# A Survey of Montgomery County: A Data Enhancement Project

**Grant # 18-10-21921-9**

Image redacted for
site confidentiality purposes

By: Emily Murray, Jessie Moore and Victoria Kiefer

Edited by Christine Keller
Principal Investigator: Mark A. Hill

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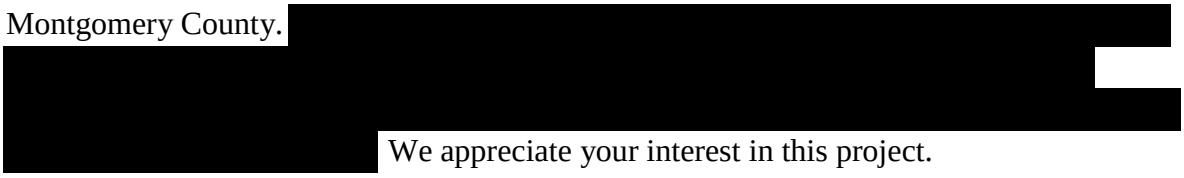
The project could not have been completed without access to agricultural fields in Montgomery County.



We appreciate your interest in this project.

The field work and laboratory processing was completed by Christine Keller, the authors and the following Ball State students: Vanessa Wirth, Miriah White, Elodia Leavitt, Kelsey Perrigo, Victoria Lucas, Kari Wilhelm, Tyler Wolford, Dane Rowles, Kristin Kjeldsen, Allison Galbari, Jordan Messer and Trey Hill.

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Thank you all.

ABSTRACT

The Applied Archaeology Laboratories (AAL) at Ball State University conducted a data enhancement project for archaeological resources in Montgomery County, Indiana, for an FY2010 Historic Preservation Fund Grant (Grant #18-10-21921-9). This Historic Preservation Fund grant project investigated the archaeological resources of Montgomery County, Indiana with a focus on the Sugar Creek Valley and the northern half of the county. Approximately 915 acres (370.3 hectares) of agricultural land were surveyed and 220 new archaeological sites were recorded. The survey recovered 372 prehistoric artifacts and 1,329 historic artifacts from 16 parcels of land within Montgomery County. Cultural periods that are represented in the artifact assemblage include Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland and Late Woodland/Prehistoric components that were documented from the precontact era. The average site density recorded for the project area for precontact sites was one site per 5.4 acres.

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INTRODUCTION

The Applied Archaeology Laboratories (AAL) at Ball State University conducted a FY2010 Historic Preservation Fund Grant to survey portions of Montgomery County, Indiana. The project involved a pedestrian survey of approximately 915 acres of agricultural land. The main goals of the project were to increase the site database, construct a cultural chronology for the county, refine settlement patterns of the precontact era, and enhance our understanding of the early Euro-American period. Montgomery County had 146 recorded archaeological sites in the SHAARD database prior to this survey. The Sugar Creek valley and northern half of the county were targeted for this project because they have not been systematically surveyed and are threatened due to gravel mining and erosion. Different environmental zones within the county were surveyed including floodplains, uplands, outwash, and outwash plains. In addition to the field survey, we also investigated four reported mound sites recorded in county histories (Anonymous n.d., Collett 1876) and GLO notes, and investigated potential chert sources available in the county to help define lithic resource areas and utilization in the region. Though the project did not focus on minority-related resources of the historic period, an attempt was made to locate [redacted].

The following research questions, while not exhaustive, guided this project.

1. What is the cultural chronology for Montgomery County?

2. What are the densities and distributions of archaeological sites on the various landforms within the county?

3. What is the settlement pattern for different cultural contexts?

4. What is the average site density within the county?

5. Is prehistoric occupation more extensive and/or more intensive at the ecotones between the environmental zones?

6. Is Sugar Creek chert a variant of Attica chert and can it be distinguished as a lithic raw material? Can the nature and distribution of this material be defined and mapped to contribute to our knowledge of prehistoric lithic resource utilization, trade, and mobility in the region?

7. Is there evidence of existence of trade and contact between central Indiana and northeastern Illinois via the [redacted]? For example, is there an Oneota presence in the county?

## BACKGROUND

### *Environmental Setting*

To provide a framework for interpreting 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 Montgomery County, Indiana.

#### Location

The project area is located in Montgomery County (Figure 1). The research universe is approximately 162,646 acres (65,821 hectares) in size. For the proposed research, we targeted areas in the Sugar Creek valley and the northern half of the county.

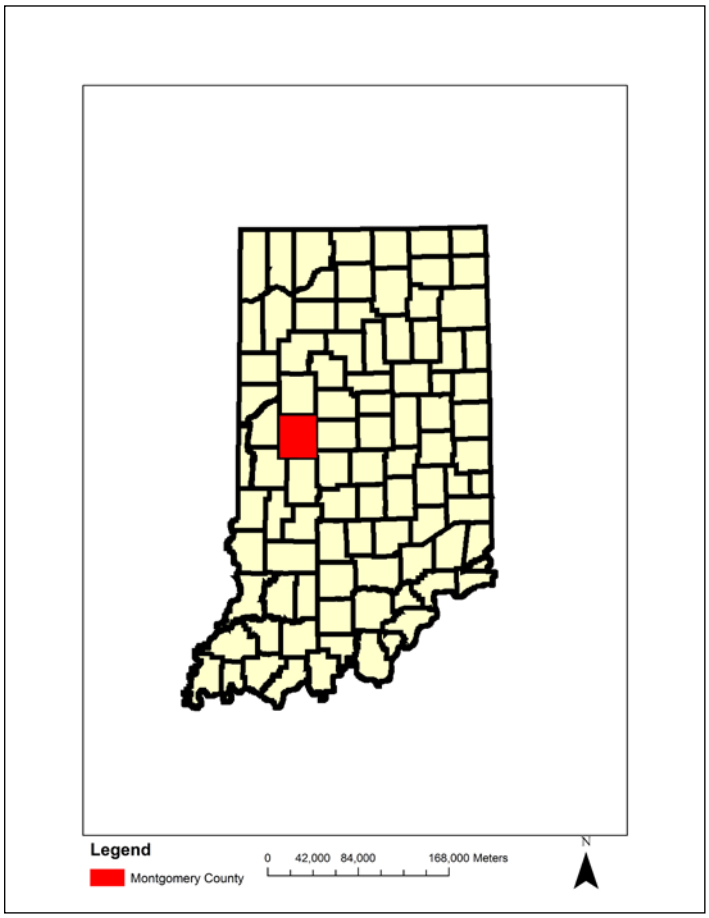


**Figure 1: Montgomery County within the state of Indiana.**

## 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 Kankakee Arches (Gutshick 1966: 9). Montgomery County is located within the broad region of uplift known as the Cincinnati Arch (Schneider 1966: 41).

The Cincinnati Arch can then be divided further into smaller bedrock physiographic units. The project area is trisected by three of those units: the Norman Upland, Mitchell Plain, and Crawford Upland (Schneider 1966: 54). The majority of the county is occupied by the northern portion of the Norman Upland unit. The western edge of the county features the eastern portion of the Crawford Upland and the northern tip of the Mitchell Plain.

Norman Upland is typically characterized as steep sloping limestone with deep V-shaped valleys and flat-topped narrow ridges (Schneider 1966: 45). The Mitchell Plain consists largely of middle Mississippian limestone as well and displays severe karst topography, which is noticeable by the presence of numerous sinkholes across the plain (Schneider 1966: 46). Crawford Upland is typified by great variety in geographic formations due to the overlapping of resistant sandstone of the Pennsylvanian Mansfield Formation atop easily eroded Mississippian limestone (Schneider 1966: 47).

The rough terrain of these three physiographic units are not witnessed within the project area due to the location of the 12,000 square mile Tipton Till Plain, which is a result of prehistoric glacial encroachments that have leveled off the area to one with low geographic relief across the central part of the state (Schneider 1966: 42). The Tipton Till Plain is a nearly flat rolling glacial plain occasionally dotted with poorly developed moraines and eskers (Schneider 1966: 49).

Attica chert (Figure 2) and Sugar Creek chert (an Attica variant) are the only documented bedrock cherts in the region around Montgomery County (Cantin 2008). Attica chert outcrops appear in adjacent Fountain, Warren and Boone counties (Cantin 2008: 11-12). Stratigraphically, Attica chert is a member of the Muldraugh Formation of the Borden Group of the Mississippian Period (Cantin 2008: 15). Outcrops likely do not occur in Montgomery County because Sugar Creek does not cut deep enough to reach Mississippian bedrock; Pennsylvanian sandstone dominates the rock faces in the county. Also known as “Wabash Green” and “Independence”, Attica chert is described as being blue-green in color with blue-grey streaks, bands and mottles (Cantin 2008: 11-12). When heat treated, Attica chert takes on a purple color with pinkish bands and streaks (Cantin 2008: 12). Texture is variable, ranging from fine-medium to medium coarse; luster is generally usually dull to slightly glossy (Cantin 2008: 12). Fossil inclusions are rare with the exception of microscopic sponge spicules; however crystalline vugs have been encountered

(Cantin 2008: 12). Temporally, Attica chert is found in all cultural periods in Indiana however little use is documented for Woodland and Mississippian periods in Indiana (Cantin 2008: 13).


**Figure 2: Attica Chert from the Ball State University AAL chert collection.**

Glacial History

Modern Indiana has been shaped by the cumulative effects of three glaciations: the Kansan, Illinoian, and the Wisconsin glacial episodes (Shurig 1970: 6). The glaciers were formed in the upland east area near the Hudson Bay and spread out across the North American continent, reaching its farthest in the Wabash and Ohio Valleys – south of the 38$^{th}$ parallel – farther than anywhere else in the Northern Hemisphere during the Pleistocene Epoch (Wayne 1966: 21). Each new glacial migration brought with it tons of glacial drift that resurfaced the face of Indiana. The current homogenous appearance of Indiana's central region is misleading because underneath the surface lies a blending of bedrock and glacial drift that indicates its volatile glacial past.

The Kansan Age glaciation was the first to impact Indiana and dates from approximately 350,000 to 400,000 years ago (Melhorn 1997: 18). It extended southward towards the Scottsburg Lowland. The glaciation was responsible for the formation of the Ohio River. The pre-glacial Teays River valley was the main drainage system across the country stretching from North Carolina to Illinois. The waterway was dammed in western Ohio by the encroaching glacier and forced to find alternative outlets. The drainage was diverted to what is now the Ohio River (Shurig 1970: 6). The Kansan glaciation was also responsible for some of the deepest

valley-cutting during the Ice Age and deposited roughly 75 to 100 feet of glacial drift (Wayne 1966: 32).

Glaciations are followed by years of warming, which result in differences in fossils and soil deposits. These differences make it possible to clearly delineate various glacial episodes. The Yarmouth Age was the warming period that followed the Kansan Age and lasted for 200,000 years (Melhorn 1997: 18); it was later followed by the second glacial episode, the Illinoian Age.

The Illinoian Age began 125,000 years ago (Wayne 1966: 32). This is the glaciation that was responsible for delving the farthest into the Northern Hemisphere. The glacier margin fluctuated three times from its origin in the Lake Michigan Lowland to just south of the 38$^{th}$ parallel (Wayne 1966: 33). Each fluctuation resulted in distinct till coloration as well as types of fossils present. The warming period known as the Sanagon Age preceded this glaciation (Wayne 1966: 34).

The final glaciation, the Wisconsin Age, began its encroachment upon Indiana from the northeast 70,000 years ago and produced the Trafalgar Formation (Wayne 1966: 34). The glacier was approximately 1,700 feet thick in certain areas (Wayne 1966: 27). The project site of Montgomery County is part of the Cartersburg Till Member and the Center Grove Till Member both of which are part of the Trafalgar Formation (Wayne 1966: 26). The Trafalgar formation is primarily composed of massive calcareous conglomeritic mudstones (a compact but uncemented sandy, silty, matrix) with scattered beds of gravel, sand and silt (Wayne 1963: 45).

Unconsolidated sediments overlie the Trafalgar 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, Wayne1966: 26). Most of the Atherton Formation sediments in the project area would belong to the lacustrine facies (Wayne 1966: 26). This facies consists of stratified coarse-grained sediments which were deposited in sheets by glacial meltwater current in valley fill (Wayne 1963: 32).

## Physiography

Montgomery County is within the general physiographic unit known as the Tipton Till Plain, an area of low relief with extensive areas of ice-disintegration features (Gray 2000). The Tipton Till Plain has a nearly flat to gently rolling topography which is crossed by several end moraines created during the Wisconsin glaciation (Wayne 1966: 34). However, the end moraines

within the area are so low and poorly developed that the Tipton Till Plain is generally characterized as “virtually featureless” (Schneider 1966: 49).

The Tipton Till Plain is then divided into physiographic divisions of which Montgomery County lies within the Norman Upland, Mitchell Plain, and Crawford Upland (Gray 2000). The Norman Upland is typically characterized as steep sloping limestone with deep V-shaped valleys and flat-topped narrow ridges (Schneider 1966: 45). The Mitchell Plain consists largely of middle Mississippian limestone as well and displays severe karst topography, which is noticeable by the presence of numerous sinkholes across the plain (Gray 1997: 38). The Crawford Upland is typified by great variety in geographic formations due to the overlapping of resistant sandstone of the Pennsylvanian Mansfield Formation atop easily eroded Mississippian limestone (Schneider 1966: 47).

## Soils

The majority of soils found in Montgomery County are a product of either glacial or fluvial parent materials. Glacially deposited sediments of the ridge and ground moraines typically have clayey to silty textures while kames and eskers consist of sands and gravels. Glacial-fluvial deposits in outwash plains and terraces range from silty to gravelly textures. The more recent fluvial deposits found on flood plains and river terraces are dominated by loamy textures. Lacustrine plains tend to have clayey textures (Hosteter 1989).

The area surveyed incorporated 12 soil associations mapped within the county (Table 1). Soil associations in upland settings include (Crosby-Treaty, Drummer-Raub-Brenton, Fincastle-Cyclone, Fincastle-Miami, Hennepin-Weikert, Martinsville Till Substratum, Miami-Crosby, Ockley Till Substratum, Reesville-Ragsdate-Fincastle, Starks-Mahalasville and Xenia-Birkbeck) represent the majority of the project area. Soil associations identified as forming in terraces and outwash plains (Mahalasville, Gravelly Substratum-Waynetown-Brenton Variant and Ockley-Rush) represent a small portion of the soils within the project area. Soil associations in floodplain settings (Beckville-Stonelick) represent the minority of the project area (Hosteter 1989). The soil associations mapped within the project area would have supported a variety of flora and fauna to attract human occupation.

| Table 1: Soil Associations in Montgomery County (Hosteter 1989) | | | |
|---|---|---|---|
| **Association** | **Description** | **Landforms** | **% of County** |
| Beckville-Stonelick | Nearly level, moderately well drained and well drained soils formed in alluvium. | Floodplains | 2% |
| Crosby-Treaty | Nearly level, somewhat poorly drained and very poorly drained soils formed in silty material and glacial drift. | Uplands | 4% |
| Drummer-Raub-Brenton | Nearly level, poorly drained and somewhat poorly drained soils formed in silty material and glaciofluvial deposits or in silty material and loamy glacial drift. | Uplands | 8% |
| Fincastle-Cyclone | Nearly level, somewhat poorly drained and poorly drained soils formed in silty material and glacial drift. | Uplands | 9% |
| Fincastle-Miami | Nearly level to strongly sloping, somewhat poorly drained and well drained soils formed in silty material and glacial drift. | Uplands | 5% |
| Hennepin-Weikert | Moderately steep to very steep, well drained soils formed in glacial drift or in material weathered from sandstone, siltstone, and shale. | Uplands | 3% |
| Mahalasville, Gravelly Substratum-Waynetown-Brenton Variant | Nearly level, very poorly drained and somewhat poorly drained soils formed in silty material and glacial outwash. | Terraces and Outwash Plains | 4% |
| Martinsville, Till Substratum-Ockley, Till Substratum | Gently sloping to strongly sloping, well drained soils formed in loamy glaciofluvial deposits or in silty material and loamy and gravelly sand deposits. | Uplands | 9% |
| Miami-Crosby | Strongly sloping to nearly level, well drained and somewhat poorly drained soils formed in silty material and glacial drift. | Uplands | 5% |
| Ockley-Rush | Nearly level to moderately sloping, well drained soils formed in silty material and loamy and gravelly sand outwash. | Terraces | 5% |
| Reesville-Ragsdate-Fincastle | Nearly level, somewhat poorly drained and very poorly drained soils formed in loess or in loess and glacial till. | Uplands | 14% |

| Table 1: Soil Associations in Montgomery County (Hosteter 1989) | | | |
|---|---|---|---|
| **Association** | **Description** | **Landforms** | **% of County** |
| Starks-Mahalasville | Nearly level, somewhat poorly drained and very poorly drained soils formed in silty material and glaciofluvial deposits. | Uplands | 23% |
| Xenia-Birkbeck | Moderately sloping and gently sloping, moderately well drained soils formed in loess and glacial till. | Uplands | 9% |

Water Resources

Precipitation is the primary source of water for Montgomery County (Hale 1966: 92). Eight to 20 percent of precipitation becomes surface water as it collects in rivers, streams, lakes, and reservoirs (Bechert 1966: 100). Sugar Creek is the major water source running through Montgomery County, however there are also many other smaller streams and creeks. Near Sugar Creek, the topography is characterized by abrupt elevation changes and deep draws that cut into level areas (Hosteter 1989: 1).Sugar Creek is a tributary of the Wabash River watershed which acts as a drainage system for two thirds of the state flowing in a northeast-southwest direction (Schneider 1966: 50; Hale 1966: 92). The Wabash River eventually deposits water and soil from Montgomery County into the Ohio River, which is then ultimately transported to the Gulf of Mexico (Hale 1966: 92). In addition, the county has two lakes, Lake Waveland and Lake Holiday in the southern part of the county, which are important surface water deposits.

The flow or "discharge" of rivers fluctuates greatly throughout seasons and over years (Hale 1966: 94). The maximum discharge is experienced during the late winter and early spring. Meltwater from snow and increased precipitation at this time increases the discharge so much that at times flooding becomes a serious concern. Minimum discharge occurs during the summer and fall due to the effects of evaporation and transpiration by plant life. Roughly two-thirds of precipitation is lost due to this process. In contrast, maximum use of water also occurs during the summer and fall resulting in occasional drought (Hale 1966: 95).

The remaining eight to 16 percent of precipitation percolates through the aeration zone of soil and rock until it reaches the water table where it becomes ground water (Bechert 1966: 100). Ground water moves in exactly the same fashion as surface water however slower. The ground water moves laterally until it reaches a lower elevation which it then empties into. Eventually ground water will become surface water when it reaches an outlet, be it natural or artificial. The water itself is high in iron, as is most of Indiana's water, as well as being high in its manganese content (Bechert 1966: 110). Water resources are extremely important to human occupation and

influence human habitation. Montgomery County's diverse water resources would have been a valuable resource to prehistoric and historic populations.

## 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 percent 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 mesothermal unit which has a warm temperature climate similar to those areas in the south and west (Newman 1966: 171). Since Montgomery County is located in north-central Indiana, it experiences daily and seasonal variability in climate, with very cold winters and hot and humid summers (Deal 1979; Lockridge and Jensen 1982; Ruesch 1983).

Average rainfall for Montgomery County is between 38 to 40 inches a year while snowfall ranges between 15 to 20 inches a year (Newman 1997: 88). The mean minimum January temperature varies between 20 to 22 degrees Fahrenheit while the mean maximum January temperature stays within 38 to 40 degrees Fahrenheit (Schaal 1966: 157). Summer temperatures vary accordingly with intense heat, the mean minimum July temperature is 64 degrees Fahrenheit and the mean maximum July temperature is between 88 to 90 degrees Fahrenheit (Schaal 1966: 157).

Climatic influences can be created by several natural features within the landscapes; these areas would have affected prehistoric and historic utilization of the local environment and created site selected environments. Newman (1966: 174-176) 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.

The modern climate of Indiana is 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 paleo-climates has 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.

Biotic Communities

Flora

As the climate shifted in Indiana after the end of the Pleistocene, 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 within the region since the retreat of the glacial ice. The relatively rapid and dramatic change in vegetation from open parkland to closed forest was the result of a rapid acceleration in the rate of warming (Whitehead 1997: 105). Table 2 is a regional generalization and does not cover the project area specifically. It should be emphasized that vegetation varied greatly over time and space, and the introduction and conclusion of species across Indiana produced a forest with mixed vegetation (Whitehead 1997: 105). Vegetative responses have not been recorded in sediments for 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 rowspan="2">AD 1000</td></tr>
<tr><td rowspan="3">Late Woodland</td></tr>
<tr><td rowspan="2">0</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="3">Prairies and Open Vegetation</td></tr>
<tr><td>5000 BC</td></tr>
<tr><td>6000 BC</td></tr>
<tr><td>7000 BC</td><td rowspan="3">Early Archaic / Late Paleo Indian</td><td rowspan="2">Deciduous Forest</td></tr>
<tr><td>8000 BC</td></tr>
<tr><td rowspan="2">9000 BC</td><td rowspan="2">Pine Maximum</td></tr>
<tr><td rowspan="11">Early Paleo Indian</td></tr>
<tr><td>10000 BC</td><td>Conifer-Deciduous Woodland</td></tr>
<tr><td>11000 BC</td><td rowspan="2">Boreal Forest</td></tr>
<tr><td>12000 BC</td></tr>
<tr><td rowspan="2">13000 BC</td><td>Park Tundra</td></tr>
<tr><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 north-central Indiana can be given. The historic forest descriptions should be representative of the deciduous vegetation occurring during the Woodland period. Petty and Jackson's (1966) study of the natural vegetation of Indiana in 1816 shows Montgomery County within the beech-maple forest association. The beech-maple forest is fairly new to the state. The advancement of this forest association was slowed by the dominant oak forest that existed in the area during the Hypsithermal (Whitehead 1997: 112). Logging practices in the early 19th century often overlooked beech as a poor value crop and therefore beech has been able to dominate much more of the state then would have been possible (Petty and Jackson 1966: 283). The beech-maple forest developed from the mesophytic forest as northward post glacial migration occurred. Beech-maple forests usually have beech as the most abundant canopy tree with sugar maple co-dominant in the canopy and dominant in the understory.

Various other species of tree such as sassafras, black cherry, tulip poplar and walnut are also found throughout the beech-maple forest, inhabiting gaps within the canopy (Petty and Jackson 1966: 283). Plants found within the understory consisted of redbud, dogwood, blue beech, or dogwood and hop hornbeam (Petty and Jackson 1966: 285). The shrub layer consisted of pawpaws, spicebush, greenbriar, elderberry, leatherwood, wahoo, and maple leaf viburnum (Petty and Jackson 1966: 285). The most prominent herbs which occur in the spring include the rue anemone, jack-in-the-pulpit, spring beauty, cutleaf toothwort, pretty bedstraw, mayapple, false Solomon's seal and wild ginger (Petty and Jackson 1966: 285).

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 survey of 56 lowland forest stands along the Wabash and Tippecanoe Rivers found the following species dominant: black willow, silver maple, American elm, and cottonwood which may have been found in Montgomery County during prehistory (Petty and Jackson 1966: 276). On less frequently flooded second bottoms there is a shift toward species which are less water tolerant, but more shade tolerant consisting of the dominant hard maple and beech forest with sub-dominant American elm, hackberry, cork elm, Ohio buckeye and slippery elm (Petty and Jackson 1966: 277). Beech and tulip poplar would have been important in floodplain forests in prehistoric times, but are now absent due to the clearing of the forests for agriculture and more widely fluctuating stream levels (Petty and Jackson 1966: 277).

