Creek), 1 Stage 3 biface (Attica), 1 endscraper (Fall Creek), 1 Matanzas point (HT Fall Creek).
From the 6/11/02 survey: 1 unmodified flake (Fall Creek), 19 modified flakes (Fall Creek) 4 cores (Fall Creek), and1 Lamoka point (Fall Creek).
Discussion: The site was surveyed on 5/15/02 and 5/21/02 and resurveyed on 6/11/02 after the field had been plowed. The site appears potentially eligible for listing on the State or National Registers. Testing of the site is recommended to further evaluate the site's significance.

Site: 12-H-964
Figures: 1 and 2
Period: Late Woodland
Type: Lithic scatter
Location: [redacted]
Soil: Ockley silt loam, 0 to 2% slopes (OcA) and Ockley silt loam, 2 to 6% slopes, eroded (OcB2)
Size: 30 m E/W x 120 m N/S
Surface Visibility: 80% (5/15/02) and 90% (6/11/02)
Artifacts: From the 5/15/02 survey: 1 unmodified flake (Fall Creek), 1 Triangular point (Fall Creek) and 18 fire-cracked rocks. From the 6/11/02 survey: 4 unmodified flakes (Fall Creek), 1 core (Fall Creek) and 1 bipolar (Fall Creek).
Discussion: Due to the low number of artifacts, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-965
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Fox clay loam, 8 to 18% slopes, severely eroded (FxC3)
Size: 30 m N/S x 30 M E/W
Surface Visibility: 90%
Artifacts: 1 unmodified flake (Laurel), 1 modified flake (Fall Creek), 1 endscraper (Fall Creek), and 12 fire-cracked rocks.
Discussion: Due to the low number of artifacts and erosion, the site does not appear to be eligible for listing on the State or National Registers.

Site: 12-H-979
Figures: 1 and 3
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge) and Ross loam (Ro)
Size: 45 m N/S x 45 m E/W
Surface Visibility: 20 to 30%
Artifacts: 4 unmodified flakes (3 Fall Creeek, 1 Attica), 2 modified flakes (Indian Creek), 1 grit tempered body sherd, and 8 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. But due to the presence of well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-980
Figures: 1 and 3
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 15 m N/S x 40 m E/W
Surface Visibility: 30%
Artifacts: 1 unmodified flake (Fall Creek), 1 other chipped stone, and 3 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. But due to the presence of well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-981
Figures: 1 and 3
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge), Ross loam (Ro)
Size: 45 m N/S x 90 m E/W
Surface Visibility: 20 - 40%
Artifacts: 5 unmodified flakes (Fall Creek), 1 grit tempered body sherd, and 5 fire-cracked rocks

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. But due to the presence of well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-982
Figures: 1 and 3
Period: Unknown Prehistoric
Type: Lithic scatter
Location: [redacted]
Soil: Genesee silt loam (Ge)
Size: 40 m N/S x 105 m E/W
Surface Visibility: 30%
Artifacts: 1 unmodified flake (Fall Creek), and 6 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. But due to the presence of well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-983
Figures: 1 and 3
Period: Unknown Prehistoric
Type: Lithic Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge)
Size: 40 m N/S x 75 m E/W
Surface Visibility: 30%
Artifacts: 1 modified flake (Fall Creek) and 4 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-984
Figures: 1 and 3
Period: Late Woodland
Type: Lithic scatter
Location: [redacted]
Soil: Ross loam
Size: 60 m E/W x 240 m N/S
Surface Visibility: 30 to 50%
Artifacts: 48 unmodified flakes (46 Fall Creek, 2 Attica), 3 modified flakes (Fall Creek), 1 core (Fall Creek), 1 Triangular point (Fall Creek), 6 grit tempered body sherds.
Discussion: The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-985
Figures: 1 and 3
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge), Ross loam (Ro)
Size: 60 to 150 m E/W x 380 m N/S
Surface Visibility: 0 to 50%
Artifacts:

From the 5/23/02 survey: 15 unmodified flakes (14 Fall Creek, 1 unknown), 1 celt fragment , 1 point fragment and 150+ fire-cracked rock.

From other walkovers: 18 unmodified flakes (17 Fall Creek, 1 Wyandotte), 13 grit tempered body sherds, 1 grit tempered rim (decorated), 1 perforator fragment, 1 point fragment (Fall Creek), 1 Commissary point (Fall Creek), 2 Triangular points and 1 anvil.

From the shovel probes: 56 unmodified flakes (54 Fall Creek, 2 Attica), 6 modified flakes (Fall Creek), 2 block flakes (Fall Creek), 1 core (quartzite), 1 point fragment (Fall Creek), 39 grit tempered body sherds, and 1 grit tempered neck sherd (decorated).

From the units: 155 unmodified flakes (136 Fall Creek, 10 Attica, 3 Indian Creek, 2 Allens Creek, 2 Wyandotte, 1 quartzite, 1 unknown), 7 modified flakes (6 Fall Creek, 1 Attica), 2 block flakes (Fall Creek), 2 bifaces (Fall Creek), 1 point fragment (Fall Creek), 2 Triangular points, 1 hammerstone (quartzite), 172 grit tempered body sherds, 1 leeched limestone body sherd, 4 grit tempered rim sherds and 17 fire-cracked rocks.

Discussion: The site was surveyed on 5/23/02 and non systematically walked several times between 5/28/02 and 6/11/02. The wooded section of the site was shovel probed. Four 1 m^2 units were excavated in the woods. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-986
Figures: 1 and 3
Period: Woodland
Type: Scatter
Location: [redacted]

Soil: Genesee silt loam (Ge), Ross loam (Ro)
Size: 60 to 120 m E/W x 240 m N/S
Surface Visibility: 20 to 50%
Artifacts: 24 unmodified flakes (22 Fall Creek, 1 Attica, 1 Allens Creek), 2 modified flakes (Fall Creek), 1 hammerstone, 1 point fragment (Fall Creek), 2 grit tempered pottery sherds and 100+ fire-cracked rock.

Discussion: The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-987
Figures: 1 and 3
Period: Early Archaic, Middle Woodland, Late Woodland
Type: Lithic scatter
Location: [redacted]
Soil: Genesee silt loam (Ge), Ross loam (Ro)
Size: 60 to 240 m E/W x 500 m N/S
Surface Visibility: 0 to 40% (5/23/02) and 90-95% (after 6/4/02)
Artifacts:

From Area A: 99 unmodified flakes (98 Fall Creek, 1 Wyandotte), 7 modified flakes (Fall Creek), 4 cores (Fall Creek), 1 bipolar (unknown), 2 other chipped stone, 3 point fragments (Fall Creek), Snyders point (Flint Ridge), 6 Triangular points (Fall Creek), 57 grit tempered body sherds, 2 grit temper neck sherds and 1 grit tempered rim sherd.

From Area B: 25 unmodified flakes (Fall Creek), 2 modified flakes (1 Indian Creek, 1 Fall Creek), 1 core (Fall Creek), 3 grit tempered body sherds.

From Area C: 30 unmodified flakes (Fall Creek), 1 modified flake (Fall Creek), 1 core (Fall Creek), 1 Triangular point (Fall Creek), 1 grit tempered body sherd.

From Area D: 27 unmodified flakes (24 Fall Creek, 2 Laurel, 1 Indian Creek), 1 modified flake (unknown), 1 Early Archaic point fragment (Fall Creek) and 1 Triangular point (Fall Creek).

75 fire-cracked rock were found across the site.

Discussion: The site was surveyed on 5/23/02 and rewalked non-systematically several times. Due to the large size of the site, the artifacts were kept separate by four areas (A - D). The highest concentration of artifacts and most of the pottery was found at the southern end of the site in Area A. The site probably extends pas the runway to the north, but this area was designated as 12-H-988. The artifact were not kept separate by date. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-988
Figures: 1 and 3
Period: Late Archaic, Woodland, Historic
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Ninevah loam, 0 to 2% slopes (NnA)
Size: 90 m N/S x 225 m E/W
Surface Visibility: 0 to 50% (5/28/02) and 90-95% (6/6/02)
Artifacts:

From the 5/28/02 survey: 48 unmodified flakes (46 Fall Creek, 2 quartzite), 3 modified flakes (1 Fall Creek, 1 Attica, 1 Indian Creek), 1 core (Fall Creek), 1 bipolar (Fall Creek), and 5 grit tempered body sherds.

From the 6/6/02 survey of Area A: 22 unmodified flakes (21 Fall Creek, 1 Attica) 2 cores (Fall Creek), 1 Stage 2 biface (Fall Creek) and 50 fire-cracked rock.

From the 6/6/02 survey of Area B: 17 unmodified flakes (16 Fall Creek, 1 quartzite), 1 modified flake (Fall Creek), 1 core (Fall Creek), 1 biface fragment (Attica), 1 Stage 3 biface (Fall Creek), 2 point fragments (Fall Creek), 1 grit tempered body sherd and 50 fire-cracked rock.

From the 6/6/02 survey of Area C: 54 unmodified flakes (49 Fall Creek, 1 quartzite, 1 Attica, 1 Allens Creek, 2 Indian Creek), 5 modified flakes (Fall Creek), 3 cores (Fall Creek), 1 bipolar (Fall Creek), 2 biface fragments (Fall Creek), 1 Stage 3 biface (Fall Creek), 1 Riverton point and 50 fire-cracked rock.

Discussion: The site was initially surveyed on 5/28/02 and all artifacts from the site were lumped together. The site was resurveyed on 6/6/02 after the field was disked and the artifacts were kept separate by 3 areas (A-C). The site appears to extend to the south across the runway and was designated as 12-H-987. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-989
Figures: 1 and 3
Period: Late Woodland
Type: Lithic scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 45 m N/S x 45 m E/W
Surface Visibility: 40% (5/28/02) and 90-95% (6-6-02)
Artifacts: 42 unmodified flakes (Fall Creek), 1 modified flake (Fall Creek), 1 block flake (quartzite), 3 cores (Fall Creek), 2 Stage 3 bifaces (Fall Creek), 1 point fragment (Fall Creek), 2 Triangular points (Fall Creek) and 15 fire-cracked rock.
Discussion: The site was surveyed on 5/28/02 and resurveyed on 6/6/02 after the field was disked. Artifacts were not kept separate by collection date. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-990
Figures: 1 and 3
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge), Ross loam (Ro), Shoals silt loam (Sh)
Size: 120 m N/S x 240 m E/W
Surface Visibility: 40% (5/28/02) and 90-95% (6-6-02)
Artifacts:

From Area A: 41 unmodified flakes (40 unmodified flakes, 1 quartzite), 2 modified flakes (1 Indian Creek, 1 unknown), 1 block flake (Fall Creek), 1 bipolar (Fall Creek), 1 other chipped stone, 1 Triangular point (unknown), 3 grit temper body sherds, 1 burned bone fragment and 100+ fire-cracked rock.

From Area B: 62 unmodified flakes (53 Fall Creek, 4 Allens Creek, 4 quartzite, 1 Attica), 15 modified flakes (Fall Creek), 7 cores (6 Fall Creek, 1 quartzite), 1 other chipped stone, 1 anvil, 1 Stage 2 biface (Fall Creek), 2 Stage 3 bifaces (Fall Creek), 1 perforator (Fall Creek), 4 Triangular points (3 Fall Creek, 1 Indian Creek), 4 grit tempered body sherds, 1 grit temper neck sherd, 4 burned bone fragments, and 100+ fire-cracked rock.

Discussion: The site was surveyed on 5/28/02 and resurveyed on 6/6/02 after the field was disked. Artifacts were not kept separate by collection date. Due to the large size of the site, the materials were separated into 2 areas (A & B). Area B had a larger quantity of artifacts. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-991
Figures: 1 and 3
Period: Early Archaic, Late Woodland
Type: Scatter
Location: U[redacted]
Soil: Ross loam (Ro)
Size: 45 m N/S x 60 m E/W
Surface Visibility: 40% (5/28/02) and 90-95% (6-6-02)
Artifacts: 45 unmodified flakes (41 Fall Creek, 1 quartzite, 1 Attica, 1 Allens Creek, 1 unknown), 6 modified flakes (4 Fall Creek, 1 quartzite, 1 Indian Creek), 3 cores (Fall Creek), 2 bipolar (Fall Creek), 1 other chipped stone, 1 hammerstone, 1 biface fragment (unknown), 1 Triangular point (Fall Creek), 1 Hardin Barbed (Fall Creek), 3 grit tempered body sherds, 1 grit tempered rim sherds, and 25 fire-cracked rock.
Discussion: The site was surveyed on 5/28/02 and resurveyed on 6/6/02 after the field was disked. Artifacts were not kept separate by collection date. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-992
Figures: 1 and 3
Period: Late Archaic, Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 75 m N/S x 180 m E/W
Surface Visibility: 40% (5/28/02) and 90-95% (6-6-02)

Artifacts: 62 unmodified flakes (43 Fall Creek, 16 quartzite, 1 Attica, 1 Allens Creek, 1 unknown), 8 modified flakes (Fall Creek), 2 cores (Fall Creek), 1 hammerstone, 1 Table Rock point (Zaleski), 1 Triangular point (Fall Creek), 2 grit tempered body sherds and 25 fire-cracked rock.

Discussion: The site was surveyed on 5/28/02 and resurveyed on 6/6/02 after the field was disked. Artifacts were not kept separate by collection date. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-993

Figures: 1 and 4

Period: Late Archaic, Middle Woodland, Late Woodland, Historic

Type: Scatter

Location: [redacted]

Soil: Ross loam (Ro), Genessee silt loam (Ge), Fox loam, 0 to 2% slopes (FnA) and Neneveh loam, 0 to 2% slopes (NnA).

Size: 240 - 425 m N/S x 730 m E/W (800 - 1400' x 2400')

Surface Visibility: 90 - 95%

Artifacts:

From Area A: 14 unmodified flakes (13 Fall Creek, 1 quartzite), 4 modified flakes (Fall Creek), 2 cores (Fall Creek), 1 Stage 2 biface (Fall Creek) 1 Triangular point (Fall Creek), 1 grit tempered body sherd, 1 girt tempered neck sherd, 2 burned bones and 20 fire-cracked rock.

From Area B: 8 unmodified flakes (7 Fall Creek, 1 quartzite), 2 modified flakes (Fall Creek), 2 other chipped stone and 40 fire-cracked rocks.

From Area C: 354 unmodified flakes (319 Fall Creek, 26 quartzite, 3 Wyandotte, 2 Delaware, 2 unknown, 1 Indian Creek, 1 Attica), 51 modified flakes (48 Fall Creek, 3 Attica), 16 cores (14 Fall Creek, 1 Attica, 1 Wyandotte), 4 other chipped stone, 3 bipolar (2 Fall Creek, 1 unknown), 4 biface fragments (3 Fall Creek, 1 unknown), 2 Stage 2 bifaces (1 Attica, 1 Fall Creek), 2 Stage 3 bifaces (Fall Creek), 5 point fragments (3 Fall Creek, 1 Wyandotte, 1 Laurel), 1 Unclassified point (Fall Creek), 1 Late Archaic Contracting Stem (Fall Creek), 6 Triangular points (Fall Creek), 53 grit tempered body sherds, 1 grit tempered neck sherd, 3 grit tempered rim sherds, 1 redware, 1 burned bone and 250+ fire-cracked rock.

From Area D: 127 unmodified flakes (118 Fall Creek, 2 Indian Creek, 7 quartzite), 21 modified flakes (20 Fall Creek, 1 unknown), 1 block flake (Fall Creek), 6 cores (Fall Creek), 1 other chipped stone, 2 biface fragments (Fall Creek), 2 Stage 2 bifaces (1 Attica, 1 Fall Creek), 1 perforator (Fall Creek), 2 point fragments (Fall Creek), 4 Triangular points (Fall Creek), 13 grit tempered body sherds, 1 grit tempered neck sherd, 1 coal and 200+ fire-cracked rock.

From Area E: 42 unmodified flakes (38 Fall Creek, 3 Attica, 1 Wyandotte), 4 modified flakes (3 Fall Creek, 1 Indian Creek), 2 cores (Fall Creek), 1 other chipped stone, 1 biface fragment (Fall Creek), 1 Stage 2 biface (Fall Creek), 1 point fragment (Fall Creek), 1 Triangular point (Attica), 7 grit tempered body sherds and 75 fire-cracked rocks.

From Area F: 78 unmodified flakes (67 Fall Creek, 9 quartzite, 2 Attica), 23 modified flakes (22 Fall Creek, 1 unknown), 1 bipolar (Fall Creek), 4 cores (Fall Creek), 1 end scraper (Allens Creek), 1 biface fragment (Fall Creek), 1 point fragment (Fall Creek), 1 bladelet (Flint Ridge), 2 Triangular points (1 Indian Creek, 1 unknown), 24 grit tempered body sherds, 1 shell tempered body sherd, 2 grit tempered rim sherds, 2 burned bone and 100 fire-cracked rock.

Discussion: Due to the large size of the site, the materials were separated into 6 areas (A - F). Area F was a concentration of artifacts. A geoarchaeological survey by ISUAL encountered 2 prehistoric features at the base of the plowzone within the boundaries of this site (Cantin et al. 2003). The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-994

Figures: 1 and 3

Period: Late Woodland

Type: Scatter

Location: [redacted]

Soil: Ross loam (Ro), Shoals silt loam (Sh)

Size: 30 m N/S x 60 m E/W

Surface Visibility: 90%

Artifacts: 15 unmodified flakes (13 Fall Creek, 1 quartzite, 1 Attica), 1 Triangular point (quartzite), 1 grit tempered body sherd and 10 fire-cracked rock.

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers of Historic Places. Due to the presence of well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-995
Figures: 1 and 4
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge)
Size: 10 m E/W x 10 m N/S
Surface Visibility: 95%
Artifacts: 1 perforator (Fall Creek) and 5 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-996
Figures: 1 and 4
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Genesee silt loam (Ge), Shoals silt loam (Sh)
Size: 30 m N/S x 90 m E/W
Surface Visibility: 90%
Artifacts: 3 unmodified flakes (Fall Creek), 1 core (Fall Creek) and 10 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-997
Figures: 1 and 4
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Shoals silt loam (Sh)
Size: 30 - 240 m E/W x 240 m N/S
Surface Visibility: 90%

Artifacts: 66 unmodified flakes (54 Fall Creek, 8 quartzite, 1 Attica, 1 Flint Ridge, 1 Wyandotte, 1 Indian Creek), 8 modified flakes (6 Fall Creek, 1 Indian Creek, 1 quartzite), 3 bipolar (Fall Creek), 3 cores (unknown), 1 biface fragment (Attica), 1 Stage 4 biface (Fall Creek), 1 point fragment (Fall Creek), 6 Triangular points (5 Fall Creek, 1 unknown), 1 hammerstone/anvil, 1 grit tempered body sherd and 70 fire-cracked rock.

Discussion: The site appears to extend to the south across the runway and was designated as 12-H-1007. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-998

Figures: 1 and 4

Period: Early Archaic

Type: Scatter

Location: [redacted]

Soil: Ross loam (Ro), Shoals silt loam (Sh)

Size: 15 - 75 m E/W x 210 m N/S

Surface Visibility: 90%

Artifacts: 14 unmodified flakes (13 Fall Creek, 1 quartzite), 1 modified flake (Fall Creek), 1 Kanawha point (Fall Creek), and 30 fire-cracked rock.

