An Archaeological Assessment of Three Unique Woodland Sites in Henry County, Indiana

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Beth K. McCord

with a section by

Donald R. Cochran

Reports of Investigation 52

June 1998

Archaeological Resources Management Service
Ball State University
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ABSTRACT

The Archaeological Resources Management Service conducted a FY97 Historical Preservation Fund Grant to assess three unique sites in Henry County, Indiana. The project documented the significance of the Chrysler enclosure, a small isolated circular enclosure dating to cal AD 220 to 265 through limited test excavations. The New Castle site was resurveyed to document the preservation of the earthwork complex. An instrument survey was also conducted and produced a new site map. The project clarified previous investigations of the site and documented the inadequacy and inaccuracy of previous work. The Van Nuys site, a multicomponent habitation, was investigated by limited test excavations. While Archaic and Woodland material was recovered, the site was dominated by Late Woodland materials related to the Albee phase. No deeply buried deposits were found at the site, although intact subplowzone features were encountered. Each of the sites addressed by this project provided substantial information on the Woodland period in Henry County and east central Indiana.

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INTRODUCTION

The Archaeological Resources Management Service (ARMS) at Ball State University conducted a FY97 Historic Preservation Fund Grant (#12017-16) to assess three unique sites in Henry County, Indiana (Figure 1). The intent of the proposed project was to assess the significance of the Chrysler enclosure (12Hn16) and the Van Nuys site (12Hn25) through limited test excavations. The current condition of the New Castle site (12Hn1) was assessed and a theodolite survey was conducted to produce a new site map. The project focused on the Woodland period with the Chrysler enclosure representing Early Woodland, the New Castle site representing Early and Middle Woodland and the Van Nuys site representing Late Woodland.

The project was proposed since each of these sites has unique characteristics that would increase the understanding of the individual sites and the region. As recent investigations have shown, excavation data for most earthwork sites in east central Indiana was limited or lacking (McCord and Cochran 1996). The Chrysler enclosure had never been tested and was the only known isolated enclosure still in existence in the region. Recent research had also shown the inaccuracy of old maps of the enclosure complexes (Cochran 1996, McCord and Cochran 1996). The New Castle site map shown in Lilly (1937:71) had never been checked for accuracy. Since the removal of the State Hospital buildings and the acquisition of the property by Wilbur Wright Fish and Wildlife, the condition of the earthworks at the New Castle site had not been systematically assessed. The Van Nuys site was proposed as the habitation site for the Commissary (12Hn2) and the Hesher (12Hn298) Albee cemeteries (Morris 1969, Ferguson 1970, Cochran et al. 1988). There were no other recorded Albee habitation sites in east central Indiana. The Van Nuys site was also intriguing due to its setting. The site was located in an old sluice channel that was occasionally flooded. The site was recorded as up to 60 acres in size (Burkett and Hicks 1986). Limited test excavations conducted at the site previously recorded prehistoric artifacts to a depth of 50 cm (Morris 1969). Interestingly, the soils at the site were poorly drained (Hillis and Neely 1987:37 & 39, map sheet 28).

The goals of the project are to provide a better understanding of the Woodland period within the region. Early and Middle Woodland earthworks are still poorly understood. A settlement model for the Early and Middle Woodland habitation sites proposes that these sites are buried (McCord and Cochran 1996). While the Van Nuys site is primarily reported as Late Woodland in age, the site is multicomponent with Middle Woodland and Early Archaic diagnostic artifacts. Goals specific for each site will be addressed in the following sections.

This project was carried out under Permit No. 970032 issued by the Division of Historic Preservation and Archaeology, Indiana Department of Natural Resources.