Fauna

The animals living in Indiana would have changed from the end of the Pleistocene through Holocene times. Various Pleistocene age fauna have been found in Indiana. Early twentieth century accounts list bison, giant beaver, caribou, Virginia deer, dire wolf, wapiti, horse, mammoth, mastodon, musk-ox, peccary, sloth and perhaps moose (Lyon 1936; Moodie

1929). More recent investigations have expanded this list to include moose, caribou, black bear, giant short-face bear, giant tortoise, white-tailed deer, Canadian goose, armadillo, jaguar, sabertooth tiger and camel (Richards 1984).

The faunal arrangement greatly changed around 10,000 to 11,000 years ago with the extinction of many of the larger mammalian species. A rapidly changing climate combined with the introduction of humans resulted in a reorganization of biotic communities (Richards and Whitaker 1997: 151). 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 fish have been identified in the state (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 (Milton 1966: 426-451). The species can be subdivided into 19 species of salamanders, two species of toads, 11 species of frogs, six types of lizards, some 30 types of snakes, and 14 turtle varieties (Milton 1966: 426-451).

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 Montgomery County. Specifically, we reviewed the background information for data relevant to an understanding of what archeological resources we should expect to find during this investigation,

both in terms of the types and densities of archaeological data, as well as the history of the landscape. A records review was conducted at DHPA by Emily Murray on August 2, 2010. Prior to the current survey 146 sites (Appendix A) have been recorded in Montgomery County, summaries of site components and projectile points recovered from the area are presented in Table 3, Table 4 and Table 5.

**Table 3: Site Components Recorded Within Montgomery County (Data from SHAARD, CRM and research reports prior to survey)**

| Component | No. | Comments |
|---|---|---|
| Unidentified Prehistoric | 81 | 19 multicomponent |
| Paleoindian | 0 | |
| Early Paleoindian | 0 | |
| Late Paleoindian | 0 | |
| Archaic | 20 | 17 multicomponent |
| Early Archaic | 11 | 5 multicomponent |
| Middle Archaic | 2 | 2 multicomponent |
| Late Archaic | 15 | 13 multicomponent |
| Terminal Late Archaic | 3 | 3 multicomponent |
| Woodland | 8 | 7 multicomponent |
| Early Woodland | 0 | |
| Middle Woodland | 3 | 2 multicomponent |
| Late Woodland | 8 | 7 multicomponent |
| Late Prehistoric/Mississippian | 1 | 1 multicomponent |
| Historic | 22 | 13 multicomponent |

**Table 4: Site Types Recorded Within Montgomery County (Data from SHAARD, CRM and research reports prior to survey)**

| Prehistoric Types | No. | Historic Types | No. |
|---|---|---|---|
| Scatter / Camps | 89 | Scatter / Dump | 2 |
| Prehistoric isolated finds | 11 | House/ Cabin/ Farmstead/ Foundation | 5 |
| Mound | 3 | Cemetery | 1 |
| Undetermined | 0 | Town/ Village | 1 |
| | | Prehistoric isolated finds | 0 |
| | | Undetermined | 0 |

| Table 5: Previously Documented Points Within Montgomery County (Prior to Survey) | |
|---|---|
| **Cultural Period** | **Projectile Point Types** |
| Early Archaic | Palmer, Charleston Corner Notched, Rice Lobed, MacCorkle Stemmed, Kirk, Kanauha Stemmed, St. Albans Side Notched, Thebes |
| Late Archaic | Matanzas, Table Rock Stemmed, Riverton |
| Middle Woodland | Affinis Snyder |
| Late Woodland | Madison, Unclassified Side Notched, Unclassified Corner Notched, Unclassified Flared Stem |

Archaeological investigations in Montgomery County have been predominantly oriented toward surface surveys and only a small percentage of sites have been tested or excavated. Major surveys have been conducted within and around the current research universe and include portions of the drainage basin of the Wabash River. The major surveys performed within the region consist of a survey of Miami occupations (Wepler 1984), an archaeological survey of the Wabash Moraine (Cochran and Buehrig 1985) and a survey of Paleo-Indian and Early Archaic sites (Holstein and Cochran 1986). [redacted] Excavation in Montgomery County has focused on Middle Woodland Havana and Late Woodland Albee sites [redacted]

Culture History

The natural setting of Montgomery County demonstrates a hospitable environment following the retreat of the glaciers. Sites and site components indicate that Native Americans inhabited the region from the Paleo-Indian period through the historic period. The most frequently identified cultural affiliation has been Early Archaic followed by the Late Archaic and Late Woodland periods.

Paleo-Indian cultures entered Indiana around 12,000 to 10,000 BP, with the recession of the Wisconsin glaciers (Jones and Johnson 2008: 2; Smith et al. 2009: 21; Swartz 1981: 4). Paleo-Indian sites generally occur in small surface scatters due to the small family bands following herds and hunting large game, such as Pleistocene mega fauna (Jones and Johnson

2008: 3; Smith et al. 2009: 21). Many artifacts from this time include fluted Clovis points, un-fluted Agate Basin, Hi-Lo, Holcombe, Plainview and Dalton points (Jones and Johnson 2008: 3). No Paleo-Indian sites have been located in Montgomery County.

In the Early Archaic (ca. 10,000-8,000BP) people were adapting to change in the environment. This change in climate warmed the environment causing changes of flora and fauna in the region (Jones and Johnson 2008: 4; Justice 2006: 22; Smith et al. 2009: 21); more varieties of plant life formed and mega fauna became extinct (Swartz 1981: 8). Early Archaic sites are found in abundance in Montgomery County, and Early Archaic point styles are one of the most frequently found technologies in the region (Smith et al. 2009: 21). Technological changes in tools and techniques occurred during this time including new hafting techniques and ground stone tools (Jones and Johnson 2008: 4). Point techniques including Palmer, Charleston Corner Notched, Rice Lobed, MacCorkle Stemmed, Kirk, Kanawha Stemmed, St. Albans Side Notched, and Thebes have been found in the 11 Early Archaic sites recorded in Montgomery County (Cantin 1992: 5; Cantin 1992: 3; Pace 1983: 3; Smith et al. 2009: 21; Stillwell 2004: 15).

During the Middle Archaic (8,000-5,000 BP) climate continued to become warmer and drier, bringing more variety and stability for food resources. Stone tools became more diversified in this era and side notched points appear along with ground stone tools (Jones and Johnson 2008: 5; Swartz 1981: 30). Middle Archaic sites are few in comparison to the number of sites in the Early and Late Archaic sites found in Montgomery County (Smith et al. 2009: 21). Many of the sites in Montgomery County with Middle Archaic components show a transition from Middle Archaic to Late Archaic with Matanzas points (Smith et al. 2009).

During the Late Archaic (5,000 – 3,000 BP) the climate stabilized and the environment stayed deciduous forest. Late Archaic sites are very widely found and are generally multicomponent (Smith et al. 2009: 22). The exact nature of the Late Archaic sites is unclear, but seasonal occupation is assumed. Some cultivation of native plants and indications of trade routes occur. Pestles, axes, adzes, celts, bannerstones, gorgets and other ground stone artifacts are predominant in this period (Smith et al. 2009: 22). Twenty-five Late Archaic sites have been recorded in Montgomery County with Marcos, Matanzas, Table Rock Stemmed and Saratoga projectile points present (Pace 1979: 2; Pace 1980: 2; Pace 1986: 3; Stafford 1988: 3; Stafford 1989: 5). Limited excavations in Montgomery County have focused on Late Archaic Riverton sites (McCord 2010: 1).

The Early Woodland period (3,000-2,200 BP) is when pottery was introduced in North America (Swartz 1981: 43). Hunting, gathering and some horticulture continued during this period (Jones and Johnson 2008: 8; Smith et al. 2009: 22). Early Woodland components are infrequent in Montgomery County with only one site having an Early Woodland component.

Typically, points from this time include Adena, Dickson, Kramer, Motley, and Robbins (Jones and Johnson 2008: 8; Smith et al. 2009: 22).

The Middle Woodland period's habitation (2,200- 1,400 BP) was roughly consistent with that of the Early Woodland; sites are relatively consistent and hunting, gathering, and some horticulture as the main subsistence focus. Maize was introduced around this time and trade networks are shown through exotic artifacts found at burial sites. Lithics found in the Middle Woodland include Snyder's, Lowe, Chesser, and Steuben points and lamellar bladelets (Jones and Johnson 2008: 9; Swartz 1981: 48). Investigations of Middle Woodland Havana have been completed for Montgomery County; the county is known to contain four known Middle Woodland sites (Anslinger 1986, 1990; Anslinger and Pace 1978; Cree and Cochran 1991; Jackson and Anslinger 1987; Jones 1988, 1989; McCord and Cochran 1994; Pace 1986: 5, 1989; Trubowitz 1989).

In the Late Woodland period (1,400-800 BP), the first bow and arrow were found and domestic crops such as maize became important (Jones and Johnson 2008: 11; Smith et al. 2009: 23; Swartz 1981: 59). Maize was introduced to the Late Woodland diet (Smith et al. 2009: 23). Nine Late Woodland sites have been found in Montgomery County. [redacted]

The Late Woodland/Mississippian period (1,000-300BP) has the same characteristics as Late Woodland but shows adaptations toward a more focused agriculture; generally towards corn, but also squash and beans. Village sites show segregated activity in villages and triangular points are most frequently evident during this period (Smith et al. 2009: 23).

Later in the Woodland/Mississippian period, much of Indiana was reportedly depopulated. Contact with Europeans that resulted in epidemic diseases and warfare associated with the fur trade are believed to be key factors in the abandonment of the region (Smith et al. 2009: 23). By the late 1700s, several Historic Native Americans tribes were reported in Indiana. Within the Sugar Creek valley region the only Native American tribe reported to be living in the area consisted of the Miami. In the early 1800's Native Americans inhabiting Indiana began to cede their land rights and moved to reserves within the state or were moved west. This pattern

continued until 1840 when all commonly held reserve lands had been ceded and Indiana was open for Euro-American Settlement.

Historic

The first European settlers in Montgomery County were William Offield and party who settled in what is now southwestern Union Township in 1821; within a year, a community began to settle at what is now Crawfordsville, the county seat (Henning 1986: xiii). The county was organized in 1822 with the Indiana State Legislature voting to take a part of northern Putnam County and turn it into Montgomery County (Henning 1986: xiii); it was named for Brigadier General Richard Montgomery who found fame in the Revolutionary War (Lu 2001: 59). In 1823, the federal land office was relocated from Terre Haute to Crawfordsville which led to growth for the county (Henning 1986: xiii); Land sales brought an influx of immigrants from Kentucky and Ohio (Lu 2001: 59).

Montgomery County also had involvement with the Underground Railroad. Scottish immigrant John Allen Speed was a vehement abolitionist and stories tell of Speed and one other man being the only people in Montgomery County to cast their votes for an abolitionist presidential candidate (Lu 2001: 61). In 1913, Speed's son Sidney recalled an example of his father sheltering "a young mulatto girl" in their log cabin from her former master and bounty hunters and provided her with a successful and elaborate plan to escape them and flee into Canada (Lu 2001: 62). Later, the Montgomery County Historical Society reconstructed the Speed Cabin in Crawfordsville (Lu 2001: 62).

Another notable name from Montgomery County is Major General Lew Wallace, the son of Indiana's sixth governor who participated in several Civil War battles (Lu 2001: 63). Wallace later became the Indiana's adjutant general and went on to receive fame as a war hero and author of the novel *Ben Hur* (Lu 2001: 63).

## ARCHAEOLOGICAL SURVEY

### *Introduction*

Approximately 915 acres (370.3 hectares) of agricultural land were surveyed by pedestrian transects during this project. The survey sampled 40 acres (16.19 hectares) of floodplain, 227 acres (91.86 hectares) of outwash, 179.5 acres (72.6 hectares) of outwash plain, and 468.5 acres (189.6 hectares) of uplands. The survey documented 220 new archaeological sites and recovered 389 prehistoric artifacts and 1,312 historic artifacts. The results are discussed by survey area below.

### *Methods*

#### Field Survey

For this project, 900 acres of pedestrian survey were proposed. It was anticipated that by surveying 900 acres, approximately 300 to 350 new sites would be discovered to increase the existing site database. Our planning projected that different landforms and environmental zones consisting of floodplain, uplands, outwash and outwash plain would be systematically surveyed. Areas were selected for survey using aerial maps, soil information, historic sources and reconnaissance information. The survey was constructed to sample different regions within the project area, but with an emphasis on the [redacted] Cultivated fields with optimal visibility were sought for survey. Ultimately, landowner permission dictated the areas sampled by this survey which included 227 acres of outwash, 179.5 acres of outwash plain, 40 acres of floodplain, and 319.5 acres of uplands

This project was conducted by AAL personnel and Ball State University anthropology students. Principal Investigator was Mark Hill and Field Supervisor was Christine Keller. [redacted] The survey was conducted between August 18, 2010 and March 11, 2011. The field survey was executed using pedestrian transects spaced at 10 meter intervals. The survey interval was reduced to 5 meters when artifacts were encountered. The areas surveyed by pedestrian transects had between 30 percent and 90 percent 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 aerial photos of the area. The site coordinates were collected with a Magellen handheld GPS units using NAD 1983. Field notes were maintained by AAL archaeologist Christine Keller and the authors.

## Laboratory

All artifacts were taken to the AAL laboratory for processing, identification, analysis and temporary curation. Artifacts were cleaned, classified and catalogued. Definitions used for classifying prehistoric lithic materials are included in Appendix B. Diagnostic point types were classified using Justice (1987). Metric attributes and raw material identifications were recorded in accordance with AAL standards (Appendix C). Lithic raw materials were identified by comparison with reference samples and published descriptions on file in the AAL laboratory (Cantin 2005, 2008). All artifact and chert identifications were made microscopically at 10X or greater. Historic artifacts were identified and dated using published 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, 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 entered in SHAARD for each site identified during the project.

All materials generated by this project were accessioned under AAL Accession number 10.46. Artifacts were either curated at Ball State or returned to the landowner as requested. When artifacts were returned to the landowners, they were identified, analyzed, and photographed per DHPA guidelines. Appendix D lists the collections that were returned to the landowner and those that were curated at Ball State University.

ARCHAEOLOGICAL SURVEY RESULTS

A total of 16 survey areas were investigated as part of this grant project as shown in Figure 3.


**Figure 3: USGS 7.5' Montgomery County, Indiana Quadrangles showing location of 16 survey areas.**

*Survey Area 1*

[redacted] The property was surveyed on August 18, 2010. Ground surface visibility was approximately 50-60 percent and the project area was not recently rain-washed. The field had been planted in corn that was approximately 7 feet tall. Approximately 21 acres were surveyed consisting of outwash. The area contained Ockley (OcA, OcB), Rush Variant (RwA) and Waynetown (WdA) soils. Four sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a lithic scatter of 50 square meters (0.01 acres). No diagnostic artifacts were encountered.


**Figure 4: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 1.**


**Figure 5: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 1.**

Artifacts

A total of 11 artifacts were encountered in Survey Area 1. Table 6 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. None of the artifacts recovered were diagnostic.

**Table 6: Artifacts from Survey Area 1**

| Category | No. |
|---|---|
| Angular Shatter | 2 |
| Biface Fragment | 1 |
| Core | 2 |
| Flake Shatter | 4 |
| Non-Flake | 1 |

| | |
|---|---|
| Utilized Flake | 1 |

Sites

Four archaeological sites, 12-My-210 to 213, were recorded in Survey Area 1 (Figure 6, Figure 7). Summaries for the individual sites are contained in Appendix F. All four sites had unidentified prehistoric components (12-My-210 to 213). Three of the sites were prehistoric isolated finds (12-My-210, 211 and 213) and one site was a lithic scatter (12-My-212).

All four sites were discovered on outwash (12-My-210 to 213). One site was on Waynetown soil (12-My-210), one site was on Rush soil (12-My-212) and two sites were on Ockley soils (12-My-211 and 213). Three sites were prehistoric isolated finds (12-My-210, 211 and 12-My-213) and one was a lithic scatter (12-My-212).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 1 consisted of approximately 21 acres of outwash. Within Survey Area 1, a density of one prehistoric site per 5.25 acres occurred and sites covered 0.06 percent of the surface area.


**Figure 6: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of sites 12-My-210 to 213.**

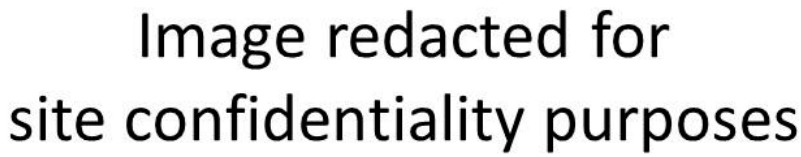


**Figure 7: 2005 aerial showing the location of sites 12-My-210 to 213.**

*Survey Area 2*

[redacted] The property was surveyed on September 6, 2010. Ground surface visibility was approximately 80-90 percent and the project area was not recently rain-washed. The field had been planted in corn that was approximately 7 feet tall. At the time of survey the soil was very dry. Approximately 40 acres were surveyed consisting of floodplain. The area contained Ceresco (Ce) and Landes Variant (Lb) soils. Seven sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a lithic scatter of 100 square meters (0.02 acres). Components identified in the sites included prehistoric and historic.


**Figure 8: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 2.**


**Figure 9: A portion of the USGS 7.5' [redacted], Indiana Quadrangles showing the location of Survey Area 2.**

Artifacts

A total of 75 artifacts were encountered in Survey Area 2. Table 7 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. No diagnostic artifacts were recovered from this prehistoric period however 69 were recovered from the Historic period (Figure 10). Historic artifacts included shell edge blue whiteware, blue transfer print, amethyst glass, aqua glass and yellowware. Shell edge blue whiteware was manufactured between 1820 and 1860 (Majewski and O'Brien 1987: 152). Blue transfer print was manufactured between 1830 and 1860 (Lofstrom et al. 1982: 14).

**Table 7: Artifacts from Survey Area 2**

| Category | No. | Category | No. |
|---|---|---|---|
| Core | 1 | Whiteware | 19 |
| Flake Shatter | 3 | Stoneware | 7 |
| Flake Tool | 1 | Porcelain | 3 |
| Proximal Flake | 1 | Amethyst glass | 3 |
| | | Amber glass | 2 |
| | | Aqua glass | 9 |
| | | Semi-porcelain | 1 |
| | | Milk glass | 3 |
| | | Clear glass | 19 |
| | | Brick | 2 |
| | | Metal | 1 |

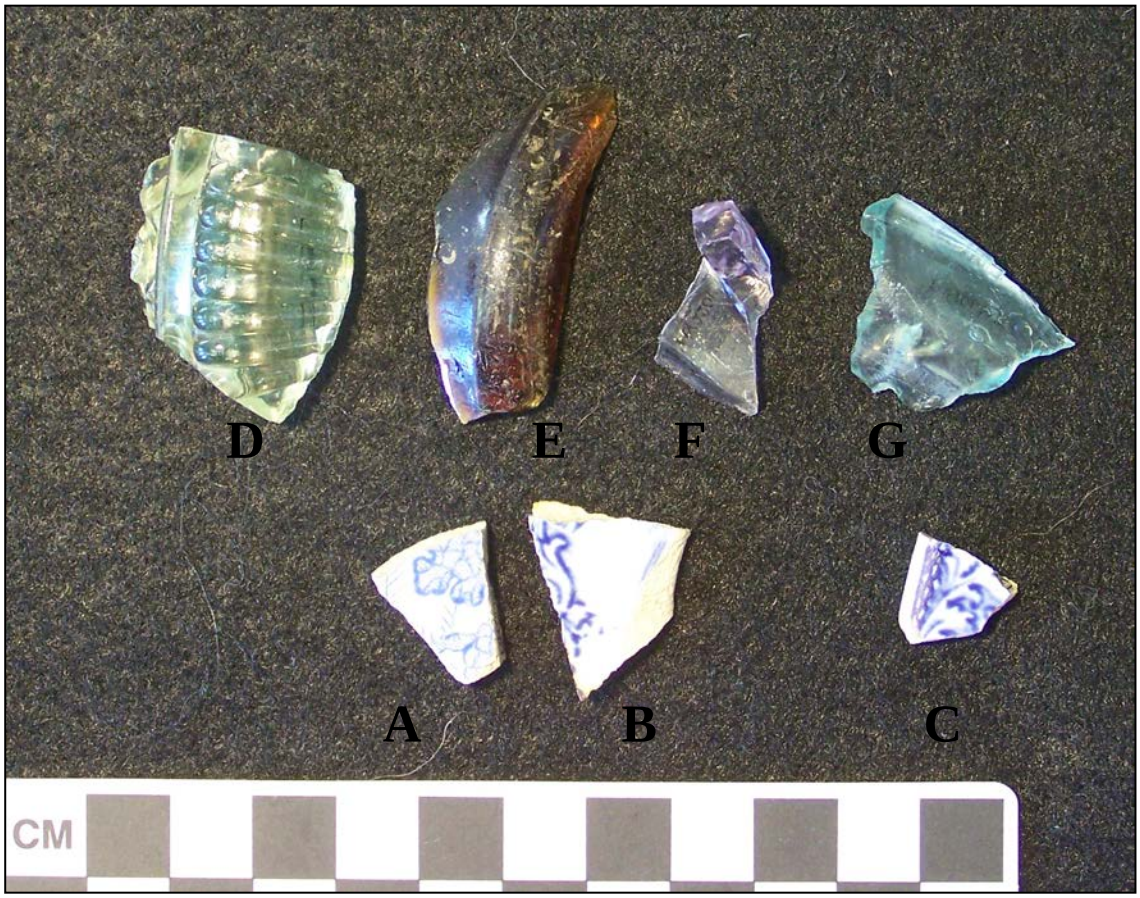


**Figure 10: Diagnostic historic artifacts from Survey Area 2.**

**a) ceramic body with blue transfer print (12-My-220-01); b) ceramic body with whiteware blue transfer print (12-My-220-01); c) ceramic rim whiteware with blue transfer print; d) container glass shoulder yellow/amber (12-My-219-07); e) container glass base amber brown (12-My-220-12); f) container glass base amethyst (12-My-220-13); g) container glass body (12-My-220-14)**

Sites

Seven archaeological sites, 12-My-214 to 220, were recorded in Survey Area 2 (Figure 11, Figure 9). Summaries for the individual sites are contained in Appendix F. Four of the sites had unidentified prehistoric components (12-My-214 to 218) and two sites had a historic component (12-My-219 and 220). Four of the sites were prehistoric isolated finds (12-My-214, 216, 217 and 218), one site was a lithic scatter (12-My-215), and two sites were historic scatters (12-My-219 and 220).

The sites were found on the [redacted] present in the survey area. All seven sites were discovered on Landes Variant soils (12-My-214 to 220). Four sites were prehistoric isolated finds (12-My-214, 216, 217 and 218); one site was a lithic scatter (12-My-215) and two sites were historic scatters (12-My-219 and 220).

Sites 12-My-219 and 220 are historic scatters and are recommended for subsurface assessment based on historical background research. The entire survey area was listed as being on low energy alluvium soils which have the potential for intact subsurface deposits and therefore all additional sites in the survey area are recommended for further testing. There is currently insufficient information to determine the current nature and register eligibility of these sites and further archaeological investigations are recommended.