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-999

Figures: 1 and 4

Period: Unknown Prehistoric, Historic

Type: Scattee

Location: [redacted]

Soil: Ross loam (Ro)

Size: 30 - 90 m E/W x 120 m N/S

Surface Visibility: 90%

Artifacts: 30 unmodified flakes (25 Fall Creek, 2 quartzite, 1 Attica, 1 Allen's Creek), 1 clear embossed container glass, 1 cobalt blue container glass, 2 stoneware, 1 tooth fragment, 2 bones, 1 burned bone and 10 fire-cracked rock

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1000
Figures: 1 and 4
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 60 m N/S x 365 m E/W
Surface Visibility: 90-95%
Artifacts: 44 unmodified flakes (36 Fall Creek, 8 quartzite), 3 modified flakes (Fall Creek), 1 core (Fall Creek), 1 Stage 3 biface (Fall Creek), 1 point fragment (Fall Creek), 2 Triangular points (Fall Creek), 1 anvil, 5 grit tempered body sherds, 1 aqua container glass, 2 amber container glass, 1 green container glass, 3 stoneware, 6 coal and 50 fire-cracked rock
Discussion: The site appears to extend to the south across the runway and was designated as 12-H-1009. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-1001
Figures: 1 and 4
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Shoals silt loam (Sh)
Size: 45 m E/W x 120 m N/S
Surface Visibility: 95%
Artifacts: 7 unmodified flakes (6 Fall Creek, 1 Attica), 1 core and 20 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1002
Figures: 1 and 4
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Shoals silt loam (Sh)
Size: 60 - 120 m E/W x 120 m N/S
Surface Visibility: 90%
Artifacts: 30 unmodified flakes (27 Fall Creek, 2 quartzite, 1 Attica), 9 modified flakes (8 Fall Creek, 1 quartzite), 7 cores (4 Fall Creek, 2 Attica, 1 quartzite), 1 Stage 2 biface (Fall Creek), 1 perforator (Indian Creek), 1 grit temper body sherd and 35 fire-cracked rocks
Discussion: The site appears to extend to the south across the runway and was designated as 12-H-1006. The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-1003
Figures: 1 and 4
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 45 m E/W x 135 m N/S
Surface Visibility: 95%
Artifacts: 14 unmodified flakes (10 Fall Creek, 3 quartzite, 1 Indian Creek), 2 modified flakes (1 Indian Creek, 1 Fall Creek), 1 core (Fall Creek), 1 Unclassified side notched point (unknown) and 20 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1004
Figures: 1 and 4
Period: Late Woodland
Type: Scatter
Location: [redacted]
U
Soil: Ross loam (Ro)
Size: 30 m N/S x 60 m E/W
Surface Visibility: 90%
Artifacts: 5 unmodified flakes (4 Fall Creek, 1 Attica), 1 Triangular point (quartzite) and 10 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1005
Figures: 1 and 2
Period: Early Woodland, Late Woodland, Historic
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro) and Sloan silty clay loam, sandy substratum (Sx)
Size: 60 m E/W x 320 m N/S
Surface Visibility: 80%
Artifacts: From Area A: 67 unmodified flakes (59 Fall Creek, 4 Attica, 4 quartzite), 14 modified flakes (11 Fall Creek, 1 Attica, 1 Indian Creek, 1 quartzite), 4 cores (3 Fall Creek, 1 quartzite), 1 bipolar (Indian Creek), 2 bifaces (1 Indian Creek, 1 Allen's Creek), 1 other chipped stone, 1 bifacial endscraper (Fall Creek), 1 Robbins point (Wyandotte), 2 point fragments (1 Burlington, 1 Fall Creek), 7 grit temper body sherds, 3 coal/slag, 1 green glass, 1 metal fragment and 125+ fire-cracked rock
From Area B: 76 unmodified flakes (62 Fall Creek, 12 quartzite, 2 Attica), 28 modified flakes (25 Fall Creek, 2 Indian Creek, 1 Burlington), 4 cores (3 Fall Creek, 1 quartzite), 1 bipolar (Fall Creek), 2 hammerstone/anvil, 1 other chipped stone, 1 perforator (Fall Creek), 2 triangular bifaces (1 Fall Creek, 1 quartzite), 3 Triangular points (Fall Creek) and 75+ fire-cracked rock
Discussion: Due to the large size of the site, the materials were separated into 2areas (A & B). The site appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-1006
Figures: 1 and 2
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Shoals silt loam (Sh)
Size: 35 m N/S x 165 m E/W
Surface Visibility: 80%
Artifacts: 13 unmodified flakes (10 Fall Creek, 3 quartzite), 3 cores (2 Fall Creek, 1 Plummer), 1 biface fragment (Fall Creek), 1 hammerstone, 1 grit tempered rim sherd, 3 fire-cracked rock
Discussion: The site appears to extend to the north across the runway and was designated as 12-H-1002. This site in conjunction with site 12-H-1002 appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance

Site: 12-H-1007
Figures: 1 and 2
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Shoals silt loam (Sh)
Size: 30 m N/S x 135 m E/W
Surface Visibility: 80%
Artifacts: 12 unmodified flakes (11 Fall Creek, 1 quartzite), 1 modified flake (Fall Creek), 1 core (Fall Creek), 1 grit tempered body sherd and 4 fire-cracked rock
Discussion: The site appears to extend to the north across the runway and was designated as 12-H-997. This site in conjunction with site 12-H-997 appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance

Site: 12-H-1008
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Fin
Location: [redacted]
Soil: Ross loam (Ro)
Size: Isolate
Surface Visibility: 80%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1009
Figures: 1 and 2
Period: Middle Woodland, Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Sloan silty clay loam, sandy substratum (Sx)
Size: 55 m N/S x 230 m E/W
Surface Visibility: 80%
Artifacts: 16 unmodified flakes (Fall Creek), 1 block flake (quartzite), 7 modified flakes (6 Fall Creek, 1 quartzite), 1 core (Fall Creek), 1 point fragment (Fall Creek), 1 Middle Woodland Expanding Stem (Fall Creek), 1 anvil, 5 grit tempered body sherds and 50 fire-cracked rock
Discussion: The site appears to extend to the north across the runway and was designated as 12-H-1000. This site in conjunction with site 12-H-1000 appears to be potentially eligible for listing on the State or National Register of Historic Places. The site is also located on well drained alluvial soils. Testing of the surface site and a more extensive subsurface reconnaissance are recommended to further evaluate subsurface deposits and the site's significance.

Site: 12-H-1010
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 10 m N/S x 10 m E/W
Surface Visibility: 80%
Artifacts: 2 unmodified flakes (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1011
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 15 m N/S x 15 m E/W
Surface Visibility: 80%
Artifacts: 4 unmodified flakes (Fall Creek, 2 quartzite), 1 bipolar (unknown), 1 Stage 2 biface (Fall Creek), 1 tooth fragment and 3 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1012
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Ross loam (Ro)
Size: Isolate
Surface Visibility: 80%
Artifacts: 1 graver
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1013
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Ross loam (Ro)
Size: Isolate
Surface Visibility: 80%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1014
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Sloan silty clay loam, sandy substratum (Sx)
Size: 20 m N/S x 30 m N/S
Surface Visibility: 60%
Artifacts: 6 unmodified flakes (Fall Creek) and 1 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1015
Figures: 1 and 2
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 30 m N/S x 60 m E/W
Surface Visibility: 80%
Artifacts: 5 unmodified flakes (Fall Creek), 2 Stage 2 bifaces (1 Attica, 1 quartzite), 1 grit tempered body sherd and 5 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1016
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Ross loam (Ro)
Size: Isolate
Surface Visibility: 80%
Artifacts: 1 unmodified flake (quartzite)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1017
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Ross loam (Ro)
Size: Isolate
Surface Visibility: 80%
Artifacts: 1 unmodified flake (Attica)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1018
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 30 m N/S x 45 m E/W
Surface Visibility: 80%
Artifacts: 4 unmodified flakes (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1019
Figures: 1 and 2
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 30 m N/S x 45 m E/W
Surface Visibility: 80%
Artifacts: 3 unmodified flakes (2Fall Creek, 1 Attica) and 1 Triangular point
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1020
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 10 m N/S x 10 m E/W
Surface Visibility: 80%
Artifacts: 2 unmodified flakes (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1067
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro), Sloan silty clay loam, sandy substratum (Sx)
Size: 30 m N/S x 40 m E/W
Surface Visibility: 60%
Artifacts: 9 unmodified flakes (8 Fall Creek, 1 quartzite), 1 modified flake and 4 fire-cracked rocks

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Since the site is located on well drained alluvial soils, a subsurface reconnaissance is recommended to determine if subsurface archaeological deposits exist.

Site: 12-H-1068
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: Isolate
Surface Visibility: 60%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1069
Figures: 1 and 2
Period: Unknown Prehistoric, Historic
Type: Scatter
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 15 m N/S x 30 m E/W
Surface Visibility: 60%
Artifacts: 5 unmodified flakes (Fall Creek), 1 stoneware and 1 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1070
Figures: 1 and 2
Period: Woodland
Type: Scatter
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 40 m N/S x 50 m E/W
Surface Visibility: 60%

Artifacts: 11 unmodified flakes (8 Fall Creek, 1 quartzite), 1 modified flake (Fall Creek), 1 grit tempered body sherd, and 5 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1071
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: UT
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: Isolate
Surface Visibility: 60%
Artifacts: 1 unmodified flake (quartzite)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1072
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: UT
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 10 m N/S x 10 m E/W
Surface Visibility: 60%
Artifacts: 1 unmodified flake (Fall Creek) and 1 modified flake (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1073
Figures: 1 and 2
Period: Middle Woodland
Type: Isolated Find
Location: UT
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: Isolate
Surface Visibility: 60%

Artifacts: 1 lamellar bladelet (Flint Ridge)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1074
Figures: 1 and 2
Period: Late Woodland
Type: Scatter
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 20 m N/S x 20 m E/W
Surface Visibility: 60%
Artifacts: 3 unmodified flakes (Fall Creek), 4 modified flakes (3 Fall Creek, 1 Attica), 1 biface (Fall Creek),1 bipolar (Fall Creek), 1 Triangular point (Fall Creek), 1 grit tempered body sherd and 1 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1075
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Ross loam (Ro)
Size: 10 m E/W x 20 m N/S
Surface Visibility: 60%
Artifacts: 3 unmodified flakes (Fall Creek) and 1 core (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1076
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 10 m N/S x 10 m E/W
Surface Visibility: 60%
Artifacts: 2 modified flakes (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1077
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Isolated Find
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: Isolate
Surface Visibility: 60%
Artifacts: 1 unmodified flake (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1078
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 30 m N/S x 30 m E/W
Surface Visibility: 60%
Artifacts: 1 unmodified flake (Fall Creek) and 3 modified flakes (Fall Creek)
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1079
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: UT [redacted]
Soil: Shoals silt loam (Sh)
Size: 20 m N/S x 40 m E/W
Surface Visibility: 60%
Artifacts: 5 unmodified flakes (Fall Creek) and 3 fire-cracked rock
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1080
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: UT [redacted]
Soil: Shoals silt loam (Sh)
Size: 20 m N/S x 60 m E/W
Surface Visibility: 60%
Artifacts: 3 unmodified flakes (Fall Creek), 1 modified flake (quartzite), 1 grit temper body sherd and 4 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1081
Figures: 1 and 2
Period: Unknown Prehistoric
Type: Scatter
Location: UT [redacted]
Soil: Sloan silty clay loam, sandy substratum (Sx)
Size: 30 m N/S x 100 m E/W
Surface Visibility: 60%
Artifacts: 9 unmodified flakes (8 Fall Creek, 1 quartzite), 3 modified flakes (Fall Creek), 1 perforator fragment (Fall Creek) and 10 fire-cracked rocks

Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site: 12-H-1082
Figures: 1 and 2
Period: Middle Woodland
Type: Scatter
Location: [redacted]
Soil: Shoal silt loam (Sh)
Size: 25 m N/S x 50 m E/W
Surface Visibility: 60%
Artifacts: 4 unmodified flakes (3 Fall Creek, 1 Attica), 2 modified flakes (Fall Creek), 1 bipolar (Fall Creek), 1 gorget fragment (Fall Creek), 1 Snyders point (Fall Creek) and 4 fire-cracked rocks
Discussion: The surface site does not appear to be eligible for listing on the State or National Registers. Due to the alluvial soil present, there is a potential for sub-plow zone cultural deposits and a subsurface reconnaissance is recommended.

Site Location Confidential
Not for Public Disclosure

Figure 1. Portion of the Omega and Riverwood 7.5' Indiana Quadrangles showing the location of the sites recorded.

Site Location Confidential
Not for Public Disclosure

Figure 2. Portion of the Omega and Riverwood 7.5' Indiana Quadrangles showing the location of the sites recorded.

Site Location Confidential
Not for Public Disclosure

Figure 3. Portion of the Omega and Riverwood 7.5' Indiana Quadrangles showing the location of the sites recorded.

Site Location Confidential
Not for Public Disclosure

Figure 4. Portion of the Omega and Riverwood 7.5' Indiana Quadrangles showing the location of the sites recorded.

Appendix B

Chipped Stone Artifact Classification

Appendix B
Chipped Stone Artifact Classification

Core. A core is a nucleus of stone exhibiting one or more negative flake scars (Crabtree 1972:54). Objects categorized as cores may range from a simple nucleus with only one negative flake scar to specialized forms with multiple flake removals. Striking platforms may be prepared or unprepared. Cores can be subdivided into more specific types (cf. Monet-White 1963:6-7; Callahan 1979:41; Wepler and Cochran 1983:38-40).

Biface. An artifact with negative flake scars covering both surfaces either partially or wholly is herein termed a biface (Crabtree 1972:38; Tixier 1974:4). As used here, a biface has no modification for hafting and bifaces are viewed as stages in the manufacture of points. In order to avoid confusion, the terms "blank", "blade", and "preform" are not normally applied to bifaces. Blank and preform are general terms that can be applied to a number of manufacturing sequences (e.g., gorget blank or preform, celt blank or preform, etc.). Use of the term blade is restricted to a specific of type flake with parallel sides and a length that is two times greater than width, or a particular portion of a point: the blade element. In the latter case, the term is only used when discussing points. Callahan (1979) separates bifaces into stages or levels of reduction beginning with the selection of the raw material (Stage 1) and continuing through successive levels of refinement (Stages 2, 3, 4, etc.).

Stage 2 Bifaces. A stage 2 biface is defined as "that stage during which the core blank or spall is given an edge . . . or, where the edge is too sharp and low-angled,. . it is thickened so that roughly centered, circumferential edge-angles of between 55 degrees to 75 degrees result. Flake scars may cover less than half of the width of the biface, producing a hexagonal, irregular to thick lenticular cross-section" (Callahan 1979:36).

Stage 3 Bifaces. Stage 3 bifaces represent "that stage (primary thinning) during which a lenticular cross-section is obtained by means of striking so as to drive flakes from the edge to or slightly beyond the center of the biface, contacting or slightly undercutting similar flake scars taken from the opposite margin. . . . Aligned, centered edge-angles of between 40 and 60 degrees should result so that secondary thinning may be effected subsequently" (Callahan 1979:37).

Stage 4 Bifaces. Stage 4 bifaces represent "that stage (secondary thinning) in which a flattened cross-section is obtained by means of striking flakes so that they considerably undercut prior flake scars from the opposite margin and so that the width/thickness ratio is made to fall between roughly 4.00 and 5.00 or more. Aligned, centered edge-angles of between 25 and 45 degrees and surfaces without significant humps, hinges, step-fractures, or median convexity. . ." (Callahan 1979:37).

Biface Fragment. Biface fragments consist of various portions of bifaces broken either during manufacture or through use.

Flake. A flake is "any piece of stone removed from a larger mass by the application of force - either intentional, accidentally, or by nature" (Crabtree 1972:64).

Unmodified Flakes. Artifacts in this class have one or more positive or negative flake attributes (Watson 1956:17; Oakley 1957:16). Flake margins show no evidence of use or retouch.

Notch Flakes. A notch flake is "the result of pressure flaking to remove notches along the basal and/or lateral margins of a biface in order to create a hafting element" (Austin 1986:96). They are defined as having "a peculiar half-cone shape" (Waldorf 1984:35) that makes them distinctive. "The most recognizable and distinctive characteristic of the flake is the presence of a recessed, U-shaped platform. While most flakes exhibit a relatively straight, continuous margin at the juncture of the striking platform and dorsal flake surface, the notching flake is typified by a deep, semi-circular scallop which is the result of prior notching" (Austin 1986:96).

Block Flakes. Block flakes are sharp-edged, irregularly shaped pieces of isotropic stone that lack a striking platform, a positive or negative bulb of percussion, compression rings, or any other attribute associated with conchoidal fracture. Block flakes may occur naturally through frost cracking or uncontrolled heating (Watson 1956:19-21: Oakley 1956:9-11). They can also be produced during chipped stone reduction where the raw material has been exposed to either of the above processes or when the material breaks along internal planes of weakness. In an archaeological assemblage, block flakes would occur in greater percentages where early stages of reduction occurred.

Edge Modified Flakes. Edge modified flakes are unspecialized flake tools distinguished by regular edge wear or retouch. The former is most often recognized as a continuous row of small flakes removed along one flake edge. Flake margins can be modified during cultivation of a site, by lake shore erosion, spontaneous retouch during lithic reduction, and a variety of other natural and mechanical processes. Retouched flakes can represent one resharpening of a dulled flake margin to conservation of a flake through extensive resharpening. objects in this class are usually not morphologically distinct, and the class encompasses a wide range of diversity in size, shape, and construction of the retouched edge or edges. It is not normally possible to distinguish between prehistoric utilization and edge damage resulting from other causes without microscopic examination of all flake margins. For this classification, all flakes with regular edge modification were sorted into this class.

Blades. A blade is a specialized flake that has more-or-less parallel sides and is at least twice as long as it is wide. Thickness varies little along the length of the blade. Blades also have straight, parallel, or converging ridges on the dorsal surface (Movius et al. 1968:4; Crabtree 1972:42)

Gravers. A flake, blade or other artifact that exhibits one or more small sharp points (graver spurs) intentionally retouched from one or more margins of the artifact is classified as a graver (Crabtree 1972:68: Nero 1957:300). The retouching that isolates the graver spur may be unifacial or bifacial.

Denticulate. Artifacts in this class are distinguished by a toothed or serrated edge created by the alternating removal of a series of flakes from the margin of a flake, biface or core (Crabtree 1972:58). Cores with unprepared platform edges and nonmarginal areas of applied force may exhibit "denticulate" edges but are not included in this class.

Endscraper. Endscrapers are a morphologically distinct unifacial tool form resulting from the concentration of retouch on one end of a flake or blade (Crabtree 1972:60; Movius et al. 1968:9).

Point. A point is "any bifacially flaked, bilaterally symmetrical, chipped stone artifact exhibiting a point of juncture on one (distal) end and some facility (notching, constriction, lateral grinding) for hafting on the opposite (proximal) end. Thus, *point* is a morphological defined class of chipped stone tool, and the term . . . does not convey any particular functional interpretation" (Ahler and McMillan 1976:165).

Point Fragments. Broken portions of points are sorted into this category. Hafting elements from broken points are, however, when distinctive, classified as points.

Perforator. "Bifacially chipped stone artifacts or artifact fragments with extremely narrow, parallel-sided blades and steep angled lateral edges are classified as perforators" (Ahler and McMillan 19766:179). Perforators are equivalent to artifacts frequently referred to as drills. Perforator is herewith preferred due to the more generalized suggestion of function as a piercing tool. Some artifacts in this class may represent exhausted cutting tools.

Bipolar Artifacts. This category includes those artifacts that are the result of bipolar flaking. Bipolar flaking involves resting a stone nucleus on an anvil and striking the nucleus with a hammerstone or billet (Flenniken 1982:32). The artifacts that result from bipolar flaking include bipolar cores (Hayden 1980:23), bipolar flakes (Kobuyashi 1975), and pieces esquillees (Hayden 1980:2-3). Bipolar cores exhibit opposing striking platforms of several types (Binford and Quimby 1964) and prominent negative flake scars. Bipolar flakes consist of the flakes detached during bipolar flaking. *Pieces esquilles* are similar to bipolar cores except that they exhibit opposing ridge striking platforms and lack prominent negative flake scars; pieces esquillee tend to be rectangular while bipolar cores may exhibit any number of forms.

There is confusion in the archaeological literature in the use of the terms "bipolar core" and "*pieces esquillee*". Some investigators use them interchangeably while others designate all bipolar nuclei as *pieces esquillee* (Hayden 1980). For the purposes of this classification, all bipolar artifacts are grouped under the single heading "bipolar artifact".

References Cited

Ahler, Stanley, and R. Bruce McMillan
1976 Material Culture at Rodgers Shelter: A Reflection of Past Human Activities. In *Prehistoric Man and His Environments*, edited by W. Raymond Wood and R. Bruce McMillan, pp. 163-200. Academic Press, New York

Austin, Robert J.
1986 The Experimental Reproduction and Archaeological Occurrence of Biface Notching Flakes. *Lithic Technology* 15(3):96-100.

Binford, Lewis, and George I. Quimby
1972 Indian Sites and Chipped Stone Materials in the Northern Lake Michigan Area (Reprint of the 1963 report) in *An Archaeological Perspective*, edited by Lewis R. Binford. Academic Press, New York.

Callahan, Errett
1979 The Basics of Biface Knapping in the Eastern Fluted Point Tradition: A Manual for Flintknappers and Lithic Analysts. *Archaeology of Eastern North America* 7(l):I-180.

Cochran, Donald R.
1986 Artifact Class Definitions, Appendix 1, in An Archaeological Survey on the Wabash Moraine: A Study of Prehistoric Site and Artifact Density in the Upper Wabash Drainage, by Donald R. Cochran and Jeanette Buehrig. *Reports of Investigation* 15, Archaeological Resources Management Service, Ball State University, Muncie.

Crabtree, Don E.
1972 An Introduction to Flint-working. *Occasional Papers* 28. Idaho State Museum, Pocatello

Fitting, James E.
1967 The Camp of the Careful Indian. *Papers of the Michigan Academy of Science, Arts and Letters* 52:237242.

Flenniken, Jeffrey J.
1981 Replicative Systems Analysis: A Model Applied to the Vein Quartz Artifacts from the Hoko River Site. *Reports of Investigation* 59. Laboratory of Anthropology, Washington State University.

Hayden, Brian
1980 Confusion in the Bipolar World: Bashed pebbles and Splintered Pieces. *Lithic Technology* 9(1):2-7.

Kobayashi, H.
1975 The Experimental Study of Bipolar Flakes. In *Lithic Technology*, edited by E. Swanson, pp. 115-128. Mouton, The Hague.

Movius, Hallan L., Jr., Nicholas c. David, Harvey M. Bricker, and Berle Clay
1968 The Analysis of Certain Major Classes of Upper Paleolithic Tools. *Bulletin No.* 26. American School of Prehistoric Research, Peabody Museum, Harvard University, Cambridge, Massachusetts.

Nero, Robert W.
1957 A "Graver" Site in Wisconsin. *American Antiquity* 22 (3) : 300-304.

Oakley, Kenneth
1957 *Man the Toolmaker*. University of Chicago Press, Chicago.

Titmus, Gene L.
1985 Some Aspects if Stone Tool Notching. In *Stone Tool Analysis,* Mark G. Plew, James C. Woods and Max G. Pavesic, eds. University of New Mexico Press, Albuquerque.

Tixier, J.
1974 Glossary for the Description of Stone Tools, with Special Reference to the Epipalaeolithic of the Maghreb. Translated by M. H. Newcomer. *Special Publication 1. Newsletter of Lithic Technology*, Pullman, Washington.

Waldorf, D. C.
1984 *The Art of Flintknapping*, Third Edition, Mound Builder Books, Branson, MO.

Watson, William
1956 *Flint Implements*. The Trustees of the British Museum, London.

Wepler, William., and Donald R. Cochran
1983 An Archaeological Assessment of Huntington Reservoir: Identification, Prediction, Impact. *Reports of Investigation* 10. Archaeological Resources Management Service, Ball State University, Muncie.

White, A. M., L. Binford, and M. Papworth
1963 Miscellaneous Studies in Typology and Classification. *Anthropological Papers* 19. Museum of Anthropology, University of Michigan, Ann Arbor.