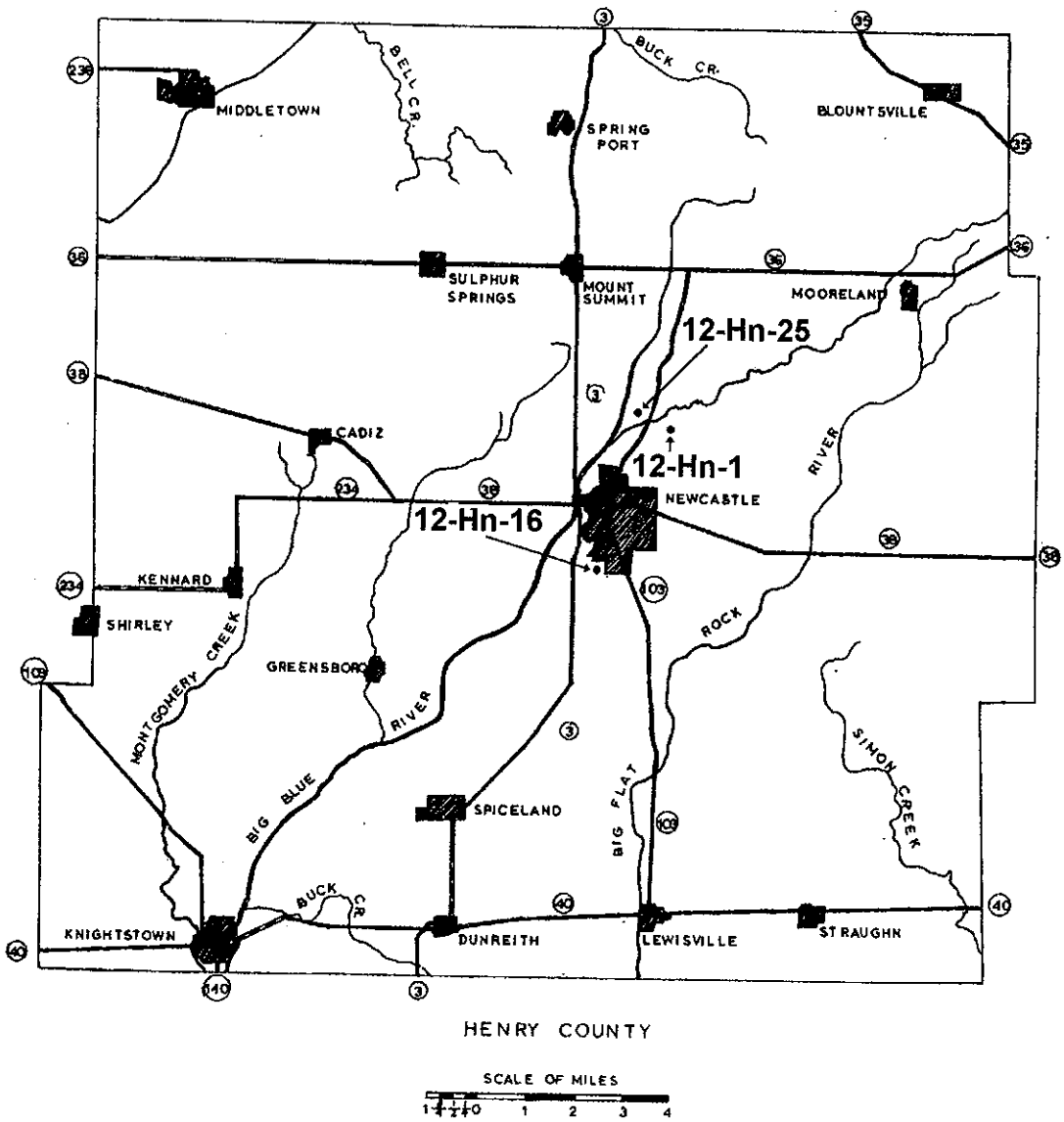


Figure 1. Location of the Chrysler Enclosure (12Hn16), the New Castle site (12Hn1) and the Van Nuys site (12Hn25) within Henry County.

NATURAL SETTING

The three sites covered by this investigation are located in east central Indiana in Henry County. A general setting for the county is provided below. A more specific setting for each site will be discussed in the following sections.

Geology

Henry County lies within the structural framework known as the Cincinnati Arch, a large, broad and platform-like anticline which is the area of greatest uplift in Indiana. Henry County is underlain by Silurian, Ordovician and Devonian rocks. The Silurian rocks consist of dolomite, limestone, chert, siltstone and shale. The Ordovician rocks consist of shale, limestone, dolomite and sandstone. The Devonian rocks consist of limestone and dolomite. Surface bedrock outcrops are not known in the county but bedrock is shallow in deep stream channels (Gutschick 1966, Schmidt 1990) (Figure 2). Henry County is located within portions of the Bluffton Plain, Dearborn Upland and Muscatatuck Regional Slope bedrock physiographic units (Schneider 1966:54)(Figure 3).

There are no known chert outcrops within Henry County. Chert resources are found in the secondary source of glacial till and outwash (Cantin 1994). Cantin (1994) states that gravel cherts were significantly utilized in archaeological assemblages.

Pleistocene and Recent sediment deposits account for all of the unconsolidated surface material in the county. The Wisconsin Age sediments consist of the kame and esker facies, the end moraine facies and the ground moraine facies of the Cartersburg and Center Grove Till Members of the Trafalgar Formation. Other sediments primarily Wisconsin in age, but also containing Kansan and Illinoian sediments consist of the outwash and lacustrine facies of the Atherton Formation. Nonglacial sediments from the Recent age consist of the alluvial and paludal facies of the Martinsville Formation (Schmidt 1990, Wayne 1966) (Figure 4).

Physiography and Topography

Henry County is located in the general physiographic unit known as the Tipton Till Plain. The Tipton Till Plain is characteristically a nearly flat ground moraine plain (Malott 1922:105, Schneider 1966:49)(Figure 5). The Tipton Till Plain is a constructional feature of the glaciers that was a plain without valleys until the ice began melting and cut broad sluiceways leading southward and southwestward across the plain (Malott 1922:109). The topography is virtually featureless except for the knolls, basins and ridges of terminal moraines, eskers, kames and fluvio-glacial features (Malott 1922:106). The rolling topography of the county results from granular moraines (Schmidt 1990:20).

The lowest elevation in the county, approximately 880' above sea level, is in the Big Blue River valley near Knightstown in the southern part of the county. The highest elevation, approximately 1190', occurs in Stony Creek and Blue River Townships in the northeastern part of