Density

Survey Area 2 consisted of approximately 40 acres of [redacted]. Within Survey Area 2, a density of one prehistoric site per 5.71 acres occurred and sites covered 0.14 percent of the surface area.


**Figure 11: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-214 to 220.**


**Figure 12: 2005 aerial showing the location of sites 12-My-214 to 220.**

*Survey Area 3*

[redacted] The property was surveyed on September 11 and 12, 2010. Ground surface visibility was approximately 50-90 percent and the project area was not recently rain-washed. The field was planted in corn that was approximately 7 feet tall. Approximately 53 acres were surveyed all of which was outwash. The area contained Bowes Variant (BoA), Mahalasville (Mc), Millbrook Variant (MvA), Rush Variant (RwA) and Waynetown (WdA) soils. Nineteen sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a lithic scatter of 25 square meters (0.01 acres). One diagnostic artifact was recovered in this survey area.


**Figure 13: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 3.**


**Figure 14 : A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 3.**

Artifacts

A total of 46 artifacts were encountered along with two pieces of fire cracked rock in Survey Area 3. Table 8 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. One diagnostic prehistoric artifact was found (12-My-237), a Graham Cave Side Notched projectile point fragment (Figure 15) dating to the Early/Middle Archaic (Justice 1987: 66).

**Table 8: Artifacts from Survey Area 3**

| Category | No. |
|---|---|
| Angular Shatter | 1 |
| Core Tool | 1 |
| Hafted Biface Fragment | 1 |
| Flake Shatter | 28 |
| Flake Tool | 2 |
| Non-Flake | 7 |
| Proximal Flake | 5 |


**Figure 15: A photograph of an archaic period hafted biface (Graham Cave Side Notched projectile point) from site 12-My-237.**

Sites

Nineteen archaeological sites, 12-My-221 to 339, were recorded in Survey Area 3 (Figure 16, Figure 17). Summaries for the individual sites are contained in Appendix F. All of the sites had unidentified prehistoric components. Seven of the sites were prehistoric isolated finds (12-My-222 to 224, 226, 231, 233, 234 and 236 to 239) and eight sites were lithic scatters (12-My-221, 225, 227 to 230, 232 and 235).

All sites were found on [redacted] present in the survey area. Two sites were found on Bowes soils (12-My-238 to 239), one site was found on Mahalasville soil (12-My-221), eight sites were found on Rush soil (12-My-222, 228 to 231, 12-My-235 to 237) and eight sites were found on Waynetown soil (12-My-223 to 227, 12-My-232 to 234). Nine sites were lithic scatters (12-My-221, 225, 227 to 230, 232, 235 and 236) and 10 sites were prehistoric isolated finds (12-My-222 to 224, 226, 231, 233 to 234, 237, 238 and 239).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 3 consisted of approximately 53 acres of outwash. Within Survey Area 3, a density of one prehistoric site per 1.84 acres occurred and sites covered 0.26 percent of the surface area.


**Figure 16: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of sites 12-My-221 to 239.**

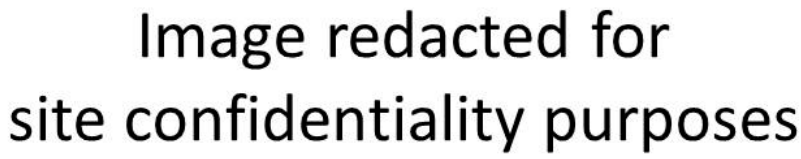


**Figure 17: 2005 aerial showing the location of sites 12-My-221 to 239.**

*Survey Area 4*

[redacted] The property was surveyed on September 11, 2010. Ground surface visibility was approximately 40-50 percent and the project area was not recently rain-washed. The field was planted in corn which was approximately 7 feet tall. Approximately 10 acres were surveyed consisting of outwash. The area contained Mahalasville (Mc) and Waynetown (WdA) soils. No sites were encountered during the survey.


**Figure 18: A portion of the [redacted] in the Atlas of Montgomery County (Beers 1878) showing Survey Area 4.**


**Figure 19: A portion of the USGS 7.5' [redacted] Quadrangle showing the location of Survey Area 4.**

Landowner [redacted] informed Ball State University about a stone axe that had been found on Survey Area 4 many years ago during plowing. BSU field crew went to the house of [redacted] to document the stone axe which dates to the Archaic period (Figure 20).

**Figure 20: A fully grooved stone axe provided for photographing by the owners of Survey Area 4.**

*Survey Area 5*

[redacted] The property was surveyed on February 19, 2011. Ground surface visibility was approximately 60%-80% and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was little crop residue on the surface. Approximately 71 acres were surveyed consisting of outwash. The area contained Ockley (OcB), Rush (RtA, RtB, RwA) and Waynetown (WdA) soils. Twenty-four sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a lithic scatter of 100 square meters (0.02 acres). Components identified in the sites are prehistoric.

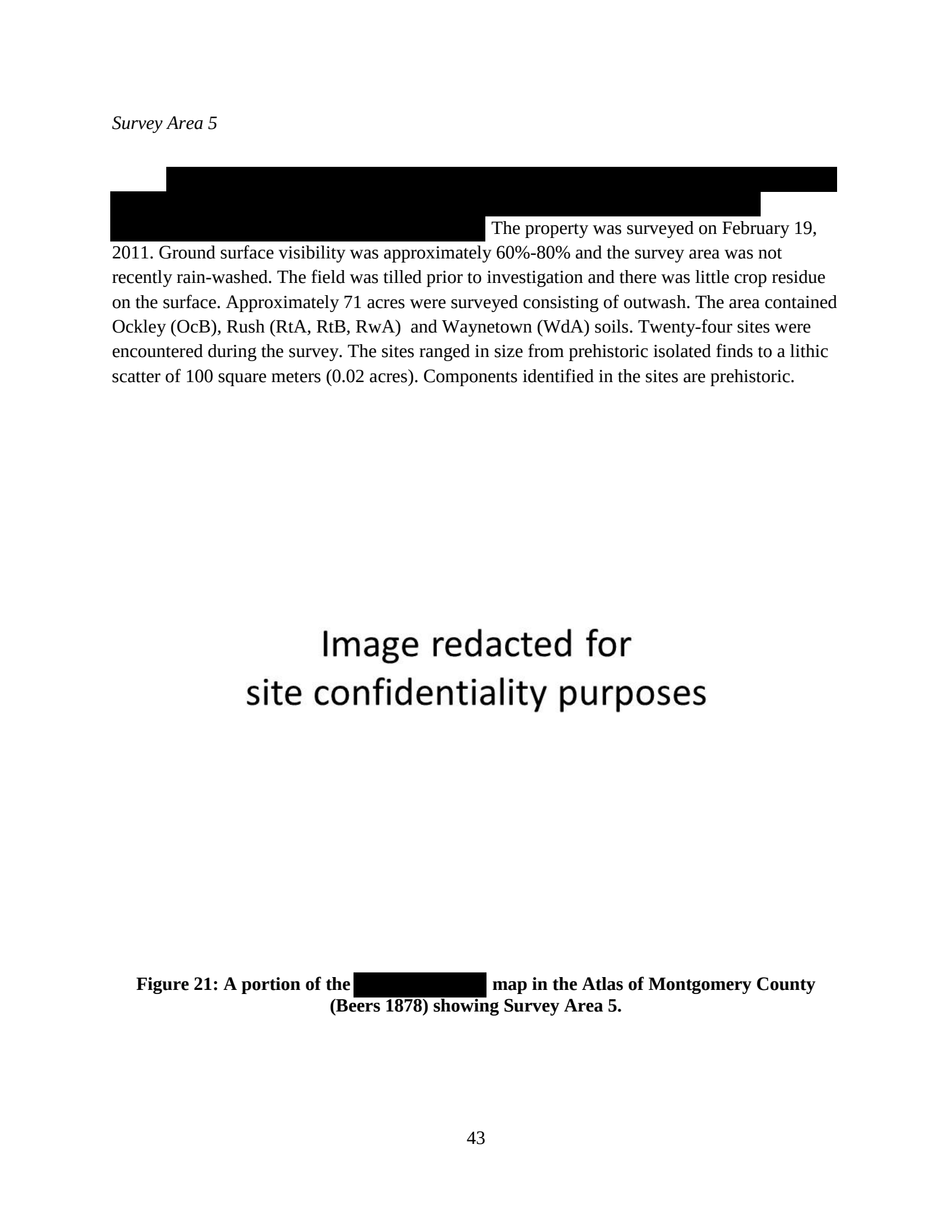


**Figure 21: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 5.**


**Figure 22: A portion of the USGS 7.5' [redacted] quadrangle showing the location of Survey Area 5.**

Artifacts

A total of 41 artifacts were encountered along with seven pieces of fire cracked rock in Survey Area 5. Table 9 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. One diagnostic lithic artifact (Figure 23) dates to the Late Archaic period and is generally associated with the Riverton culture (Justice 1987: 130).

**Table 9: Artifacts from Survey Area 5**

| Category | No. |
|---|---|
| Angular Shatter | 2 |
| Biface, Hafted | 1 |
| Biface, Nonhafted, Fragment | 2 |
| Biface, Nonhafted | 2 |
| Core Tool | 7 |
| Flake Shatter | 5 |
| Flake Tool | 1 |
| Proximal Flake | 21 |

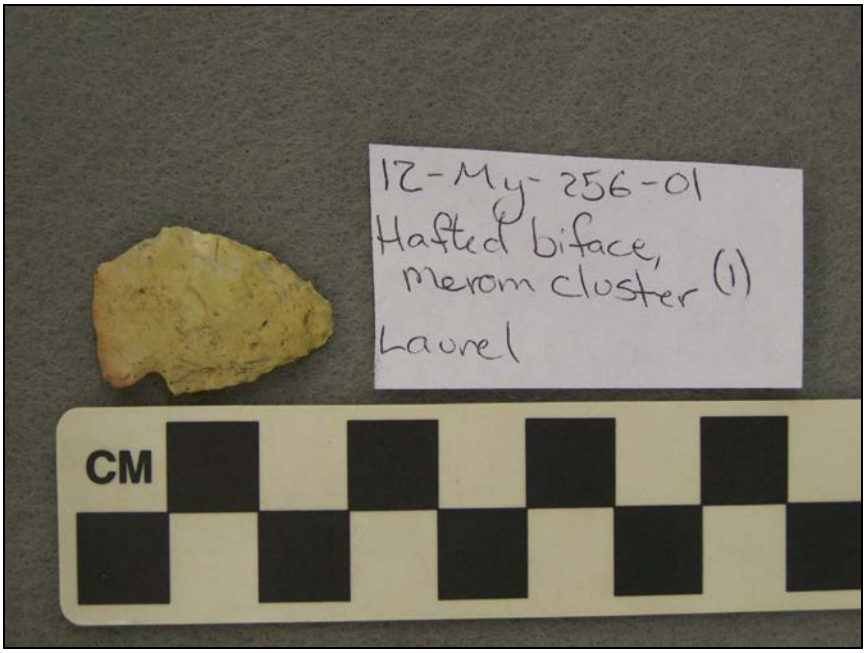


**Figure 23: Merom Cluster projectile point found in Survey Area 5.**

Sites

Twenty-four archaeological sites, 12-My-240 to 259 and 261 to 264 were recorded in Survey Area 5 (Figure 24, Figure 25). Summaries for the individual sites are contained in Appendix F. All 24 sites had only prehistoric components (12-My-240 to 259 and 261-264).

All 24 sites were found on outwash plains soils (12-My-240-259 and 261-264). Twelve sites were found on Ockley soils (12-My-240, 243, 245, 247-255), eleven sites were found on Rush soils (12-My-241 to 242, 244, 246, 256-259, 261, 263-264) and one site was found on Waynetown soil (12-My-262). Fifteen sites were prehistoric isolated finds (12-My-240, 243-249, 251, 253, 255-256, 258 and 261-263). Nine sites were lithic scatters (12-My-241-242, 250, 252, 254, 257, 259 and 264).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 5 consisted of approximately 71 acres of outwash. Within Survey Area 5, a density of one prehistoric site per 2.96 acres occurred and sites covered 0.11 percent of the surface area.


**Figure 24: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-240 to 259 and 261 to 264.**


**Figure 25: 2005 aerial showing the location of sites 12-My-240 - 259 and 260 – 264.**

Survey Area 6

[redacted] The property was surveyed on February 20 and March 1, 2011. Ground surface visibility was approximately 60-80 percent and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was little crop residue on the surface. Approximately 91 acres were surveyed consisting of uplands. The area contained Camden soils (CbA), Mahalasville soils (Mb), Martinsville-Ockley soils (MeB), Milford soils (Ms) and Starks soils (SIA). Twenty-two sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a large historic scatter of 10,000 square meters (2.47 acres). Components identified in the sites are prehistoric and historic.


**Figure 26: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 6.**


**Figure 27: A portion of the USGS 7.5' [redacted] quadrangle showing the location of Survey Area 6.**

Artifacts

A total of 811 artifacts were encountered. Table 10 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. Three diagnostic lithic artifacts were found (Figure 28, Figure 29, and Figure 30), two date to the Early Archaic period (12-My-269 and 12-My-273) and one dates to the Late Archaic period (12-My-285).

Four hundred seventy-three diagnostic historic artifacts were recovered. Historic artifacts included blue flow whiteware, embossed aqua glass, aqua flat glass, porcelain insulator, stoneware, milkglass, dark blue glass, cobalt blue glass, light blue/green glass, light aqua glass, light aqua embossed, pink glass, opalesque amethyst glass, amethyst glass, milkglass, a hammer

head, and a brick with manufacture date of 1901 (Figure 31). Blue flow whiteware from sites 12-My-270,273, and 274 was manufactured between 1825 and 1862 (IMACS 1992: 472). Embossed aqua glass from sites 12-My-270 and 284 was manufactured between 1869 and 1910 (IMACS 1992: 472). Light aqua flat glass from sites 12-My-272, 273, and 275 was manufactured between 1800 and 191 (IMACS 1992: 472). Porcelain insulator from sites 12-My-273 and 284 was manufactured between 1890 and 1930 (Myers 2010: 33). Stoneware from sites 12-My-273, 275, 282, 284, 285 was manufactured between 1700 and 1900 (Sutton 2009: 215). Milkglass was manufactured between 1890 and 1960 (IMACS 1992: 472). Light blue container glass from sites 12-My-273 and 283, dark blue container glass from site 12-My-273, and cobalt blue container glass from sites 12-my-273 and 282 were manufactured between 1890 and 1960 (IMACS 1992: 472). Light aqua container glass from sites 12-My-273 and 284 and aqua container glass from sites 12-My-273, 275, 282, 283, and 284 were manufactured between 1800 and 1910 (IMACS 1992: 472). Embossed light aqua glass from site 273 was manufactured between 1869 and 1910 (IMACS 1992: 472). Light blue/green container glass from sites 12-My- 273, 282, 283, 284 (IMACS 1992: 472) Pink container glass from site 12-My-273 was manufactured between 1880 and 1918 (IMACS 1992: 472). Light amethyst container glass from sites 12-My-273, 274, 275, 282, 284, amethyst container glass from sites 12-My-273 and 282, dark amethyst container glass from site 12-My-273, and opalesque amethyst container glass from site 12-My-273 were manufactured between 1880 and 1925 (IMACS 1992: 472). Metal hammer head was manufactured between 1850 and 1920 (Barlow 1991: 76). A whole brick was found with the date of 1901. Milkglass from sites 12-My-273, 282, and 284 were manufactured between 1890 and 1960 (IMACS 1992: 472).

**Table 10: Artifacts from Survey Area 6**

| **Prehistoric** | **No.** | **Historic** | **No.** |
|---|---|---|---|
| Biface | 7 | Brick w/ writing | 2 |
| Core tool | 1 | Glass, Amber | 7 |
| Flake shatter | 5 | Glass, Amethyst | 95 |
| Flake tool | 1 | Glass, Aqua | 162 |
| Groundstone tool | 1 | Glass, Blue | 9 |
| Proximal flake | 13 | Glass, Blue/Green | 45 |
| | | Glass, Brown | 16 |
| | | Glass, Clear | 35 |

| | | | |
|---|---|---|---|
| | | Glass, Milkglass | 26 |
| | | Glass, Pink | 2 |
| | | Metal | 11 |
| | | Porcelain | 44 |
| | | Slag | 4 |
| | | Stoneware | 163 |
| | | Whiteware | 141 |


**Figure 28: An Early Archaic projectile point (12-My-269) from Survey Area 6.**

**Figure 29: An Early Archaic projectile point (12-My-273) from Survey Area 6.**


**Figure 30: A Late Archaic projectile point (12-My-285) from Survey Area 6.**


**Figure 31: Diagnostic historic artifacts from Survey Area 6.**

**a) metal hammerhead (12-My-273-129); b) whiteware rim with blue transfer print (12-My-273-09); c) porcelain insulator (12-My-273-27); d) Stoneware rim brown and tan design (12-My-273-32); e) milkglass embossed white (12-My-273-58); f) Glass body dark amethyst (12-My-273-104); g) glass partial bottleneck cobalt blue (12-My-273-76); h) unidentified glass embossed pink (12-My-273-100); i) glass body embossed aqua (12-My-270-03)**

Sites

Twenty-two sites 12-My-265 to 286, were recorded in Survey Area 6 (Figure 32, Figure 33). Summaries for the individual sites are contained in Appendix F. The sites had prehistoric and historic components.

All sites were found on [redacted] landforms present on the parcel. One site was found on Camden soil (12-My-269), three sites were found on Mahalasville soil (12-My-272 and 274-275), five sites were found on Martinsville-Ockley soil (12-My-273, 280 to 282 and 286) and 10 sites were found on Starks soil (12-My-265 to 267, 270 to 271, 276 to 278 and 83 to 85). Eleven

sites were prehistoric isolated finds (12-My-266 to 269, 271, 277 to 281 and 286), two sites were lithic scatters (12-My-265 and 276) and nine sites were historic scatters (12-My-270, 272 to 275, 282 to 285).

Due to the low number of artifacts on most of the sites within the survey area, most sites were determined not to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places. Two sites within Survey Area 6 are recommended for further study due to the number and density of historic artifacts found. These sites are 12-My-273 and 12-My-284.

Density

Survey Area 6 consisted of approximately 91 acres of [redacted]. Within Survey Area 6, a density of one prehistoric site per 7.58 acres occurred and sites covered 0.67 percent of the surface area.

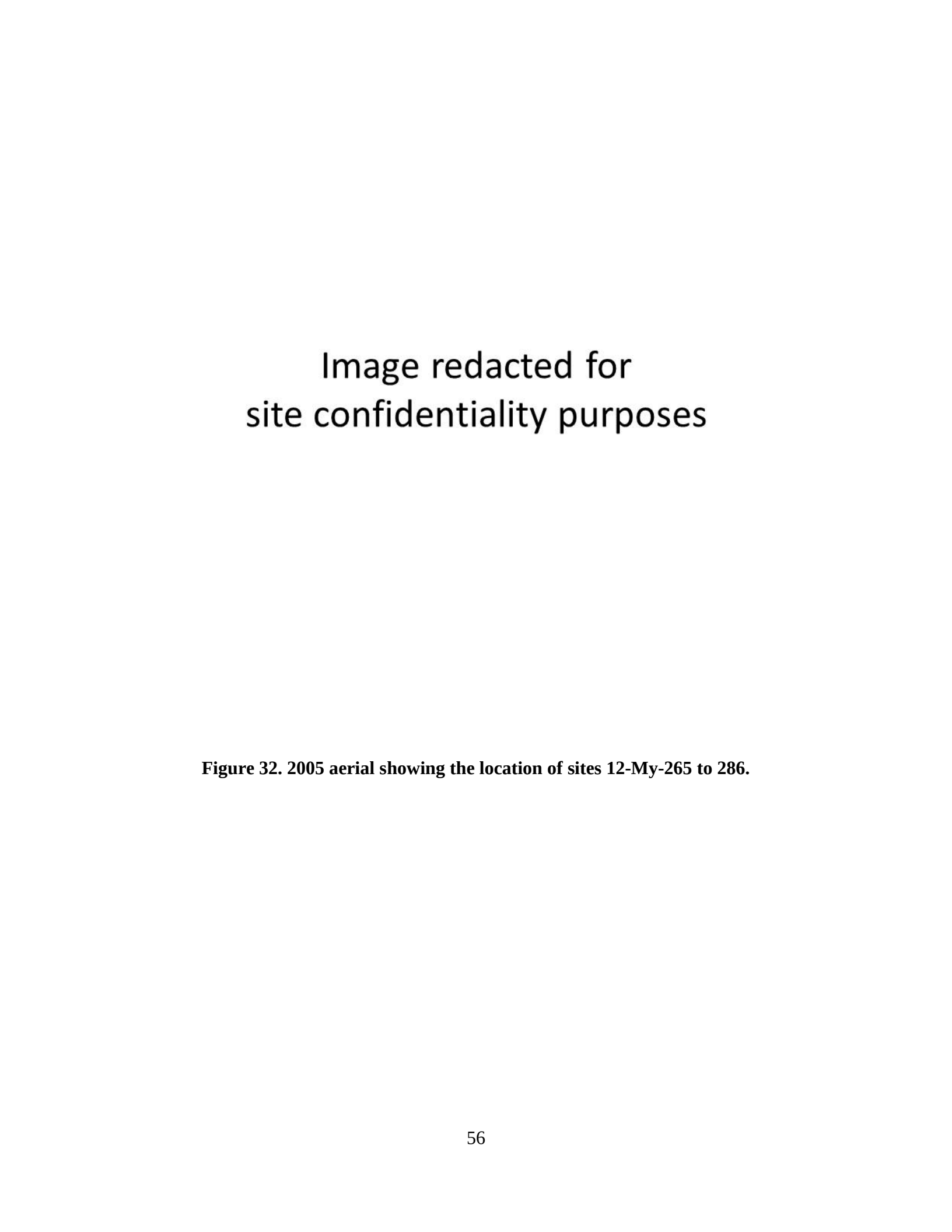


**Figure 32. 2005 aerial showing the location of sites 12-My-265 to 286.**


**Figure 33: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-265 to 286.**

*Survey Area 7*

[redacted] The property was surveyed on March 1, 2011. Ground surface visibility was approximately 40-50 percent and the survey area was not recently rain-washed. The field was not tilled prior to investigation and there was corn residue on the surface. Approximately 58 acres were surveyed consisting of uplands. The area contained Mahalasville soil (Mb), Martinsville-Ockley soil (MeB), Miami soil (MoC2) and Starks soil (SIA). Five sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a historic scatter of 600 square meters (0.14 acres). Components identified in the sites are prehistoric and historic.


**Figure 34: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 7.**


**Figure 35: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of Survey Area 7.**

Artifacts

A total of 30 artifacts were encountered in Survey Area 7. Table 11 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix E. Nineteen historic artifacts were found to be diagnostic of a particular time frame.