Appendix C

Catalog of Survey Collection

Appendix C
Catalog of Survey Collections

Site No	Catalog No	Identification	Raw Material	No
12-H-935	12-H-935-01	unmodified flake	Fall Creek	1
12-H-935	12-H-935-02	modified flake	Fall Creek	1
12-H-936	12-H-936-01	modified flake	Fall Creek	2
12-H-936	12-H-936-02	unmodified flake	Fall Creek	1
12-H-936	12-H-936-03	bipolar artifact	Fall Creek	1
12-H-937	12-H-937-01	Hi-Lo point	Attica	1
12-H-937	12-H-937-02	unmodified flake	Fall Creek	1
12-H-938	12-H-938-01	unmodified flake	Fall Creek	1
12-H-939	12-H-939-01	unmodified flake	Fall Creek	84
12-H-939	12-H-939-01	unmodified flake	Jeffersonville	1
12-H-939	12-H-939-01	unmodified flake	Wyandotte	1
12-H-939	12-H-939-01	unmodified flake	unknown	1
12-H-939	12-H-939-01	unmodified flake	HT, Fall Creek	19
12-H-939	12-H-939-02	modified flake	Fall Creek	7
12-H-939	12-H-939-02	modified flake	Wyandotte	1
12-H-939	12-H-939-02	modified flake	HT, Fall Creek	4
12-H-939	12-H-939-03	bipolar flake	Fall Creek	3
12-H-939	12-H-939-04	core	Fall Creek	7
12-H-939	12-H-939-04	core	HT, Fall Creek	1
12-H-939	12-H-939-05	other chipped stone	Slate	3
12-H-939	12-H-939-06	end scraper	Fall Creek	1
12-H-939	12-H-939-07	point fragment	HT, Fall Creek	1
12-H-939	12-H-939-08	biface, stage 3	Lawrel	1
12-H-939	12-H-939-09	Matanzas point	HT, Fall Creek	1
12-H-939	12-H-939-09	Matanzas point	Fall Creek	1
12-H-939	12-H-939-10	Jack's Reef point	HT, Fall Creek	1
12-H-939	12-H-939-11	bladelet Fragment	Fall Creek	1
12-H-939	12-H-939-12	Metal (corroded)		1
12-H-939	12-H-939-13	Stoneware fragment, brown glaze		1
12-H-940	12-H-940-01	unmodified flake	HT, Fall Creek	1
12-H-941	12-H-941-01	unmodified flake	HT, Fall Creek	3
12-H-941	12-H-941-01	unmodified flake	Fall Creek	1
12-H-941	12-H-941-02	modified flake	Fall Creek	1
12-H-941	12-H-941-03	core	Fall Creek	1
12-H-941	12-H-941-04	biface, stage 2	Fall Creek	1
12-H-942	12-H-942-01	modified flake	HT, Fall Creek	1
12-H-942	12-H-942-01	modified flake	Fall Creek	1
12-H-942	12-H-942-02	core	Fall Creek	1
12-H-942	12-H-942-03	unmodified flake	Fall Creek	5
12-H-942	12-H-942-03	unmodified flake	Attica	2
12-H-943	12-H-943-01	unmodified flake	Fall Creek	3
12-H-943	12-H-943-01	unmodified flake	HT, Fall Creek	2
12-H-943	12-H-943-02	modified flake	Fall Creek	1
12-H-943	12-H-943-02	modified flake	Attica	1
12-H-943	12-H-943-03	biface, stage 4	Fall Creek	1
12-H-944	12-H-944-01	unmodified flake	Fall Creek	4
12-H-944	12-H-944-02	modified flake	Fall Creek	1

12-H-945	12-H-945-01	unmodified flake	Fall Creek	1
12-H-945	12-H-945-01	unmodified flake	Wyandotte	1
12-H-946	12-H-946-01	modified flake	HT, Fall Creek	1
12-H-947	12-H-947-01	unmodified flake	Fall Creek	2
12-H-947	12-H-947-02	unmodified flake	Fall Creek	5
12-H-947	12-H-947-03	bipolar artifact	Fall Creek	1
12-H-948	12-H-948-01	unmodified flake	Fall Creek	2
12-H-948	12-H-948-02	graver	HT, Fall Creek	1
12-H-949	12-H-949-01	Matanzas point fragment	Fall Creek	1
12-H-950	12-H-950-01	unmodified flake	Fall Creek	3
12-H-951	12-H-951-01	unmodified flake	Fall Creek	1
12-H-952	12-H-952-01	modified flake	HT, Fall Creek	1
12-H-953	12-H-953-01	Ironstone, rim fragment		1
12-H-953	12-H-953-02	plastic		2
12-H-953	12-H-953-03	Ironstone, handle		1
12-H-953	12-H-953-04	point fragment	Wyandotte	1
12-H-953	12-H-953-05	whiteware, flow blue		1
12-H-953	12-H-953-06	porcelain, orange glaze		1
12-H-953	12-H-953-07	modified flake	Fall Creek	1
12-H-953	12-H-953-08	unmodified flake	Fall Creek	1
12-H-953	12-H-953-09	shotgun shell, 12 gauge		1
12-H-953	12-H-953-10	glass fragment, yellow mold		1
12-H-953	12-H-953-11	coal, slag		9
12-H-953	12-H-953-12	unmodified flake	Wyandotte	1
12-H-953	12-H-953-13	glass, clear container		1
12-H-953	12-H-953-14	porcelain, polychrome transfer print (floral)		1
12-H-953	12-H-953-15	buff stoneware, brown (ext.) & gray (int.) glaze		1
12-H-953	12-H-953-16	concrete		1
12-H-953	12-H-953-17	porcelain insulator, "knov G-S"		1
12-H-953	12-H-953-18	whiteware, hand painted-green floral		1
12-H-953	12-H-953-19	metal wire, corroded		1
12-H-953	12-H-953-20	buff stoneware, brown glaze		5
12-H-953	12-H-953-21	field tile		7
12-H-953	12-H-953-22	buff stoneware brown glaze(ext)brownglaze(int)		1
12-H-953	12-H-953-23	buff stoneware, brown glaze, base		1
12-H-953	12-H-953-24	mortar		1
12-H-953	12-H-953-25	whiteware, base fragment		3
12-H-953	12-H-953-26	buff stoneware, brown glaze(ext) interior unglazed		1
12-H-953	12-H-953-27	glass, clear bottle lip, molded		1
12-H-953	12-H-953-28	glass, aqua container		5
12-H-953	12-H-953-29	glass, aqua flat		4
12-H-953	12-H-953-30	glass, clear container fragment, molded		1
12-H-953	12-H-953-31	glass, opaque, container		1
12-H-953	12-H-953-32	whiteware		8
12-H-953	12-H-953-33	brick fragment		4
12-H-953	12-H-953-34	whiteware, rim		3
12-H-953	12-H-953-35	milk glass, container fragment, molded		1
12-H-953	12-H-953-36	porcelain, container fragment		1
12-H-953	12-H-953-37	milk glass, canning lid liner		2
12-H-953	12-H-953-38	porcelain, container base		1
12-H-953	12-H-953-39	whiteware, embossed		1

12-H-953	12-H-953-40	buff stoneware, light blue glaze, rim embossed		3
12-H-953	12-H-953-41	glass, amber, container		2
12-H-953	12-H-953-42	horse shoe		1
12-H-953	12-H-953-43	charcoal		1
12-H-953	12-H-953-44	metal harness ring, corroded		1
12-H-953	12-H-953-45	buff stoneware, gray glaze		1
12-H-953	12-H-953-46	buffstonewareclear&brownglaze(ext)brownleadglaz(in		1
12-H-953	12-H-953-47	crescent wrench		1
12-H-953	12-H-953-48	biface fragment	Fall Creek	1
12-H-954	12-H-954-01	point fragment, late archaic barbed cluster	Fall Creek	1
12-H-954	12-H-954-02	unmodified flake	H.T., Fall Creek	1
12-H-955	12-H-955-01	other, chipped stone	slate	1
12-H-955	12-H-955-02	unmodified flake	H.T., unknown	1
12-H-955	12-H-955-03	core	quartzite	1
12-H-955	12-H-955-04	unmodified flake	quartzite	1
12-H-955	12-H-955-05	bipoloar artifact	Fall Creek	1
12-H-955	12-H-955-06	bladelet	unknown (grey-tan)	1
12-H-955	12-H-955-07	end scraper	Fall Creek	1
12-H-955	12-H-955-08	biface fragment	Fall Creek (white)	1
12-H-955	12-H-955-09	biface fragment	Fall Creek (pink)	1
12-H-955	12-H-955-10	point fragment	Wyandotte	1
12-H-955	12-H-955-11	biface, stage 3	Fall Creek	1
12-H-955	12-H-955-12	core	H.T., Fall Creek	1
12-H-955	12-H-955-13	core	Fall Creek	1
12-H-955	12-H-955-14	core	Fall Creek	1
12-H-955	12-H-955-15	core	Fall Creek	1
12-H-955	12-H-955-16	modified flake	H.T., Fall Creek	1
12-H-955	12-H-955-17	modified flake	Fall Creek	8
12-H-955	12-H-955-18	unmodified flake	H.T., Fall Creek	10
12-H-955	12-H-955-19	unmodified flake	Fall Creek	39
12-H-956	12-H-956-01	unmodified flake	Fall Creek	1
12-H-957	12-H-957-01	unmodified flake	Fall Creek	1
12-H-957	12-H-957-02	point fragment	Fall Creek	1
12-H-958	12-H-958-01	biface fragment	Fall Creek	2
12-H-958	12-H-958-02	unmodified flake	Fall Creek	22
12-H-958	12-H-958-02	unmodified flake	H.T., Fall Creek	8
12-H-958	12-H-958-02	unmodified flake	Jeffersonville	1
12-H-958	12-H-958-02	unmodified flake	H.T., Jeffersonville	1
12-H-958	12-H-958-02	unmodified flake	Upper Mercer	1
12-H-958	12-H-958-03	modified flake	Fall Creek	6
12-H-958	12-H-958-04	bipolar artifact	Fall Creek	1
12-H-958	12-H-958-05	core	Fall Creek	1
12-H-958	12-H-958-06	hammerstone	unknown	1
12-H-958	12-H-958-07	other, chipped stone	banded slate	1
12-H-958	12-H-958-08	stoneware, buff paste, brown glaze		1
12-H-958	12-H-958-09	stoneware,buff paste,clearsaltglz(ext)browngIz(int		1
12-H-958	12-H-958-10	metal bucket, corroded		1
12-H-959	12-H-959-01	core	Fall Creek	1
12-H-959	12-H-959-02	block flake	Fall Creek	1
12-H-959	12-H-959-03	unmodified flake	Fall Creek	62
12-H-959	12-H-959-03	unmodified flake	quartzite	1

12-H-959	12-H-959-04	modified flake	Fall Creek	29
12-H-959	12-H-959-04	modified flake	Attica	1
12-H-959	12-H-959-05	other, chipped stone	unknown	2
12-H-959	12-H-959-06	biface, stage 3	Fall Creek	2
12-H-959	12-H-959-07	biface, triangular point	Fall Creek	1
12-H-959	12-H-959-08	point fragment	Fall Creek	1
12-H-959	12-H-959-09	Late Archaic point	Wyandotte	1
12-H-959	12-H-959-10	pottery, body sherd, grit temper, exfoliated		1
12-H-959	12-H-959-11	pottery, rim sherd, grit temper, decorated		1
12-H-960	12-H-960-01	unmodified flake	Attica	1
12-H-961	12-H-961-01	core	Fall Creek	1
12-H-961	12-H-961-02	other, chipped stone	slate	1
12-H-961	12-H-961-03	unmodified flake	Fall Creek	1
12-H-961	12-H-961-04	modified flake	Fall Creek	1
12-H-961	12-H-961-05	unmodified flake	Fall Creek	1
12-H-962	12-H-962-01	unmodified flake	Fall Creek	1
12-H-962	12-H-962-01	unmodified flake	H.T., Fall Creek	1
12-H-962	12-H-962-02	point, triangular, base	Indian Creek	1
12-H-962	12-H-962-03	point, stemmed, unclassified	Fall Creek	1
12-H-962	12-H-962-04	whiteware, blue transfer print		1
12-H-962	12-H-962-05	modified flake	Fall Creek	4
12-H-963	12-H-963-01	point fragment	H.D., Flint Ridge	1
12-H-963	12-H-963-02	St. Charles point	Fall Creek	1
12-H-963	12-H-963-03	modified flake	Fall Creek	3
12-H-963	12-H-963-03	modified flake	H.T., Fall Creek	2
12-H-963	12-H-963-04	clay tile		1
12-H-963	12-H-963-05	unmodified flake	Fall Creek	24
12-H-963	12-H-963-05	unmodified flake	H.T., Fall Creek	4
12-H-963	12-H-963-05	unmodified flake	Attica	1
12-H-963	12-H-963-05	unmodified flake	unknown	1
12-H-963	12-H-963-06	core	Fall Creek	1
12-H-963	12-H-963-07	unmodified flake	Fall Creek	43
12-H-963	12-H-963-07	unmodified flake	H.T., Jeffersonville	1
12-H-963	12-H-963-07	unmodified flake	H.T., Fall Creek	6
12-H-963	12-H-963-07	unmodified flake	Wyandotte	5
12-H-963	12-H-963-08	core	Kenneth	1
12-H-963	12-H-963-08	core	Fall Creek	6
12-H-963	12-H-963-08	core	H.T., Fall Creek	4
12-H-963	12-H-963-09	bipolar artifact	Fall Creek	2
12-H-963	12-H-963-10	hammerstone	unknown	1
12-H-963	12-H-963-11	biface, stage 2	Fall Creek	1
12-H-963	12-H-963-12	biface fragment	Fall Creek	1
12-H-963	12-H-963-13	biface, stage 3	Attica	1
12-H-963	12-H-963-14	end scraper	Fall Creek	1
12-H-963	12-H-963-15	Matanzas point	H.T., Fall Creek	1
12-H-963	12-H-963-16	modified flake	Fall Creek	2
12-H-963	12-H-963-17	modified flake	Fall Creek	1
12-H-963	12-H-963-18	unmodified flake	quartzite	1
12-H-963	12-H-963-19	modified flake	Fall Creek	16
12-H-963	12-H-963-20	modified flake	H.T., Fall Creek	1
12-H-963	12-H-963-20	modified flake	Fall Creek	8

12-H-963	12-H-963-21	Lamoka point	Fall Creek	1
12-H-964	12-H-964-01	unmodified flake	Fall Creek	1
12-H-964	12-H-964-02	point, triangular	Fall Creek	1
12-H-964	12-H-964-03	bipolar artifact	Fall Creek	1
12-H-964	12-H-964-04	core	Fall Creek	1
12-H-964	12-H-964-05	unmodified flake	Fall Creek	4
12-H-965	12-H-965-01	end scraper	Fall Creek	1
12-H-965	12-H-965-02	unmodified flake	Laural	2
12-H-965	12-H-965-03	modified flake	Fall Creek	1
12-H-979	12-H-979-01	unmodified flake	Fall Creek	3
12-H-979	12-H-979-01	unmodified flake	Attica	1
12-H-979	12-H-979-02	modified flake	Fall Creek	1
12-H-979	12-H-979-02	modified flake	Indian Creek	1
12-H-979	12-H-979-03	pottery, body sherd, cord-marked, grit temper		1
12-H-980	12-H-980-01	unmodified flake	Fall Creek	1
12-H-980	12-H-980-02	other, chipped stone		1
12-H-981	12-H-981-01	unmodified flake	Fall Creek	5
12-H-981	12-H-981-02	pottery,bodysherd,cordmarked,grittemper,sandypaste		1
12-H-982	12-H-982-01	unmodified flake	Fall Creek	1
12-H-983	12-H-983-01	modified flake	Fall Creek	1
12-H-984	12-H-984-01	unmodified flake	Fall Creek	46
12-H-984	12-H-984-01	unmodified flake	Attica	2
12-H-984	12-H-984-02	modified flake	Fall Creek	3
12-H-984	12-H-984-03	core	Fall Creek	1
12-H-984	12-H-984-04	point, triangular	Fall Creek	1
12-H-984	12-H-984-05	pottery,bodysherd,grittemper,eroded,sandypaste		4
12-H-984	12-H-984-06	pottery,bodysherd,cordmarked,grittemper,sandypaste		2
12-H-985	12-H-985-01	gorund stone, celt fragment, polished		1
12-H-985	12-H-985-02	unmodified flake	unknown	1
12-H-985	12-H-985-03	unmodified flake	Fall Creek	14
12-H-985	12-H-985-04	point fragment	Fall Creek	1
12-H-985	12-H-985-05	unmodified flake	Fall Creek	13
12-H-985	12-H-985-06	unmodified flake	Wyandotte	1
12-H-985	12-H-985-07	unmodified flake	Fall Creek	4
12-H-985	12-H-985-08	pottery,bodysherd,grittemper,cord-marked		1
12-H-985	12-H-985-09	pottery,bodysherd,grittemper,eroded		1
12-H-985	12-H-985-10	Commisary point	Fall Creek	1
12-H-985	12-H-985-11	point fragment	Fall Creek	1
12-H-985	12-H-985-12	perforator	Fall Creek	1
12-H-985	12-H-985-13	pottery,bodysherd,grit temper,eroded		1
12-H-985	12-H-985-14	pottery,bodysherd,grittemper,cord-marked		2
12-H-985	12-H-985-15	pottry,rmshrd,crdimpressed,grittempr,decrated,tool		1
12-H-985	12-H-985-16	anvil		1
12-H-985	12-H-985-17	point, triangular	Fall Creek	1
12-H-985	12-H-985-18	pottery,bodysherd,cord-marked,grittemper		1
12-H-985	12-H-985-19	point, triangular	Fall Creek	1
12-H-985	12-H-985-20	pottery,bodysherd,eroded,grittemper		4
12-H-985	12-H-985-21	pottery,bodysherd,exfoliated,grittemper		2
12-H-985	12-H-985-22	pottery,bodysherd,cord-marked,grittemper		1
12-H-986	12-H-986-01	unmodified flake	Fall Creek	22
12-H-986	12-H-986-01	unmodified flake	Attica	1

12-H-986	12-H-986-01	unmodified flake	Allens Creek	1
12-H-986	12-H-986-02	modified flake	Fall Creek	2
12-H-986	12-H-986-03	hammerstone		1
12-H-986	12-H-986-04	point fragment	Fall Creek	1
12-H-986	12-H-986-05	pottery,bodysherd,grittemper,exfoliated,sandypaste		1
12-H-986	12-H-986-06	pottery,bodysherd,cordmarked,grittemper,sandypaste		1
12-H-987A	12-H-987A-01	Charcoal		1
12-H-987A	12-H-987A-02	metal, brass, unidentified		1
12-H-987A	12-H-987A-03	unmodified flake	Fall Creek	98
12-H-987A	12-H-987A-03	unmodified flake	Wyandot	1
12-H-987A	12-H-987A-04	modified flake	Fall Creek	7
12-H-987A	12-H-987A-05	other, chipped stone		2
12-H-987A	12-H-987A-06	core	Fall Creek	4
12-H-987A	12-H-987A-07	bipolar artifact	unknown	1
12-H-987A	12-H-987A-08	point fragment	Fall Creek	3
12-H-987A	12-H-987A-09	Snyders point fragment	Flint Ridge	1
12-H-987A	12-H-987A-10	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-11	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-12	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-13	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-14	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-15	point, triangular	Fall Creek	1
12-H-987A	12-H-987A-16	pottery,bodysherd,eroded,grittemper,sandypaste		31
12-H-987A	12-H-987A-17	pottery,bodysherd,exfoliated,grittemper,sandypaste		10
12-H-987A	12-H-987A-18	pottery,bodysherd,cordmarked,grittemper,sandypaste		14
12-H-987A	12-H-987A-19	pottery,bdysherd,fabricimpressed,grttemper,sndypst		1
12-H-987A	12-H-987A-20	pottery,bodysherd,base?,plain,grittemper,sndypaste		1
12-H-987A	12-H-987A-21	pottery,neck,plain,grittemper,sandypaste		1
12-H-987A	12-H-987A-22	pottery,neck,plain,grittemper,possible trailedline		1
12-H-987A	12-H-987A-23	pottery,rimsherd,plain,grittemper,sandypaste		1
12-H-987B	12-H-987B-01	unmodified flake	Fall Creek	25
12-H-987B	12-H-987B-02	modified flake	Fall Creek	1
12-H-987B	12-H-987B-02	modified flake	Indian Creek	1
12-H-987B	12-H-987B-03	core	Fall Creek	1
12-H-987B	12-H-987B-04	pottery,bodysherd,grittemper,exfoliated		2
12-H-987B	12-H-987B-05	pottery,bodysherd,eroded,grittemper,sandypaste		1
12-H-987C	12-H-987C-01	unmodified flake	Fall Creek	30
12-H-987C	12-H-987C-02	modified flake	Fall Creek	1
12-H-987C	12-H-987C-03	core	Fall Creek	1
12-H-987C	12-H-987C-04	point, triangular	Fall Creek	1
12-H-987C	12-H-987C-05	pottery,bodysherd,grittemper,eroded		2
12-H-987D	12-H-987D-01	unmodified flake	Fall Creek	24
12-H-987D	12-H-987D-01	unmodified flake	Indian Creek	1
12-H-987D	12-H-987D-01	unmodified flake	Laurel	2
12-H-987D	12-H-987D-02	modified flake	unknown	1
12-H-987D	12-H-987D-03	point fragment, early archaic	Fall Creek	1
12-H-987D	12-H-987D-04	point, triangular	Fall Creek	1
12-H-988	12-H-988-01	unmodified flake	Fall Creek	46
12-H-988	12-H-988-01	unmodified flake	quartzite	2
12-H-988	12-H-988-02	modified flake	Fall Creek	1
12-H-988	12-H-988-02	modified flake	Attica	1