Bedrock Geology

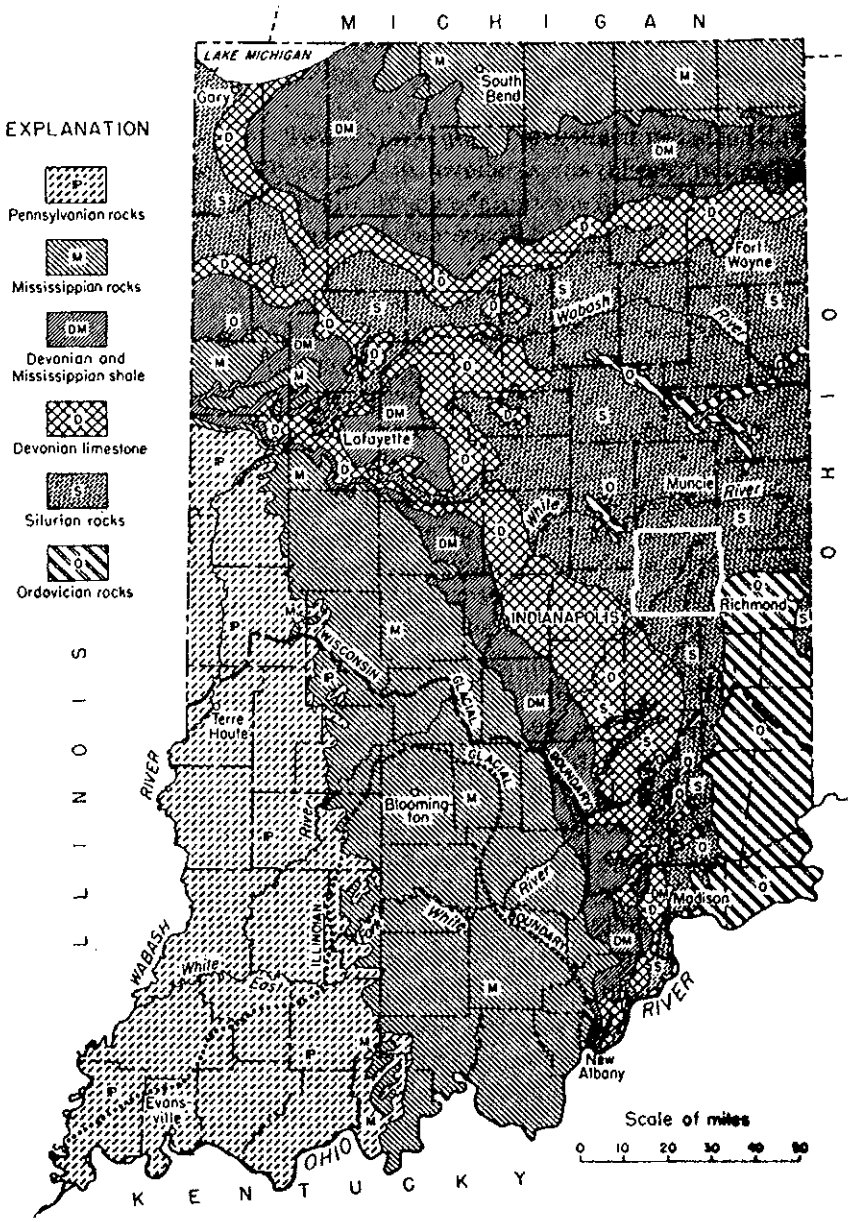


Figure 2. Bedrock geology of Henry County (Gutschick 1966:5).

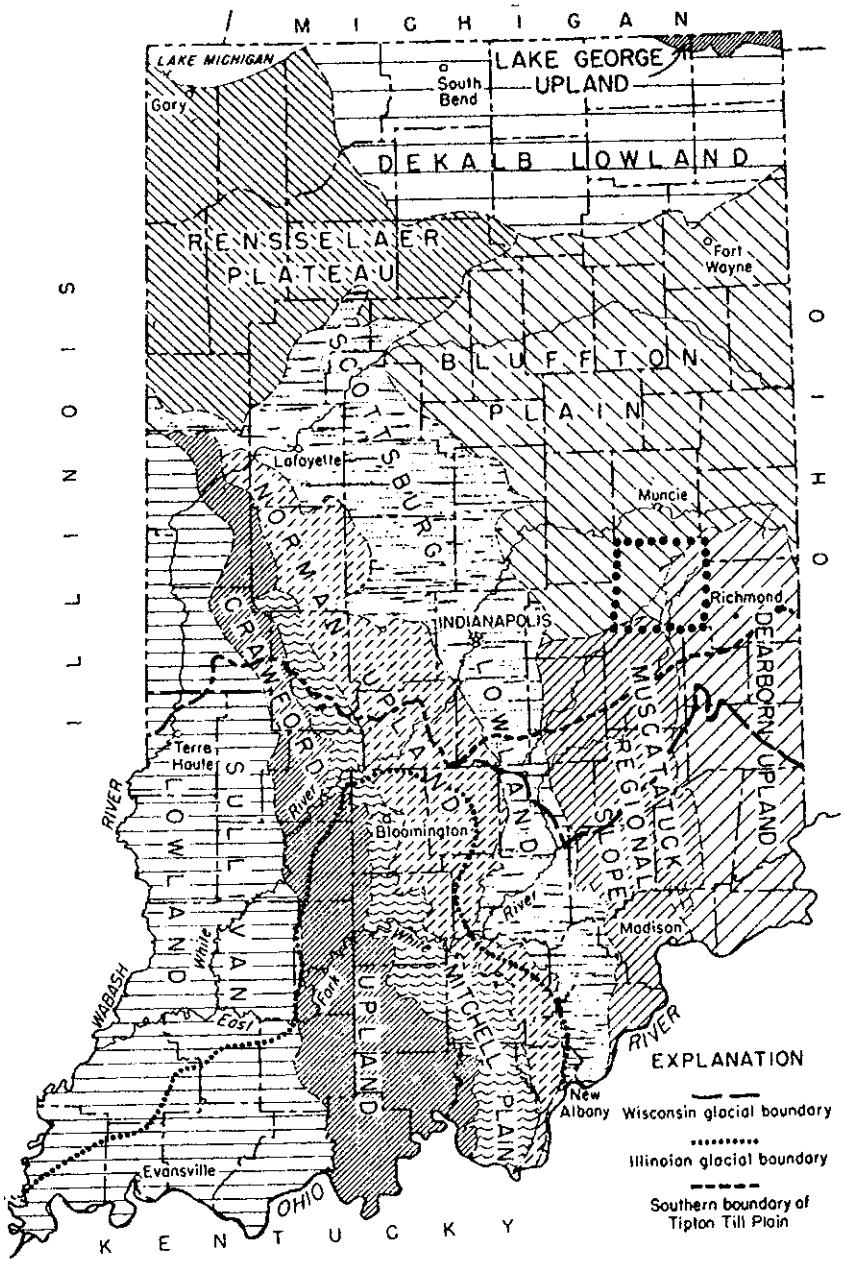


Figure 3. Bedrock physiography of Henry County (Schneider 1966:54).