Historic artifacts included blue flow whiteware, aqua glass, stoneware, milkglass, and light blue/green container glass (Figure 36). Blue flow whiteware from site 12-My-291 was manufactured between 1825 and 1862 (IMACS 1992: 473). Aqua glass from site 12-My-291 was manufactured between 1800 and 1910 (IMACS 1992: 472). Stoneware from site 12-My-291 was manufactured between 1700 and 1900 (Sutton 2009: 215). Milkglass from site 12-My-291 was manufactured between 1890 and 1960 (IMACS 1992: 472). Light blue/green container glass from site 12-My-291 was manufactured between 1800 and 1910 (IMACS 1992: 472).

| Table 11: Artifacts from Survey Area 7 | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Core Tool | 2 | Glass, Aqua | 3 |
| Flake Tool | 2 | Glass, Blue/Green | 1 |
| Proximal Flake | 1 | Glass, Clear | 1 |
| | | Glass, Milkglass | 1 |
| | | Porcelain | 1 |
| | | Stoneware | 13 |
| | | Whiteware | 5 |


**Figure 36: Diagnostic historic artifacts from Survey Area 7.**

**a) whiteware rim with blue transfer print (12-My-291-02); b) glass body aqua (12-My-291-15); c) milkglass rim white embossed (12-My-291-13); d) stoneware rim dark brown design (12-My-291-05)**

Sites

Five archaeological sites, 12-My-287 to 291, were recorded in Survey Area 7 (Figure 37, Figure 38). Summaries for the individual sites are contained in Appendix F. Three sites were prehistoric isolated finds (12-My-287, 288 and 290), one site was a lithic scatter (12-My-289) and one site was a historic scatter (12-My-291).

All sites were discovered on upland soils (12-My-287 to 291). Three sites were found on Martinsville-Ockley soil (12-My-287 to 289 and 291) and one site was found on Starks soil (12-My-290).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 7 consisted of approximately 58 acres of uplands. Within Survey Area 7, a density of one prehistoric site per 14.5 acres occurred and sites covered 0.27 percent of the surface area.


**Figure 37: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-287 to 291.**


**Figure 38: 2005 aerial showing the location of sites 12-My-287 to 291.**

*Survey Area 8*

[redacted] The property was surveyed on March 3, 2011. [redacted] Ground surface visibility was approximately 30-90 percent and the survey area was recently rain-washed. The field was not tilled prior to investigation and there was soybean residue on the surface. Portions of the field had increased visibility due to soil erosion from recent heavy rains. Approximately 32 acres were surveyed consisting of outwash. The area contained Camden soil (CbA), Martinsville-Ockley soil (MeB) and Starks soil (SlA). Three sites were encountered during the survey. The sites were all isolated finds. Components identified in the sites are prehistoric and historic.

[redacted]

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site confidentiality purposes

**Figure 39: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 8.**


**Figure 40: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 8. [redacted] was not surveyed.**

Artifacts

A total of three artifacts were encountered in Survey Area 8. Table 12 provides a list of artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

**Table 12: Artifacts from Survey Area 8**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Biface | 1 | Nail | 1 |
| Core Tool | 1 | | |

Only one diagnostic historic artifact was found. A metal nail was manufactured up to 1890 (Sutton 2009: 163).

### Sites

Three archaeological sites, 12-My-292 to 294, were recorded in Survey Area 8 (Figure 41, Figure 42). Summaries for the individual sites are contained in Appendix F. Two sites were prehistoric isolated finds (12-My-292 to 293), and one site (12-My-294) was a historic isolated find.

All three sites were discovered on outwash (12-My-292 to 294). One site was on Martinsville-Ockley soil (12-My-294) and two sites were found on Starks soil (12-My-292 to 293).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

### Density

Survey Area 8 consisted of approximately 32 acres of outwash. Within Survey Area 8, a density of one prehistoric site per 16 acres occurred and covered 0 percent of the surface area, with both sites being isolated finds.


**Figure 41: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of sites 12-My-292 to 294.**


**Figure 42: 2005 aerial showing the location of sites 12-My-292 to 294.**

*Survey Area 9*

[redacted] The property was surveyed on March 3, 2011. Ground surface visibility was approximately 40-50 percent and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was corn residue on the surface. Approximately 31 acres were surveyed consisting of outwash plain soils. The area contained Camden soil (CbA) (CbB), Ockley soil (OfC2), Martinsville-Ockley soil (MeB) and Starks oil (SlA). Eleven sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a historic scatter of 400 square meters (0.10 acres). Components identified in the sites are prehistoric and historic. Historic diagnostic artifacts were encountered (Figure 45).


**Figure 43: A portion of the [redacted] Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 9.**


**Figure 44: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of Survey Area 9.**

Artifacts

A total of 69 artifacts were encountered in Survey Area 9. Table 13 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

Thirty-two diagnostic historic artifacts were found. Diagnostic historic artifacts found include, light amethyst and amethyst container glass, light aqua and aqua container glass, light aqua flat glass, milkglass, and stoneware (Figure 45). Light amethyst container glass from sites 12-My-298 and 302 were manufactured between 1880 and 1925 (IMACS 1992: 472). Amethyst container glass from site 301 was dated between 1880 and 1925 (IMACS 1992: 472). Light aqua container glass from sites 12-My-298, 301, and 302 were manufactured between 1800 and 1910 (IMACS 1992: 472). Aqua container glass from sites 12-My-301 and 302 were manufactured between 1900 and 1910 (IMACS 1992: 472). Light aqua flat glass from site 12-My-301 was

manufactured between 1800 and 1910 (IMACS 1992: 472). Milkglass from sites 12-My-301 and 302 were manufactured between 1890 and 1960 (IMACS 1992: 472). Stoneware from sites 12-My-298, 301, and 302 were manufactured between 1700 and 1900 (Sutton 2009: 215).

**Table 13: Artifacts from Survey Area 9**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Angular Shatter | 2 | Bone (non-human) | 3 |
| Biface | 1 | Brick | 2 |
| Core Tool | 2 | Glass, Amber | 1 |
| Flake Shatter | 3 | Glass, Amethyst | 1 |
| Groundstone Tool | 2 | Glass, Aqua | 3 |
| Proximal Flake | 3 | Glass, Brown | 1 |
| | | Glass, Clear | 7 |
| | | Glass, Frosted Light Aqua | 1 |
| | | Glass, Light Amethyst | 2 |
| | | Glass, Light Aqua | 4 |
| | | Glass, Light Green | 1 |
| | | Milkglass | 2 |
| | | Nail | 1 |
| | | Porcelain | 1 |
| | | Stoneware | 21 |
| | | Whiteware | 6 |


**Figure 45: Diagnostic historic artifacts from Survey Area 9.**

**a) glass body light aqua (12-My-298-07); b) milkglass rim white (12-My-302-11); c) stoneware base brown and tan design (12-My-301-02); d) glass neck light amethyst (12-My-298-05)**

Sites

Eleven archaeological sites, 12-My-295 to 305, were recorded in Survey area 9 (Figure 46, Figure 47). Summaries for the individual sites are contained in Appendix F. Three sites were prehistoric isolated finds (12-My-295, 299 and 300), four sites were lithic scatters (12-My-296 to 297 and 303 to 304) and four sites were historic scatters (12-My-298, 301 to 302 and 305).

All 11 sites were found on outwash plains (12-My-295 to 305). One site was found on Camden soil (12-My-296), six sites were found on Martinsville-Ockley soil (12-My-295, 297, 299 to 300, 303 and 305) and three sites were found on Ockley soil (12-My-298, 301 to 302 and 304).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 9 consisted of approximately 31 acres of outwash plain. Within Survey Area 9, a density of one prehistoric site per 5.17 acres occurred and sites covered 0.56 percent of the surface area.


**Figure 46: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-295 to 305.**

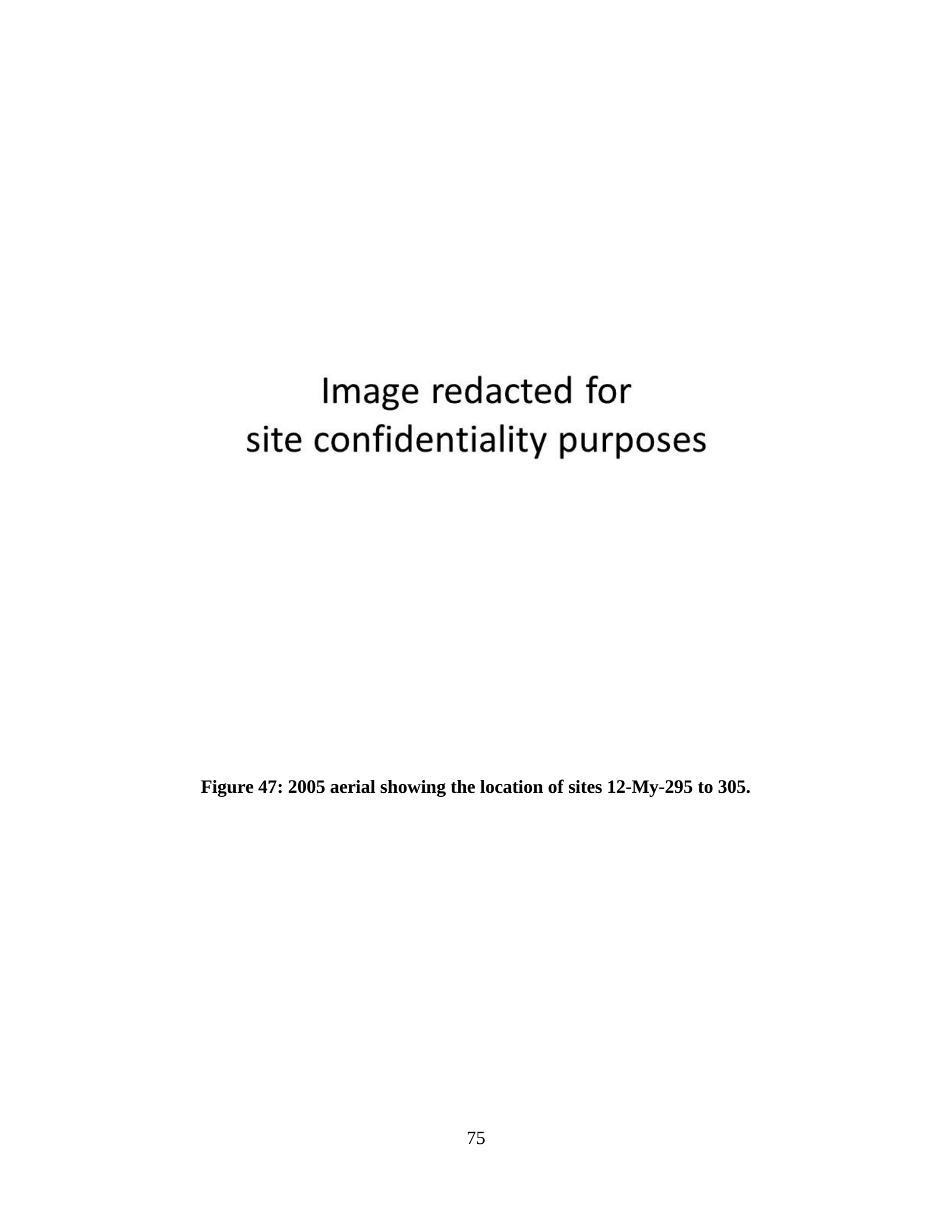


**Figure 47: 2005 aerial showing the location of sites 12-My-295 to 305.**

*Survey Area 10*

[redacted]

The property was surveyed on March 6, 2011. Ground surface visibility was approximately 40-50 percent and the survey area was not recently rain-washed. The field was not tilled prior to investigation and there was corn residue on the surface. Approximately 42.5 acres were surveyed consisting of outwash plain soils. The area contained Camden soil (CbA), Mahalasville soil (Mb), Martinsville-Ockley soil (MeB), Ockley soil (OfC2), Palms Muck soil (Pd) and Starks soil (SlA). Six sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a historic scatter of 200 square meters (0.05 acres). Components identified in the sites are prehistoric and historic. Prehistoric and historic diagnostic artifacts were identified (Figure 50, Figure 51).

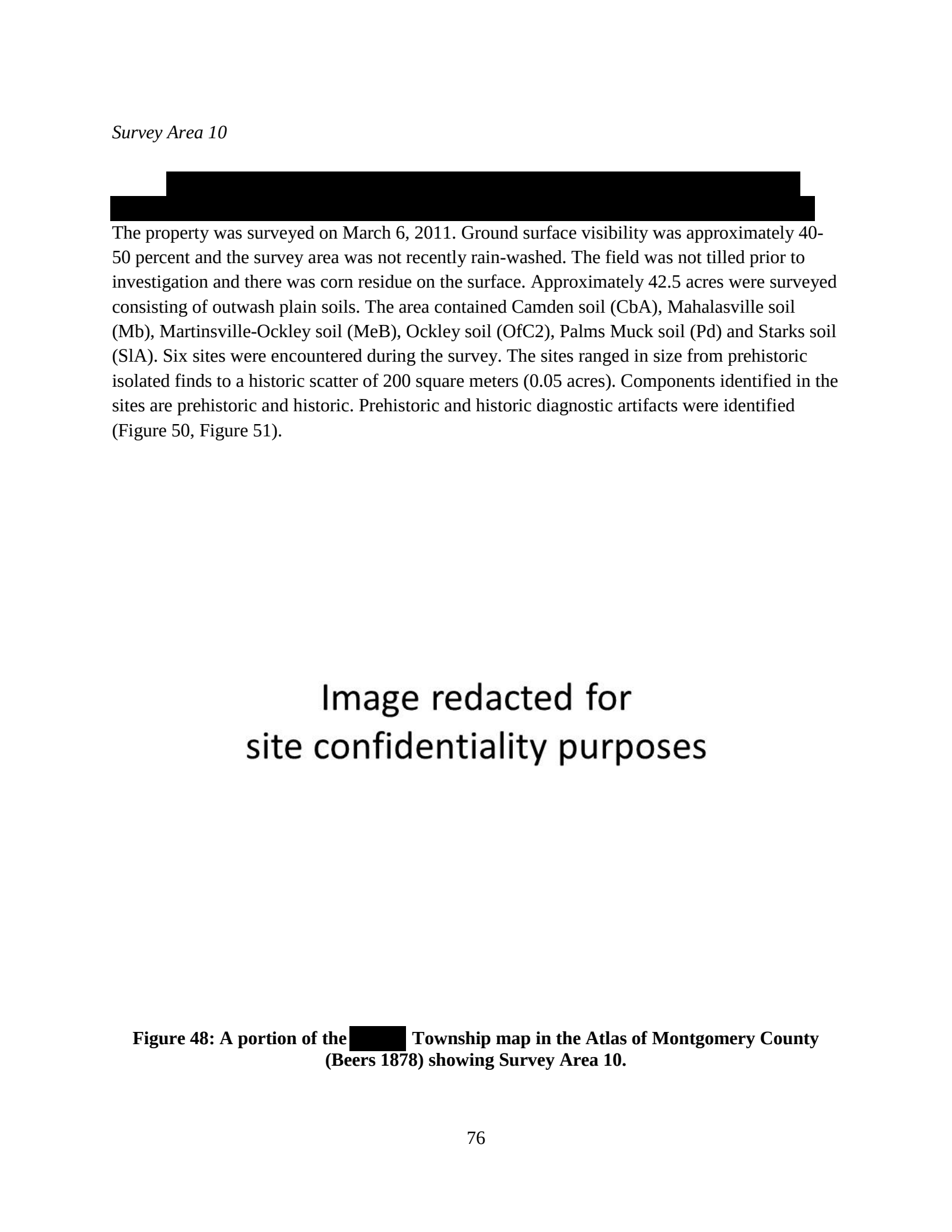


**Figure 48: A portion of the [redacted] Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 10.**


**Figure 49: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 10.**

Artifacts

A total of 26 artifacts were encountered in Survey Area 10. Table 14 provides a list of the artifacts recovered by category. Artifacts are listed by individual size in Appendix F. One diagnostic prehistoric projectile point was found to date to the Late Woodland/Mississippian period (Justice 1987: 224) (Figure 50).

Fourteen diagnostic historic artifacts were found (Table 14). Diagnostic historic artifacts found include aqua container glass, light aqua container glass, light amethyst container glass, milkglass, porcelain insulator, and stoneware (Figure 51). Aqua container glass from site 12-My-307 was manufactured between 1800 and 1910 (IMACS 1992: 472). Light aqua container glass from site 12-My-307 was manufactured between 1800 and 1910 (IMACS 1992: 472). Light aqua flat glass from site 12-My-307 was manufactured between 1800 and 1910 (IMACS 1992: 472). Light amethyst container glass from site 12-My-307 was manufactured between 1880 and 1925 (IMACS 1992: 472). Milkglass from site 12-My-308 was manufactured between 1890 and 1960

(IMACS 1992: 472). Porcelain insulator from site 12-My-308 was manufactured between 1890 and 1930 (Myers 2010: 33). Stoneware from site 12-My-307 was manufactured between 1700 and 1900 (Sutton 2009: 213).

| Table 14: Artifacts from Survey Area 10 | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Core Tool | 2 | Brick | 1 |
| Biface | 1 | Glass, Aqua | 1 |
| Metal | 1 | Glass, Clear | 2 |
| | | Glass, Light Aqua | 3 |
| | | Glass, Light Amethyst | 1 |
| | | Metal | 1 |
| | | Milkglass | 1 |
| | | Porcelain | 1 |
| | | Stoneware | 7 |
| | | Whiteware | 4 |


**Figure 50: A Late Woodland/Mississippian projectile point from Survey Area 10.**


**Figure 51: Diagnostic historic artifacts from Survey Area 10.**

**a) stoneware rim white design (12-My-307-03), b) glass base round aqua (12-My-307-08), c) glass rim light amethyst (12-My-301-11), d) milkglass body white (12-My-308-03), e) porcelain insulator (12-My-308-04)**

Sites

Six archaeological sites, 12-My-306-311, were recorded in Survey Area 10 (Figure 52, Figure 53). Summaries for the individual sites are contained in Appendix F. Four of the sites were prehistoric isolated finds (12-My-306 and 309 to 311) and two sites were historic scatters (12-My-307 to 308).

The sites were found on outwash plain soils present in the survey area. One site was found on Camden soil (12-My-310), and five sites were found on Martinsville-Ockley soil (12-My-306 to 309 and 311). Four sites were prehistoric isolated finds (12-My-306 and 309 to 311) and two sites were historic scatters (12-My-307 to 308).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 10 consisted of approximately 42.5 acres of outwash plain. Within Survey Area 10, a density of one prehistoric site per 14.17 acres occurred and sites covered 0.16 percent of the surface area.


**Figure 52: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-306 to 311.**


**Figure 53: 2005 aerial showing the location of sites 12-My-306 to 311.**

*Survey Area 11*

[redacted]. The property was surveyed on and March 6, 7 and 11, 2011. Ground surface visibility was approximately 60-80 percent and the survey area was recently rain-washed. The field was tilled prior to investigation and there was little crop residue on the surface. Approximately 90.5 acres were surveyed consisting of outwash plain soils. The area contained Camden soil (CbA), Mahalasville soil (Mb), Martinsville-Ockley soil (MeB), Miami soil (MoC2), Milford soil (Ms), Ockley soil (OfB2) (OfC2) and Starks soil (SIA). Thirty-three sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a large historic scatter of 2,000 square meters (0.49 acres). Components identified in the sites are prehistoric and historic.


**Figure 54: A portion of the [redacted] Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 11.**


**Figure 55: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 11.**

Artifacts

A total of 144 artifacts were encountered in Survey Area 11. Table 15 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F. Two diagnostic projectile points were found, one dating to the Early Woodland (Justice 1987: 192) and one was dated to the terminal Archaic period (Justice 1987: 159).

One hundred diagnostic historic artifacts were found. Historic diagnostics include; aqua container glass, embossed aqua container glass, light aqua container class, embossed light aqua container class, clear container glass, light amethyst container glass, amethyst container glass, ironstone, milkglass, porcelain, stoneware, whiteware, whiteware blue flow, and yellowware (**Figure 58**,**Figure 59**). Aqua container glass from site 12-My-340 was manufactured between 1800 and 1910 (IMACS 1992: 472). Embossed aqua container glass from site 12-My-313 was manufactured between 1869 and 1910 (IMACS 1992: 472). Light aqua container glass from sites 12-My-313 and 340 was manufactured between 1800 and 1910 (IMACS 1992: 472). Embossed light aqua container glass from site 12-My-313 was manufactured between 1869 and 1910

(IMACS 1992: 472). Clear container glass from site 12-My-340 was manufactured between 1875 and present (IMACS 1992: 472). ). Light amethyst container glass from sites 12-My-313 and 340 were manufacture between 1880 and 1925 (IMACS 1992: 472). Amethyst container glass from site 12-My-340 was manufactured between 1880 and 1925 (IMACS 1992: 472). Ironstone from site 12-My-340 was manufactured between 1850 and 1890 (Sutton 2009: 214). Milkglass from sites 12-My-313 and 340 was manufactured between 1890 and 1960 (IMACS 1992: 472). Stoneware from sites 12-My-313 and 340 was manufactured between 1700 and 1900 (Sutton 2009: 215). Porcelain from site 12-My-340 was manufactured between 1780 and present (Sutton 2009: 219). Porcelain with a floral decal from site 12-My-340 was manufactured between 1860 and present (IMACS 1992: 473). Whiteware from sites 12-My-313 and 340 were manufactured between 1820 and present (Sutton 2009: 213). Whiteware with a makers mark from sites 12-My-340 was manufactured between 1820 and present (Sutton 2009: 213). Whiteware with blue flow from site 12-My-340 was manufactured between 1825 and 1862 (IMACS 1992: 472). Yellowware from site 12-My-313 was manufactured between 1830 and 1900 (Sutton 2009: 214).

| Table 15: Artifacts from Survey Area 11 | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Angular Shatter | 1 | Brick | 1 |
| Biface | 6 | Glass, Amethyst | 2 |
| Core | 1 | Glass, Aqua | 10 |
| Core Tool | 1 | Glass, Clear | 9 |
| Flake | 2 | Glass, Light Amethyst | 4 |
| Flake Shatter | 18 | Glass, Light Aqua | 9 |
| Flake Tool | 3 | Ironstone | 3 |
| Proximal Flake | 10 | Milkglass | 12 |
| Slate, Drilled | 1 | Porcelain | 3 |
| | | Stoneware | 29 |
| | | Whiteware | 22 |
| | | Yellowware | 1 |


**Figure 56: An Early Woodland projectile point (12-My-335-01) from Survey Area 11.**


**Figure 57: A terminal Archaic projectile point (12-My-341-01) from Survey Area 11.**


**Figure 58: Diagnostic historic artifacts from Survey Area 11 – photo 1.**

**a) ceramic body stoneware dark brown and tan design (12-My-313-09); b) ceramic body yellowware (12-My-131-03); c) milkglass rim white (12-My-313-03); d) Ironstone rim (12-My-340-08)**


**Figure 59: Diagnostic historic artifacts from Survey Area 11 - photo 2.**

**e) ceramic body porcelain (12-My-340-10), f) ceramic body whiteware with makers mark fragment (12-My-340-04); g) ceramic rim whiteware with blue flow (12-My-340-07); h) ceramic body whiteware with blue flow (12-My-340-06); i) glass base aqua embossed TRADE MA (12-My-313-17); j) glass bottle neck amethyst (12-My-340-37)**

Sites

Thirty-three sites, 12-My-312 to 344, were recorded in Survey Area 11 (Figure 60, Figure 61). Summaries for the individual sites are contained in Appendix F. Twenty-three sites were prehistoric isolated finds (12-My-312, 314 to 315, 317 to 320, 322 to 326, 328, 333, 335 to 339 and 341 to 344), two sites were historic scatters (12-My-313 and 340) and eight sites were lithic scatters (12-My-316, 321, 327, 329, 330 to 332 and 334).