12-H-988	12-H-988-02	modified flake	Indian Creek	1
12-H-988	12-H-988-03	core	Fall Creek	1
12-H-988	12-H-988-04	bipolar artifact	Fall Creek	1
12-H-988	12-H-988-05	pottery,bodysherd,grittemper,eroded		1
12-H-988	12-H-988-06	pottery,bodysherd,grittemper,exfoliated		3
12-H-988	12-H-988-07	pottery,bodysherd,cordmarked,grittemper,sandypaste		1
12-H-988A	12-H-988A-01	unmodified flake	Fall Creek	21
12-H-988A	12-H-988A-01	unmodified flake	Attica	1
12-H-988A	12-H-988A-02	core	Fall Creek	2
12-H-988A	12-H-988A-03	biface, stage 2	Fall Creek	1
12-H-988B	12-H-988B-01	unmodified flake	Fall Creek	16
12-H-988B	12-H-988B-01	unmodified flake	quartzite	1
12-H-988B	12-H-988B-02	modified flake	Fall Creek	1
12-H-988B	12-H-988B-03	core	Fall Creek	1
12-H-988B	12-H-988B-04	biface fragment	Attica	1
12-H-988B	12-H-988B-05	biface, stage 3	Fall Creek	1
12-H-988B	12-H-988B-06	point fragment	Fall Creek	2
12-H-988B	12-H-988B-07	pottery, bodysherd,cordmarked,grittemper		1
12-H-988C	12-H-988C-01	glass, blue-green		1
12-H-988C	12-H-988C-02	unmodified flake	Fall Creek	49
12-H-988C	12-H-988C-02	unmodified flake	quartzite	1
12-H-988C	12-H-988C-02	unmodified flake	Attica	1
12-H-988C	12-H-988C-02	unmodified flake	Allens Creek	1
12-H-988C	12-H-988C-02	unmodified flake	Indian Creek	2
12-H-988C	12-H-988C-03	modified flake	Fall Creek	5
12-H-988C	12-H-988C-04	core	Fall Creek	3
12-H-988C	12-H-988C-05	bipolar artifact	Fall Creek	1
12-H-988C	12-H-988C-06	biface fragment	Fall Creek	2
12-H-988C	12-H-988C-07	biface, stage 3	Fall Creek	1
12-H-988C	12-H-988C-08	Riverton point	Fall Creek	1
12-H-989	12-H-989-01	block flake	quartzite	1
12-H-989	12-H-989-02	unmodified flake	Fall Creek	42
12-H-989	12-H-989-03	modified flake	Fall Creek	1
12-H-989	12-H-989-04	core	Fall Creek	3
12-H-989	12-H-989-05	biface, stage 3	Fall Creek	2
12-H-989	12-H-989-06	point fragment	Fall Creek	1
12-H-989	12-H-989-07	point, triangular	Fall Creek	2
12-H-990A	12-H-990A-01	bone, burned, modified-cut marks and polish		1
12-H-990A	12-H-990A-02	block flake	Fall Creek	1
12-H-990A	12-H-990A-03	unmodified flake	Fall Creek	40
12-H-990A	12-H-990A-03	unmodified flake	quartzite	1
12-H-990A	12-H-990A-04	modified flake	Indian Creek	1
12-H-990A	12-H-990A-04	modified flake	unknown	1
12-H-990A	12-H-990A-05	other, chipped stone		1
12-H-990A	12-H-990A-06	bipolar artifact	Fall Creek	1
12-H-990A	12-H-990A-07	point, triangular	unknown	1
12-H-990A	12-H-990A-08	pottery,bodysherd,eroded,grittemper		3
12-H-990B	12-H-990B-01	bone, burned		2
12-H-990B	12-H-990B-02	bone, burned, polished		2
12-H-990B	12-H-990B-03	unmodified flake	Fall Creek	53
12-H-990B	12-H-990B-03	unmodified flake	Attica	1

12-H-990B	12-H-990B-03	unmodified flake	Allens Creek	4
12-H-990B	12-H-990B-03	unmodified flake	quartzite	4
12-H-990B	12-H-990B-04	modified flake	Fall Creek	15
12-H-990B	12-H-990B-05	core	Fall Creek	6
12-H-990B	12-H-990B-05	core	quartzite	1
12-H-990B	12-H-990B-06	other, chipped stone		1
12-H-990B	12-H-990B-07	anvil		1
12-H-990B	12-H-990B-08	biface, stage 2	Fall Creek	1
12-H-990B	12-H-990B-09	biface, stage 3	Fall Creek	2
12-H-990B	12-H-990B-10	perforator	Fall Creek	1
12-H-990B	12-H-990B-11	point fragment, triangular	Fall Creek	1
12-H-990B	12-H-990B-12	point, triangular	Fall Creek	1
12-H-990B	12-H-990B-13	point, triangular	Fall Creek	1
12-H-990B	12-H-990B-14	point, triangular	Indian Creek	1
12-H-990B	12-H-990B-15	pottery,bodysherd,eroded,grittemper		1
12-H-990B	12-H-990B-16	pottery,bodysherd,eroded,grittemper,sandypaste		2
12-H-990B	12-H-990B-17	pottery,bodysherd,fabric,grittemper		1
12-H-990B	12-H-990B-18	pottery,neck,plain,grittemper,sandypaste		1
12-H-991	12-H-991-01	unmodified flake	Fall Creek	41
12-H-991	12-H-991-01	unmodified flake	quartzite	1
12-H-991	12-H-991-01	unmodified flake	Attica	1
12-H-991	12-H-991-01	unmodified flake	Allens Creek	1
12-H-991	12-H-991-01	unmodified flake, (notch flake)	unknown	1
12-H-991	12-H-991-02	modified flake	Fall Creek	4
12-H-991	12-H-991-02	modified flake	quartzite	1
12-H-991	12-H-991-02	modified flake	Indian Creek	1
12-H-991	12-H-991-03	core	Fall Creek	3
12-H-991	12-H-991-04	other, chipped stone		1
12-H-991	12-H-991-05	bipolar artifact	Fall Creek	2
12-H-991	12-H-991-06	hammer stone		1
12-H-991	12-H-991-07	biface fragment	unknown	1
12-H-991	12-H-991-08	point, triangular	Fall Creek	1
12-H-991	12-H-991-09	Hardin Barbed point	Fall Creek	1
12-H-991	12-H-991-10	pottery,bodysherd,cordmarked,grittemper,sandypaste		2
12-H-991	12-H-991-11	pottery,grittemper,bodysherd,cordmarked		1
12-H-991	12-H-991-12	pottery,rimsherd,grittemper,plain		1
12-H-992	12-H-992-01	unmodified flake	Fall Creek	43
12-H-992	12-H-992-01	unmodified flake	quartzite	16
12-H-992	12-H-992-01	unmodified flake	Attica	1
12-H-992	12-H-992-01	unmodified flake	Allens Creek	1
12-H-992	12-H-992-01	unmodified flake	unknown	1
12-H-992	12-H-992-02	modified flake	Fall Creek	8
12-H-992	12-H-992-03	core	Fall Creek	2
12-H-992	12-H-992-04	hammer stone		1
12-H-992	12-H-992-05	Table Rock point	Zaleski	1
12-H-992	12-H-992-06	point, triangular	Fall Creek	1
12-H-992	12-H-992-07	pottery,bodysherd,grittemper,eroded		1
12-H-992	12-H-992-08	pottery,bodysherd,fabricimpressed,grittemper		1
12-H-993A	12-H-993A-1	bone, burned		2
12-H-993A	12-H-993A-2	unmodified flake	Fall Creek	13
12-H-993A	12-H-993A-2	unmodified flake	quartzite	1

12-H-993A	12-H-993A-3	modified flake	Fall Creek	4
12-H-993A	12-H-993A-4	core	Fall Creek	2
12-H-993A	12-H-993A-5	biface, stage 2	Fall Creek	1
12-H-993A	12-H-993A-6	point, triangular	Fall Creek	1
12-H-993A	12-H-993A-7	pottery,bodysherd,cordmarked,grittemper,sandypaste		1
12-H-993A	12-H-993A-8	pottery, neck, fabricmarked,grittemper,sandy paste		1
12-H-993B	12-H-993B-1	unmodified flake	Fall Creek	7
12-H-993B	12-H-993B-1	unmodified flake	quartzite	1
12-H-993B	12-H-993B-2	modified flake	Fall Creek	2
12-H-993B	12-H-993B-3	other, chipped stone		2
12-H-993C	12-H-993C-1	redware, glazed		1
12-H-993C	12-H-993C-10	biface, stage 3	Fall Creek	2
12-H-993C	12-H-993C-11	point fragment	Fall Creek	3
12-H-993C	12-H-993C-11	point fragment	Wyandotte	1
12-H-993C	12-H-993C-11	point fragment	Laurel	1
12-H-993C	12-H-993C-12	point, unclassified	Fall Creek	1
12-H-993C	12-H-993C-13	point, Late Archaic Contracting Stem	Fall Creek	1
12-H-993C	12-H-993C-14	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-15	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-16	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-17	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-18	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-19	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-2	bone, burned		1
12-H-993C	12-H-993C-20	point, triangular	Fall Creek	1
12-H-993C	12-H-993C-21	pottery,bodysherd,grittemper,exfoliated,sandypaste		6
12-H-993C	12-H-993C-22	pottery,bodysherd,grittemper,eroded,sandypaste		29
12-H-993C	12-H-993C-23	pottery,bodyshrd,grittmper,cordimpressed,sandypast		16
12-H-993C	12-H-993C-24	pottery,bodyshrd,grittmper,fabricimprssed,sndypast		2
12-H-993C	12-H-993C-25	pottery,neck,plain,grittemper,sandypaste		1
12-H-993C	12-H-993C-26	pottery,rimsherd,grittemper,plain,sandypaste		1
12-H-993C	12-H-993C-27	pottery,rimsherd,grittemper,sandypaste		1
12-H-993C	12-H-993C-28	pottery,rimsherd,grittemper,eroded,decorated		1
12-H-993C	12-H-993C-3	unmodified flake	Fall Creek	319
12-H-993C	12-H-993C-3	unmodified flake	quartzite	26
12-H-993C	12-H-993C-3	unmodified flake	Attica	1
12-H-993C	12-H-993C-3	unmodified flake	Indian Creek	1
12-H-993C	12-H-993C-3	unmodified flake	Wyandotte	3
12-H-993C	12-H-993C-3	unmodified flake	Delaware	2
12-H-993C	12-H-993C-3	unmodified flake	unknown	1
12-H-993C	12-H-993C-3	unmodified flake	unknown	1
12-H-993C	12-H-993C-4	modified flake	Fall Creek	48
12-H-993C	12-H-993C-4	modified flake	Attica	3
12-H-993C	12-H-993C-5	core	Fall Creek	14
12-H-993C	12-H-993C-5	core	Attica	1
12-H-993C	12-H-993C-5	core	Wyandotte	1
12-H-993C	12-H-993C-6	other, chipped stone		4
12-H-993C	12-H-993C-7	bipolar artifact	Fall Creek	2
12-H-993C	12-H-993C-7	bipolar artifact	unknown	1
12-H-993C	12-H-993C-8	biface fragment	Fall Creek	3
12-H-993C	12-H-993C-8	biface fragment	unknown	1

12-H-993C	12-H-993C-9	biface, stage 2	Fall Creek	1
12-H-993C	12-H-993C-9	biface, stage 2	Attica	1
12-H-993D	12-H-993D-1	coal		1
12-H-993D	12-H-993D-10	point fragment	Fall Creek	2
12-H-993D	12-H-993D-11	point, triangular	Fall Creek	1
12-H-993D	12-H-993D-12	point, triangular	Fall Creek	1
12-H-993D	12-H-993D-13	point, triangular	Fall Creek	1
12-H-993D	12-H-993D-14	point, triangular	Fall Creek	1
12-H-993D	12-H-993D-15	pottery,bodysherd,exfoliated,grittemper,sandypaste		5
12-H-993D	12-H-993D-16	pottery,bodysherd,eroded,grittemper,sandypaste		3
12-H-993D	12-H-993D-17	pottery,bodysherd,cord-marked,grittemper		1
12-H-993D	12-H-993D-18	pottery,bodysherd,cordmarked,grittemper,sandypaste		4
12-H-993D	12-H-993D-19	pottery,neck,plain,grittemper,sandypaste		1
12-H-993D	12-H-993D-2	block flake	Fall Creek	1
12-H-993D	12-H-993D-3	unmodified flake	Fall Creek	118
12-H-993D	12-H-993D-3	unmodified flake	quartzite	7
12-H-993D	12-H-993D-3	unmodified flake	Indian Creek	2
12-H-993D	12-H-993D-4	modified flake	Fall Creek	20
12-H-993D	12-H-993D-4	modified flake	unknown	1
12-H-993D	12-H-993D-5	core	Fall Creek	6
12-H-993D	12-H-993D-6	other, chipped stone		1
12-H-993D	12-H-993D-7	biface fragment	Fall Creek	2
12-H-993D	12-H-993D-8	biface, stage 2	Fall Creek	1
12-H-993D	12-H-993D-8	biface, stage 2	Attica	1
12-H-993D	12-H-993D-9	perforator	Fall Creek	1
12-H-993E	12-H-993E-1	pottery,bodysherd,cordmarked,grittemper,sandypaste		5
12-H-993E	12-H-993E-10	unmodified flake	Wyandotte	1
12-H-993E	12-H-993E-11	biface, stage 2	Fall Creek	1
12-H-993E	12-H-993E-12	biface fragment	Fall Creek	1
12-H-993E	12-H-993E-13	point fragment	Fall Creek	1
12-H-993E	12-H-993E-14	point, triangular	Attica	1
12-H-993E	12-H-993E-2	pottery,bodysherd,eroded,grittemper,sandypaste		2
12-H-993E	12-H-993E-3	other, chipped stone		1
12-H-993E	12-H-993E-4	core	Fall Creek	1
12-H-993E	12-H-993E-5	core	Fall Creek	1
12-H-993E	12-H-993E-6	modified flake	Fall Creek	3
12-H-993E	12-H-993E-7	modified flake	Indian Creek	1
12-H-993E	12-H-993E-8	unmodified flake	Fall Creek	38
12-H-993E	12-H-993E-9	unmodified flake	Attica	3
12-H-993F	12-H-993F-1	pottery,rimsherd,grittemper,plain		1
12-H-993F	12-H-993F-10	bone, burned		2
12-H-993F	12-H-993F-11	modified flake	Fall Creek	22
12-H-993F	12-H-993F-12	point, triangular	Indian Creek	1
12-H-993F	12-H-993F-13	core	Fall Creek	4
12-H-993F	12-H-993F-14	point, triangular, base	unknown	1
12-H-993F	12-H-993F-15	unmodified flake	Fall Creek	67
12-H-993F	12-H-993F-16	unmodified flake	quartzite	9
12-H-993F	12-H-993F-17	blade fragment	Flint Ridge	1
12-H-993F	12-H-993F-18	end-scraper	Allens Creek	1
12-H-993F	12-H-993F-19	pottery,bodysherd,eroded,leached shell temper		1
12-H-993F	12-H-993F-2	pottery,rimsherd,plain,grittemper,sandypaste,décor		1

12-H-993F	12-H-993F-20	pttry,bdyshrd,unclerimprssion(knot?)grttmp,sndypst		1
12-H-993F	12-H-993F-21	unmodified flake	unknown	1
12-H-993F	12-H-993F-22	pottery,bodysherd,cordmarked,grittempr,sandypaste		8
12-H-993F	12-H-993F-3	pottery,bodysherd,exfoliated,grittemper,sandypaste		7
12-H-993F	12-H-993F-4	biface fragment	Fall Creek	1
12-H-993F	12-H-993F-5	pottery,bodysherd,eroded,grittemper,sandypaste		8
12-H-993F	12-H-993F-6	unmodified flake	Attica	2
12-H-993F	12-H-993F-7	bipolar artifact	Fall Creek	1
12-H-993F	12-H-993F-8	modified flake	unknown	1
12-H-993F	12-H-993F-9	point fragment	Fall Creek	1
12-H-994	12-H-994-01	unmodified flake	quartzite	1
12-H-994	12-H-994-01	unmodified flake	Attica	1
12-H-994	12-H-994-01	unmodified flake	Fall Creek	13
12-H-994	12-H-994-02	point, triangular	quartzite	1
12-H-994	12-H-994-03	pottery,body sherd,fabric impressed,grit temper		1
12-H-995	12-H-995-01	perforator	Fall Creek	1
12-H-996	12-H-996-01	unmodified flake	Fall Creek	3
12-H-996	12-H-996-02	core	Fall Creek	1
12-H-997	12-H-997-01	unmodified flake	Fall Creek	54
12-H-997	12-H-997-01	unmodified flake	quartzite	8
12-H-997	12-H-997-01	unmodified flake	Attica	1
12-H-997	12-H-997-01	unmodified flake	Flint Ridge	1
12-H-997	12-H-997-01	unmodified flake	Wyandotte	1
12-H-997	12-H-997-01	unmodified flake	Indian Creek	1
12-H-997	12-H-997-02	modified flake	Fall Creek	6
12-H-997	12-H-997-02	modified flake	Indian Creek	1
12-H-997	12-H-997-02	modified flake	quartzite	1
12-H-997	12-H-997-03	bipolar artifact	Fall Creek	3
12-H-997	12-H-997-04	core	Fall Creek	3
12-H-997	12-H-997-04	core	unknown	1
12-H-997	12-H-997-05	biface fragment	Attica	1
12-H-997	12-H-997-06	biface, stage 4	Fall Creek	1
12-H-997	12-H-997-07	point fragment	Fall Creek	1
12-H-997	12-H-997-08	point, triangular	unknown	1
12-H-997	12-H-997-09	point, triangular	Fall Creek	1
12-H-997	12-H-997-10	point, triangular	Fall Creek	1
12-H-997	12-H-997-11	point, triangular	Fall Creek	1
12-H-997	12-H-997-12	point, triangular	Fall Creek	1
12-H-997	12-H-997-13	point, triangular	Fall Creek	1
12-H-997	12-H-997-14	hammerstone/anvil		1
12-H-997	12-H-997-15	pottery,body sherd,fabric impressed,grit temper		1
12-H-998	12-H-998-01	unmodified flake	Fall Creek	13
12-H-998	12-H-998-01	unmodified flake	quartzite	1
12-H-998	12-H-998-02	modified flake	Fall Creek	1
12-H-998	12-H-998-03	Kanawha Point	Fall Creek	1
12-H-999	12-H-999-01	glass, clear, bottle, embossed		1
12-H-999	12-H-999-02	glass, cobalt, bottle		1
12-H-999	12-H-999-03	ceramic, stoneware, body sherd		2
12-H-999	12-H-999-04	unmodified flake	Fall Creek	25
12-H-999	12-H-999-04	unmodified flake	quartzite	2
12-H-999	12-H-999-04	unmodified flake	Attica	2

12-H-999	12-H-999-04	unmodified flake	Allens Creek	1
12-H-999	12-H-999-05	tooth fragment		1
12-H-999	12-H-999-06	bone, racoon		1
12-H-999	12-H-999-07	bone, deer		1
12-H-999	12-H-999-08	bone, burned		1
12-H-1000	12-H-1000-01	glass, aqua container (bottle)		1
12-H-1000	12-H-1000-02	glass, brown, container		2
12-H-1000	12-H-1000-03	glass, green, container		1
12-H-1000	12-H-1000-04	ceramic, bodysherd, stoneware		3
12-H-1000	12-H-1000-05	coal		6
12-H-1000	12-H-1000-06	unmodified flake	Fall Creek	36
12-H-1000	12-H-1000-06	unmodified flake	quartzite	8
12-H-1000	12-H-1000-07	modified flake	Fall Creek	3
12-H-1000	12-H-1000-08	core	Fall Creek	1
12-H-1000	12-H-1000-09	biface, stage 3	Fall Creek	1
12-H-1000	12-H-1000-10	point fragment	Fall Creek	1
12-H-1000	12-H-1000-11	point, triangular	Fall Creek	1
12-H-1000	12-H-1000-12	point, triangular	Fall Creek	1
12-H-1000	12-H-1000-13	pottery,body sherd (base?)plain,grit temper		1
12-H-1000	12-H-1000-14	pottery,body sherd,cord-marked,grit temper		4
12-H-1000	12-H-1000-15	anvil		1
12-H-1001	12-H-1001-01	unmodified flake	Fall Creek	6
12-H-1001	12-H-1001-01	unmodified flake	Attica	1
12-H-1001	12-H-1001-02	core	Fall Creek	1
12-H-1002	12-H-1002-01	unmodified flake	Fall Creek	27
12-H-1002	12-H-1002-01	unmodified flake	quartzite	2
12-H-1002	12-H-1002-01	unmodified flake	Attica	1
12-H-1002	12-H-1002-02	modified flake	Fall Creek	8
12-H-1002	12-H-1002-02	modified flake	quartzite	1
12-H-1002	12-H-1002-03	core	Fall Creek	4
12-H-1002	12-H-1002-03	core	Attica	2
12-H-1002	12-H-1002-03	core	quartzite	1
12-H-1002	12-H-1002-04	biface, stage 2	Fall Creek	1
12-H-1002	12-H-1002-05	perforator	Indian Creek	1
12-H-1002	12-H-1002-06	pottery,body sherd,grit temper, eroded		1
12-H-1003	12-H-1003-01	modified flake	Indian Creek	1
12-H-1003	12-H-1003-02	modified flake	Fall Creek	1
12-H-1003	12-H-1003-03	unmodified flake	Indian Creek	1
12-H-1003	12-H-1003-03	unmodified flake	quartzite	3
12-H-1003	12-H-1003-03	unmodified flake	Fall Creek	10
12-H-1003	12-H-1003-04	core	Fall Creek	1
12-H-1003	12-H-1003-05	point, side notched, unclassified	unknown	1
12-H-1004	12-H-1004-01	unmodified flake	Fall Creek	4
12-H-1004	12-H-1004-01	unmodified flake	Attica	1
12-H-1004	12-H-1004-02	point, triangular	quartzite	1
12-H-1005	12-H-1005-01	unmodified flake	Attica	4
12-H-1005	12-H-1005-01	unmodified flake	quartzite	3
12-H-1005	12-H-1005-01	unmodified flake	Fall Creek	51
12-H-1005	12-H-1005-02	modified flake	quartzite	1
12-H-1005	12-H-1005-02	modified flake	Indian Creek	1
12-H-1005	12-H-1005-02	modified flake	Fall Creek	11