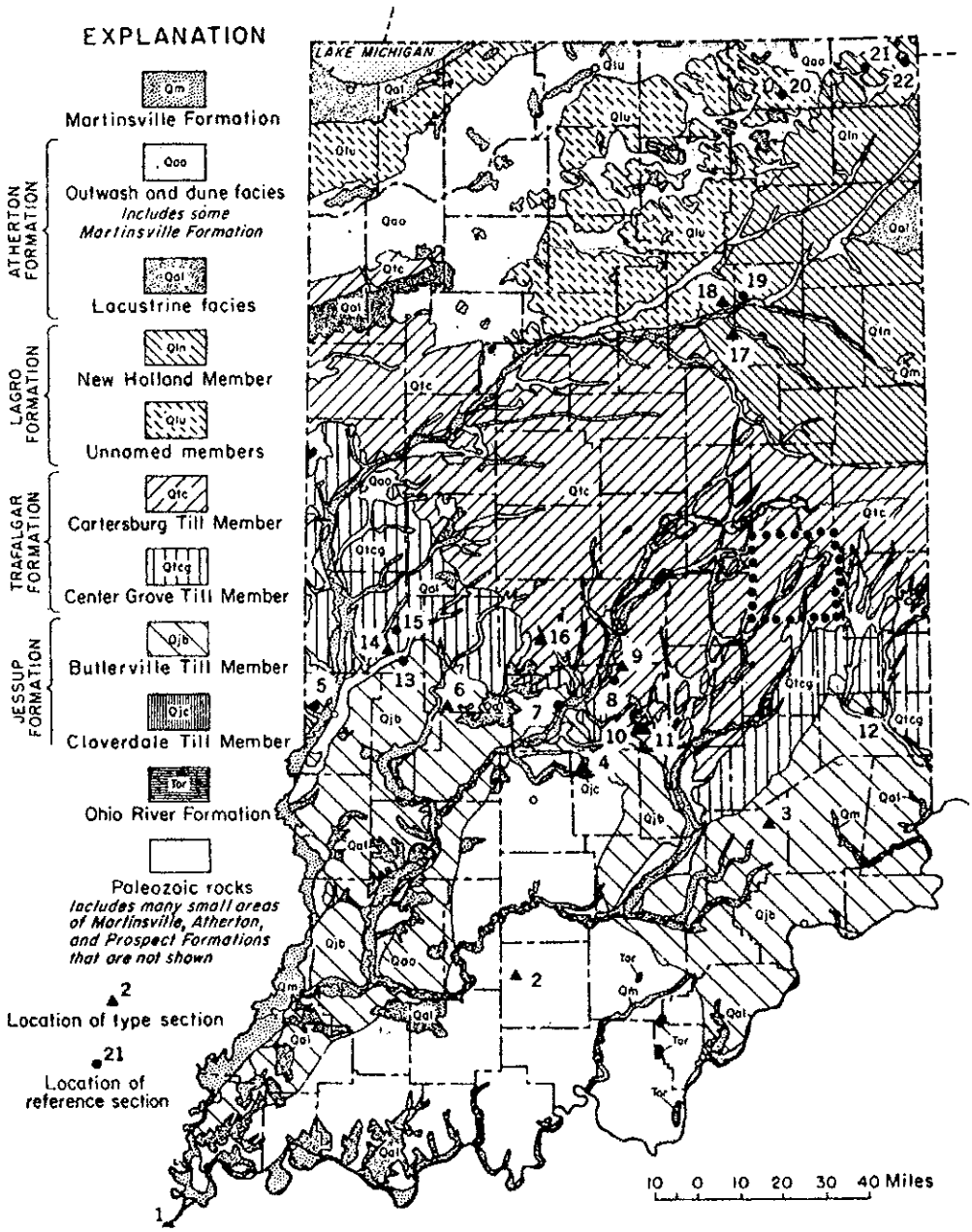


Figure 4. Glacial sediments in Henry County (Wayne 1966:26).

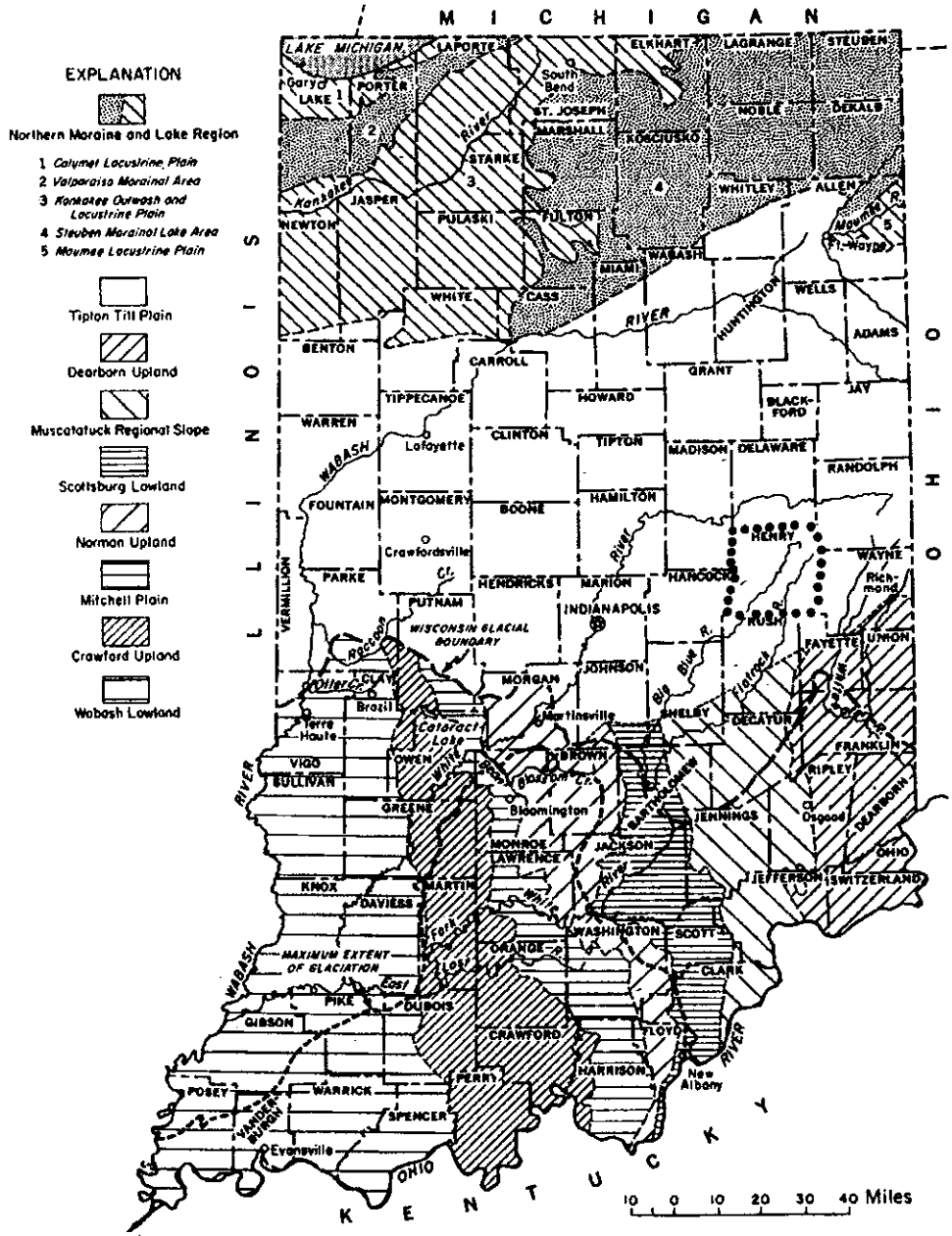


Figure 5. Surface physiography of Henry County (Schneider 1966:41).

the county. The greatest local relief of over 100' occurs along the sluiceway of the Big Blue River (Hillis and Neely 1987:1, Schmidt 1990:20).