All sites were found on outwash plain soil. Three sites were found on Camden soil (12-My-319, 320 and 340), seven sites were found on Mahalasville soil (12-My-312, 314, 321, 324, 335, 343 and 344), two sites were found on Martinsville-Ockley soil (12-My-313 and 316), two sites were found on Ockley soil (12-My-333 to 334) and 22 sites were found on Starks soil (12-My-315, 317 to 318, 322 to 323, 325 to 332, 336 to 339 and 341 to 342).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 11 consisted of approximately 105.5 acres of outwash plain. Within Survey Area 11, a density of one prehistoric site per 3.40 acres occurred and sites covered 0.60 percent of the surface area.


**Figure 60: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-312 to 344.**

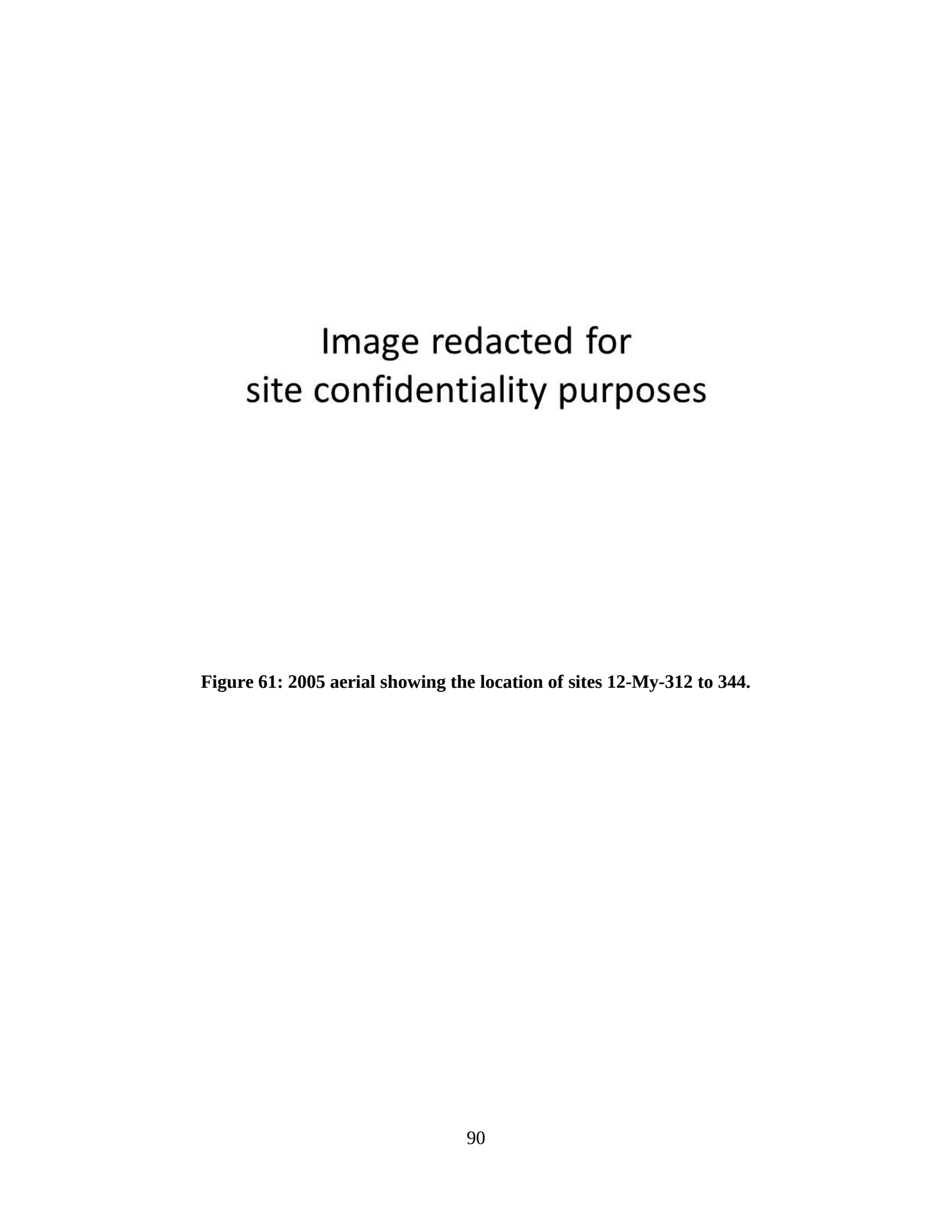


**Figure 61: 2005 aerial showing the location of sites 12-My-312 to 344.**

*Survey Area 12*

[redacted] The property was surveyed on March 7 and 8, 2011. Ground surface visibility was approximately 50-80 percent and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was little crop residue on the surface. Approximately 114.5 acres were surveyed consisting of [redacted]. The area contained Brenton silt loam (BrA), Drummer silty clay loam (Du), Parr silt loam (PfB) and Proctor silt loam (PrA) (PrB). Twenty-one sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a historic scatter of 600 square meters (0.14 acres). Components identified in the sites are prehistoric and historic.

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site confidentiality purposes

**Figure 62: A portion of the [redacted] Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 12.**


**Figure 63: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 12.**

Artifacts

A total of 194 artifacts were encountered in Survey Area 12. Table 16 provides a list of artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

One hundred forty-one diagnostic historic artifacts were found. Historic diagnostics include; light aqua flat glass, light amethyst container glass, aqua container glass, light aqua container glass, embossed light aqua container glass, clear container glass, clear flat glass, brown container glass, light green container glass, amber container glass, light blue container glass, olive green container glass, milky blue molded container glass, wheat container glass, porcelain with blue transfer print, ironstone, milkglass, stoneware, whiteware, blue flow print whiteware, blue transfer print whiteware, and hand painted whiteware (Figure 64, Figure 65. Light aqua flat glass from sites 12-My-346 and 349 was manufactured between 1800 and 1910 (IMACS 1992:472). Light amethyst container glass from sites 12-My-348, 349, and 357 were manufactured between 1880 and 1925 (IMACS 1992:472). Aqua container glass from site 12-

My-349 was manufactured between 1800 and 1910 (IMACS 1992:472). Light aqua container glass from sites 12-My- 348, 349, 351, 352, and 353 was manufactured between 1800 and 1910 (IMANCS 1992: 472). Embossed light aqua container glass from sites 12-My-349 and 351 was manufactured between 1869 and 1910 (IMACS 1992: 472). Clear container glass from sites 12-My- 248, 349, 351, and 352 was manufactured between 1875 and present (IMACS 1992: 472). Clear flat glass from site 12-My-349 was manufactured between 1875 and present (IMACS 1992: 472). Brown container glass from sites 12-My-348 and 349 was manufactured between 1869 and present (IMACS 1992: 472). Light green container glass from sites 12-My-348 and 349 was manufactured between 1860 and present (IMACS 1992: 472). Embossed light green container glass from site 12-My-349 was manufactured between 1869 and present (IMACS 1992: 472). Amber container glass from site 12-My- 351 and 352 was manufactured between 1860 and present (IMACS 1992: 472). Light blue container glass from sites 12-My- 348, 349, and 352 was manufactured between 1860 and present (IMACS 1992: 472). Olive green container glass from site 12-My- 349 was manufactured between 1860 and present (IMACS 1992: 472). Molded milky blue glass from site 12-My-349 was manufactured between 1860 and present (IMACS 1992: 472). Wheat embossed glass from site 12-My-349 was manufactured between 1869 and present (IMACS 1992: 472). Ironstone from site 12-My-349 was manufactured between 1850 and 1890 (Sutton 2009: 214). Milkglass from sites 12-My-349 and 352 was manufactured between 1890 and 1960 (IMACS 1992: 472). Porcelain with blue transfer print from sites 12-My-352 and 353 was manufactured between 1820 and present (IMACS 1992: 473). Porcelain from site 12-My-349 was manufactured between 1780 and present (Sutton 2009: 219). Stoneware from sites 12-My-346, 351, and 352 was manufactured between 1700 and 1900 (Sutton 2009: 215). Whiteware from sites 12-My-346, 347, 348, 349, and 352 was manufactured between 1820 and present (Sutton 2009: 213). Blue flow print whiteware from sites 12-My-346 and 347 was manufactured between 1825 and 1862 (IMACS 1992: 472). Blue transfer print whiteware from site 12-My-346 was manufactured between 1820 and present (Sutton 2009: 213). Hand painted whiteware from sites 12-My-347 was manufactured between 1825 and 1862 (IMACS 1992: 472).

**Table 16: Artifacts from Survey Area 12**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Angular Shatter | 2 | Button | 2 |
| Biface | 2 | Flat Glass, Light Aqua | 4 |
| Flake Shatter | 19 | Glass, Aqua | 4 |
| Proximal Flake | 18 | Glass, Amber | 8 |
| | | Glass, Brown | 6 |
| | | Glass, Clear | 29 |
| | | Glass, Light Amethyst | 14 |

| Table 16: Artifacts from Survey Area 12 | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| | | Glass, Light Aqua | 25 |
| | | Glass, Light Blue | 4 |
| | | Glass, Light Green | 12 |
| | | Glass, Milky Blue | 4 |
| | | Glass, Olive Green | 1 |
| | | Glass, Wheat | 1 |
| | | Ironstone | 2 |
| | | Metal Hinge | 1 |
| | | Metal Horseshoe | 1 |
| | | Metal Nut | 1 |
| | | Metal Shotgun Shell | 1 |
| | | Milkglass | 6 |
| | | Porcelain | 7 |
| | | Slag | 9 |
| | | Stoneware | 4 |
| | | Whiteware | 25 |


**Figure 64. Diagnostic historic artifacts from Survey Area 12 – photo 1.**

**a) ceramic body stoneware molded (12-My-346-10); b) ceramic body whiteware with blue transfer print (12-My-346-07); c) Ceramic rim whiteware with blue flow (12-My-346-05);**

**d) ceramic body whiteware with blue flow (12-My-347-02); e) ceramic body whiteware embossed with blue flow (12-My-346-06); f) ceramic rim whiteware hand painted blue and black (12-My-347-01); g) ceramic body whiteware with blue transfer print (12-My-346-08)**

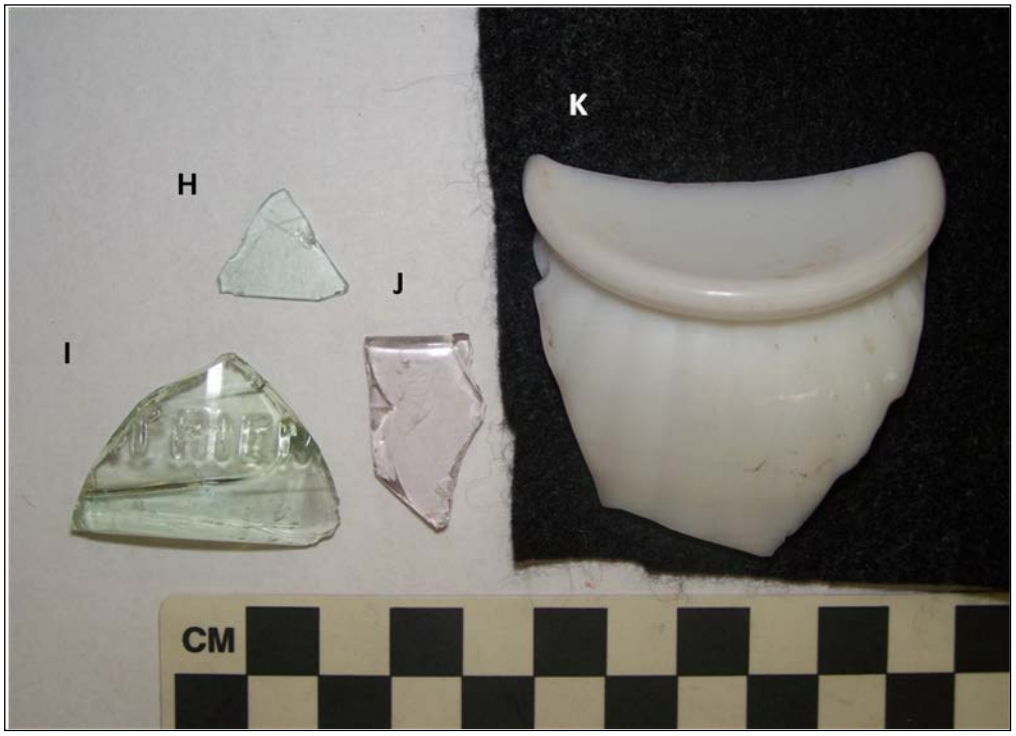


**Figure 65: Diagnostic historic artifacts from Survey Area 12 - photo 2.**

**h) glass flat light aqua (12-My-346-11); i) glass base green embossed (12-My-349-20); j) glass rim light amethyst (12-My-349-28); k) milkglass container base white (12-My-349-09)**

Sites

Twenty-one archaeological sites, 12-My-345 to 365, were recorded in Survey Area 12 (Figure 66, Figure 67). Summaries for the individual sites are contained in Appendix F. Ten sites were prehistoric isolated finds (12-My-345, 355 to 356 and 359 to 364), three sites were lithic scatters (12-My-354, 357 and 365), and eight sites were historic scatters (12-My-346 to 353).

Twenty-one sites were found on the uplands soils present in the survey area. Ten sites were found on Drummer soil (12-My-345 to 350, 353, 355 to 356 and 358), two sites were found on Parr soil (12-My-361 to 362) and nine sites were found on Proctor soil (12-My-351 to 352, 354, 357, 359 to 360 and 363 to 365).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 12 consisted of approximately 114.5 acres of uplands. Within Survey Area 12, a density of one prehistoric site per 9.54 acres occurred and sites covered 0.30 percent of the surface area.


**Figure 66: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of sites 12-My-345 to 365.**


**Figure 67: 2005 aerial showing the location of sites 12-My-345 to 12-My-365.**

*Survey Area 13*

[redacted] The property was surveyed on March 8, 2011. Ground surface visibility was approximately 50-70 percent and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was little crop residue on the surface. Approximately 45 acres were surveyed consisting of uplands. The area contained Fincastle soil (FdA), Mahalasville soil (Mb), Martinsville-Ockley soil (MeB) (MeC) and Ockley soil (OfC2). Twenty-six sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to prehistoric lithic scatter of 100 square meters (0.02 acres). Components identified in the sites are prehistoric and historic.

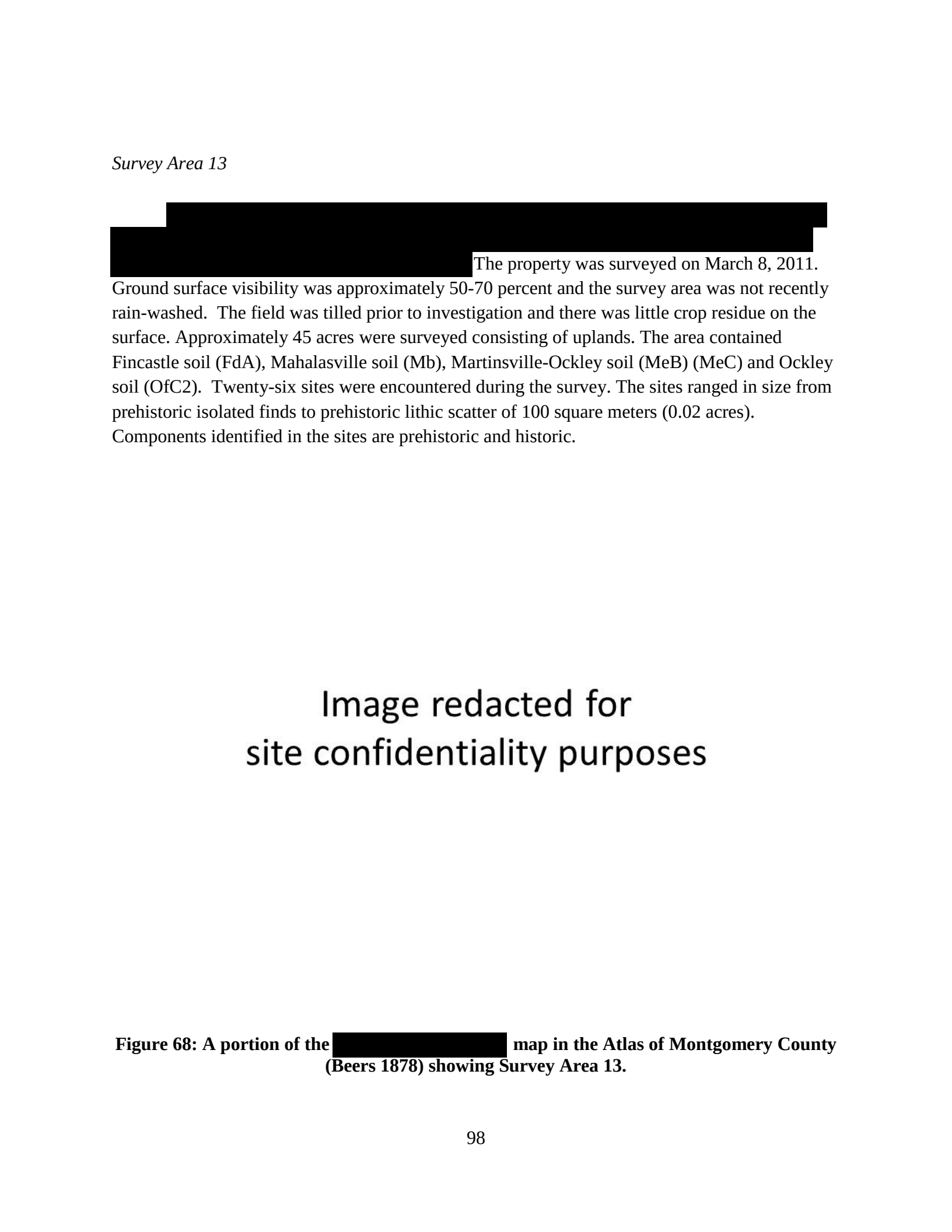


**Figure 68: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 13.**


**Figure 69: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of Survey Area 13.**

Artifacts

A total of 53 artifacts were encountered in Survey Area 13. Table 17 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F. Five diagnostic prehistoric artifacts were found in Survey Area 13: (12-My-370-01) a MacCorkle Stemmed projectile point fragment (Figure 70) dating to the Early Archaic (Justice 1987: 89); (12-My-377-01) an Affinis Snyder projectile point (Figure 71) dating to the Middle Woodland (Justice 1987: 204); (12-My-381-01) a Matanzas projectile point (Figure 72) dating to the Late Archaic (Justice 1987: 118); (12-My-384-01) a Matanzas projectile point (Figure 73) dating to the Late Archaic (Justice 1987: 118); (12-My-386-01) a side notched Matanzas projectile point (Figure 74) dating to the Late Archaic (Justice 1987: 118).

Thirteen diagnostic historic artifacts were found. Historic diagnostics include; clear container glass, light aqua container glass, whiteware, and whiteware with brown transfer print.

Clear container glass from sites 12-My-370 and 373 was manufactured between 1875 and present (IMACS 1992: 472). Light aqua container glass from site 12-My-373 was manufactured between 1800 and 1910 (IMACS 1992: 472). Whiteware from site 12-My-373 was manufactured between 1820 and present (Sutton 2009: 213). Whiteware with brown transfer print was manufactured between 1820 and present (Sutton 2009: 213).

**Table 17: Artifacts from Survey Area 13**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Angular Shatter | 2 | Glass, Clear | 8 |
| Biface | 10 | Glass, Light Aqua | 1 |
| Core Tool | 1 | Whiteware | 4 |
| Drilled Slate | 1 | | |
| Flake Shatter | 16 | | |
| Flake Tool | 1 | | |
| Proximal Flake | 8 | | |
| Slate Drilled | 1 | | |


**Figure 70: An Early Archaic projectile point (12-My-370-01) from Survey Area 13.**


**Figure 71: A Middle Woodland projectile point (12-My-377-01) from Survey Area 13.**


**Figure 72: A Late Archaic projectile point (12-My-331-01) from Survey Area 13.**


**Figure 73: A Late Archaic projectile point (12-My-384-01) from Survey Area 13.**

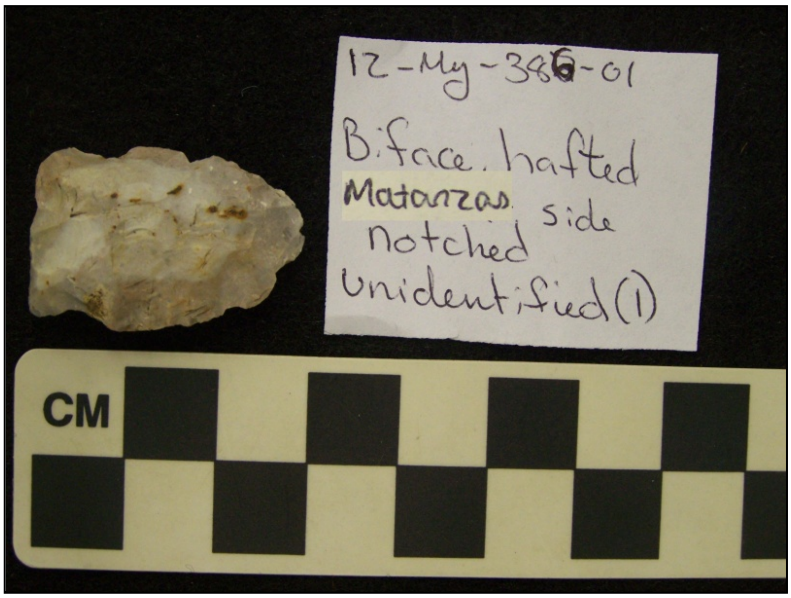


**Figure 74: A Late Archaic projectile point (12-My-386-01) from Survey Area 13.**

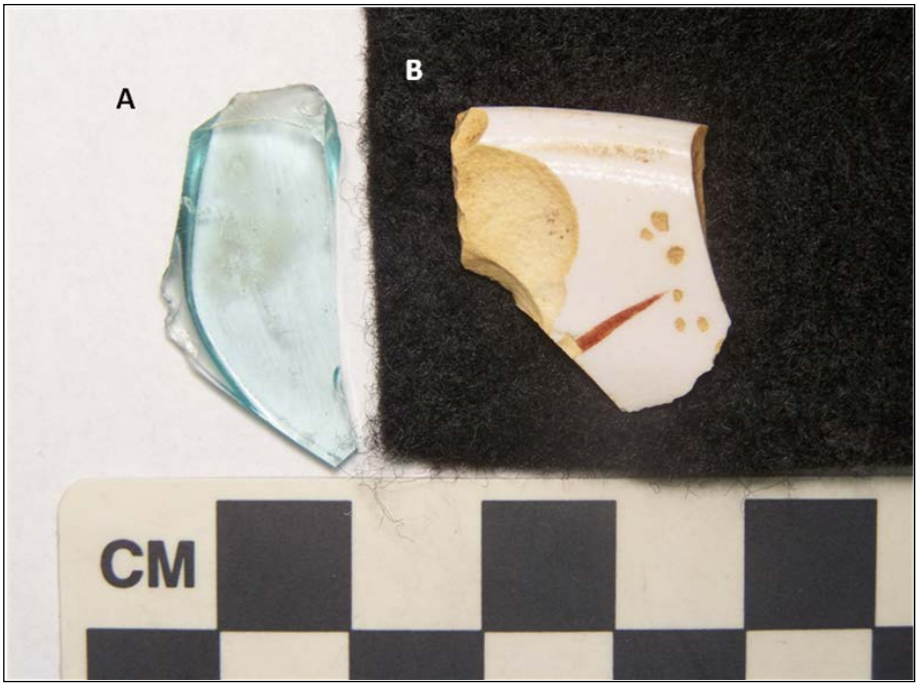


**Figure 75: Diagnostic historic artifacts from Survey Area 13.**

**a) glass body aqua (12-My-373-04), b) ceramic rim whiteware with brown transfer print (12-My-373-02)**

Sites

Twenty-six sites, 12-My-366 to 391, were recorded in Survey Area 13 (Figure 76, Figure 77). Summaries for the individual sites are contained in Appendix F. Sixteen sites were prehistoric isolated finds (12-My-366, 368, 371 to 372, 374 to 378, 381, 383, 386 and 388 to 391), nine sites were lithic scatters (12-My-367, 369 to 370, 379 to 380, 382, 384 to 385 and 387) and one site was a historic scatter (12-My-373).