12-H-1005	12-H-1005-03	core	quartzite	1
12-H-1005	12-H-1005-03	core	Fall Creek	3
12-H-1005	12-H-1005-04	bipolar artifact	Indian Creek	1
12-H-1005	12-H-1005-05	biface fragment	Allens Creek	1
12-H-1005	12-H-1005-06	biface	Fall Creek	1
12-H-1005	12-H-1005-07	bifacial endscraper	Fall Creek	1
12-H-1005	12-H-1005-08	Robbins point	Wyandotte	1
12-H-1005	12-H-1005-09	point fragment, base	Burlington	1
12-H-1005	12-H-1005-10	point fragment	Fall Creek	1
12-H-1005	12-H-1005-11	pottery,bodysherd,grit temper,exfoliateded		2
12-H-1005	12-H-1005-12	pottery,bodysherd,grit temper,eroded		3
12-H-1005	12-H-1005-13	pottery,rimsherd,grit tempered,exfol,channeled lip		1
12-H-1005	12-H-1005-14	pottery,rimsherd,grittempered,cordmarked,decorate		1
12-H-1005	12-H-1005-15	other, chipped stone fragment		1
12-H-1005	12-H-1005-16	coal fragments		2
12-H-1005	12-H-1005-17	slag fragment		1
12-H-1005	12-H-1005-18	glass fragment,green		1
12-H-1005	12-H-1005-19	metal fragment	heavily oxidized	1
12-H-1005	12-H-1005-20	modified flake	Attica	1
12-H-1005	12-H-1005-21	unmodified flake	quartzite	1
12-H-1005	12-H-1005-21	unmodified flake	Fall Creek	8
12-H-1005B	12-H-1005B-1	core	Fall Creek	3
12-H-1005B	12-H-1005B-1	core	quartzite	1
12-H-1005B	12-H-1005B-2	point, triangular	Fall Creek	3
12-H-1005B	12-H-1005B-3	modified flake	Indian Creek	2
12-H-1005B	12-H-1005B-3	modified flake	Burlington	1
12-H-1005B	12-H-1005B-3	modified flake	Fall Creek	25
12-H-1005B	12-H-1005B-4	hammerstone/anvil		2
12-H-1005B	12-H-1005B-5	perforator	Fall Creek	1
12-H-1005B	12-H-1005B-6	other chipped stone		1
12-H-1005B	12-H-1005B-7	biface, triangular	quartzite	1
12-H-1005B	12-H-1005B-7	biface, triangular	Fall Creek	1
12-H-1005B	12-H-1005B-8	bipolar artifact	Fall Creek	1
12-H-1005B	12-H-1005B-9	unmodified flake	Attica	2
12-H-1005B	12-H-1005B-9	unmodified flake	quartzite	12
12-H-1005B	12-H-1005B-9	unmodified flake	Fall Creek	62
12-H-1006	12-H-1006-01	hammerstone	granite	1
12-H-1006	12-H-1006-02	unmodified flake	quartzite	3
12-H-1006	12-H-1006-02	unmodified flake	Fall Creek	10
12-H-1006	12-H-1006-03	core	Plummer	1
12-H-1006	12-H-1006-04	core	Fall Creek	2
12-H-1006	12-H-1006-05	biface fragment	Fall Creek	1
12-H-1006	12-H-1006-06	pottery,rimshrd,plain,grittmper,decrated,sandypast		1
12-H-1007	12-H-1007-01	unmodified flake	Fall Creek	11
12-H-1007	12-H-1007-02	unmodified flake	quartzite	1
12-H-1007	12-H-1007-03	modified flake	Fall Creek	1
12-H-1007	12-H-1007-04	core	Fall Creek	1
12-H-1007	12-H-1007-05	pottery, body sherd, exfoliated, grit temper		1
12-H-1007	12-H-1007-6	point, triangular	quartzite	1
12-H-1008	12-H-1008-01	unmodified flake	Fall Creek	1
12-H-1009	12-H-1009-01	unmodified flake	Fall Creek	16

12-H-1009	12-H-1009-02	block flake	quartzite	1
12-H-1009	12-H-1009-03	modified flake	quartzite	1
12-H-1009	12-H-1009-04	modified flake	Fall Creek	6
12-H-1009	12-H-1009-05	core	Fall Creek	1
12-H-1009	12-H-1009-06	point fragment	Fall Creek	1
12-H-1009	12-H-1009-07	point, late middle woodland expanding stem	Fall Creek	1
12-H-1009	12-H-1009-08	pottery, body sherd, fabric impressed, grit temper		4
12-H-1009	12-H-1009-09	pottery, body sherd, cord-marked, grit temper		1
12-H-1009	12-H-1009-10	pottery, body sherd, exfoliated, grit temper		1
12-H-1009	12-H-1009-11	anvil	sedimentary stone	1
12-H-1010	12-H-1010-01	unmodified flake	Fall Creek	2
12-H-1011	12-H-1011-01	unmodified flake	Fall Creek	2
12-H-1011	12-H-1011-02	unmodified flake	quartzite	2
12-H-1011	12-H-1011-03	bipolar artifact	unknown	1
12-H-1011	12-H-1011-04	biface fragment, stage 2	Fall Creek	1
12-H-1011	12-H-1011-05	tooth enamel fragment dentation		1
12-H-1012	12-H-1012-01	graver	Fall Creek	1
12-H-1013	12-H-1013-01	unmodified flake	Fall Creek	1
12-H-1014	12-H-1014-1	unmodified flake	Fall Creek	6
12-H-1015	12-H-1015-01	unmodified flake	Fall Creek	5
12-H-1015	12-H-1015-02	biface, stage 2	quartzite	1
12-H-1015	12-H-1015-03	biface fragment, stage 2	Attica	1
12-H-1015	12-H-1015-04	pottery,body sherd, eroded, grit temper		1
12-H-1016	12-H-1016-01	unmodified flake	quartzite	1
12-H-1017	12-H-1017-01	unmodified flake	Attica	1
12-H-1018	12-H-1018-01	modified flake	Fall Creek	4
12-H-1019	12-H-1019-01	unmodified flake	Fall Creek	2
12-H-1019	12-H-1019-02	unmodified flake	Attica	1
12-H-1019	12-H-1019-03	point, triangular	Fall Creek	1
12-H-1020	12-H-1020-01	unmodified flake	Fall Creek	2
12-H-1067	12-H-1067-1	unmodified flake	quartzite	1
12-H-1067	12-H-1067-1	unmodified flake	Fall Creek	8
12-H-1067	12-H-1067-2	modified flake	Fall Creek	2
12-H-1068	12-H-1068-1	unmodified flake	Fall Creek	1
12-H-1069	12-H-1069-1	unmodified flake	Fall Creek	1
12-H-1069	12-H-1069-2	stoneware		1
12-H-1070	12-H-1070-1	unmodified flake	quartzite	3
12-H-1070	12-H-1070-1	unmodified flake	Fall Creek	8
12-H-1070	12-H-1070-2	modified flake	Fall Creek	1
12-H-1070	12-H-1070-3	pottery, body sherd, grit temper, exfoliated		1
12-H-1071	12-H-1071-1	unmodified flake	quartzite	1
12-H-1072	12-H-1072-1	modified flake	Fall Creek	1
12-H-1072	12-H-1072-2	unmodified flake	Fall Creek	1
12-H-1073	12-H-1073-1	bladelet	Flint Ridge	1
12-H-1074	12-H-1074-1	modified flake	Attica	1
12-H-1074	12-H-1074-1	modified flake	Fall Creek	3
12-H-1074	12-H-1074-2	unmodified flake	Fall Creek	3
12-H-1074	12-H-1074-3	biface	Fall Creek	1
12-H-1074	12-H-1074-4	bipolar artifact	Fall Creek	1
12-H-1074	12-H-1074-5	point, triangular	Fall Creek	1
12-H-1074	12-H-1074-6	pottery, body sherd, cord-marked, grit temper		1

12-H-1075	12-H-1075-1	unmodified flake	Fall Creek	3
12-H-1075	12-H-1075-2	core	Fall Creek	1
12-H-1076	12-H-1076-1	modified flake	Fall Creek	2
12-H-1077	12-H-1077-1	unmodified flake	Fall Creek	1
12-H-1078	12-H-1078-1	unmodified flake	Fall Creek	1
12-H-1078	12-H-1078-2	modified flake	Fall Creek	3
12-H-1079	12-H-1079-1	unmodified flake	Fall Creek	5
12-H-1080	12-H-1080-1	modified flake	quartzite	1
12-H-1080	12-H-1080-2	unmodified flake	Fall Creek	3
12-H-1080	12-H-1080-3	pottery, body sherd, exfoliated, grit temper		1
12-H-1081	12-H-1081-1	unmodified flake	quartzite	1
12-H-1081	12-H-1081-1	unmodified flake	Fall Creek	8
12-H-1081	12-H-1081-2	perforator fragment	Fall Creek	1
12-H-1081	12-H-1081-3	modified flake	Fall Creek	3
12-H-1082	12-H-1082-1	unmodified flake	Fall Creek	3
12-H-1082	12-H-1082-1	unmodified flake	Attica	1
12-H-1082	12-H-1082-2	modified flake	Fall Creek	2
12-H-1082	12-H-1082-3	gorget fragment	banded slate	1
12-H-1082	12-H-1082-4	Snyders Point	Fall Creek	1
12-H-1082	12-H-1082-5	bipolar artifact	Fall Creek	1
	02-27-3-1 No prov	point, triangular	quartzite	1
	02-27-3-2 No prov	pottery, bodysherd,exfoliated,grittemper,sandypast		2
	02-27-3-3 No prov	pottery,bodysherd,cord-marked,grittemper,sandypast		3
	02-27-3-4 No prov	pottery,bodysherd,eroded,grittemper,sandypaste		1
	02-27-3-5 No prov	point, triangular	Fall Creek	2
	02-27-3-6 No prov	unmodified flake	Fall Creek	1
	02-27-3-7 No prov	pottery,bodysherd,cord-marked,grittemper,sandypast		1
	02-27-4-01	microartifacts from auger #1		
	02-27-4-02	microartifacts from auger #2		
	02-27-4-03	microartifacts from auger #3		
	02-27-4-04	microartifacts from auger #4		
	02-27-4-05	microartifacts from auger #5		
	02-27-4-06	microartifacts from auger #6		
	02-27-4-07	microartifacts from auger #7		

Appendix D

Point Metrics

12-H-994-2	triangular point frag	quartzite	20.80*	NA	NA	NA	NA	NA	NA	2.31	2.31
12-H-997-10	triangular point frag	Fall Creek	17.44*	NA	NA	15.12	15.12	NA	NA	5.18	5.18
12-H-997-11	triangular point frag	Fall Creek	13.08*	NA	NA	20.03	20.03	NA	NA	NA	3.75
12-H-997-12	triangular point frag	Fall Creek	19.42*	NA	NA	23.49	23.49	NA	NA	3.36	3.7
12-H-997-13	triangular point frag	Fall Creek	26.03	NA	NA	NA	NA	NA	NA	5.41	4.2
12-H-997-8	triangular point frag	unknown chert	13.06*	NA	NA	16.36	16.36	NA	NA	NA	4.08
12-H-997-9	triangular point frag	Fall Creek	27.36*	NA	NA	16.08*	16.08*	NA	NA	8.07	9.19
12-H-998-3	Kanawha point frag	Fall Creek	44.26	13.12	12.83	14.96	24.21*	11.87*	4.45	4.81	4.56
12-H-1000-11	triangular point frag	Fall Creek	NA	NA	NA	21.47	21.47	NA	NA	NA	4.02
12-H-1000-12	triangular point frag	Fall Creek	NA	NA	NA	20.28	20.28	NA	NA	NA	5.55
12-H-1003-5	side-notched point frag	unknown chert	27.84	13.76	12.35	NA	16.61	12.48	1.93	7.53	6.84
12-H-1004-2	triangular point frag	quartzite	22.43*	NA	NA	17.4	17.4	NA	NA	3.38	3.16
12-H-1005-8	Robbins point frag	Wyandotte	36.89*	12.1	18.44	NA	26.48	10.91*	4.75	8.37	9.12
12-H-1005B-2	triangular point frag	Fall Creek	17.58*	NA	NA	18.06	18.06	NA	NA	4.39	4.19
12-H-1005B-2	triangular point frag	Fall Creek	14.98*	NA	NA	18.96*	18.96*	NA	NA	4.06	2.98
12-H-1005B-2	triangular point frag	Fall Creek	18.75*	NA	NA	14.72	14.72	NA	NA	4.66	3.93
12-H-1007-6	triangular point frag	quartzite	15.83*	NA	NA	17.26	17.26	NA	NA	4.64	4.25
12-H-1009-7	Late Middle Woodland expanding stem	Fall Creek	40.84	9.39	16.63	21.92	22.45	6.65	3.47	7.83	5.15
12-H-1019-3	triangular point frag	Fall Creek	13.94*	NA	NA	13.30*	13.30*	NA	NA	NA	3.11
12-H-1074-5	triangular point frag	Fall Creek	12.88*	NA	NA	16.45*	16.45*	NA	NA	3.52	3.25
12-H-1082-4	Snyders point	Fall Creek	55.39*	9.74	16.77	20.23*	36.09	9.71	5.16	8.41	6.59
02-27-1-4-13	triangular point frag	Attica	12.41*	NA	NA	NA	NA	NA	NA	NA	NA
02-27-1-4-4	triangular point frag	Fall Creek	9.82*	NA	NA	13.98	13.98	NA	NA	3.63	3.63
02-27-3-1	triangular point frag	quartzite	26.21*	NA	NA	16.98	16.98	NA	NA	7.58	8.82
02-27-3-5	triangular point frag	Fall Creek	21.60*	NA	NA	NA	NA	NA	NA	3.8	3.8
02-27-3-5	triangular point frag	Fall Creek	16.12	NA	NA	22.13	22.13	NA	NA	4.03	4.03

ML = maximum length
TL = tang length
TW = tang width
BW = base width
MW = maximum width
NW = notch width
ND = notch depth
MT = maximum thickness
MTB = maximum thicknessat base

		Appendix D									
		Point Metrics									
Catalog No.	Type	Raw Material	ML	TL	TW	BW	MW	NW	ND	MT	MTB
12-H-937-1	Hi-Lo point frag	Attica	33.18*	NA	NA	NA	21.71	NA	NA	7.73	6.82
12-H-939-10	Jacks Reef point frag	HT Fall Creek	31.80*	7.53	14.81	18	NA	3.82	2.97	4.85	4.56
12-H-939-9	Matanzas point	Fall Creek	37.26	10.01	20.04	24.3	22.56	7.15	1.18	6.94	6.31
12-H-939-9	Matanzas point	HT Fall Creek	NA	7.5	14.64	NA	20.34	6.57	0.92	NA	6.66
12-H-949-1	Matanzas point frag	Fall Creek	NA	8.57*	13.55	NA	NA	7.28	0.63	NA	NA
12-H-954-1	Late Archaic Barbed Cluster point frag	Fall Creek	NA	7.71	12.35	14.12	NA	7.67	5.03	NA	6.3
12-H-959-136	triangular point frag	Fall Creek	NA	NA	NA	19.72	19.72	NA	NA	NA	5.80*
12-H-959-231	triangular point frag	Fall Creek	13.58*	NA	NA	16	16	NA	NA	NA	3.2
12-H-959-249	triangular point frag	Fall Creek	28.62*	NA	NA	NA	NA	NA	NA	5.43	4.4
12-H-959-285	triangular point frag	Fall Creek	22.06*	NA	NA	18.54	18.54	NA	NA	5.24	4.5
12-H-959-326	triangular point frag	Fall Creek	21.04*	NA	NA	NA	NA	NA	NA	4.11	4.11
12-H-959-337	triangular point frag	Fall Creek	NA	NA	NA	17.24	17.24	NA	NA	NA	3.54*
12-H-959-62	triangular point frag	quartzite	NA	NA	NA	NA	NA	NA	NA	NA	4.1
12-H-959-7	triangular point frag	Fall Creek	34.12*	NA	NA	NA	NA	NA	NA	9.49	8.4
12-H-959-9	Late Archaic point frag	Wyandotte	36.89*	NA	NA	NA	26.33	NA	NA	10.4	8.6
12-H-962-3	unclassified stemmed point frag	Fall Creek	NA	11.5	11.62	11.33	23.82	NA	NA	5.35	4.94
12-H-963-15	Matanzas point frag	HT Fall Creek	30.21	NA	NA	19.39*	19.72	NA	NA	7.51	6.02
12-H-963-2	St Charles point	Fall Creek	NA	NA	NA	NA	23.84	4.68	1.46	6.37	5.19
12-H-963-21	Lamoka point	Fall Creek	37.67	13.12	13.59	15.19	19.77	NA	NA	9.14	8.12
12-H-964-2	triangular point frag	Fall Creek	22.13*	NA	NA	23.27*	23.27*	NA	NA	5.91	5.28
12-H-984-4	triangular point frag	Fall Creek	16.65*	NA	NA	20.56	20.56	NA	NA	NA	3.48
12-H-985-10	Commisary point frag	Fall Creek	34.29*	NA	NA	25.43*	25.8	NA	NA	6.59	4.34
12-H-985-17	triangular point frag	Fall Creek	24.81*	NA	NA	19.5*	19.5*	NA	NA	5.36	4.7
12-H-985-19	triangular point frag	Fall Creek	14.06*	NA	NA	17.7	17.7	NA	NA	4.44	4.44
12-H-987A-10	triangular point frag	Fall Creek	34.42*	NA	NA	16.76*	16.76*	NA	NA	7.71	6.63
12-H-987A-11	triangular point frag	Fall Creek	NA	NA	NA	24.97	24.97	NA	NA	6.85	6.85
12-H-987A-12	triangular point frag	Fall Creek	30.32	NA	NA	NA	NA	NA	NA	3.58	3.49
12-H-987A-13	triangular point frag	Fall Creek	NA	NA	NA	20.83	20.83	NA	NA	NA	3.84
12-H-987A-14	triangular point	Fall Creek	20.36	NA	NA	16.42	16.42	NA	NA	5.08	5.08
12-H-987A-15	triangular point frag	Fall Creek	23.56	NA	NA	NA	NA	NA	NA	3.81	3.41
12-H-987A-9	Snyders point frag	Flint Ridge	NA	NA	NA	23.84	NA	NA	NA	NA	5.09
12-H-987C-4	triangular point frag	Fall Creek	17.39*	NA	NA	26.03*	26.03*	NA	NA	NA	4.73
12-H-987D-3	Early Archaic point frag	Fall Creek	35.42*	NA	NA	NA	NA	NA	NA	6.23	5.44
12-H-987D-4	triangular point frag	Fall Creek	12.65*	NA	NA	17.07*	17.07*	NA	NA	3.22	2.65
12-H-989-7	triangular point	Fall Creek	35.08	NA	NA	19.48	19.48	NA	NA	8.87	7.22
12-H-989-7	triangular point frag	Fall Creek	28.24	NA	NA	NA	NA	NA	NA	4.35	4.35
12-H-990A-7	triangular point frag	unknown chert	16.28*	NA	NA	16.54	16.54	NA	NA	5.49	4.59
12-H-990B-14	triangular point frag	Indian Creek	20.74*	NA	NA	20.48	20.48	NA	NA	6.52	5.81
12-H-991-8	triangular point frag	Fall Creek	22.79*	NA	NA	20.29	20.29	NA	NA	4.06	3.46
12-H-991-9	Hardin barbed point frag	Fall Creek	40.58	12.09	19.32	21.85	NA	9.75	3.66*	7.33	6.3
12-H-992-5	Table Rock point frag	Zaleski	35.4	13.67	14.44	NA	23.01	14.2	3.11	10.4	10.01
12-H-992-6	triangular point frag	Fall Creek	35.58*	NA	NA	21.96	21.96	NA	NA	8.76	8.76
12-H-993A-6	triangular point	Fall Creek	32.92	NA	NA	19.86	19.86	NA	NA	6.35	5.23
12-H-993C-12	unclassified point frag	Fall Creek	11.65*	NA	NA	13.04	NA	NA	NA	NA	6.53
12-H-993C-13	Late Archaic Contracting stem	Fall Creek	34.98	NA	NA	11.83*	19.26	NA	NA	7.63	7.3
12-H-993C-14	triangular point frag	Fall Creek	13.03*	NA	NA	21.85	21.85	NA	NA	3.2	3.2
12-H-993C-15	triangular point frag	Fall Creek	17.57*	NA	NA	22.79	22.79	NA	NA	4.53	4.53
12-H-993C-16	triangular point frag	Fall Creek	24*	NA	NA	NA	NA	NA	NA	3.32	NA
12-H-993C-17	triangular point frag	Fall Creek	11.95*	NA	NA	NA	NA	NA	NA	3.79	NA
12-H-993C-18	triangular point frag	Fall Creek	23.03*	NA	NA	NA	NA	NA	NA	3.66	4.22
12-H-993C-19	triangular point frag	Fall Creek	18.91*	NA	NA	19.97*	19.97*	NA	NA	3.4	3.4
12-H-993C-20	triangular point frag	Fall Creek	15.45*	NA	NA	21.3	21.3	NA	NA	NA	3.54
12-H-993D-11	triangular point frag	Fall Creek	24.28*	NA	NA	NA	NA	NA	NA	4.21	NA
12-H-993D-12	triangular point frag	Fall Creek	17.52*	NA	NA	18.28	18.28	NA	NA	6.18	6.18
12-H-993D-13	triangular point frag	Fall Creek	12.09*	NA	NA	18.61	18.61	NA	NA	3.18	2.47
12-H-993D-14	triangular point frag	Fall Creek	22.39*	NA	NA	18	18	NA	NA	5.05	4.56
12-H-993E-14	triangular point frag	Attica	27.91*	NA	NA	22.39	22.39	NA	NA	7.06	7.93
12-H-993F-12	triangular point frag	Indian Creek	20.07*	NA	NA	16.89*	16.89*	NA	NA	3.89	3.44