Drainage

The majority of Henry County is within the Upper White, East Fork drainage basin. The northern portions of the county lie in the Upper White, West Fork and eastern portions lie in the Whitewater drainage basin (Kingsbury 1970:18)(Figure 6). The main drainages in the county, the Big Blue and Flatrock Rivers, follow the course of the glacial sluiceways. In places, these valley trains are one-half mile wide and 60' deep into the surrounding glacial till (Schmidt 1990:20). Secondary drainages in the county include the Little Blue River, Buck Creek, Montgomery Creek, Fall Creek, Bell Creek and numerous other drainageways. The county contains no natural lakes (Schmidt 1990:7).

Climate

Henry County, like most of Indiana, is cold in the winter and hot in the summer. The average summer temperature is 71 degrees Fahrenheit and the average daily maximum temperature is 84 degrees. The average winter temperature is 28 degrees and the average daily minimum temperature is 19 degrees. The total annual precipitation for the county is 40 inches (Hillis and Neeley 1987:2).

Flora

The presettlement vegetation of the county is predominantly beech-maple forest with some oak-hickory forest in northern portions of the county (Figure 7). The beech-maple forest developed from the mesophytic forest as northward postglacial migration occurred. In a beech-maple association beech is usually the dominant canopy tree with suger maple co-dominate in the canopy and dominating the understory. Other species occurring in beech-maple forests include: black walnut, white oak, burr oak, red oak, tulip poplar, white ash, american elm, slippery elm, cork elm, basswood, black gum, hickory, sassafras, and black cherry. Small tree understory is generally redbud-dogwood-blue beech or dogwood-hop hornbeam. Shrub layers can include pawpaw, spicebush, greenbriar, elderberry, leatherwood, wahoo and maple-leaf viburnum. The most prominent herbaceous plants occur in the spring consisting of rue anemone, jack-in-the-pulpit, spring beauty, cutleaf toothwort, pretty bedstraw, mayapple, false Solomon's seal and wild ginger (Petty and Jackson 1966).

The oak-hickory association is found in balance with both beech-maple and western mesophytic types. The oak-hickory forests are usually found on south-facing and west-facing slopes while beech-maple forests usually occupy north-facing and east-facing slopes. Oak-hickory forests are consistently drier than beech-maple forests. It appears that the oak-hickory forests at the time of European settlement were undergoing a gradual replacement by more mesic species. The principal species of the oak-hickory association are white oak, black oak, red oak, pignut hickory, shagbark hickory, sugar maple, american beech, white ash, swamp white oak, chinquapin

DRAINAGE

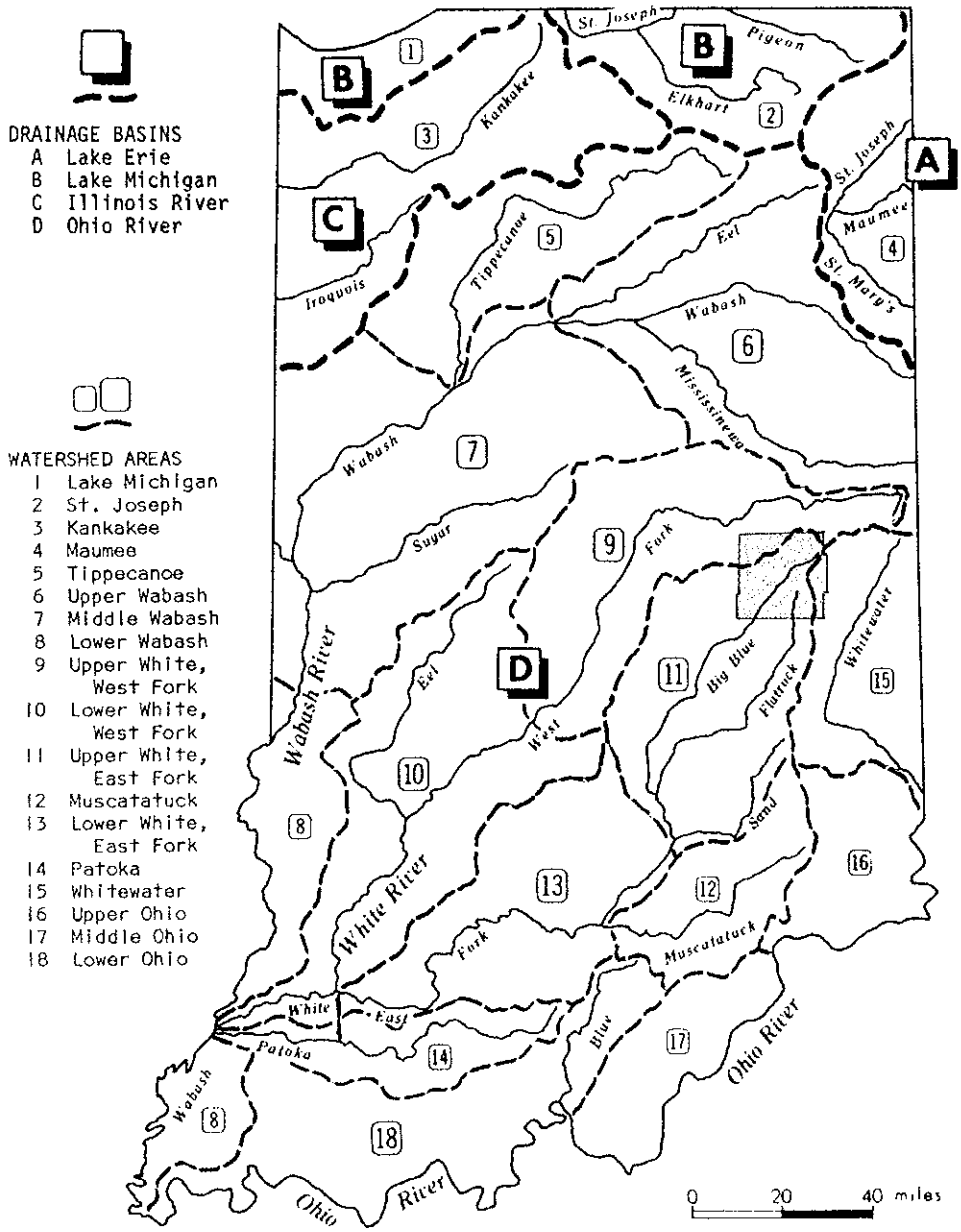


Figure 6. Watershed of Henry County (Kingsbury 1970:18).