All 26 sites were found on uplands soils present in the survey area. Five sites were found on Fincastle soil (12-My-375 to 378 and 382), two sites were found on Mahalasville soil (12-My-372 to 373), eight sites were found on Martinsville-Ockley soil (12-My-366, 368, 379 to 380, 383 to 384 and 386 to 387), and 11 sites were found on Ockley soil (12-My-367, 369 to 371, 374, 381, 385 and 388 to 391).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 13 consisted of approximately 45 acres of uplands. Within Survey Area 13, a density of one prehistoric site per 1.88 acres occurred and sites covered 0.30 percent of the surface area.


**Figure 76: A portion of the USGS 7.5' [redacted] Indiana Quadrangle showing the location of sites 12-My-366 to 391.**


**Figure 77: 2005 aerial showing the location of sites 12-My-366 to 391.**

*Survey Area 14*

[redacted] The property was surveyed on March 8, 2011. Ground surface visibility was approximately 30-50 percent and the survey area was not recently rain-washed. The field was not tilled prior to investigation and there was corn residue on the surface. Approximately 40 acres were surveyed consisting of outwash. The area contained Mahalasville soil (Mc), Ockley soil (OcA), Rush soil (RtA), Rush soil (RwA) and Waynetown soil (WdA). Five sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a historic scatter of 900 square meters (0.22 acres). Components identified in the sites are prehistoric and historic.

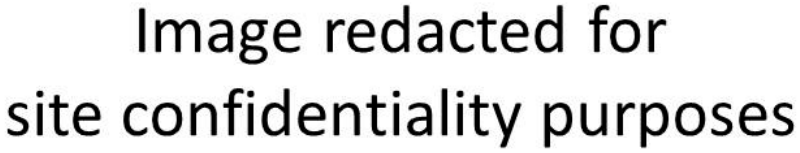


**Figure 78: A portion of the [redacted] map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 14.**

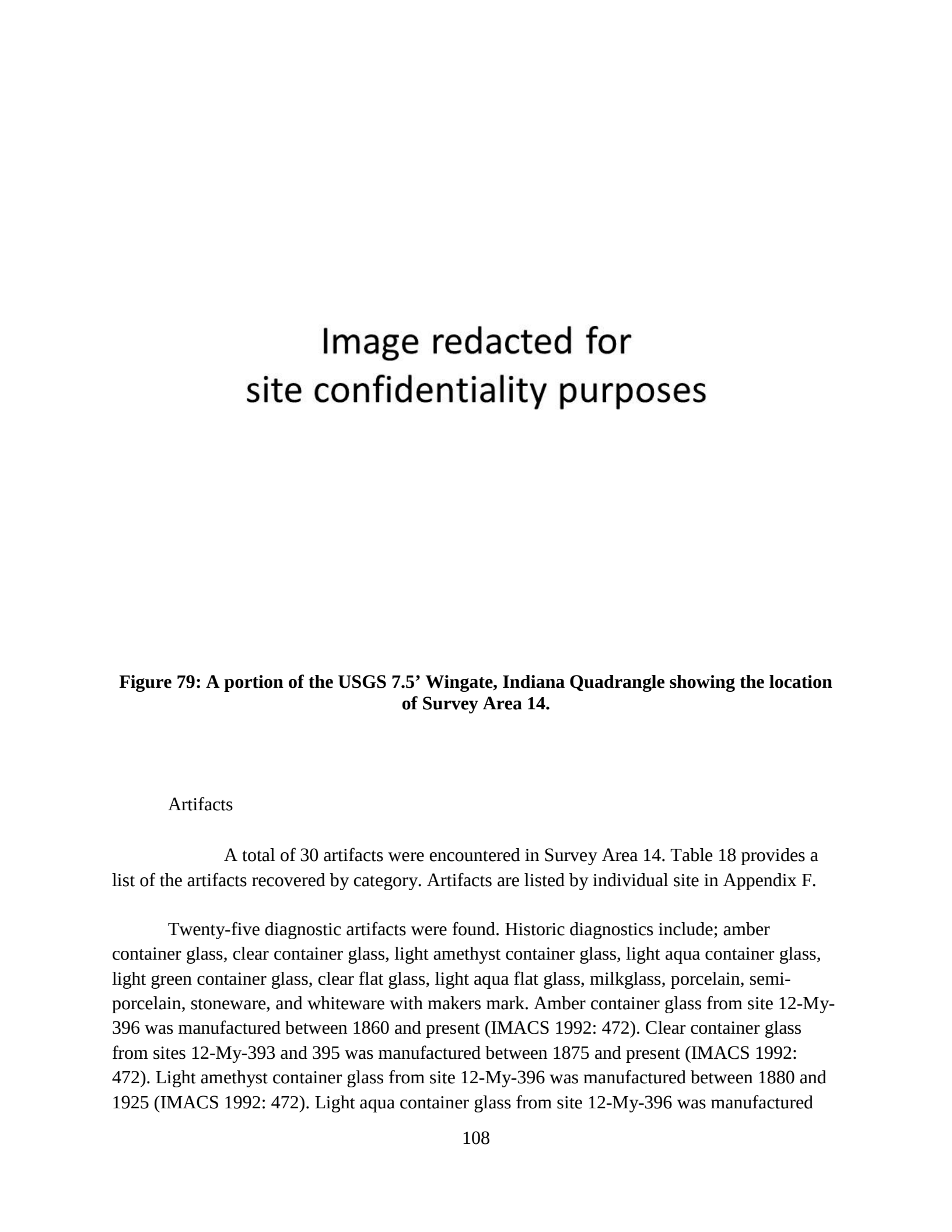


**Figure 79: A portion of the USGS 7.5' Wingate, Indiana Quadrangle showing the location of Survey Area 14.**

Artifacts

A total of 30 artifacts were encountered in Survey Area 14. Table 18 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

Twenty-five diagnostic artifacts were found. Historic diagnostics include; amber container glass, clear container glass, light amethyst container glass, light aqua container glass, light green container glass, clear flat glass, light aqua flat glass, milkglass, porcelain, semi-porcelain, stoneware, and whiteware with makers mark. Amber container glass from site 12-My-396 was manufactured between 1860 and present (IMACS 1992: 472). Clear container glass from sites 12-My-393 and 395 was manufactured between 1875 and present (IMACS 1992: 472). Light amethyst container glass from site 12-My-396 was manufactured between 1880 and 1925 (IMACS 1992: 472). Light aqua container glass from site 12-My-396 was manufactured

between 1800 and 1910 (IMACS 1992: 472). Light green container glass from site 12-My-395 was manufactured between 1860 and present (IMACS 1992: 472). Clear flat glass from site 12-My-395 was manufactured between 1875 and present (IMACS 1992: 472). Light aqua flat glass from sites 12-My- 393 and 395 was manufactured between 1800 and 1910 (IMACS 1992: 472). Light green flat glass from site 12-My-395 was manufactured between 1860 and present (IMACS 1992: 472). Milkglass from site 12-My-395 was manufactured between 1890 and 1960 (IMACS 1992: 472). Porcelain from site 12-My-395 was manufactured between 1780 and present (Sutton 2009: 219). Semi-porcelain from site 12-My-395 was manufactured between 1850 and 1890 (Sutton 2009: 214). Stoneware from sites 12-My-393 and 395 was manufactured between 1700 and 1900 (Sutton 2009: 215). Whiteware from site 12-My-395 was manufactured between 1820 and present (Sutton 2009: 213).

**Table 18: Artifacts from Survey Area 14**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Flake Shatter | 2 | Brick | 1 |
| Proximal Flake | 1 | Field Tile | 1 |
| | | Glass, Amber | 1 |
| | | Glass, Clear | 4 |
| | | Glass, Light Aqua | 5 |
| | | Glass, Light Amethyst | 2 |
| | | Glass, Light Green | 2 |
| | | Metal Pipe | 1 |
| | | Metal Washer | 1 |
| | | Milkglass | 4 |
| | | Porcelain | 1 |
| | | Semi-Porcelain | 1 |
| | | Stoneware | 5 |
| | | Whiteware | 1 |

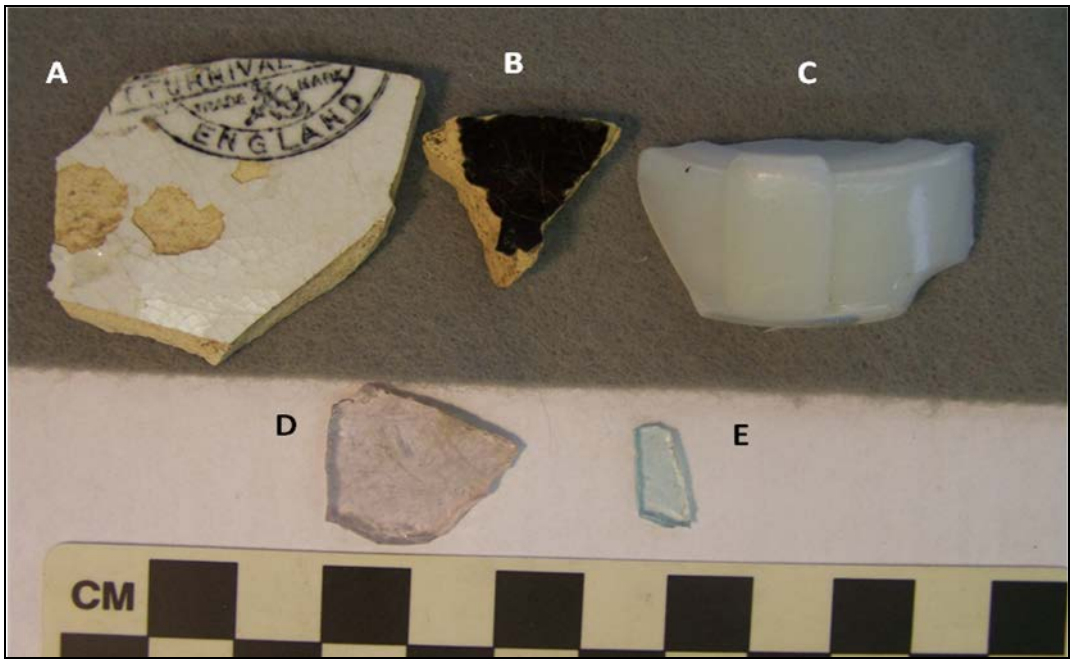


**Figure 80. Diagnostic historic artifact from Survey Area 14.**

**a) ceramic base whiteware makers mark (12-My-395-01), b) stoneware body black and tan design (12-My-395-02), c) milkglass container base white (12-My-395-07), d) glass body light amethyst (12-My-396-03), e) glass flat aqua (12-My-395-08)**

Sites

Five archaeological sites, 12-My-392 to 396, were recorded in Survey Area 14 (Figure 81, Figure 82). Two sites were lithic scatters (12-My-392 and 394) and three historic scatters (12-My-393 and 395 to 396).

All sites were found on outwash soils present in the survey area. One site was found on Mahalasville soil (12-My-396), one site was found on Ockley soil (12-My-395), two sites were found on Rush soil (12-My-392 and 393) and one site was found on Waynetown soil (12-My-394).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 14 consisted of approximately 40 acres of outwash. Within Survey Area 14, a density of one prehistoric site per 40.00 acres occurred and sites covered 0.69 percent of the surface area.

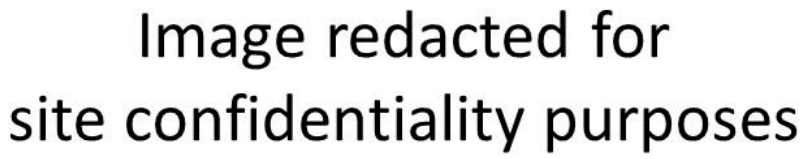


**Figure 81: A portion of the USGS 7.5' [redacted], Indiana Quadrangle showing the location of sites 12-My-392 to 396.**

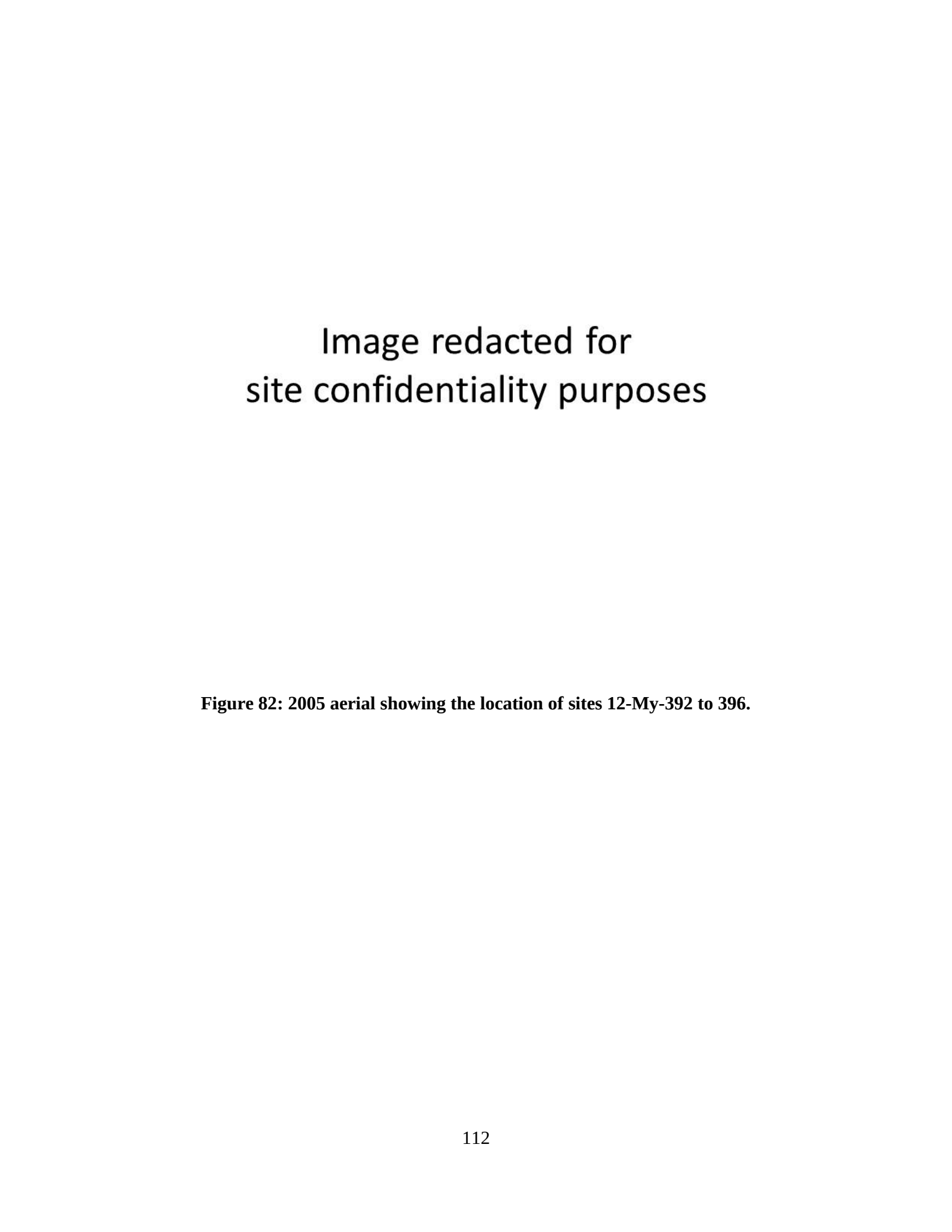


**Figure 82: 2005 aerial showing the location of sites 12-My-392 to 396.**

*Survey Area 15*

[redacted] The property was surveyed on March 10, 2011. Ground surface visibility was approximately 50-60 percent and the survey area was not recently rain-washed. The field was not tilled prior to investigation and there was corn residue on the surface. Approximately 115 acres were surveyed consisting of uplands. The area contained Crosby-Miami soil (CyB2), Mahalasville soil (Mb), Martinsville-Ockley soil (MeB), Miami soil (MoC2), Milford soil (Ms), Starks soil (SlA) and Whitaker soil (WkA). Seventeen sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a large historic scatter of 4,425 square meters (1.09 acres). Components identified in the sites are prehistoric and historic.

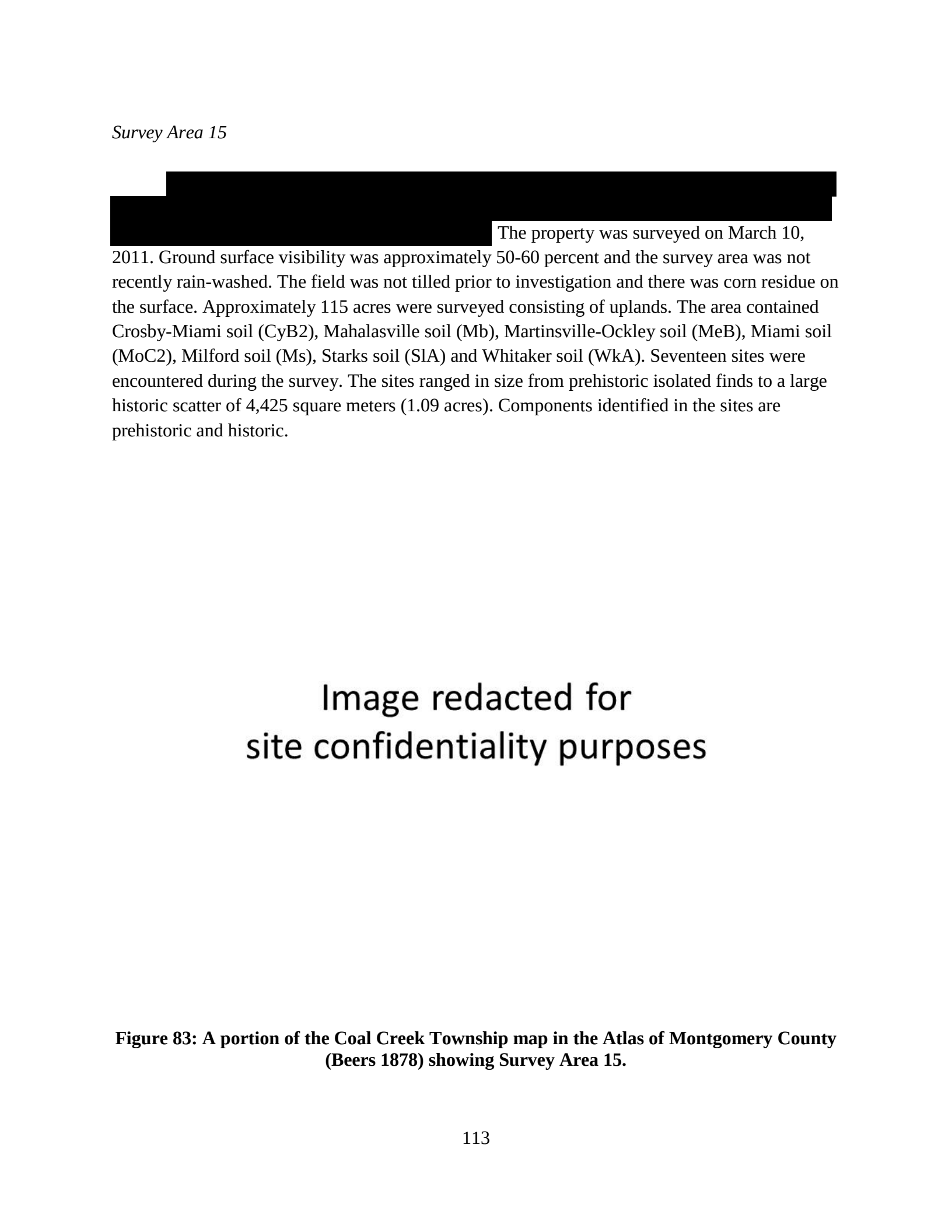


**Figure 83: A portion of the Coal Creek Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 15.**


**Figure 84: A portion of the USGS 7.5' [redacted] Quadrangle showing the location of Survey Area 15.**

Artifacts

A total of 138 artifacts were encountered in Survey Area 15. Table 19 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

Two diagnostic prehistoric artifacts were found in Survey Area 15: (12-My-405-01) an ear-notched Brewerton projectile point (Figure 85) dating to the Late Archaic (Justice 1987: 123); (12-My-409-01) a Motley projectile point (Figure 86) dating to the Early Woodland (Justice 1987: 199).

Thirty-four diagnostic historic artifacts were found. Historic diagnostics include light aqua container glass, amethyst container glass, light amethyst container glass, amethyst flat glass, ironstone, milkglass, blue flow print porcelain, redware, senu-porcelain, stoneware, and yellow ware (Figure 87). Light aqua container glass from site 12-My-400 was manufactured

between 1800 and 1910 (IMACS 1992: 472). Amethyst container glass from site 12-My-400 was manufactured between 1880 and 1925 (IMACS 1992: 472). Light amethyst container glass from sites 12-My-400 and 401 was manufactured between 1880 and 1925 (IMACS 1992: 472). Amethyst flat glass from site 12-My-400 was manufactured between 1880 and 1925 (IMACS 1992: 472). Ironstone from site 12-My-400 was manufactured between 1850 and 1890 (Sutton 2009: 214). Milkglass from site 12-My-401 was manufactured between 1890and 1960 (IMACS 1992: 472). Blue flow print Porcelain from site 12-My-400 was manufactured between 1825 and 1862 (IMACS 1992: 472). Redware from site 12-My-401 was manufactured between 1650 and 1710 (Sutton 2009: 209). Semi-porcelain from site 12-My-401 was manufactured between 1850 and 1890 (Sutton 2009: 214). Stoneware from sites 12-My-400 and 401 was manufactured between 1700 and 1900 (Sutton 2009: 215). Yellow ware from site 12-My-401 was manufactured between 1827 and 1900 (Sutton 2009: 214).