Appendix E

12-H-959 Catalog

Appendix E
12H959 Catalog of the Controlled Surface Collection and Shovel Probes

Catalog No	Identification	Raw Material	Block	CSC/SP	No	Weight
12-H-959-012	unmodified flake	Fall Creek	1	CSC	3	
12-H-959-013	unmodified flake	Fall Creek	2	CSC	8	
12-H-959-013	unmodified flake	quartzite	2	CSC	1	
12-H-959-014	core	Fall Creek	3	CSC	2	
12-H-959-015	unmodified flake	Fall Creek	3	CSC	8	
12-H-959-015	unmodified flake	quartzite	3	CSC	1	
12-H-959-016	unmodified flake	Fall Creek	4	CSC	11	
12-H-959-017	block flake	Fall Creek	5	CSC	1	
12-H-959-018	unmodified flake	Fall Creek	5	CSC	7	0
12-H-959-018	unmodified flake	quartzite	5	CSC	1	0
12-H-959-019	unmodified flake	Fall Creek	6	CSC	8	0
12-H-959-020	core	Fall Creek	7	CSC	1	0
12-H-959-021	unmodified flake	Fall Creek	7	CSC	7	0
12-H-959-021	unmodified flake	quartzite	7	CSC	1	0
12-H-959-022	pottery, body sherd, grit temper, plain		7	CSC	1	0
12-H-959-023	unmodified flake	Fall Creek	8	CSC	21	0
12-H-959-024	modified flake	Fall Creek	8	CSC	1	0
12-H-959-025	unmodified flake	Fall Creek	10	CSC	6	0
12-H-959-026	unmodified flake	Fall Creek	11	CSC	2	0
12-H-959-027	unmodified flake	Fall Creek	12	CSC	9	0
12-H-959-027	unmodified flake	quartzite	12	CSC	1	0
12-H-959-028	unmodified flake	Fall Creek	13	CSC	11	0
12-H-959-029	unmodified flake	Fall Creek	14	CSC	4	0
12-H-959-030	modified flake	Fall Creek	14	CSC	1	0
12-H-959-031	unmodified flake	Fall Creek	15	CSC	18	0
12-H-959-031	unmodified flake	Wyandotte	15	CSC	1	0
12-H-959-032	block flake	Fall Creek	16	CSC	2	0
12-H-959-033	unmodified flake	Fall Creek	16	CSC	13	0
12-H-959-033	unmodified flake	quartzite	16	CSC	3	0
12-H-959-034	modified flake	Fall Creek	16	CSC	1	0
12-H-959-035	core	Fall Creek	16	CSC	2	0
12-H-959-036	unmodified flake	Fall Creek	17	CSC	2	0
12-H-959-037	biface fragment	Fall Creek	17	CSC	1	0
12-H-959-038	unmodified flake	Fall Creek	18	CSC	6	0
12-H-959-039	unmodified flake	Fall Creek	19	CSC	5	0
12-H-959-040	modified flake	unknown	19	CSC	1	0
12-H-959-041	Robbins point	Flint Ridge	19	CSC	1	0
12-H-959-042	unmodified flake	Fall Creek	20	CSC	8	0
12-H-959-043	unidentified bone fragment		21	CSC	1	0
12-H-959-044	unmodified flake	Fall Creek	21	CSC	3	0
12-H-959-045	block flake	Fall Creek	21	CSC	1	0
12-H-959-046	unmodified flake	Fall Creek	22	CSC	3	0
12-H-959-047	modified flake	Fall Creek	22	CSC	1	0
12-H-959-048	unmodified flake	Fall Creek	23	CSC	16	0

12-H-959-048	unmodified flake	quartzite	23 CSC	1	0
12-H-959-049	other, chipped stone		23 CSC	1	0
12-H-959-050	unmodified flake	Fall Creek	24 CSC	12	0
12-H-959-050	unmodified flake	quartzite	24 CSC	1	0
12-H-959-051	graver	Fall Creek	24 CSC	1	0
12-H-959-052	unmodified flake	unknown	25 CSC	2	0
12-H-959-053	core	Fall Creek	25 CSC	1	0
12-H-959-054	unmodified flake	Fall Creek	26 CSC	8	0
12-H-959-054	unmodified flake	Attica	26 CSC	1	0
12-H-959-055	modified flake	Fall Creek	26 CSC	2	0
12-H-959-056	unmodified flake	unknown	27 CSC	6	0
12-H-959-057	biface fragment	quartzite	27 CSC	1	0
12-H-959-058	block flake	Fall Creek	28 CSC	1	0
12-H-959-059	unmodified flake	Fall Creek	28 CSC	4	0
12-H-959-059	unmodified flake	quartzite	28 CSC	2	0
12-H-959-060	modified flake	Fall Creek	28 CSC	2	0
12-H-959-061	core	Fall Creek	28 CSC	1	0
12-H-959-062	point, triangular, base	quartzite	28 CSC	1	0
12-H-959-063	unmodified flake	Fall Creek	29 CSC	8	0
12-H-959-063	unmodified flake	quartzite	29 CSC	2	0
12-H-959-064	modified flake	Fall Creek	29 CSC	1	0
12-H-959-065	unmodified flake	Fall Creek	30 CSC	4	0
12-H-959-065	unmodified flake	Attica	30 CSC	1	0
12-H-959-065	unmodified flake	unknown	30 CSC	1	0
12-H-959-066	unmodified flake	Fall Creek	31 CSC	12	0
12-H-959-066	unmodified flake	quartzite	31 CSC	1	0
12-H-959-067	core	Fall Creek	31 CSC	1	0
12-H-959-068	unmodified flake	Fall Creek	32 CSC	7	0
12-H-959-068	unmodified flake	quartzite	32 CSC	1	0
12-H-959-069	modified flake	Fall Creek	32 CSC	1	0
12-H-959-070	unmodified flake	Fall Creek	33 CSC	1	0
12-H-959-071	end scraper	Fall Creek	33 CSC	1	0
12-H-959-072	unmodified flake	Fall Creek	34 CSC	9	0
12-H-959-073	modified flake	Fall Creek	34 CSC	2	0
12-H-959-074	block flake	Fall Creek	35 CSC	1	0
12-H-959-075	unmodified flake	Fall Creek	35 CSC	5	0
12-H-959-076	core	Fall Creek	35 CSC	1	0
12-H-959-077	marked		35 CSC	1	0
12-H-959-078	metal		36 CSC	1	0
12-H-959-079	unmodified flake	Fall Creek	36 CSC	10	0
12-H-959-079	unmodified flake	quartzite	36 CSC	1	0
12-H-959-080	core	unknown	36 CSC	1	0
12-H-959-081	unmodified flake	Fall Creek	37 CSC	2	0
12-H-959-081	unmodified flake	quartzite	37 CSC	1	0
12-H-959-082	unmodified flake	Fall Creek	38 CSC	7	0
12-H-959-083	modified flake	Fall Creek	38 CSC	1	0
12-H-959-084	block flake	Fall Creek	39 CSC	1	0
12-H-959-085	unmodified flake	Fall Creek	39 CSC	5	0

12-H-959-086	unmodified flake	Fall Creek	41 CSC	6	0
12-H-959-087	modified flake	Fall Creek	41 CSC	1	0
12-H-959-088	block flake	Fall Creek	42 CSC	2	0
12-H-959-089	unmodified flake	Fall Creek	42 CSC	13	0
12-H-959-089	unmodified flake	Attica	42 CSC	1	0
12-H-959-089	unmodified flake	quartzite	42 CSC	2	0
12-H-959-090	unmodified flake	Fall Creek	43 CSC	27	0
12-H-959-091	modified flake	Fall Creek	43 CSC	1	0
12-H-959-092	unmodified flake	Fall Creek	40 CSC	14	0
12-H-959-093	unmodified flake	Fall Creek	44 CSC	5	0
12-H-959-093	unmodified flake	quartzite	44 CSC	1	0
12-H-959-094	unmodified flake	Fall Creek	45 CSC	2	0
12-H-959-094	unmodified flake	quartzite	45 CSC	1	0
12-H-959-095	unmodified flake	Fall Creek	46 CSC	11	0
12-H-959-096	biface fragment	Fall Creek	46 CSC	1	0
12-H-959-097	unmodified flake	Fall Creek	47 CSC	18	0
12-H-959-097	unmodified flake	quartzite	47 CSC	1	0
12-H-959-098	unmodified flake	Fall Creek	48 CSC	11	0
12-H-959-098	unmodified flake	quartzite	48 CSC	1	0
12-H-959-099	hammerstone/anvil		48 CSC	1	0
12-H-959-100	pottery, body sherd, grit temper		48 CSC	1	0
12-H-959-101	unmodified flake	Fall Creek	49 CSC	3	0
12-H-959-102	unmodified flake	Fall Creek	50 CSC	4	0
12-H-959-102	unmodified flake	quartzite	50 CSC	1	0
12-H-959-103	modified flake	unknown	50 CSC	1	0
12-H-959-104	point frgament	Attica	50 CSC	1	0
12-H-959-105	unmodified flake	Fall Creek	51 CSC	8	0
12-H-959-106	unmodified flake	Fall Creek	52 CSC	11	0
12-H-959-107	other, chipped stone		52 CSC	1	0
12-H-959-108	unmodified flake	Fall Creek	53 CSC	5	0
12-H-959-109	unmodified flake	Fall Creek	54 CSC	6	0
12-H-959-110	unmodified flake	Fall Creek	55 CSC	10	0
12-H-959-111	unmodified flake	Fall Creek	56 CSC	14	0
12-H-959-111	unmodified flake	Attica	56 CSC	1	0
12-H-959-111	unmodified flake	quartzite	56 CSC	1	0
12-H-959-112	hammerstone/anvil		56 CSC	1	0
12-H-959-113	unmodified flake	Fall Creek	57 CSC	3	0
12-H-959-113	unmodified flake	Attica	57 CSC	1	0
12-H-959-114	core	Fall Creek	57 CSC	1	0
12-H-959-115	anvil		57 CSC	1	0
12-H-959-116	point fragment	Fall Creek	57 CSC	1	0
12-H-959-117	unmodified flake	Fall Creek	58 CSC	11	0
12-H-959-117	unmodified flake	Indian Creek	58 CSC	1	0
12-H-959-117	unmodified flake	quartzite	58 CSC	1	0
12-H-959-118	unmodified flake	Fall Creek	59 CSC	12	0
12-H-959-118	unmodified flake	Allen Creek	59 CSC	1	0
12-H-959-118	unmodified flake	quartzite	59 CSC	2	0
12-H-959-119	core	Fall Creek	59 CSC	1	0

12-H-959-120	block flake	Fall Creek	60 CSC	1	0
12-H-959-121	unmodified flake	Fall Creek	60 CSC	4	0
12-H-959-121	unmodified flake	quartzite	60 CSC	1	0
12-H-959-122	marked		60 CSC	1	0
12-H-959-123	block flake	Fall Creek	61 CSC	1	0
12-H-959-124	unmodified flake	Fall Creek	61 CSC	13	0
12-H-959-124	unmodified flake	quartzite	61 CSC	2	0
12-H-959-125	core	Fall Creek	61 CSC	2	0
12-H-959-126	unmodified flake	Fall Creek	62 CSC	13	0
12-H-959-126	unmodified flake	Allens Creek	62 CSC	1	0
12-H-959-127	modified flake	Fall Creek	62 CSC	1	0
12-H-959-371	unmodified flake	quartzite	62 not CSC	1	
12-H-959-128	unmodified flake	Fall Creek	63 CSC	4	0
12-H-959-128	unmodified flake	quartzite	63 CSC	1	0
12-H-959-129	bipolar artifact	Fall Creek	63 CSC	1	0
12-H-959-130	biface fragment	Fall Creek	63 CSC	1	0
12-H-959-131	block flake	Fall Creek	64 CSC	2	0
12-H-959-132	unmodified flake	Fall Creek	64 CSC	8	0
12-H-959-133	bipolar artifact	Fall Creek	64 CSC	1	0
12-H-959-134	core	Fall Creek	64 CSC	1	0
12-H-959-135	biface fragment	Fall Creek	64 CSC	1	0
12-H-959-136	point, triangular, base	Fall Creek	64 CSC	1	0
12-H-959-137	charcoal		65 CSC	2	0
12-H-959-138	unmodified flake	Fall Creek	65 CSC	16	0
12-H-959-139	core	Fall Creek	65 CSC	1	0
12-H-959-139	core	unknown	65 CSC	1	0
12-H-959-140	biface fragment	Fall Creek	65 CSC	1	0
12-H-959-141	unmodified flake	Fall Creek	66 CSC	10	0
12-H-959-142	block flake	Fall Creek	67 CSC	1	0
12-H-959-143	unmodified flake	Fall Creek	67 CSC	11	0
12-H-959-144	hammerstone		67 CSC	1	0
12-H-959-145	biface fragment	Fall Creek	67 CSC	1	0
12-H-959-146	block flake	Fall Creek	68 CSC	3	0
12-H-959-147	unmodified flake	Fall Creek	68 CSC	25	0
12-H-959-148	unmodified flake	Fall Creek	69 CSC	5	0
12-H-959-149	core	Fall Creek	69 CSC	1	0
12-H-959-150	unmodified flake	Fall Creek	70 CSC	9	0
12-H-959-151	core	Fall Creek	70 CSC	3	0
12-H-959-152	block flake	Fall Creek	71 CSC	1	0
12-H-959-153	unmodified flake	Fall Creek	71 CSC	7	0
12-H-959-154	core	Fall Creek	71 CSC	1	0
12-H-959-155	biface fragment	Fall Creek	71 CSC	1	0
12-H-959-156	block flake	Fall Creek	72 CSC	1	0
12-H-959-157	unmodified flake	Fall Creek	72 CSC	2	0
12-H-959-158	core	Fall Creek	72 CSC	1	0
12-H-959-159	unmodified flake	Fall Creek	74 CSC	1	0
12-H-959-160	unmodified flake	Fall Creek	75 CSC	14	0
12-H-959-161	modified flake	Fall Creek	75 CSC	1	0

12-H-959-162	core	Fall Creek	75 CSC	1	0
12-H-959-163	field tile		76 CSC	1	0
12-H-959-164	unmodified flake	Fall Creek	76 CSC	13	0
12-H-959-164	unmodified flake	Attica	76 CSC	1	0
12-H-959-164	unmodified flake	Aleens Creek	76 CSC	1	0
12-H-959-165	modified flake	Fall Creek	76 CSC	2	0
12-H-959-166	biface, stage 3	Fall Creek	76 CSC	1	0
12-H-959-167	block flake	Fall Creek	77 CSC	5	0
12-H-959-168	unmodified flake	Fall Creek	77 CSC	10	0
12-H-959-169	biface fragment	Fall Creek	77 CSC	1	0
12-H-959-170	block flake	Fall Creek	78 CSC	1	0
12-H-959-171	unmodified flake	Fall Creek	78 CSC	3	0
12-H-959-172	modified flake	Fall Creek	78 CSC	4	0
12-H-959-173	block flake	Fall Creek	79 CSC	1	0
12-H-959-174	modified flake	quartzite	79 CSC	1	0
12-H-959-175	unmodified flake	Fall Creek	82 CSC	1	0
12-H-959-176	unmodified flake	Fall Creek	84 CSC	4	0
12-H-959-176	unmodified flake	quartzite	84 CSC	1	0
12-H-959-177	core	Fall Creek	84 CSC	1	0
12-H-959-178	biface fragment	Fall Creek	84 CSC	1	0
12-H-959-179	unmodified flake	Fall Creek	85 CSC	5	0
12-H-959-179	unmodified flake	quartzite	85 CSC	2	0
12-H-959-180	modified flake	Fall Creek	85 CSC	1	0
12-H-959-181	biface fragment	Fall Creek	85 CSC	1	0
12-H-959-182	unmodified flake	Fall Creek	86 CSC	4	0
12-H-959-183	unmodified flake	Fall Creek	87 CSC	1	0
12-H-959-184	modified flake	Fall Creek	88 CSC	1	0
12-H-959-185	core	Fall Creek	88 CSC	1	0
12-H-959-186	unmodified flake	Fall Creek	90 CSC	8	0
12-H-959-187	unmodified flake	Fall Creek	91 CSC	8	
12-H-959-188	block flake	Fall Creek	92 CSC	1	0
12-H-959-189	unmodified flake	Fall Creek	92 CSC	11	0
12-H-959-190	hammerstone		92 CSC	1	0
12-H-959-191	marked		92 CSC	2	0
12-H-959-192	unmodified flake	Fall Creek	93 CSC	3	0
12-H-959-193	modified flake	Fall Creek	93 CSC	1	0
12-H-959-194	hammerstone		93 CSC	1	0
12-H-959-195	bipolar flake	Fall Creek	93 CSC	1	0
12-H-959-196	unmodified flake	Fall Creek	94 CSC	2	0
12-H-959-197	unmodified flake	Fall Creek	95 CSC	3	0
12-H-959-198	unmodified flake	Fall Creek	96 CSC	1	0
12-H-959-199	unmodified flake	Fall Creek	97 CSC	4	0
12-H-959-200	unmodified flake	Fall Creek	99 CSC	7	0
12-H-959-201	unmodified flake	Fall Creek	100 CSC	17	0
12-H-959-201	unmodified flake	quartzite	100 CSC	1	0
12-H-959-202	pottery, grit temper, body sherd, eroded		100 CSC	1	0
12-H-959-203	unmodified flake	Fall Creek	101 CSC	6	0
12-H-959-204	modified flake	Fall Creek	101 CSC	1	0

12-H-959-205	unmodified flake	Fall Creek	102 CSC	3	0
12-H-959-206	unmodified flake	Fall Creek	103 CSC	3	0
12-H-959-207	unmodified flake	Fall Creek	104 CSC	3	0
12-H-959-208	block flake	Fall Creek	105 CSC	1	0
12-H-959-209	unmodified flake	quartzite	105 CSC	1	0
12-H-959-210	unmodified flake	Fall Creek	107 CSC	12	0
12-H-959-210	unmodified flake	quartzite	107 CSC	2	0
12-H-959-211	modified flake	Fall Creek	107 CSC	1	0
12-H-959-212	biface fragment	Fall Creek	107 CSC	1	0
12-H-959-213	unmodified flake	Fall Creek	108 CSC	11	0
12-H-959-214	core	Fall Creek	108 CSC	1	0
12-H-959-215	unmodified flake	Fall Creek	109 CSC	6	0
12-H-959-215	unmodified flake	quartzite	109 CSC	1	0
12-H-959-216	modified flake	Fall Creek	109 CSC	1	0
12-H-959-217	core	Fall Creek	109 CSC	1	0
12-H-959-218	unmodified flake	Fall Creek	110 CSC	4	0
12-H-959-219	unmodified flake	Fall Creek	111 CSC	5	0
12-H-959-220	unmodified flake	Fall Creek	112 CSC	6	0
12-H-959-221	unmodified flake	Fall Creek	113 CSC	2	0
12-H-959-222	modified flake	Attica	113 CSC	1	0
12-H-959-223	modified flake	Fall Creek	114 CSC	1	0
12-H-959-224	unmodified flake	Fall Creek	115 CSC	2	0
12-H-959-225	unmodified flake	Fall Creek	116 CSC	8	0
12-H-959-225	unmodified flake	Attica	116 CSC	1	0
12-H-959-225	unmodified flake	quartzite	116 CSC	1	0
12-H-959-226	biface fragment	Fall Creek	116 CSC	1	0
12-H-959-227	unmodified flake	Fall Creek	117 CSC	4	0
12-H-959-228	bipolar artifact	Fall Creek	117 CSC	1	0
12-H-959-229	unmodified flake	Fall Creek	118 CSC	6	0
12-H-959-230	core	Fall Creek	118 CSC	1	0
12-H-959-231	point, triangular, base	Fall Creek	118 CSC	1	0
12-H-959-232	pottery, grit temper, body sherd, eroded		118 CSC	1	0
12-H-959-233	unmodified flake	Fall Creek	119 CSC	8	0
12-H-959-234	unmodified flake	Fall Creek	120 CSC	16	0
12-H-959-234	unmodified flake	Wyandotte	120 CSC	1	0
12-H-959-235	modified flake	Fall Creek	120 CSC	1	0
12-H-959-236	core	quartzite	120 CSC	1	0
12-H-959-237	unmodified flake	Fall Creek	121 CSC	2	0
12-H-959-238	unmodified flake	Fall Creek	122 CSC	2	0
12-H-959-239	unmodified flake	Fall Creek	123 CSC	9	0
12-H-959-239	unmodified flake	quartzite	123 CSC	1	0
12-H-959-239	unmodified flake	unknown	123 CSC	1	0
12-H-959-240	modified flake	Fall Creek	123 CSC	1	0
12-H-959-241	nail, square		124 CSC	1	0
12-H-959-242	block flake	Fall Creek	124 CSC	1	0
12-H-959-243	unmodified flake	Fall Creek	124 CSC	5	0
12-H-959-244	biface, stage 3	Fall Creek	124 CSC	1	0
12-H-959-245	hammerstone		124 CSC	1	0

12-H-959-246	block flake	Fall Creek	125 CSC	1	0
12-H-959-247	unmodified flake	Fall Creek	125 CSC	9	0
12-H-959-247	unmodified flake	quartzite	125 CSC	2	0
12-H-959-248	biface fragment	Fall Creek	125 CSC	1	0
12-H-959-249	point, triangular	Fall Creek	125 CSC	1	0
12-H-959-250	pottery, grit temper, eroded		125 CSC	1	0
12-H-959-251	pottery, grit temper, body sherd		125 CSC	4	0
12-H-959-252	unmodified flake	Fall Creek	126 CSC	4	0
12-H-959-253	modified flake	Fall Creek	126 CSC	1	0
12-H-959-254	other, chipped stone		126 CSC	1	0
12-H-959-255	pottery, grit temper, body sherd, eroded		126 CSC	1	0
12-H-959-256	unmodified flake	Fall Creek	127 CSC	9	0
12-H-959-256	unmodified flake	quartzite	127 CSC	1	0
12-H-959-257	block flake	Fall Creek	128 CSC	2	0
12-H-959-258	unmodified flake	Fall Creek	128 CSC	7	0
12-H-959-258	unmodified flake	quartzite	128 CSC	1	0
12-H-959-259	block flake	Fall Creek	129 CSC	1	0
12-H-959-260	unmodified flake	Fall Creek	129 CSC	7	0
12-H-959-260	unmodified flake	Attica	129 CSC	1	0
12-H-959-261	modified flake	Fall Creek	129 CSC	1	0
12-H-959-262	other, chipped stone		129 CSC	1	0
12-H-959-263	pottery, grit temper, body sherd, eroded		129 CSC	1	0
12-H-959-264	unmodified flake	Fall Creek	130 CSC	4	0
12-H-959-265	brick or field tile fragment		131 CSC	1	0
12-H-959-266	block flake	Fall Creek	131 CSC	3	0
12-H-959-267	unmodified flake	Fall Creek	131 CSC	9	0
12-H-959-267	unmodified flake	Attica	131 CSC	1	0
12-H-959-267	unmodified flake	quartzite	131 CSC	1	0
12-H-959-268	unmodified flake	Fall Creek	132 CSC	21	0
12-H-959-268	unmodified flake	quartzite	132 CSC	1	0
12-H-959-269	modified flake	Fall Creek	132 CSC	1	0
12-H-959-270	core	Fall Creek	132 CSC	1	0
12-H-959-271	biface, fragment	Fall Creek	132 CSC	1	0
12-H-959-272	anvil		132 CSC	1	0
12-H-959-273	hammerstone/anvil		132 CSC	1	0
12-H-959-274	pottery, rim sherd, grit temper, eroded		132 CSC	1	0
12-H-959-275	unmodified flake	Fall Creek	133 CSC	10	0
12-H-959-276	modified flake	Fall Creek	133 CSC	4	0
12-H-959-277	coal		134 CSC	1	0
12-H-959-278	unmodified flake	Fall Creek	134 CSC	7	0
12-H-959-279	exfoliated		134 CSC	1	0
12-H-959-280	marked		134 CSC	1	0
12-H-959-281	block flake	Fall Creek	135 CSC	2	0
12-H-959-282	unmodified flake	Fall Creek	135 CSC	6	0
12-H-959-282	unmodified flake	Attica	135 CSC	1	0
12-H-959-283	modified flake	Fall Creek	135 CSC	2	0
12-H-959-284	biface, stage 3	Fall Creek	135 CSC	1	0
12-H-959-285	point, triangular, base	Fall Creek	135 CSC	1	0