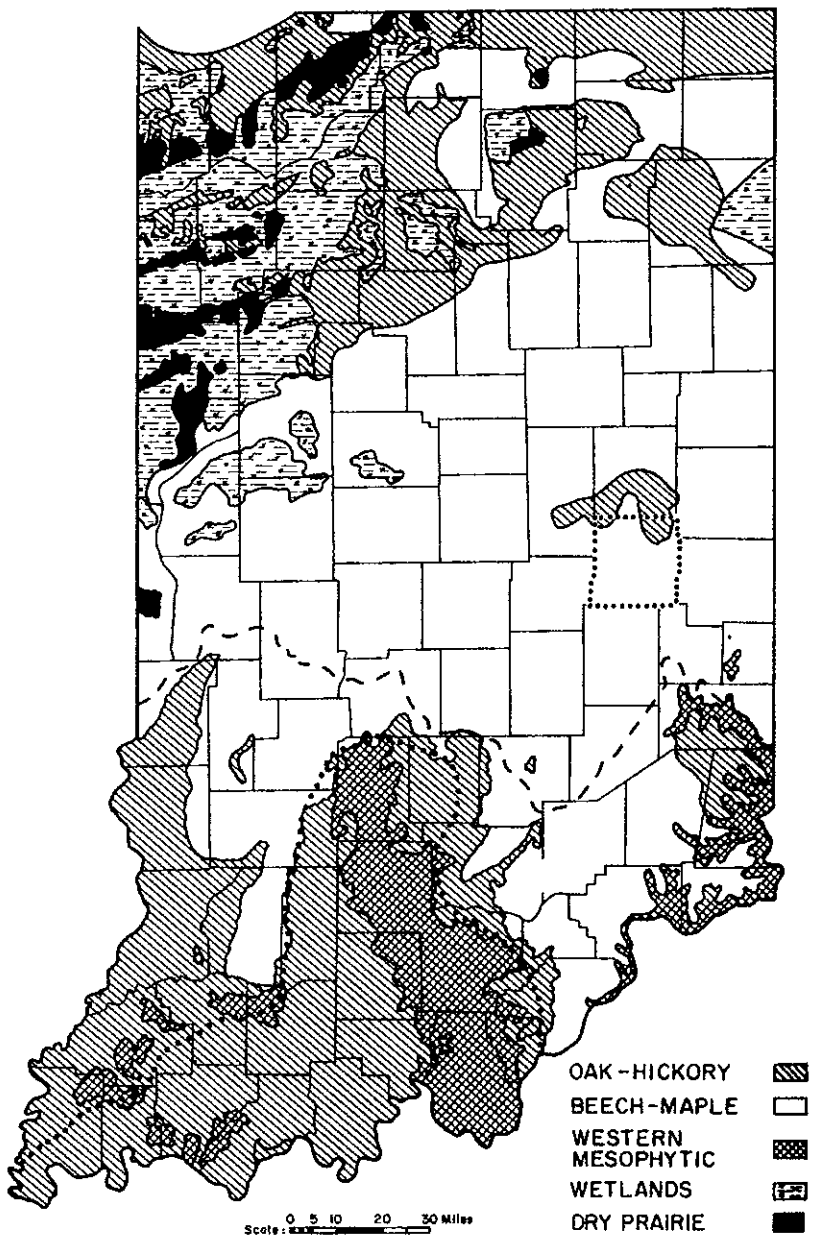


Figure 7. Flora of Henry County (Petty and Jackson 1966:280).

oak, burr oak, mockernut hickory, american elm, slippery elm and black gum. The understory frequently is less well developed than the beech-maple and western mesophytic associations with one or two species such as hop hornbeam, blue beech, service berry or dogwood dominating the layer. The most common herbs present in the oak-hickory associations are pussy-toes, common cinquefoil, wild licorice, tickclover, blue phlox, waterleaf, bloodroot, Joe-pye-weed, woodland asters, goldenrods, wild geranium and bellwort (Petty and Jackson 1966).

Indiana flora has undergone many changes since the retreat of the glaciers. Table 1 shows a model for the vegetation sequence of east central Indiana. The deciduous forests discussed above are representative of the vegetation during the Woodland period.

Table 1
Vegetation Sequence of East Central Indiana
(Cochran and Buehrig 1985:9, after Shane 1976)

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

Fauna

Several species of Pleistocene megafauna have been recorded in Indiana. The Pleistocene mammals reported include giant sloth, giant beaver, musk-ox, mastodon, mammoth, horse, dire wolf, bison, tapir, Virginia deer, peccary, elk and probably moose, caribou and some form of bear (Moodie 1929:77-96). Richards (1984) has additionally documented moose, caribou, two forms of bear, white-tailed deer, Canadian goose, armadillo, jaguar, sabertooth tiger and camel.

Man has altered the Indiana environment toward a single type habitat. In the process, many species have moved into new territories or have become restricted or extinct. It was estimated that approximately 66 species of mammals were present in Indiana in 1816. The following species have since been exterminated: porcupine, gray (timber) wolf, red wolf, black bear, fisher, wolverine, eastern spotted skunk, river otter, mountain lion, lynx, elk, bison and possibly bobcat. Some of the mammals found in all or most Indiana counties include: opossum, short-tailed shrew, least shrew, eastern mole, little brown bat, red bat, hoary bat, evening bat, eastern cottontail, eastern chipmunk, woodchuck, gray squirrel, fox squirrel, southern flying squirrel, beaver, deer mouse, white-footed mouse, meadow vile, pine vole, muskrat, southern bog limming, Norway rat, house mouse, meadow jumping mouse, coyote, red fox, gray fox, raccoon, long-tailed weasel, mink striped skunk and white-tailed deer. Beaver and white-tailed deer were once extirpated and reintroduced (Mumford 1966:475-476).