**Table 19: Artifacts from Survey Area 15**

| Prehistoric | No. | Historic | No. |
|---|---|---|---|
| Angular Shatter | 6 | Brick | 5 |
| Biface | 4 | Glass, Amber | 1 |
| Core | 3 | Glass, Black | 1 |
| Flake Shatter | 43 | Glass, Clear | 6 |
| Proximal Flake | 11 | Glass, Light Aqua | 6 |
| | | Glass, Light Amethyst | 4 |
| | | Glass, Green | 1 |
| | | Ironstone | 2 |
| | | Metal Plate With Holes | 1 |
| | | Metal Hinge | 1 |
| | | Metal Unidentified | 2 |
| | | Milkglass | 1 |
| | | Porcelain | 5 |
| | | Redware | 1 |
| | | Semi-Porcelain | 2 |
| | | Stoneware | 16 |


**Figure 85: A Late Archaic projectile point (12-My-405-01) from Survey Area 15.**

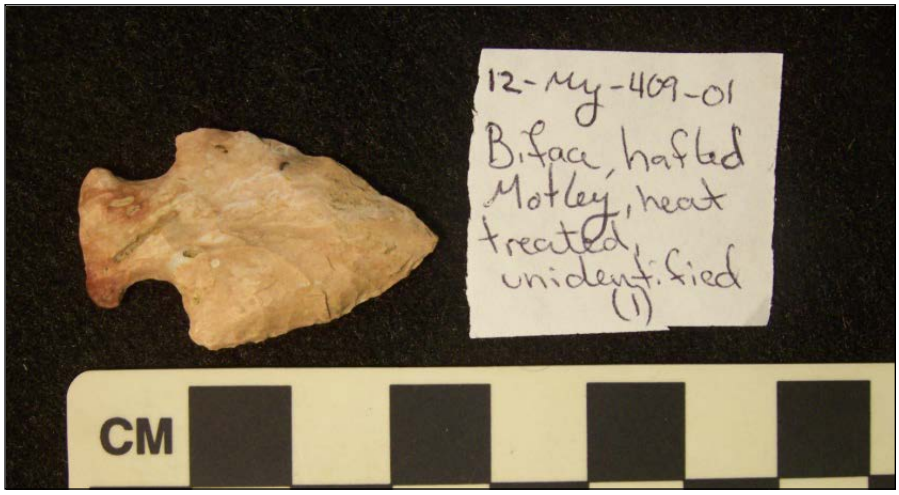


**Figure 86: An Early Woodland projectile point (12-My-409-01) from Survey Area 15.**


**Figure 87: Diagnostic historic artifacts from Survey Area 15.**

**a) Semi-porcelain rim molded (12-My-401-12); b) porcelain body with blue flow print (12-My-400-04); c) milkglass rim white (12-My-401-15); d) redware body (12-My-401-10); e) yellowware body (12-My-401-11); f) glass body amethyst (12-My-400-16); g) stoneware base dark brown and tan design (12-My-400-10); h) Ironstone body cream design (12-My-400-07), i) glass base light aqua (12-My-400-11)**

Sites

Seventeen archaeological sites, 12-My-397 to 413, were recorded in Survey Area 15 (Figure 88, Figure 89). Nine sites were prehistoric isolated finds (12-My-397, 399, 402 and 403, 405, 408, 410, 412 and 413), six sites were lithic scatters (12-My-398, 404, 406 to 407, 409 and 411) and two sites were historic scatters (12-My-400 to 401).

All sites were found on uplands soils present in the survey area. One site was found on Crosby-Miami soil (12-My-404), two sites were found on Mahalasville soil (12-My-398, 405) and 14 sites were found on Martinsville-Ockley soil (12-My-397, 399 to 403 and 406 to 413).

Due to the low number of artifacts on sites within the survey area and the eroded nature of the soils, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 15 consisted of approximately 115 acres of uplands. Within the survey area, a density of one prehistoric site per 7.65 acres occurred and covered 0.96 percent of the surface area.


**Figure 88: A portion of the USGS 7.5' Linden, Indiana Quadrangle showing the location of sites 12-My-397 to 413.**


**Figure 89: 2005 aerial showing the location of sites 12-My-397 to 413.**

*Survey Area 16*

[redacted] The property was surveyed on March 11, 2011. [redacted] Ground surface visibility was approximately 60-70 percent and the survey area was not recently rain-washed. The field was tilled prior to investigation and there was little residue on the surface. Approximately 45 acres were surveyed consisting of uplands. The area contained Crosby-Miami soil (CyB2), Mahalasville soil (Mb), Martinsville-Ockley soil (MeB) and Starks soil (SlA). Seventeen sites were encountered during the survey. The sites ranged in size from prehistoric isolated finds to a lithic scatter of 100 square meters (0.02 acres). Components identified in the sites are prehistoric and historic.

Image redacted for
site confidentiality purposes

**Figure 90: A portion of the Coal Creek Township map in the Atlas of Montgomery County (Beers 1878) showing Survey Area 16.**


**Figure 91. A portion of the USGS 7.5' Linden, Indiana Quadrangle showing the location of Survey Area 16. [redacted] the survey area was not investigated.**

Artifacts

A total of 29 artifacts were encountered in Survey Area 16. Table 20 provides a list of the artifacts recovered by category. Artifacts are listed by individual site in Appendix F.

One diagnostic prehistoric artifact was found in Survey Area 16, (12-My-422-01) a Kirk Corner Notched projectile point (Figure 92) dating to the Early Archaic (Justice 1987: 71).

Three diagnostic historic artifacts were found. The historic artifacts include aqua container glass and stoneware. Aqua container glass from site 12-My-426 was manufactured between 1800 and 1910 (IMACS 1992: 472). Stoneware from site 12-My-426 was manufactured between 1700 and 1900 (Sutton 2009: 215).

| Table 20: Artifacts from Survey Area 16 | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Biface | 4 | Glass, Clear | 3 |
| Core Tool | 3 | Glass, Amber | 1 |
| Endscraper | 2 | Glass, Aqua | 1 |
| Flake Shatter | 12 | Stoneware | 2 |
| Proximal Flake | 2 | | |
| | | | |


**Figure 92: An Early Archaic projectile point (12-My-422-01) from Survey Area 16.**


**Figure 93: Diagnostic historic artifacts from Survey Area 16.**
**a) glass body aqua (12-My-426-03), b) stoneware body tan design (12-My-426-01)**

Sites

Seventeen archaeological sites, 12-My-414 to 430, were recorded in Survey Area 16 (Figure 94, Figure 95). Thirteen of the sites were prehistoric isolated finds (12-My-414, 416 to 417, 419 to 422, 424 to 425 and 427 to 430), three sites were lithic scatters (12-My-415, 418 and 423) and one site was historic scatter (12-My-426).

All sites were found on uplands soils present in the survey area. Seven sites were on Mahalasville soil (12-My-414, 417, 421 to 423 and 426 to 427) and 10 sites were found on Martinsville-Ockley soil (12-My-415 to 416, 418 to 420, 424 to 425 and 429 to 430).

Due to the low number of artifacts on sites within the survey area, none of the sites were determined to qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

Density

Survey Area 16 consisted of approximately 45 acres of uplands. Within Survey Area 16, a density of one prehistoric site per 2.81 acres occurred and sites covered 0.11 percent of the surface area.


**Figure 94: A portion of USGS 7.5' Linden, Indiana Quadrangle showing the location of sites 12-My-414 to 430.**


**Figure 95: 2005 aerial showing the location of sites 12-My-414 to 430.**

*Summary/Discussion*

Approximately 915 acres were surveyed during this project and 220 new archaeological sites were recorded. Montgomery County was sampled from sixteen locales. The survey documented the human occupation of Montgomery County beginning from the Early Archaic period and extending until the historic period. Considering the limitations of Phase I surveys, it is presumptious to assign functionality to sites identified solely by pedestrian survey. Site types were therefore not defined beyond isolates and scatters. However, it appears likely based upon the variation in artifact classes discovered on the sites that multiple sites types were represented.

Artifacts

The project recovered 376 prehistoric artifacts and 1,325 historic artifacts (Table 21). The majority of prehistoric artifacts consist of lithic debitage. The edge modification to several flakes indicates the debitage could function as expedient tools. The majority of formal lithic tool types were projectile points dating to the Early Archaic, Middle Archaic, Terminal Archaic, Late Archaic, Early Woodland, Middle Woodland and Late Woodland/Prehistoric periods (Table 22). Other stone tools consist of endscrapers, groundstones, and core tools. Historic artifacts included various types of ceramics, various colors and types of glass, metal objects, brick fragments, and one brick with a production date of 1901.

| Table 21: Artifacts Recovered | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Unmodified flake | 250 | Ceramics | 589 |
| Edge modified flake (including 1 sidescraper and 2 endscrapers) | 16 | Container glass | 571 |
| Core | 28 | Flat glass | 106 |
| Biface | 22 | Button | 1 |
| Points and point fragments | 23 | Horseshoe | 1 |
| Bone (non-human) | 3 | Metal, unidentified | 10 |
| FCR | 2 | Nail | 2 |
| Ground stone artifacts | 6 | Metal,washer | 1 |
| Nonflake (angular shatter) | 26 | Metal, bolt | 3 |
| | | Metal, hinge | 2 |
| | | Metal, latch | 2 |
| | | Metal, nut | 2 |
| | | Metal, pipe | 1 |
| | | Hammer head | 1 |
| | | Shotgun shell | 1 |
| | | Electrical insulator | 4 |
| | | Brick | 14 |
| | | Field tile | 1 |
| | | Slag | 13 |

| Table 22: Projectile Points by Cultural Time Period | |
|---|---|
| **Cultural Period** | **Projectile Point Styles** |
| Early Archaic | Rice Lobed cluster (1), MacCorkle stemmed (1), Early Archaic |
| Early-Middle Archaic | Graham Cave side-notched (1) |
| Middle Archaic | Raddatz side-notched (1) |
| Terminal Archaic | Genesee cluster (1) |
| Late Archaic | Merom cluster (1), Brewerton eared-notched (2), Matanzas(2), Matanzas side notched (1) |
| Early Woodland | Adena stemmed (1), Motley(1) |
| Middle Woodland | Affinis Snyder (2), |
| Middle Woodland | Madison (2), |

Chert

The lithic artifacts were dominated by Attica chert (54.95 percent) (Table 23). There are no confirmed Attica chert outcrops within Montgomery County. The Sugar Creek does not cut deeply enough to expose the Mississippian bedrock in most areas. There is an area between Crawfordsville and Shades State Park, which is relatively deep that could potentially yield Attica chert or its variant Sugar Creek. The closest confirmed Attica chert outcrop near the project site is located in the neighboring Boone, Fountain, and Warren counties. Unknown cherts made up the next most frequent chert type (20.33 percent) (Table 23).

Muldraugh chert was the next highest identified material (5.22 percent) (Table 23). Muldraugh chert outcrops a significant distance (>290 km) from the project area in the southeastern corner of the state. Exotic cherts, chert that outcrops more than 80 kilometers from Montgomery County, represent 21.70 percent of the total lithic material collected. With Muldraugh excluded, exotic cherts represent 16.48 percent. Local cherts (Attica, Cataract, Kenneth, and Liston Creek) represent 57.97 percent of the total lithic material collected. With Attica excluded, local cherts only represent 2.47 percent.

**Table 23: Chert Raw Materials**

| Chert | No. | Percent | Chert | No. | Percent |
|---|---|---|---|---|---|
| Allens Creek | 3 | 0.82% | Indian Creek | 13 | 3.57% |
| Attica | 200 | 54.95% | Jeffersonville | 6 | 1.65% |
| Attica HT | 2 | 0.55% | Kenneth | 1 | 0.27% |
| Bryantsville | 4 | 1.10% | Laurel | 8 | 2.20% |
| Cataract | 2 | 0.55% | Laurel HT | 1 | 0.27% |
| Derby | 6 | 1.65% | Liston Creek | 6 | 1.65% |
| Ditney | 2 | 0.55% | Muldraugh | 17 | 4.67% |
| Fall Creek | 7 | 1.92% | Muldraugh HT | 2 | 0.55% |
| Haney | 1 | 0.27% | Quartzite | 2 | 0.55% |
| Holland | 2 | 0.55% | Unknown | 74 | 20.33% |
| Holland Dark Phase | 3 | 0.82% | Upper Mercer | 2 | 0.55% |
| HT = Heat Treated | | | | | |

Sites

Of the 220 archaeological sites, 170 had unidentified prehistoric components (Table 24). The identified pre-contact components consisted of Early Archaic, Middle Archaic, Terminal Archaic, Late Archaic, Early Woodland, Middle Woodland, and Late Woodland/Mississippian. Forty-one sites had historic components, dating from the late 18th century to present.

Late Archaic sites are the most commonly encountered followed by Early Archaic. Early, Middle, and Late Woodland sites are encountered next and all demonstrate the same low frequency. Middle and Terminal Archaic is encountered with the least frequency. Previously recorded sites for the till plain of central Indiana support the trend of encountering low frequencies of Paleoindian, Middle Archaic (non Matanzas), Early Woodland and Middle Woodland component sites.

**Table 24: Site Components**

| Component | No. | Comment |
|---|---|---|
| Unidentified Prehistoric | 170 | 7 Multicomponent (Historic) |
| Early/Middle Archaic | 1 | 0 Multicomponent |
| Early Archaic | 4 | 2 Multicomponent (1 Late Archaic) (1 Historic) |
| Middle Archaic | 1 | 0 Multicomponent |
| Terminal Archaic | 1 | 0 Multicomponent |
| Late Archaic | 6 | 2 Multicomponent (1 Early Archaic) (1 Historic) |
| Early Woodland | 2 | 0 Multicomponent |
| Middle Woodland | 2 | 1 Multicomponent (Historic) |
| Late Woodland/ Prehistoric | 2 | 0 Multicomponent |
| Historic | 41 | 10 Multicomponent (7 Unidentified prehistoric) (1 Early Archaic) (1 Late Archaic) (1 Middle Woodland) |

Historic Settlement

Results from the survey were not able to elucidate historic Native American settlements within the study area. No artifacts were discovered that were definitively from historic Native American occupations. There were however a few substantial historic sites that may suggest early Euro-American settlement. Forty-one sites with historic components were discovered. These sites ranged from small to extensive scatters and were often times not multicomponent. The historic component sites yielded the majority of artifacts recovered during the project.

Survey Area 6 contained sites with substantial historic assemblages that had early historic dates between 1800 and 1850. Several sites with early historic artifacts were recommended for further study. [redacted]

Density

The project documented an average one site per 5.40 acres and an average density of one artifact per 0.54 artifacts per acres surveyed. Table 25 illustrates site density by landform. The outwash plain had the highest density with one site per 2.24 acres. Artifact densities by survey area are presented in Table 26.

**Table 25: Landform Density**

| Landform | Acres Surveyed | No. Sites | Density |
|---|---|---|---|
| Floodplain | 40 | 7 | 1 site per 5.71 acres |
| Uplands | 468.5 | 83 | 1 site per 5.64 acres |
| Outwash | 227 | 50 | 1 site per 4.54 acres |
| Outwash Plain | 179.50 | 80 | 1 site per 2.24 acres |

**Table 26: Artifact Densities**

| Survey Area | No. Acres | No. Sites | Sites per Acre | No. Artifacts | Artifacts per Acre |
|---|---|---|---|---|---|
| Survey Area 1 (Outwash) | 21 | 4 | 5.25 | 10 | 2.1 |
| Survey Area 2 (Floodplain) | 40 | 7 | 5.71 | 75 | 0.53 |
| Survey Area 3 (Outwash) | 53 | 19 | 2.79 | 47 | 1.13 |
| Survey Area 4 (Outwash) | 10 | 0 | 0 | 0 | 0 |
| Survey Area 5 (Outwash) | 71 | 24 | 2.96 | 41 | 2.96 |
| Survey Area 6 (Uplands) | 91 | 21 | 4.33 | 811 | 0.11 |
| Survey Area 7 (Uplands) | 58 | 5 | 11.60 | 30 | 1.93 |
| Survey Area 8 (Outwash) | 32 | 3 | 10.67 | 3 | 10.68 |
| Survey Area 9 (Outwash Plain) | 31 | 11 | 2.82 | 69 | 0.45 |
| Survey Area 10 (Outwash Plain) | 42.5 | 6 | 7.08 | 26 | 1.64 |
| Survey Area 11 (Outwash Plain) | 105.5 | 33 | 3.20 | 144 | 0.73 |
| Survey Area 12 (Uplands) | 114.5 | 21 | 5.45 | 194 | 0.59 |
| Survey Area 13 (Uplands) | 45 | 26 | 1.73 | 53 | 0.85 |
| Survey Area 14 (Outwash) | 40 | 5 | 8.00 | 30 | 1.33 |
| Survey Area 15 (Uplands) | 115 | 17 | 6.76 | 138 | 0.833 |
| Survey Area 16 (Uplands) | 45 | 17 | 2.65 | 29 | 1.55 |

Recommendations

Of the 220 archaeological sites discovered by this project, 211 were not considered eligible for the listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places. Most of these ineligible sites were prehistoric isolated finds or small scatters of lithic artifacts with no or low numbers of fire-cracked rocks. Of the nine sites recommended for further testing, seven were on alluvial soils and have the potential for intact subsurface deposits which may qualify for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places. Four historic scatters were determined to be potentially eligible for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places based on their size, artifact density and historical research, and were recommended for additional assessment (Table 27)

**Table 27: Site Recommendations**

| **Recommendation** | **Site No.** |
|---|---|
| Not eligible; n=221 | 12-My-210 to 213, 221 to 259, 261 to 272, 274 to 283, 285 to 430 |
| Subsurface assessment (alluvial soils with the potential for intact subsurface deposits); n=5 | 12-My-214 to 218 |
| Further testing recommended (high density, large historic scatters); n=2 | 12-My-273, 284 |
| Subsurface assessment and further testing recommended (high density, large historic scatters on alluvial soils with the potential for intact subsurface deposits); n=2 | 12-My-219, 220 |

INVESTIGATIONS AT [redacted]

Background

[redacted] in the SHAARD database, was first documented in 1820 in GLO notes as, “an Indian village on our right” (General Land Office Surveys 1795-1840). The GLO notes list the site as being in [redacted] “Althrough somewhat migratory they made their chief residence [redacted] Another source [redacted]

Montgomery County folklore indicates [redacted]

Written into the proposal for this project was an attempt to determine the location of [redacted] Based on the GLO maps and notes, we obtained permission to survey a 100 acre parcel on which the site was reported to be located (Figure 97). Once on location, it was discovered that the landowner practices no-till farming, and the surface visibility in most of the parcel was below the 30 percent needed to reliably complete a pedestrian survey. Upon consultation with Amy Johnson at DHPA, it was decided that we would pedestrian survey a 32 acre portion of the parcel that most likely included the location [redacted] on the GLO maps and notes (Figure 98). If a high density of historic artifacts were found, shovel test pits would be conducted in that portion of the parcel and/or the remainder of the 100 acre parcel would be pedestrian surveyed.


**Figure 96: A portion of the USGS 7.5' Ladoga, Indiana Quadrangle showing the location of [redacted]**


**Figure 97: A portion of the USGS 7.5' Ladoga, Indiana Quadrangle showing the location of the original Survey Area 8.**


**Figure 98: A portion of the USGS 7.5' Ladoga, Indiana Quadrangle showing the location of the surveyed portion of Survey Area 8.**

Methods

Field Survey

The survey was conducted by AAL staff archaeologist Chris Keller and a group of graduate and undergraduate students on March 3, 2011. Survey was executed using pedestrian transects, spaced at 10 meter intervals. The survey interval was reduced to 5 meters when artifacts were encountered. The area surveyed had between 30 and 90 percent ground surface visibility (30 percent where the crop residue was and 90 percent in washed out areas). All artifacts, excluding fire-cracked rock and brick, were collected and bagged by site specific provenience. Fire cracked rock and bricks were counted in the field and noted, but were not collected. Artifact locations were assigned temporary site numbers. Site coordinates were collected with Magellan handheld GPS units using NAD 1983. Field notes were maintained by Christine Keller, the authors and the crew.

Laboratory

All artifacts were taken to the AAL 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. Diagnostic point types were classified using Justice (1987). Metric attributes and raw material identifications were recorded in accordance with AAL standards. Lithic raw materials were identified by comparison with reference samples and published descriptions on file in the AAL laboratory (Cantin 2008). All artifact and chert identifications were made microscopically at 10X or greater. Historic artifacts were identified and dated using references (Barlow 1991; IMACS 1984; Myers 2010; Sutton 2009). State site numbers were obtained and a DHPA Sites and Structures Inventory form was entered in SHAARD for each site identified during the project.

All materials generated by this project were accessioned under accession number 10.46. Artifacts were identified, analyzed and photographed per DHPA guidelines and then returned to the landowner. Appendix D lists the collections that were returned and those that were curated at Ball State University.

Results

The pedestrian survey recovered a total of three artifacts (Table 28). Site 12-My-292 consisted of a core tool made of Fall Creek chert which outcrops in Hamilton County, Indiana (Cantin 2008). Site 12-My-293 was an isolated find consisting of a Raddatz Side Notched projectile point made of Attica chert (Figure 99). Raddatz points occur over a large area of the Midwest and are diagnostic of the Middle Archaic period (Justice 1987: 68). Site 12-My-294 consisted of a cut metal nail (Figure 100) that was manufactured no later than 1890 (Sutton 2009: 163). [redacted]

Due to the low artifact density encountered upon surveying the designated 32 acres, it was decided that additional investigation of this parcel would be unlikely to produce any evidence for [redacted], and that evidence of [redacted] was either obscured by crop residue or that the location of [redacted] was likely elsewhere in the vicinity.

Recommendation

Given the historical resources associated [redacted], the most likely location for [redacted]. Due to the low artifact density for this parcel,

we recommend additional study and further testing for [redacted] when the parcel is tilled and better visibility is available.

| Table 28: Artifacts from Survey Area 8 ([redacted]) | | | |
|---|---|---|---|
| **Prehistoric** | **No.** | **Historic** | **No.** |
| Biface | 1 | Nail | 1 |
| Core Tool | 1 | | |

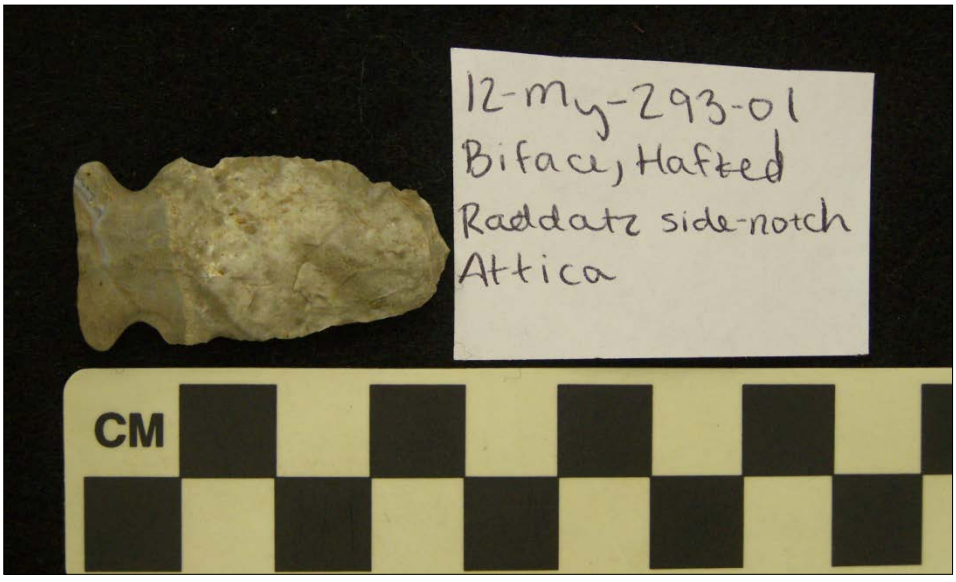


**Figure 99: Raddatz Side Notched projectile point from 12-My-293.**


**Figure 100: Cut metal nail from 12-My-294.**

MONTGOMERY COUNTY MOUND SURVEY

## Introduction

The Applied Archaeology Laboratories (AAL) at Ball State University conducted a data enhancement project for Montgomery County, Indiana, for an FY2010 Historic Preservation Fund Grant. The proposal included the documentation of four mounds (Figure 101), three recorded in the SHAARD database [redacted] This section covers the archaeological documentation of those four mounds.