12-H-959-286	block flake	Fall Creek	136 CSC	2	0
12-H-959-287	unmodified flake	Fall Creek	136 CSC	5	0
12-H-959-288	modified flake	Fall Creek	136 CSC	1	0
12-H-959-289	core	Fall Creek	136 CSC	1	0
12-H-959-290	pottery, grit temper, rim sherd, eroded		136 CSC	1	0
12-H-959-291	block flake	Fall Creek	137 CSC	2	0
12-H-959-292	unmodified flake	Fall Creek	137 CSC	2	0
12-H-959-293	pottery, grit temper, body sherd, eroded		137 CSC	2	0
12-H-959-294	unmodified flake	Fall Creek	138 CSC	3	0
12-H-959-295	modified flake	Fall Creek	138 CSC	1	0
12-H-959-296	body sherd		138 CSC	1	0
12-H-959-297	unmodified flake	Fall Creek	139 CSC	7	0
12-H-959-297	unmodified flake	Wyandotte	139 CSC	1	0
12-H-959-306	biface, stage 2	Fall Creek	138 CSC	1	0
12-H-959-298	modified flake	Fall Creek	139 CSC	1	0
12-H-959-299	unmodified flake	Fall Creek	140 CSC	8	0
12-H-959-299	unmodified flake	quartzite	140 CSC	1	0
12-H-959-300	modified flake	Fall Creek	140 CSC	2	0
12-H-959-301	pottery, body sherd, grit temper, eroded		140 CSC	1	0
12-H-959-302	block flake	Fall Creek	141 CSC	4	0
12-H-959-303	unmodified flake	Fall Creek	141 CSC	10	0
12-H-959-304	modified flake	Fall Creek	141 CSC	1	0
12-H-959-305	other, chipped stone		141 CSC	1	0
12-H-959-307	unmodified flake	Fall Creek	143 CSC	3	0
12-H-959-308	unmodified flake	Fall Creek	144 CSC	7	0
12-H-959-309	core	Fall Creek	144 CSC	1	0
12-H-959-310	unmodified flake	Fall Creek	145 CSC	6	0
12-H-959-310	unmodified flake	Attica	145 CSC	1	0
12-H-959-311	core	Fall Creek	146 CSC	1	0
12-H-959-312	unmodified flake	Fall Creek	146 CSC	3	0
12-H-959-313	biface, stage 3	Fall Creek	146 CSC	1	0
12-H-959-314	unmodified flake	Fall Creek	147 CSC	6	0
12-H-959-314	unmodified flake	Wyandotte	147 CSC	1	0
12-H-959-315	unmodified flake	Fall Creek	148 CSC	6	0
12-H-959-316	modified flake	Fall Creek	148 CSC	2	0
12-H-959-317	unmodified flake	Fall Creek	149 CSC	9	0
12-H-959-318	other, chipped stone		149 CSC	1	0
12-H-959-319	core	Fall Creek	149 CSC	2	0
12-H-959-320	unmodified flake	Fall Creek	150 CSC	6	0
12-H-959-321	modified flake	Fall Creek	150 CSC	1	0
12-H-959-322	core	Fall Creek	150 CSC	1	0
12-H-959-322	core	Wyandotte	150 CSC	1	0
12-H-959-323	unmodified flake	Fall Creek	151 CSC	6	0
12-H-959-324	unmodified flake	Fall Creek	152 CSC	5	0
12-H-959-325	core	Fall Creek	152 CSC	1	0
12-H-959-326	point fragment, triangular	Fall Creek	152 CSC	1	0
12-H-959-327	unmodified flake	Fall Creek	154 CSC	9	0
12-H-959-328	modified flake	Fall Creek	154 CSC	1	0

12-H-959-329	core	Fall Creek	154 CSC	1	0
12-H-959-330	unmodified flake	Fall Creek	155 CSC	4	0
12-H-959-331	core	Fall Creek	155 CSC	1	0
12-H-959-332	point pase, bifurcate	Attica	155 CSC	1	0
12-H-959-333	unmodified flake	Fall Creek	156 CSC	6	0
12-H-959-333	unmodified flake	Attica	156 CSC	1	0
12-H-959-334	biface, stage 3	Fall Creek	157 CSC	1	0
12-H-959-335	block flake	Fall Creek	157 CSC	1	0
12-H-959-336	unmodified flake	Fall Creek	157 CSC	2	0
12-H-959-336	unmodified flake	Attica	157 CSC	1	0
12-H-959-337	point, triangular, base	Fall Creek	157 CSC	1	0
12-H-959-338	unmodified flake	Fall Creek	158 CSC	1	0
12-H-959-339	hammerstone		158 CSC	1	0
	FCR		1 CSC	4	226.8
	FCR		2 CSC	3	113.4
	FCR		3 CSC	9	255.15
	FCR		4 CSC	4	255.15
	FCR		5 CSC	10	907.2
	FCR		6 CSC	8	255.15
	FCR		7 CSC	8	567
	FCR		8 CSC	20	680.4
	FCR		9 CSC	5	198.45
	FCR		10 CSC	7	311.85
	FCR		11 CSC	6	340.2
	FCR		12 CSC	20	1020.6
	FCR		13 CSC	13	453.6
	FCR		14 CSC	7	623.7
	FCR		15 CSC	11	56.7
	FCR		16 CSC	20	56.7
	FCR		17 CSC	10	538.65
	FCR		18 CSC	5	113.4
	FCR		19 CSC	8	368.55
	FCR		20 CSC	39	907.2
	FCR		21 CSC	21	56.7
	FCR		22 CSC	12	510.3
	FCR		23 CSC	6	170.1
	FCR		24 CSC	10	226.8
	FCR		25 CSC	12	340.2
	FCR		26 CSC	6	283.5
	FCR		27 CSC	14	623.7
	FCR		28 CSC	15	396.9
	FCR		29 CSC	17	737.1
	FCR		30 CSC	4	198.45
	FCR		31 CSC	13	340.2
	FCR		32 CSC	18	652.05
	FCR		33 CSC	6	425.25
	FCR		34 CSC	4	141.75
	FCR		35 CSC	13	567

FCR	36 CSC	16	453.6
FCR	37 CSC	19	822.15
FCR	38 CSC	3	170.1
FCR	39 CSC	8	226.8
FCR	40 CSC	13	340.2
FCR	41 CSC	9	340.2
FCR	42 CSC	22	737.1
FCR	43 CSC	9	538.65
FCR	44 CSC	25	570.3
FCR	45 CSC	12	680.4
FCR	46 CSC	7	822.15
FCR	47 CSC	8	567
FCR	48 CSC	11	1077.3
FCR	49 CSC	7	538.65
FCR	50 CSC	13	340.2
FCR	51 CSC	14	708.75
FCR	52 CSC	22	1048.95
FCR	53 CSC	25	1360.8
FCR	54 CSC	12	510.3
FCR	55 CSC	9	368.55
FCR	56 CSC	9	680.4
FCR	57 CSC	12	425.25
FCR	58 CSC	16	453.6
FCR	59 CSC	21	963.9
FCR	60 CSC	3	141.75
FCR	61 CSC	14	680.4
FCR	62 CSC	14	595.35
FCR	63 CSC	13	595.35
FCR	64 CSC	6	226.8
FCR	65 CSC	26	1048.95
FCR	66 CSC	15	510.3
FCR	67 CSC	9	340.2
FCR	68 CSC	10	453.6
FCR	69 CSC	8	141.75
FCR	70 CSC	10	567
FCR	71 CSC	6	113.4
FCR	72 CSC	9	340.2
FCR	73 CSC	9	963.9
FCR	74 CSC	6	283.5
FCR	75 CSC	13	113.4
FCR	76 CSC	18	538.65
FCR	77 CSC	11	340.2
FCR	78 CSC	4	226.8
FCR	79 CSC	7	85.05
FCR	80 CSC	4	56.7
FCR	81 CSC	5	226.8
FCR	82 CSC	1	28.35
FCR	83 CSC	4	28.35

FCR	84 CSC	3	340.2
FCR	85 CSC	4	28.35
FCR	86 CSC	3	85.05
FCR	87 CSC	4	85.05
FCR	88 CSC	4	62.37
FCR	90 CSC	10	311.85
FCR	91 CSC	7	226.8
FCR	92 CSC	10	255.15
FCR	93 CSC	6	481.95
FCR	94 CSC	2	226.8
FCR	95 CSC	3	56.7
FCR	96 CSC	4	226.8
FCR	97 CSC	4	28.35
FCR	98 CSC	3	113.4
FCR	99 CSC	6	113.4
FCR	100 CSC	25	907.2
FCR	101 CSC	8	396.9
FCR	102 CSC	10	170.1
FCR	103 CSC	6	340.2
FCR	104 CSC	3	113.4
FCR	105 CSC	0	
FCR	106 CSC	2	85.05
FCR	107 CSC	5	113.4
FCR	108 CSC	13	425.25
FCR	109 CSC	8	481.95
FCR	110 CSC	8	226.8
FCR	111 CSC	6	396.9
FCR	112 CSC	4	113.4
FCR	113 CSC	4	680.4
FCR	114 CSC	0	
FCR	115 CSC	0	
FCR	116 CSC	8	113.4
FCR	117 CSC	6	311.85
FCR	118 CSC	9	226.8
FCR	119 CSC	1	0.95
FCR	120 CSC	14	396.9
FCR	121 CSC	5	907.2
FCR	122 CSC	2	453.6
FCR	123 CSC	10	510.3
FCR	124 CSC	19	963.9
FCR	125 CSC	10	113.4
FCR	126 CSC	5	226.8
FCR	127 CSC	5	85.05
FCR	128 CSC	5	113.4
FCR	129 CSC	3	907.2
FCR	130 CSC	3	198.45
FCR	131 CSC	20	453.6
FCR	132 CSC	14	737.1

	FCR		133 CSC	5	170.1
	FCR		134 CSC	3	1048.95
	FCR		135 CSC	13	1134
	FCR		136 CSC	9	340.2
	FCR		137 CSC	2	28.35
	FCR		138 CSC	8	56.7
	FCR		139 CSC	12	567
	FCR		140 CSC	16	623.7
	FCR		141 CSC	13	425.25
	FCR		142 CSC	14	396.9
	FCR		143 CSC	12	170.1
	FCR		144 CSC	5	170.1
	FCR		145 CSC	5	226.8
	FCR		146 CSC	7	340.2
	FCR		147 CSC	4	85.05
	FCR		148 CSC	7	198.45
	FCR		149 CSC	12	226.8
	FCR		150 CSC	6	170.1
	FCR		151 CSC	7	113.4
	FCR		152 CSC	7	226.8
	FCR		154 CSC	8	113.4
	FCR		155 CSC	43	680.4
	FCR		156 CSC	13	141.75
	FCR		157 CSC	3	28.35
	FCR		158 CSC	5	56.7
12-H-959-340	unmodified flake	Fall Creek	3 SP	4	0
12-H-959-341	unmodified flake	Fall Creek	7 SP	10	0
12-H-959-342	unmodified flake	Fall Creek	14 SP	7	0
12-H-959-343	core	Fall Creek	14 SP	1	0
12-H-959-344	unmodified flake	Fall Creek	16 SP	18	0
12-H-959-345	modified flake	Fall Creek	16 SP	1	0
12-H-959-346	unmodified flake	Fall Creek	46 SP	9	0
12-H-959-346	unmodified flake	Attica	46 SP	1	0
12-H-959-347	unmodified flake	Fall Creek	46 SP	3	0
12-H-959-348	block flake	Fall Creek	48 SP	1	0
12-H-959-349	unmodified flake	Fall Creek	48 SP	4	0
12-H-959-349	unmodified flake	quartzite	48 SP	1	0
12-H-959-350	modified flake	Fall Creek	48 SP	1	0
12-H-959-351	block flake	Fall Creek	57 SP	2	0
12-H-959-352	unmodified flake	Fall Creek	57 SP	5	0
12-H-959-352	unmodified flake	Attica	57 SP	1	0
12-H-959-352	unmodified flake	unknown	57 SP	1	0
12-H-959-353	pottery, body sherd, grit temper, eroded		57 SP	1	0
12-H-959-354	marked		57 SP	3	0
12-H-959-355	block flake	Fall Creek	60 SP	2	0
12-H-959-356	unmodified flake	Fall Creek	60 SP	13	0
12-H-959-356	unmodified flake	Allens Creek	60 SP	1	0
12-H-959-356	unmodified flake	quartzite	60 SP	3	0

12-H-959-357	modified flake	Fall Creek	60 SP	1	0
12-H-959-358	exfoliated		60 SP	1	0
12-H-959-359	pottery, body sherd, grit temper		60 SP	1	0
12-H-959-360	Coal		69 SP	1	0
12-H-959-361	unmodified flake	Fall Creek	69 SP	20	0
12-H-959-361	unmodified flake	Attica	69 SP	1	0
12-H-959-362	modified flake	Fall Creek	69 SP	1	0
12-H-959-363	unmodified flake	Fall Creek	74 SP	3	0
12-H-959-364	unmodified flake	Fall Creek	102 SP	1	0
12-H-959-365	modified flake	Fall Creek	102 SP	1	0
12-H-959-366	unmodified flake	Fall Creek	104 SP	1	0
12-H-959-367	unmodified flake	Fall Creek	133 SP	8	0
12-H-959-368	modified flake	Fall Creek	133 SP	1	0
12-H-959-369	marked		133 SP	1	0
12-H-959-370	metal washer		155 SP	1	
	FCR		3 SP	6	113.4
	FCR		7 SP	8	170.1
	FCR		14 SP	7	113.4
	FCR		16 SP	11	113.4
	FCR		46 SP	4	56.7
	FCR		47 SP	12	340.2
	FCR		48 SP	5	56.7
	FCR		57 SP	1	28.35
	FCR		60 SP	14	113.4
	FCR		69 SP	8	28.35
	FCR		74 SP	8	85.05
	FCR		102 SP	2	283.5
	FCR		104 SP	1	255.15
	FCR		133 SP	2	0.28
	FCR		155 SP	3	28.35
12-H-959-372	unmodified flake	quartzite	49 surface	3	
12-H-959-373	temper		49 surface	2	
12-H-959-374	unmodified flake	Fall Creek	resurvey	33	
12-H-959-374	unmodified flake	Attica	resurvey	1	
12-H-959-374	unmodified flake	quartzite	resurvey	6	
12-H-959-375	modified flake	Fall Creek	resurvey	6	
12-H-959-376	core	Fall Creek	resurvey	5	
12-H-959-377	biface, triangular	Fall Creek	resurvey	1	

Appendix F

Prehistoric Artifacts from the Intensive Survey of 12-H-959

Appendix F
Prehistoric Artifacts from
the Intensive Survey of 12-H-959

Table 1
Distribution of Prehistoric Artifacts from the Controlled Surface Collection

CSC Block	Artifacts	FCR	Artifact Density (per m^2)	FCR Density
1	3	4	0.12	0.16
2	9	3	0.36	0.12
3	11	9	0.44	0.36
4	11	4	0.44	0.16
5	9	10	0.36	0.40
6	8	8	0.32	0.32
7	10	8	0.40	0.32
8	22	20	0.88	0.80
9	0	5	0	0.20
10	6	7	0.24	0.28
11	2	6	0.08	0.24
12	10	20	0.40	0.80
13	11	13	0.44	0.52
14	5	7	0.20	0.28
15	19	11	0.76	0.44
16	21	20	0.84	0.80
17	3	10	0.12	0.40
18	6	5	0.24	0.20
19	7	8	0.28	0.32
20	8	39	0.32	1.56
21	4	21	0.16	0.84
22	4	12	0.16	0.48

23	18	6	0.72	0.24
24	14	10	0.56	0.40
25	3	12	0.12	0.48
26	11	6	0.44	0.24
27	7	14	0.28	0.56
28	11	15	0.44	0.6
29	11	17	0.44	0.68
30	6	4	0.24	0.16
31	14	13	0.56	0.52
32	9	18	0.36	0.72
33	2	6	0.08	0.24
34	11	4	0.44	0.16
35	8	13	0.32	0.52
36	12	16	0.48	0.64
37	3	19	0.12	0.76
38	8	3	0.32	0.12
39	6	8	0.24	0.32
40	14	13	0.56	0.52
41	7	9	0.28	0.36
42	18	22	0.72	0.88
43	28	9	1.12	0.36
44	6	25	0.24	1.00
45	3	12	0.12	0.48
46	12	7	0.48	0.28
47	19	8	0.76	0.32
48	14	11	0.56	0.44
49	3	7	0.12	0.28
50	7	13	0.28	0.52
51	8	14	0.32	0.56

52	12	22	0.48	0.88
53	5	25	0.20	1.00
54	6	12	0.24	0.48
55	10	9	0.40	0.36
56	17	9	0.68	0.36
57	4	12	0.16	0.48
58	13	16	0.52	0.64
59	16	21	0.64	0.84
60	7	3	0.28	0.12
61	18	12	0.72	0.48
62	15	12	0.60	0.48
63	7	13	0.28	0.52
64	14	6	0.56	0.24
65	19	26	0.76	1.04
66	10	15	0.40	0.60
67	14	9	0.56	0.36
68	28	10	1.12	0.40
69	6	8	0.24	0.32
70	12	10	0.48	0.40
71	10	6	0.40	0.24
72	4	9	0.16	0.36
73	0	9	0	0.36
74	1	6	0.04	0.24
75	16	13	0.64	0.52
76	18	18	0.72	0.72
77	16	11	0.64	0.44
78	8	4	0.32	0.16
79	2	7	0.08	0.28
80	0	4	0	0.32

81	0	5	0	0.20
82	1	1	0.04	0.04
83	0	4	0	0.32
84	7	3	0.28	0.12
85	9	4	0.39	0.16
86	4	3	0.16	0.12
87	1	4	0.04	0.16
88	2	4	0.08	0.16
90	8	10	0.32	0.40
91	8	7	0.32	0.28
92	14	10	0.56	0.40
93	6	6	0.36	0.36
94	2	2	0.08	0.08
95	3	3	0.12	0.12
96	1	4	0.04	0.16
97	4	4	0.16	0.16
98	0	3	0	0.12
99	7	6	0.28	0.24
100	19	25	0.76	1.00
101	7	8	0.28	0.32
102	3	10	0.12	0.40
103	3	6	0.12	0.24
104	3	3	0.12	0.12
105	2	0	0.08	0
106	0	2	0	0.08
107	16	5	0.64	0.20
108	12	13	0.48	0.52
109	9	8	0.36	0.32
110	4	8	0.16	0.32

111	5	6	0.20	0.24
112	6	4	0.24	0.16
113	3	4	0.12	0.16
114	1	0	0.04	0
115	2	0	0.08	0
116	11	8	0.44	0.32
117	5	6	0.20	0.24
118	9	9	0.36	0.36
119	8	1	0.32	0.04
120	19	14	0.76	0.56
121	2	5	0.08	0.20
122	2	2	0.08	0.08
123	12	10	0.48	0.40
124	8	19	0.32	0.76
125	19	10	0.76	0.40
126	7	5	0.28	0.20
127	10	5	0.40	0.20
128	10	5	0.40	0.20
129	12	3	0.48	0.12
130	4	3	0.16	0.12
131	14	20	0.76	0.80
132	28	14	1.12	0.56
133	14	5	0.56	0.20
134	9	3	0.36	0.12
135	13	13	0.52	0.52
136	10	9	0.40	0.36
137	6	2	0.24	0.08
138	6	8	0.24	0.32
139	9	12	0.36	0.48

140	12	16	0.48	0.64
141	16	13	0.64	0.52
142	0	14	0	0.56
143	3	12	0.12	0.48
144	8	5	0.32	0.20
145	7	5	0.28	0.20
146	5	7	0.20	0.28
147	7	4	0.28	0.16
148	8	7	0.32	0.28
149	12	12	0.48	0.48
150	9	6	0.36	0.24
151	6	7	0.24	0.28
152	7	7	0.28	0.28
154	11	8	0.44	0.32
155	6	43	0.24	1.72
156	7	13	0.28	0.52
157	6	3	0.24	0.12
158	2	5	0.08	0.20
Note: Blocks 89, 153 and 159 contained no artifacts or fcr.				