The fish fauna has also changed over the last several thousand years. During the Wisconsin glaciation, coldwater species such as trout, grayling, whitefish and cisco probably inhabited the southern part of the state. As the glaciers retreated, the coldwater fish migrated north and warm water fish migrated into the state from the south. A total of 177 species of fish have been described in Indiana waters. Ten of the species have not been seen since 1900 and may be extinct and 20 species are rare. Several species have been introduced by man or man's intervention including carp, goldfish, brook trout, rainbow trout, brown trout, smelt, sea lamprey, alewife, and threadfin shad (Gammon and Gerking 1966:402-404).

Approximately 200 species of mollusks and 400 species of crustaceans occurred in Indiana waters (Young 1966:321-335). Call (1900:342) identified 131 species of mollusks in 1900 and reported the mollusks from southern Indiana were larger than those found in northern Indiana.

Between 1947 and 1957, 83 species of amphibians and reptiles were recorded for the state. The composition and distribution of the herpetofauna was influenced by environmental changes since the retreat of the Wisconsin glaciers. With the shifting environmental patterns, new immigrating species became dominant. But, the prior residents were not completely replaced. Man has introduced no new species, but has altered the distribution of most species and a species of semiaquatic snake is no longer found in the state (Minton 1966:426).

Approximately 366 species of birds have been reported in Indiana since 1816. This number includes transients and migratory species. The Passenger Pigeon and Carolina Parakeet, two common species of the nineteenth century are now extinct. Nine species found in Indiana in

the nineteenth century no longer occur in the state: the Wood Ibis, Trumpeter Swan, Prairie Chicken, Whooping Crane, Eskimo Curlew, Mississippi Kite, Swallow-tailed Kite, Ivory-billed Woodpecker and Raven (Webster 1966:455).

Soils

The formation of soils is influenced by several factors: parent material, climate, flora and fauna, topography and time. Most of these factors have been discussed in preceding sections. The parent materials for the soils in Henry County were deposited as glacial till and outwash, loess, lacustrine sediments, alluvium and organic material (Hillis and Neely 1987). The soil associations for the county are discussed below.

The Crosby-Cyclone-Miamian association consists of deep, nearly level and gently sloping, somewhat poorly drained, and well drained, medium texture and moderately fine textured soils formed in loess or silty material and in the underlying loamy glacial till. These soils are found on till plains and moraines and are characterized by swells and swales. This map unit comprises approximately 46 % of the soils in Henry County (Hillis and Neely 1987:5).

The Miamian-Losantville association consists of deep, gently sloping to steep, well drained, medium textured and moderately fine textured soils formed in glacial till or in a thin mantle of loess and the underlying loamy glacial till. These soils are found on till plains and moraines on knobs and breaks along major and many minor streams. This map unit comprises approximately 29 % of the soils in the county (Hillis and Neely 1987:5 and 6). The Chrysler enclosure is located in the Miamian-Losantville association.

The Eldean association consists of nearly level to strongly sloping, well drained, medium textured and moderately fine textured soils that are moderately deep over sand and gravel formed in outwash material. These soils are found on outwash plains, moraines and terraces bordering major streams. This map unit comprises approximately 9% of the soils in the county (Hillis and Neely 1987:7). The New Castle site is located in the Eldean association.

The Losantville-Crosby-Miamian association consists of deep, nearly level to steep, well drained and somewhat poorly drained, medium textured and moderately fine textured soils formed in glacial till or in a thin mantle of loess and the underlying loamy glacial till. These soils are found on till plains and moraines on knobs and breaks along the upper reaches of the Big Blue River and Buck Creek and some minor streams. The unit has an abundance of stones. This map unit comprises approximately 7% of the soils in the county (Hillis and Neely 1987:10).

The Westland-Milgrove-Martisco association consists of deep, nearly level, very poorly drained, medium textured or mucky soils formed in glacial outwash sediments and organic deposits. These soils are found on outwash plains, terraces and valley trains bordering the major stream channels. This map unit comprises approximately 6 % of the soils in the county (Hillis and Neely 1987:7 and 8). The Van Nuys site is located in the Westland-Milgrove-Martisco association.

The Genesse-Shoals-Landes association consists of deep, nearly level, well drained and somewhat poorly drained, medium textured soils formed in loamy alluvial deposits. These soils are found on bottom lands bordering major and some minor stream channels. This map unit comprises approximately 3 % of the soils in the county (Hillis and Neely 1987:9).

ARCHAEOLOGICAL SETTING

Previous Research

Early Investigations

Henry County has a long documented history of interest in antiquities. Most of the historical sources focus on the earthworks in the county. The mystical folklore that surrounded these prominent features made them targets for investigations.

The first published reference to prehistoric sites occurs in a county history that discusses a few of the earthworks and some of the artifacts found in the county (Pleas 1871:134-138). Cox (1875:38) mentions a limestone pipe from the county. Phinney (1186:115) highlights the information provided by Pleas (1871). By far, the most descriptive documentation of archaeological sites in the county was provided by Redding (1892). In 1938, Heller (1974) resurveyed some of the earthwork sites mentioned by Redding.

Twentieth Century Investigations

Professional archaeological surveys and excavations in Henry County began in the 1960's. Several large scale survey projects were conducted for research and cultural resource management projects (Harlos 1967, Briescke 1970, Newbold 1974, Ellis 1975, DeRegnaucort 1979, Burkett and Hicks 1986, Zoll and Cochran 1988). Numerous small CRM projects have also been conducted in the county (ARMS files). Currently, there are over 370 archaeological sites recorded for Henry County.

Excavations in the county have been conducted at earthworks, cemeteries and habitation sites. The New Castle site, 12Hn1, an Early/Middle Woodland earthwork complex was the focus of Ball State University field schools from 1965 to 1972 (Swartz 1976). The White site, 12Hn10, an Early/Middle Woodland mound was salvaged from 1967 to 1968 by BSU students (Swartz 1973). The Commissary site, 12Hn2, an Albee phase (Late Woodland) cemetery was excavated from 1966 to 1968 and 1970 to 1973 by BSU field schools (Swartz 1982). The Hesher site, 12Hn25, another Albee phase (Late Woodland) cemetery located to the south of the Commissary site was salvaged in 1987 (Cochran et al. 1988). Several habitation sites were also tested including: the Hillsboro Lake site, 12Hn8 (Buchman 1967a); the Memorial Park site, 12Hn12 (Buchman 1967b); the multicomponent Van Nuys site, 12Hn25 (Morris 1969, Ferguson 1970); the Archaic period Howling site, 12Hn27 (Colberg and Benson 1970); and 12Hn77(Pace 1979).