## Background

The first report for a man-made mound in Montgomery County appeared in the GLO Notes as an ancient mound, twenty feet high reported in 1820 by Joseph Allen (General Land Office Surveys 1795-1840). The site was later designated as [redacted] in the SHAARD database. The next mound report came from John Collett's geological report of Montgomery County. Collett reported, "One mound of doubtful origin was seen in the valley, [redacted] The first mound is likely what is now known as [redacted] and the second is an undocumented group of mounds that reportedly lay in what is [redacted] Since then, two mounds have been reported in [redacted]

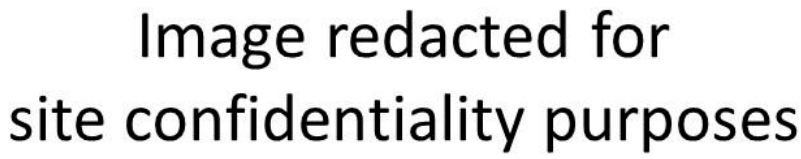


**Figure 101: 2005 Aerial of Montgomery County with the mound survey locations.**

[redacted]

[redacted]

This mound was reported by the General Land Office Survey Grant in 1820 by Joseph Allen who described the mound as being, “An ancient mound, 20 feet high.” In addition, the mound in question may be the mound that was mentioned in John Collett’s geological report of Montgomery County which reads, “One mound of doubtful origin was seen in the [redacted] however from the road and the adjacent property, no mound was visible and the lot was highly disturbed. Photographs were taken of the reported site for documentation (Figure 103).

Recommendation

If permission to survey can be obtained for this parcel, further investigation would be necessary to determine if the reported mound still exists.


**Figure 102: A portion of the USGS 7.5' Alamo, Indiana Quadrangle showing the location of** [redacted]


**Figure 103: A photograph from the road of** [redacted]

[redacted]

[redacted] This mound is listed in the SHAARD database which places the mounds in a Late Archaic/Early Woodland context; it was recorded in [redacted]. We were not able to obtain permission from the landowners to survey this mound; archaeologists did take pictures from the road for documentation. From the road, we could see that there were [redacted] on the property based on the topography (Figure 105).

Recommendation

If landowner permission can be obtained, we recommend further archaeological investigation into this reported mound.

Image redacted for
site confidentiality purposes

**Figure 104: A portion of the USGS 7.5' Shannondale, Indiana Quadrangle showing the location [redacted]**

[redacted]


**Figure 105: A photograph from the road,** [redacted]

[redacted]
[redacted]
[redacted]
[redacted] This mound is listed in the SHAARD database which places the mounds in a Late Archaic/Early Woodland context; it was [redacted] We were not able to obtain permission from the landowners to survey this mound; however we did take pictures from the road for documentation. There was no mound visible from the road and the area appeared to be highly disturbed by agricultural [redacted] (Figure 107).

Recommendations

If landowner permission can be obtained, we recommend further archaeological investigation into this reported mound.


**Figure 106: A topographic map showing the location of [redacted] on the USGS 7.5' Darlington Quadrangle.**


**Figure 107: A photograph from the road[redacted]**

[redacted]

The first mention of a group of mounds in what is now [redacted] started with John Collett in 1820. Collett reported, "…a cluster of low mounds was mentioned by [redacted]


**Figure 108: An interpretive map of Montgomery County from [redacted]**

The area in question had not been professionally investigated for the presence of mounds. The mounds are not listed in the SHAARD database for Montgomery County and there are no reported mounds in SHAARD [redacted] When contacted in January 2011, [redacted] After looking at topographic maps and speaking to an

earth-sciences professor at Purdue University, he advised AAL staff to investigate on [redacted].

AAL staff then [redacted], a regional ecologist for the Division of Nature Preserves. He also had no knowledge of any mounds or earthworks in the [redacted]

After correspondence with [redacted], AAL staff investigated numerous historical records including geological surveys, the SHAARD database, GLO maps, topographic maps, plat maps, historical maps of Indiana and AAL's county history files in Montgomery [redacted]

Using all of the available resources, AAL staff composed a project proposal (Appendix G) to investigate [redacted]

In March of 2011, Ball State University was granted two permits (an approved plan # [redacted] from DHPA and a permit from the DNR Division of Nature Preserves) to survey the 43 acres targeted for this mound survey and take soil cores if necessary.

Methods

Landowner permission from the Department of Nature Preserves was obtained and submitted to DHPA prior to survey. [redacted] Approximately 43 acres were investigated for the project. We walked into the survey area and then used pedestrian transects. The project area can be separated into two sections: ridge tops and lowlands. Survey on the ridge tops included pedestrian survey at 15m intervals which was adjusted for topography and field conditions; survey on the lowlands [redacted] included pedestrian survey at 10m intervals which was also adjusted for topography and field conditions. Field conditions in the [redacted] were dense, heavily wooded forest (Figure 110).

Results

Fieldwork for the project was completed on March 22, 2011 by Applied Archaeology Laboratories Director Dr. Mark Hill and three graduate students. Staff surveyed the 43 acres in question and found no evidence of any prehistoric man-made mounds in the survey area. These results lead to three possible conclusions: 1. The mounds could have been destroyed between 1876 and present; 2. The mounds are not present or are located outside the area surveyed; or 3. The mounds were missed by investigators because remnants remain below the ground surface and were not visible. Based on the location on the ridge tops and little evidence of agriculture or destructive evens, it is unlikely that the mounds would have been destroyed, though it remains a possibility. It is possible that the mounds were not present to begin with, however based on the map found in [redacted] it is possible that the mounds may be in another location nearby. [redacted]

Recommendation

Upon completion of fieldwork, there were no above ground indications of any man-made mounds in the project area. Further investigation is recommended in the [redacted] to fully confirm or rule out the historical reference from the geological survey [redacted]


**Figure 109: A portion of the USGS 7.5' Alamo Quadrangle showing the location of the proposed survey area.**


**Figure 110: A photograph of the heavily wooded landscape inside [redacted]**


**Figure 111: Recommended future survey area on a portion of the USGS 7.5' Alamo Quadrangle**

MONTGOMERY COUNTY CHERT SURVEY

## Background

In the proposal for this grant project, we included a short sentence that said that we would investigate potential chert sources in the county, "…to more clearly define lithic resource areas and utilization in the region" (McCord 2010: 4). According to chert researcher Mark Cantin (2008: 9), there are no chert outcrops in Montgomery County; however there are chert outcrops in the adjacent Boone and Fountain counties. The chert outcrops in the region are known as Attica chert (Figure 112), exhibiting a blue-green color with blue-grey streaks, banding and mottling (Cantin 2008: 15). The outcrop in Boone County, just outside of the eastern edge of Montgomery County, is accepted as an Attica variant, known as "Sugar Creek" chert (Cantin 2008: 15).


**Figure 112: A photograph of Attica chert from Ball State University AAL chert collections.**

## Methods

Because there are no known outcrops of chert in Montgomery County we first began our investigation by stopping at road cuts and bridges when we came across them. In addition, we also stopped at locations where we had access to Sugar Creek to investigate for outcrops and chert blocks that may have washed downstream.

Results

All road cuts and bridges that we came across while driving through the county had no signs of chert outcrops (Figure 113, Figure 114, and Figure 115).


**Figure 113: [redacted] of the county showing Pennsylvanian sandstone.**


**Figure 114: A photograph from [redacted] portion of the county, showing no chert outcrops.**


**Figure 115: A photograph from [redacted] portion of the county, showing no chert outcrops.**

While in the county, we stopped at [redacted] to investigate any chert outcrops (Figure 116). All that was visible in the valley wall consisted of Pennsylvanian aged sandstone with no apparent chert outcrops. Though there were no outcrops, we did find some blocky chert that appeared to have washed down Sugar Creek and deposited on the bank. The chert was blue with grey to blue banding and mottling and exhibited quartz vugs and could be Sugar Creek chert. We were not able to collect this chert because it lay on state property.

The other location that we investigated was on [redacted] (Figure 117). The chert that was observed at this location was rounded and smooth with varying colors, shapes and sizes, none of which looked like it had recently come off an outcrop.

The only other locations that we found chert were in the fields that we were surveying. We observed chert in the form of glacial till, but we also occasionally came across a rounded block of Attica chert.


**Figure 116: A portion of the USGS 7.5' Alamo, Indiana Quadrangle showing the location of [redacted]**


**Figure 117: The Sugar Creek [redacted], looking south.**

Recommendations

Due to the unidentified chert that was encountered at [redacted], more research is needed to confirm its identity as Sugar Creek chert. Also more research and fieldwork is necessary to study Sugar Creek chert and give a full description and identification of how it differs from Attica. In the artifact assemblage for this grant project, we identified 202 of 372 prehistoric artifacts being made out of Attica chert. This data shows that Attica was used intensely in Montgomery County, likely due to its near location and effective knapping characteristics. It is recommended that more fieldwork is conducted on Sugar Creek between [redacted] because that is the only location in the county where the creek cuts deep enough to expose the Mississippian-aged bedrock formations in which Attica or Sugar Creek chert could be found. More research is necessary to get a full picture of the lithic raw material availability in Montgomery County and the surrounding counties.

## PUBLIC OUTREACH

In addition to correspondence with landowners for permission to survey their land, several landowners met personally with AAL archaeologists and students to share examples of artifacts previously gathered from their land or in other areas of Montgomery County. Numerous other residents of Montgomery County stopped by during surveys to talk with AAL archaeologists and discuss artifacts from their collection or the collections of others in the county. Montgomery County seems to have a large and active collector community, with many collectors having documentation of sites and corresponding artifact collections. Future grant research in Montgomery County could certainly include documenting collector reported sites and collections.

On April 11, 2011, a public presentation was given at the Montgomery County Historical Society by AAL archaeologist Christine Keller and Department of Anthropology students Emily Murray, Jessie Moore, and Tori Kiefer. The hour long presentation reviewed all aspects of the grant including background, methodology, and results. Both historic and prehistoric artifacts representative of newly discovered sites were available for the attendees to view. Approximately 25 people attended the presentation which included a question and answer session, and a short discussion of Indiana archaeology laws.

RESEARCH QUESTIONS

The following research questions, while not exhaustive, guided this project.

1. *What is the cultural chronology for Montgomery County?*

Prior to our survey, Montgomery County had 85 unidentified prehistoric sites, zero Paleoindian sites, 63Archaic sites (11 early Archaic, six middle Archaic and 27 Late Archaic), 22 Woodland sites (one Early Woodland, four Middle Woodland and nine Late Woodland), one Late Prehistoric/Mississippian site and 23 historic sites (Table 29).

**Table 29: Previous Sites Recorded Within Montgomery County**

| **Cultural Period** | **No.** | **Comments** |
|---|---|---|
| **Unidentified Prehistoric** | **85** | **20 multicomponent** |
| **Paleoindian (ca. 10,000 – 7500 B.C.)** | **0** | |
| **Archaic** | **63** | **39 multicomponent** |
| Early Archaic (ca. 8000 – 6000 B.C.) | 11 | |
| Middle Archaic (ca. 6000 – 3500 B.C.) | 6 | |
| Late Archaic (ca. 4000 – 700 B.C.) | 27 | |
| **Woodland** | **22** | **17 multicomponent** |
| Early Woodland (ca. 1000 – 200 B.C.) | 1 | |
| Middle Woodland (ca. 200 B.C. – A.D. 600) | 4 | |
| Late Woodland (ca. A.D. 500 – 1200) | 9 | |
| **Late Prehistoric/Mississippian (A.D. 1000-1650)** | **1** | |
| **Historic (post A.D. 1400)** | **23** | **14 multicomponent** |

Upon completion of fieldwork and artifact processing, we have been able to add to the cultural chronology of the county. 162 unidentified prehistoric sites were added along with 10 Archaic sites (two Early Archaic, one Middle Archaic and four Late Archaic), four Woodland sites (one Early Woodland, one Middle Woodland and two Late Woodland), two Late Prehistoric/Mississippian sites and 31 historic sites (Table 30).

In addition, we were able to add four previously unidentified projectile points to the knowledge about Montgomery County's prehistory which added a previously undocumented

cultural period (Middle Archaic) to the cultural chronology of the county (Table 31). To reiterate this Archaic presence, at least one landowner came forward to show a groundstone axe that had been found in his field many years before (Figure 20).

| Table 30: Number of Sites Added | | | |
|---|---|---|---|
| **Cultural Period** | **Added** | **Previous** | **Total** |
| **Unidentified Prehistoric** | **162** | **85** | **247** |
| **Paleoindian (ca. 10,000 – 7500 B.C.)** | **0** | **0** | **0** |
| **Archaic** | **10** | **53** | **73** |
| Early Archaic (ca. 8000 – 6000 B.C.) | 2 | 11 | 13 |
| Middle Archaic (ca. 6000 – 3500 B.C.) | 1 | 6 | 7 |
| Late Archaic (ca. 4000 – 700 B.C.) | 4 | 27 | 31 |
| **Woodland** | **4** | **22** | **26** |
| Early Woodland (ca. 1000 – 200 B.C.) | 1 | 1 | 2 |
| Middle Woodland (ca. 200 B.C. – A.D. 600) | 1 | 4 | 5 |
| Late Woodland (ca. A.D. 500 – 1200) | 2 | 9 | 11 |
| **Late Prehistoric/Mississippian (A.D. 1000-1650)** | **2** | **1** | **3** |
| **Historic (post A.D. 1400)** | **31** | **23** | **54** |

| Table 31: Documented Points Within Montgomery County (* indicates point added from survey) | |
|---|---|
| **Cultural Period** | **Projectile Point Types** |
| Early Archaic | Palmer, Charleston Corner Notched, Rice Lobed, MacCorkle Stemmed, Kirk, Kanawha Stemmed, St. Albans Side Notched, Thebes, Leroy Cluster* |
| Middle Archaic | Raddatz side notched* |
| Late Archaic | Matanzas, Table Rock Stemmed, Riverton, Merom Cluster*, Brewerton* |
| Middle Woodland | Affinis Snyder |
| Late Woodland | Madison, Unclassified Side Notched, Unclassified Corner Notched, Unclassified Flared Stem |

Precontact settlement within the research universe is dominated by Late Archaic, followed by Early Archaic, Late Woodland, Late Prehistoric/Mississippian, Middle Archaic, Early Woodland, and Middle Woodland. Diagnostic artifacts from the Paleo-Indian continue to elude archaeologists, though discussions with landowners did confirm that these artifacts do exist in private collections. Diagnostic artifacts from the Early, Middle and Terminal Archaic are much more rare. These results may be skewed because there are many collectors in the county who are taking diagnostic materials out of the fields and into their homes, therefore leaving gaps in the cultural chronology.

2. *What are the densities and distributions of archaeological sites on the various landforms within the county?*

The densities and distributions of sites are important for modeling and prediction. In the current study not only was site distribution tracked by landform and cultural period, but the amount of the surface that was covered by individual sites was used to demonstrate the percentage of utilized surface by landform (Table 32). For example, five small lithic scatters on a given landform may utilize a smaller portion of the landscape than one large lithic scatter on another landform. The percentage of utilized landscape may provide a further refined perspective of how settlement occurred within the research universe.

Sites on outwash plain occurred with greater frequency with one site per 2.24 acres covering a surface area of 0.20 percent compared to uplands where one site occurred per 5.64 acres, however the surface area was greater at 0.51 percent. The outwash plain and floodplain accounted for 88 percent of the artifacts recovered during the survey (Table 33), and only made up 70 percent of the area surveyed.

Compared to previous large-scale surveys on the Tipton Till Plain (Smith et al. 2009), these results show a greater occupation in upland areas than originally expected. Because these results could be due to a number of different reasons, the general project area of Montgomery County is worthy of additional investigation and study. Survey bias, availability of desirable valley settings, and cultural factors all could have led to these somewhat unexpected and interesting results.

| Table 32: Site Densities and Distributions By Landform | | | | |
|---|---|---|---|---|
| **Landform** | **# of acres** | **# of sites** | **Density** | **Distribution** |
| Outwash | 227 | 50 | 1 site per 4.54 acres | Sites cover 0.20% of surface area |
| Outwash Plain | 179.5 | 80 | 1 site per 2.24 acres | Sites cover 0.03% of surface area |
| Floodplain | 40 | 7 | 1 site per 5.71 acres | Sites cover 0.14% of surface area |
| Uplands | 468.5 | 83 | 1 site per 5.64 acres | Sites cover 0.51% of surface area |

| Table 33: Number of Artifacts per Landform | | |
|---|---|---|
| **Landform** | **# of artifacts** | **% of artifacts recovered** |
| Outwash | 132 | 7.8% |
| Outwash Plain | 239 | 14% |
| Floodplain | 75 | 4.2% |
| Uplands | 1,255 | 74% |

*3. What is the settlement pattern for different cultural contexts?*

Results from the 915 acres of survey show a heavy Archaic presence in the county, as there was before this survey. There were no diagnostic materials found in the 40 acres of floodplain that were surveyed, however diagnostic projectile points were found on each of the other landforms that were surveyed (Table 34).

| Table 34: Projectile Point Site Numbers and Cultural Periods Per Landform | |
|---|---|
| **Landform** | **Site Numbers and Cultural Periods** |
| Floodplain | -- |
| Outwash | 12-My-237 (Early/Middle Archaic), 12-My-256 (Late Archaic), 12-My-293 (Middle Archaic) |
| Outwash Plain | 12-My-309 (Late Woodland), 12-My-335 (Early Woodland), 12-My-341 (Terminal Archaic), 12-My-343 (Late Woodland) |
| Uplands | 12-My-269 (Early Archaic), 12-My-273 (Middle Woodland), 12-My-285 (Late Archaic), 12-My-370 (Early Archaic), 12-My-377 (Middle Woodland), 12-My-381 (Late Archaic), 12-My-384 (Late Archaic), 12-My-386 (Late Archaic), 12-My-405 (Late Archaic), 12-My-409 (Early Woodland), 12-My-422 (Early Archaic) |

Early and Late Archaic prehistoric settlement appears to be more focused in upland and outwash settings; A total of eight Early and Late Archaic diagnostic projectile points were found in upland survey and three Archaic points were found in Outwash. The Woodland period is represented in both the Outwash/Till Plain and Upland landforms, however Early and Late Woodland are represented more heavily in Outwash/Till Plain, and Middle Woodland was found only in the Uplands. There were no diagnostic points found in the floodplain, likely due to the small amount of acres surveyed (40 acres) and also due to the buried nature of soils in floodplains which are frequently flooded.

*4. What is the average site density within the county?*

Before this survey there were 146 documented sites in the county (Appendix A), the density of which is approximately 1 site per 1,114 acres. Upon completion of this survey, 221 sites were added to the site database making a total of 367 which equates to a site density of approximately 1 site per 443 acres within Montgomery County.

5. *Is prehistoric occupation more extensive and/or more intensive at the ecotones between the environmental zones?*

Almost every survey area in this project is located on an ecotone or within a mile of an ecotone. [redacted] Survey Areas 3, 4 and 14 are on Outwash/ Till Plain and are within one mile from the Uplands. Survey Areas 9, 10 and 11 are on Outwash/Till Plain and are right on the edge of Uplands. Survey Area 8 ([redacted] was located on Outwash, but was very close to Uplands. Survey Areas 15 and 16 are on Outwash/Till Plains and are on the edge of Uplands. The only survey areas that are not in or around ecotones are Survey Areas 6, 7 and 13 which are located on uplands and any other landform is further than one mile away. Based on this evidence, occupation at ecotones between environmental zones seems more extensive and intensive.

6. *Is Sugar Creek chert a variant of Attica chert and can it be distinguished as a lithic raw material? Can the nature and distribution of this material be defined and mapped to contribute to our knowledge of prehistoric lithic resource utilization, trade, and mobility in the region?*

According to Cantin (2008: 15), Sugar Creek chert is a variant of Attica chert which can be found at an outcrop in Boone County in the [redacted] (Cantin 2008: 15).

We did not personally investigate this outcrop due to its location outside of Montgomery County; however we did investigate at road cuts and bridges within the county for any outcrops of Attica or Sugar Creek chert and found none. For more information, see the Montgomery County Chert Survey section of this report. The only raw chert that was found in the county was next to Sugar Creek at [redacted] and at [redacted] both of which could not be collected due to their location on state property. The chert that was seen at [redacted] was angular and blocky and appeared to come from upstream; the color was varying shades of gray and blue and quartz crystals were visible on the surface. This chert could have possibly been the Sugar Creek variant, however further investigation is recommended. In our artifact assemblage, we found a total of 202 prehistoric artifacts made of Attica chert, but none that could be distinguished specifically as Sugar Creek chert. Chert found at [redacted] was rounded, smooth and came in varying colors, shapes and sizes, indicating that it had not come off an outcrop in the near past.

7. *Is there evidence of trade and contact between central Indiana and northeastern Illinois via the [redacted] For example, is there an Oneota presence in the county?*

For this project, we were able to obtain permission to survey three parcels that were roughly in the area of the [redacted]. We found a total of 75 artifacts in [redacted] 69 historic artifacts and 6 prehistoric artifacts), no sites in [redacted] and a total of 30 artifacts in [redacted] (28 historic artifacts and 2 prehistoric artifacts). None of the artifacts found were exotic in nature to indicate prehistoric or historic trade and contact. No prehistoric ceramic sherds were found to indicate an Oneota presence in the county.

## CONCLUSIONS AND RECOMMENDATIONS

This project targeted the northern half of Montgomery County and the Sugar Creek Valley in Montgomery County, Indiana. The project area was selected due to the lack of known archaeological sites in the state database (SHAARD), and due to the threat of erosion and gravel mining. The goals of the project were to increase the site database, construct a cultural chronology for the county, refine settlement patterns of the precontact era, and enhance our understanding of the early Euro-American period.

Approximately 915 acres of agricultural land were surveyed during this project and 220 new archaeological sites were recorded. The survey recovered 1,701 artifacts consisting of 376 prehistoric artifacts and 1,325 historic artifacts. The majority of the precontact sites were unidentified by cultural period, however many prehistoric cultural periods were documented. Nine sites were recommended for further testing and 211 sites were recommended as not eligible for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places.

The survey added one previously undocumented cultural period to the county's history, in the form of a Middle Woodland Affinis Snyder projectile point (12-My-377). Compared to previous large-scale surveys on the Tipton Till Plain (Smith et al. 2009), these results show a greater occupation in upland areas than originally expected. Because these results could be due to a number of different reasons, the general project area of Montgomery County is worthy of additional investigation and study. Survey bias, availability of desirable valley settings, and cultural factors all could have led to these somewhat unexpected and interesting results.

The average site density recorded for the project area for precontact sites was one site per 5.4 acres. The highest site densities per landform were on outwash plain at one site per 2.24 acres and the highest percentage of artifacts recovered were 7.8 percent on outwash.

The project suggests that precontact populations were using Montgomery County in different ways. Though our data for how people were using the landscape was unexpected, many factors could influence the data including the locales that were surveyed, whether a parcel was tilled recently or not, and the lack of any large valley settings in the county which are preferable for human occupation. Further research into prehistoric landform usage is recommended within Montgomery County.

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