Table 2 Distribution of Prehistoric Artifacts from the Shovel Tests				
Shovel Test	Artifacts	FCR	Artifact Density (per m^3)	FCR Density
3	4	6	0.019	0.013
7	10	8	0.007	0.008
14	8	7	0.008	0.009
16	19	11	0.003	0.006
46	13	4	0.005	0.016
47	0	12	0	0.006
48	7	5	0.008	0.012
57	13	1	0.008	0.098
60	21	14	0.003	0.004
69	23	8	0.003	0.008
74	3	8	0.020	0.008
102*	2	2	0.038	0.038
104	1	1	0.060	0.060
133*	10	2	0.055	0.028
155	0	3	0	0.017
* Shovel tests were not screened completely				

Appendix G

12-H-985 Catalog

Appendix G
12H985 Catalog of Materials from Shovel Probes and Units

Catalog No	Identification	Raw Material	XU	Level	No	Weight
02-27-1-1-01	unmodified flake	Fall Creek	A-1	1	3	0
02-27-1-1-02	glass, clear, flat		A-1	1	1	0
02-27-1-1-03	charcoal		A-1	1		10.22
02-27-1-1-04	pottery, body sherd, exfoliated	grit temper	A-1	2	1	0
02-27-1-1-05	point fragment	Fall Creek	A-1	2	1	0
02-27-1-1-06	unmodified flake	Fall Creek	A-1	2	4	0
02-27-1-1-07	pottery, body sherd, cord-marked	grit temper	A-1	2	5	0
02-27-1-1-08	charcoal		A-1	2		7.54
02-27-1-1-09	unmodified flake	damaged	A-1	3	1	0
02-27-1-1-10	unmodified flake	Fall Creek	A-1	3	1	0
02-27-1-1-11	biface fragment, stage 3	Fall Creek	A-1	3	1	0
02-27-1-1-12	pottery, body sherd, cord-marked	grit temper	A-1	3	2	0
02-27-1-1-13	pottery, body sherd, exfoliated	grit temper	A-1	3	5	0
02-27-1-1-14	charcoal		A-1	3		3.13
02-27-1-1-15	unmodified flake	Allens Creek	A-1	4	1	0
02-27-1-1-16	charcoal		A-1	4		0.17
02-27-1-1-17	pottery, body sherd, exfoliated	grit temper	A-1	4	1	0
02-27-1-1-18	block flake	Fall Creek	A-1	4	1	0
02-27-1-1-19	unmodified flake	Fall Creek	A-1	4	2	0
02-27-1-1-20	pottery, body sherd, cord-marked	grit temper	A-1	4	1	0
02-27-1-1-21	unmodified flake	Fall Creek	A-1	4	16	0
no #	FCR		A-1	4	11	669
02-27-1-1-22	pottery, body sherd, cord-marked	grit temper	A-1	5	1	0
02-27-1-1-23	charcoal		A-1	5		10.02
02-27-1-1-24	unmodified flake	Fall Creek	A-1	6	1	0
02-27-1-1-25	column sample artifacts		A-1		6	
02-27-1-2-01	block flake	Fall Creek	4-1	1	1	0
02-27-1-2-02	unmodified flake	Fall Creek	4-1	1	2	0
02-27-1-2-03	pottery, body sherd, exfoliated	grit temper	4-1	1	4	0
02-27-1-2-04	pottery, body sherd, fabric-impressed	grit temper	4-1	2	2	0
02-27-1-2-05	FCR		4-1	2	4	0
02-27-1-2-06	modified flake	Attica	4-1	2	1	0
02-27-1-2-07	pottery, rim sherd, decorated, cord-marked	grit temper	4-1	2	1	0
02-27-1-2-08	pottery, body sherd, cord-marked	grit temper	4-1	2	6	0
02-27-1-2-09	pottery, body?, exfoliated	grit temper	4-1	2	7	0
02-27-1-2-10	unmodified flake	Fall Creek	4-1	2	4	0
02-27-1-2-11	charcoal		4-1	2		0.55
02-27-1-2-12	modified flake	Fall Creek	4-1	2	1	0
02-27-1-2-13	unmodified flake	Fall Creek	4-1	3	6	0
02-27-1-2-14	unmodified flake	Attica	4-1	3	1	0
02-27-1-2-15	unmodified flake	Indian Creek	4-1	3	1	0
02-27-1-2-16	pottery, body sherd, exfoliated	grit temper	4-1	3	7	0
02-27-1-2-17	pottery, body sherd, fabric-impressed	grit temper	4-1	3	1	0
02-27-1-2-18	pottery, body sherd, cord-impressed	grit temper	4-1	3	6	0

02-27-1-2-19	charcoal		4-1	4		0.27
02-27-1-2-20	unmodified flake	Attica	4-1	4	2	0
02-27-1-2-21	pottery, body sherd, cord-marked	grit temper	4-1	4	21	0
02-27-1-2-22	pottery, body sherd, exfoliated	grit temper	4-1	4	25	0
02-27-1-2-23	pottery, body sherd, eroded	grit temper	4-1	4	5	0
02-27-1-2-24	oolimpre	grit temper	4-1	4	1	0
02-27-1-2-25	pottery, body sherd, fabric-marked	grit temper	4-1	4	1	0
02-27-1-2-26	pottery, body sherd, fabric-marked	grit temper	4-1	5	1	0
02-27-1-2-27	pottery, neck sherd, cord-marked	grit temper	4-1	5	1	0
02-27-1-2-28	unmodified flake	Attica	4-1	5	4	0
02-27-1-2-29	pottery, body sherd, eroded	grit temper	4-1	5	3	0
02-27-1-2-30	pottery, body sherd, exfoliated	grit temper	4-1	5	4	0
02-27-1-2-31	unmodified flake	Fall Creek	4-1	5	11	0
02-27-1-2-32	unmodified flake	Indian Creek	4-1	5	1	0
02-27-1-2-33	pottery, body sherd, cord-marked	grit temper	4-1	5	12	0
02-27-1-2-34	unmodified flake	Fall Creek	4-1	6	3	0
02-27-1-2-35	pottery, body sherd, exfoliated	grit temper	4-1	6	1	0
02-27-1-2-36	pottery, body sherd, cord-marked	grit temper	4-1	6	1	0
02-27-1-2-37	unmodified flake	Attica	4-1	6	1	0
02-27-1-2-38	unmodified flake	Fall Creek	4-1	Wall	1	0
02-27-1-2-39	unmodified flake	Fall Creek	4-1	Wall	2	0
02-27-1-2-40	pottery, body sherd, eroded	grit temper	4-1	Wall	1	0
02-27-1-2-41	pottery, body sherd, cord-marked	grit temper	4-1	Wall	2	0
02-27-1-2-42	column sample artifacts		4-1		3	
02-27-1-3-01	unmodified flake	Fall Creek	9-1	1	2	0
02-27-1-3-02	modified flake	Fall Creek	9-1	1	1	0
02-27-1-3-03	faunal, tooth, deer		9-1	1	1	0
02-27-1-3-04	charcoal		9-1	1		0.18
02-27-1-3-05	unmodified flake	Fall Creek	9-1	2	10	0
02-27-1-3-06	pottery, body sherd, exfoliated	grit temper	9-1	2	2	0
02-27-1-3-07	pottery, body sherd, cord-marked	grit temper	9-1	2	1	0
02-27-1-3-08	charcoal		9-1	2		0.59
02-27-1-3-09	pottery, body sherd, eroded	grit temper	9-1	3	1	0
02-27-1-3-10	pottery, body sherd, cord-marked	grit temper	9-1	3	1	0
02-27-1-3-11	unmodified flake	Fall Creek	9-1	3	10	0
02-27-1-3-36	charcoal, wood		9-1	3	2	0.02
02-27-1-3-37	burned nutshell or bark		9-1	3	1	
02-27-1-3-12	modified flake	Fall Creek	9-1	4	2	0
02-27-1-3-13	unmodified flake	Fall Creek	9-1	4	6	0
02-27-1-3-14	pottery, body sherd, exfoliated	grit temper	9-1	4	2	0
02-27-1-3-15	unmodified flake	unknown	9-1	4	1	0
02-27-1-3-16	pottery, body sherd, eroded	grit temper	9-1	4	1	0
02-27-1-3-17	pottery, body sherd, fabric-marked	grit temper	9-1	4	1	0
02-27-1-3-18	pottery, body sherd, leached, cord-marked	temper	9-1	4	1	0
02-27-1-3-19	pottery, body sherd, cord-marked	grit temper	9-1	4	6	0
02-27-1-3-20	charcoal		9-1	4		0.1
no #	FCR		9-1	4	1	72.1
02-27-1-3-21	unmodified flake	Fall Creek	9-1	5	20	0

02-27-1-3-22	pottery, body sherd, cord-marked	grit temper	9-1	5	1	0
02-27-1-3-23	unmodified flake	Fall Creek	9-1	6	3	0
02-27-1-3-24	unmodified flake	Wyandotte	9-1	6	1	0
02-27-1-3-25	unmodified flake	Kaolin	9-1	6	1	0
02-27-1-3-26	unmodified flake	Fall Creek	9-1	6	2	0
02-27-1-3-27	unmodified flake	Fall Creek	9-1	7	1	0
02-27-1-3-28	unmodified flake	Wyandotte	9-1	7	1	0
02-27-1-3-29	unmodified flake	Fall Creek	9-1	Scrapi	1	0
02-27-1-3-30	unmodified flake	Allens Creek	9-1	Scrapi	1	0
02-27-1-3-31	pottery, body sherd, exfoliated	grit temper	9-1	Scrapi	2	0
02-27-1-3-32	pottery, body sherd, cord-marked	grit temper	9-1	Scrapi	1	0
02-27-1-3-33	unmodified flake	Fall Creek	9-1	Scrapi	17	0
02-27-1-3-34	unmodified flake	quartzite	9-1	Scrapi	1	0
02-27-1-3-35	modified flake	Fall Creek	9-1	Scrapi	1	0
no #	FCR		9-1	Scrapi	1	99.8
02-27-1-3-37	column sample artifacts		9-1		10	
02-27-1-4-01	pottery, body sherd, exfoliated	grit temper	14-1	1	1	0
02-27-1-4-02	pottery, body sherd, smoothed	grit temper	14-1	1	2	0
02-27-1-4-03	unmodified flake	Fall Creek	14-1	1	1	0
02-27-1-4-04	point, triangular, base	Fall Creek	14-1	1	1	0
02-27-1-4-05	biface fragment	Fall Creek	14-1	2	1	0
02-27-1-4-06	unmodified flake	Fall Creek	14-1	2	1	0
02-27-1-4-07	pottery, body sherd, fabric-marked	grit temper	14-1	2	1	0
02-27-1-4-08	pottery, body sherd, exfoliated	grit temper	14-1	2	3	0
02-27-1-4-09	pottery, body sherd, eroded	grit temper	14-1	2	3	0
02-27-1-4-10	charcoal		14-1	3		0.02
02-27-1-4-11	unmodified flake	Fall Creek	14-1	3	1	0
02-27-1-4-12	unmodified flake	Indian Creek	14-1	3	1	0
02-27-1-4-13	point fragment, triangular	Attica	14-1	3	1	0
02-27-1-4-14	unmodified flake	Attica	14-1	3	2	0
02-27-1-4-15	pottery, body sherd, exfoliated	grit temper	14-1	3	6	0
02-27-1-4-17	pottery, body sherd, cord-marked	grit temper	14-1	3	1	0
02-27-1-4-18	rd-mrked	grit temper	14-1	3	1	0
02-27-1-4-19	hammerstone	quartzite	14-1	3	1	0
02-27-1-4-20	unmodified flake	Fall Creek	14-1	4	2	0
02-27-1-4-21	modified flake	Fall Creek	14-1	4	1	0
02-27-1-4-22	unmodified flake	Fall Creek	14-1	scrapi	1	0
02-27-1-4-23	mrkd	grit temper	14-1	scrapi	1	0
02-27-1-4-24	pottery, body sherd, cord-marked	grit temper	14-1	scrapi	1	0
02-27-1-4-25	exfoliated	grit temper	14-1	scrapi	8	0
02-27-1-4-26	column sample artifacts		14-1		5	
12-H-985-023	pottery, body sherd, exfoliated	grit temper	A-1	SP	2	
12-H-985-024	pottery, neck, decorated, cordmarked	grit temper	A-1	SP	1	
12-H-985-025	modified flake	Fall Creek	A-1	SP	1	0
12-H-985-026	pottery, body sherd, cord-marked	grit temper	A-1	SP	8	0
12-H-985-027	unmodified flake	Fall Creek	A-1	SP	8	0
no #	FCR		B-1	SP	2	21.3
12-H-985-028	unmodified flake	Fall Creek	C-1	SP	3	0

12-H-985-029	unmodified flake	Fall Creek	D-1	SP	3	0
12-H-985-030	pottery, body sherd, cord-marked	grit temper	E-1	SP	1	0
12-H-985-031	unmodified flake	Fall Creek	1-1	SP	1	0
12-H-985-032	pottery, body sherd, cord-marked	grit temper	1-1	SP	3	0
12-H-985-033	pottery, body sherd, cord-marked	grit temper	1-2	SP	1	0
12-H-985-034	unmodified flake	Fall Creek	2-1	SP	1	0
12-H-985-035	unmodified flake, possibly broken	Fall Creek	2-1	SP	1	0
12-H-985-036	pottery, body sherd, exfoliated	grit temper	2-1	SP	1	0
no #	FCR		2-3	SP	1	2
12-H-985-037	unmodified flake	Fall Creek	4-1a	SP	4	0
12-H-985-038	pottery, body sherd, exfoliated	grit temper	4-1a	SP	1	0
12-H-985-039	unmodified flake	damaged	5-1	SP	1	0
12-H-985-040	unmodified flake	Fall Creek	5-3	SP	1	0
12-H-985-041	modified flake	Fall Creek	6-1	SP	1	0
12-H-985-042	unmodified flake	Fall Creek	6-1	SP	2	0
12-H-985-043	Core	quartzite	6-1	SP	1	0
no #	FCR		6-3	SP	1	24.3
12-H-985-044	unmodified flake	Fall Creek	6-4	SP	3	0
12-H-985-045	pottery, body sherd, exfoliated	grit temper	7-1	SP	1	0
12-H-985-046	pottery, body sherd, cord-marked	grit temper	7-1	SP	1	0
12-H-985-047	unmodified flake	Fall Creek	7-1	SP	2	0
12-H-985-048	metal, barbed wire		7-1	SP	2	0
12-H-985-049	unmodified flake	Fall Creek	7-2	SP	2	0
12-H-985-050	pottery, body sherd, cord-marked	grit temper	7-2	SP	2	0
12-H-985-051	unmodified flake	Attica	7-3	SP	1	0
12-H-985-052	pottery, body sherd, smoothed	grit temper	7-3	SP	1	0
12-H-985-053	pottery, body sherd, cord-marked	grit temper	7-3	SP	2	0
12-H-985-054	unmodified flake	Fall Creek	7-3	SP	2	0
12-H-985-055	unmodified flake	Fall Creek	8-1	SP	4	0
12-H-985-056	metal, chain links		8-1	SP	2	0
12-H-985-057	unmodified flake	Fall Creek	8-1	SP	1	0
12-H-985-058	unmodified flake	Attica	8-2	SP	1	0
12-H-985-059	pottery, body sherd, cord-marked	grit temper	8-2	SP	2	0
12-H-985-060	unmodified flake	Fall Creek	8-2	SP	1	0
12-H-985-061	unmodified flake	Fall Creek	8-3	SP	1	0
12-H-985-062	pottery, body sherd, cord-marked	grit temper	8-3	SP	2	0
12-H-985-063	modified flake	Fall Creek	9-1	SP	1	0
12-H-985-064	unmodified flake	Fall Creek	9-1	SP	3	0
12-H-985-065	point fragment	Fall Creek	9-1	SP	1	0
12-H-985-066	pottery, body sherd, fabric-marked	grit temper	9-1	SP	1	0
12-H-985-067	pottery, body sherd, exfoliated	grit temper	10-1	SP	3	0
12-H-985-068	faunal, tooth?, deer?		10-1	SP	1	0
12-H-985-069	pottery, body sherd, fabric-marked	grit temper	10-1	SP	1	0
12-H-985-070	pottery, body sherd, smoothed	grit temper	10-1	SP	3	0
12-H-985-071	unmodified flake	Fall Creek	10-1	SP	3	0
12-H-985-072	pottery, body sherd, cord-marked	grit temper	10-1	SP	1	0
12-H-985-073	modified flake	Fall Creek	9-2	SP	1	0
12-H-985-074	decorated?	sandy paste	9-3	SP	1	0

12-H-985-075	unmodified block flake	Fall Creek	9-4	SP	1	0
12-H-985-076	pottery, body sherd, exfoliated	grit temper	10-2	SP	1	0
12-H-985-077	charcoal		11-2	SP	2	0
12-H-985-078	charcoal		11-3	SP	2	0
12-H-985-079	modified flake	Fall Creek	12-1	SP	2	0
12-H-985-080	unmodified flake	Fall Creek	12-2	SP	3	0
12-H-985-081	charcoal		18-1	SP		11.17
12-H-985-082	unmodified block flake	Fall Creek	12-3	SP	1	0
12-H-985-083	unmodified flake	Fall Creek	13-1	SP	1	0
12-H-985-084	unmodified flake	Fall Creek	15-1	SP	1	0
12-H-985-085	unmodified flake	Fall Creek	16-1	SP	2	0

Appendix H

Soil Descriptions of the Augers

Appendix H
Soil Descriptions of the Augers

Appendix F Soil Descriptions of the Augers				
Auger	Depth (cm)	Munsell	Texture	Structure
Auger 1	0-10	10YR 3/2	sandy loam	granular to weak subangular blocky
	10-20	10YR 3/2	sandy loam	granular to weak subangular blocky
	20-30	10YR 3/2	sandy loam	granular to weak subangular blocky
	30-40	10YR 3/2	loamy sand	granular to weak subangular blocky
	40-50	10YR 4/2	sandy clay loam	weak subangular blocky
	50-60	10YR 4/2	sandy clay loam	weak subangular blocky
	60-70	10YR 4/2	sandy loam	weak subangular blocky
	70-80	10YR 4/1	silt loam	moderate subangular blocky
	80-90	10YR 4/1	silt loam	moderate subangular blocky
	90-100	10YR 4/1	silt loam	moderate to strong subangular blocky
	100-110 (water table)	10YR 4/1 with 6/1 and 6/6 mottles	silt loam	moderate to strong subangular blocky
	110-120	10YR 4/1 with 6/1 and 6/6 mottles	silt loam	moderate to strong subangular blocky
	120-136	10YR 4/1 with 6/1 and 6/6 mottles	silt loam	moderate to strong subangular blocky

Auger 2	0-10	10YR 3/2	silt loam	moderate subangular blocky
	10-20	10YR 3/2	silt loam	moderate subangular blocky
	20-30	10YR 3/2	silt loam	moderate subangular blocky
	30-40	10YR 3/3	silt loam	weak subangular blocky
	40-50	10YR 3/3	silt loam	weak subangular blocky
	50-60	10YR 4/3	silt loam	moderate subangular blocky
	60-70	10YR 4/3	silt loam	moderate subangular blocky
	70-80	10YR 4/4	silt loam	moderate subangular blocky
	80-90	10YR 4/4	silt loam	moderate subangular blocky
	90-100	10YR 4/4	silt loam	moderate subangular blocky
	100-110	10YR 4/4	silt loam	moderate subangular blocky
	110-120	10YR 4/4	silt loam	moderate subangular blocky
	120-130	10YR 4/4 with 6/6 mottles	silt loam	moderate subangular blocky
Auger 3	0-10	10YR 3/1	sandy clay loam	moderate subangular blocky
	10-20	10YR 3/1	sandy clay loam	moderate subangular blocky
	20-30	10YR 3/1	sandy clay loam	weak subangular blocky
	30-40	10YR 3/1	sandy clay loam	weak subangular blocky
	40-50	10YR 3/2	sandy clay loam	weak subangular blocky
	50-60	10YR4/2	sandy clay loam	weak subangular blocky
	60-70	10YR4/2	sandy loam	weak subangular blocky
	70-80	10YR4/4	sandy loam	weak subangular blocky
	80-90	10YR4/4	sandy loam	weak subangular blocky
	90-100 (rock)	10YR4/4	loamy sand	weak subangular blocky

Auger 4	0-10	10YR 3/2	silt loam	moderate subangular blocky
	10-20	10YR 3/2	silt loam	moderate subangular blocky
	20-30	10YR 3/2	silt loam	moderate subangular blocky
	30-40	10YR 3/2	silt loam	moderate subangular blocky
	40-50	10YR 3/2	silty clay loam	weak subangular blocky
	50-60	10YR 3/2	silty clay loam	weak subangular blocky
	60-70	10YR 3/2	silty clay loam	weak subangular blocky
	70-80	10YR 3/3	silt loam	moderate subangular blocky
	80-90	10YR 3/3	silt loam	moderate subangular blocky
	90-100	10YR 4/3	silt loam	moderate subangular blocky
	100-110	10YR 4/3	silt loam	moderate subangular blocky
	110-120	10YR 4/4	sandy clay loam	weak subangular blocky
	120-130	10YR 5/4	loamy sand with pea gravel	weak subangular blocky
Auger 5	0-10	10YR 3/1	silt loam	moderate subangular blocky
	10-20	10YR 3/1	silt loam	moderate subangular blocky
	20-30	10YR 3/1	silt loam	moderate subangular blocky
	30-40	10YR 3/1	silty clay loam	weak subangular blocky
	40-50	10YR 3/1	silty clay loam	weak subangular blocky
	50-60	10YR 3/2	silt loam	weak subangular blocky
	60-70	10YR 4/2	silt loam	weak subangular blocky
	70-80	10YR 4/3	silt loam	weak subangular blocky
	80-90	10YR 4/3	silt loam	weak subangular blocky
	90-100	10YR 4/4	sandy clay loam	weak subangular blocky
	100-110	10YR 4/4	loamy sand	weak subangular blocky
	110-120	10YR 4/4	loamy sand	weak subangular blocky
	120-140 (gravel)	10YR 4/3	loamy sand with pea gravel	massive

Auger 6	0-10	10YR 3/3	silty clay loam	weak subangular blocky
	10-20	10YR 3/3	silty clay loam	weak subangular blocky
	20-35	10YR 3/3 with 6/1 and 5/6 mottles	sandy clay loam	weak subangular blocky
	35-50	10YR 3/3 with 6/1 and 5/6 mottles	sandy clay loam	weak subangular blocky
	50-60	10YR 3/3 with 6/1 and 5/6 mottles	sandy clay loam	weak subangular blocky
	60-70	10YR 3/3 with 6/1 and 5/6 mottles	sandy clay loam	weak subangular blocky
	70-85 (water)	10YR 6/3 with 5/2 and 6/6 mottles	sandy clay loam	weak subangular blocky
Auger 7	0-10	10YR 3/1	silt loam	moderate subangular blocky
	10-20	10YR 3/1	silt loam	moderate subangular blocky
	20-30	10YR 3/1	silt loam	moderate subangular blocky
	30-40	10YR 3/2	silt loam	weak subangular blocky
	40-50	10YR 3/2	silt loam	weak subangular blocky
	50-60	10YR 4/3	silt loam	weak subangular blocky
	60-70	10YR 4/3	silt loam	weak subangular blocky
	70-80	10YR 4/3	silty clay loam	weak subangular blocky
	80-90	10YR 4/3	silty clay loam	weak subangular blocky
	90-100	10YR 4/3	sandy clay loam	weak subangular blocky
	100-110	10YR 4/3	loamy sand	massive
	110-120	10YR 5/4	sand with gravel	massive