Culture History- by Donald R. Cochran

In spite of the number of archaeological investigations in Henry County, the local cultural history is decidedly incomplete. Most excavations have focused on Woodland mortuary/ceremonial sites (Swartz 1973, 1976, 1982, Cochran et al. 1988). Excavation of Archaic period sites is limited (Colbert and Benson 1970). Only isolated Paleoindian artifacts are

on record and none of those sites have been tested. However, in spite of the lack of depth in the local archaeological record, the complete range of prehistoric human occupation of east central Indiana has been documented from surface collections (Burkett and Hicks 1986:75).

An attempt to define the Woodland culture sequence for Henry and surrounding counties was included with the Hesher site report (Cochran et al. 1988:116). However, that sequence covered a broad area of east central Indiana and some of the defined units have not been identified in Henry County. In addition, some of the defined units are no longer considered valid, especially the Newtown assignment for the Parkinson Stone Mound in Delaware County (Cochran et al. 1988:116). Table 2 shows a revised Woodland chronology that is relevant to Henry County.

As can be seen from Table 2, several cultural units have not been identified in Henry County. Primarily this is due to the lack of diagnostic ceramic types. In addition, the former identification of an Oliver Phase component at the Commissary site (Burkett and Cochran 1984) based on a single radiocarbon date has been revised. No Oliver Phase ceramics have been recovered from the site and the radiocarbon date was most likely related to the Albee component. In fact, no Oliver Phase ceramics have been recovered from Henry County. Also, the flat rim sherds recovered from the Hesher site were originally identified as a Newtown component (Zoll 1988:47), but again are more similar and consistent with the earlier Albee ceramics from the Morell-Sheets site (McCord & Cochran 1994:45, 67). As can be seen from Table 2, the materials and sites previously separated between Adena and Hopewell are now considered part of the same cultural unit (Cochran 1996).

Table 2
Woodland Chronology
Blue River Drainage: Henry County*

Culture/Date	Habitations	Ceremonial sites	Ceramics	Lithics
Unidentified AD 1100-1700				Late Woodland/ Mississippian cluster
Albee AD 800-1100	Van Nuys	Commissary Hesher	Albee Series	Late Woodland/ Mississippian cluster
Intrusive Mound AD 700-900	Van Nuys	New Castle (?)		Jack's Reef Cluster
Unidentified AD 300-700				Lowe Cluster
Adena/Hopewell 200 BC-AD 300	Van Nuys	New Castle White Chrysler	Hopewell Series McGraw New Castle Incised Adena Plain	Early Woodland Stemmed Dickson Cluster

*Revised from Cochran et al. 1988:116 with the addition of Cochran 1988, 1992, 1996, Cree 1990, Kolbe 1992, McCord 1994, McCord this report, McCord & Cochran 1994, 1996.

The Paleoindian and Archaic occupation of Henry County is known only from surface artifacts (eg. Burkett and Hicks 1986). A tantalizing reference by Redding (1892) suggests the presence of Glacial Kame shell artifacts associated with burials in gravel banks in the county. An engraved shell gorget typical of Glacial Kame artifacts was reported from a burial in a gravel and sand deposit in Henry County (Moore 1901 in Swartz 1968, Heilman 1969). However, except for these two references, no further definition of Late Archaic mortuary complexes or other specific chronological units have been defined for the Paleoindian and Archaic Periods. This is a research problem of considerable importance for Henry County and the surrounding region.

METHODS

Excavation Methods

The excavations at each site varied slightly but were generally conducted by the following methods. Units were hand excavated in 10 cm levels to sterile soil. All excavated soil was screened through 6.4 mm wire mesh. Level records for each unit were completed. Features were numbered as encountered and a feature form was completed. Features were mapped in plan view, bisected and at least 1/2 excavated. Feature fill was retained for flotation. Samples appropriate for radiocarbon dating and floral and faunal analyses were collected as available. Fire-cracked rock and all other artifacts were taken to the ARMS laboratory for processing, analysis and curation. Black and white print film and color slide film were used to document the excavation. Any deviations from these methods were discussed in the appropriate sections.

Due to the alluvial nature of the Van Nuys site, hand augers were proposed as the first step in the archaeological assessment. Fifty augers were excavated to Pleistocene deposits. The soil from the augers was retained in 10 cm lifts. The soil samples were taken to the ARMS laboratory for processing.

Laboratory Methods

Materials recovered during the project were taken to the ARMS laboratory for processing, analysis and identification using standardized ARMS procedures. Artifacts were cleaned, identified and catalogued. Definitions for the categories used in lithic classification were included in Appendix A. Metrical attributes and raw material identification were recorded as appropriate. Diagnostic artifacts were photographed for inclusion in this report. A soil analysis from the augers at the Van Nuys site consisted of recording the color and texture of each lift. The soil was then water screened through 2.0 mm mesh to recover any cultural material. Flotation samples were processed using five gallon buckets and hand sieves, sorted and identified. Radiocarbon samples were dried, weighed and repackaged prior to submission to Beta Analytic, Inc. Feature forms and level records were verified and selected maps were redrawn for publication. Material from this project was catalogued under accession number 98.17 and was curated at ARMS. An updated site form was completed for each site.

Instrument Survey Methods

The survey methods utilized by this project varied by the complexity of the mapping necessary. Overall, all units were mapped by theodolite from a datum. The excavation units at the Chrysler enclosure were mapped in reference to a permanent site datum and correlated with existing survey information taken in 1995 for a contour map. Mapping the auger locations and excavation units at the Van Nuys site was hindered by the vegetation for wildlife habitats that had overgrown the site. The augers and units were recorded from several locations and tied to the bridge over the Little Blue River on SR 103. This data was tied to previous excavations at the Van Nuys site (Morris 1969, Ferguson 1970). Mapping of the New Castle site provided the

biggest challenge given the size of the site and the complexity of the earthworks. A detailed description of the methodology employed is provided in the New Castle Site section.

CHRYSLER ENCLOSURE

Setting

The Chrysler enclosure (12Hn16) is located in Henry Township in the [redacted] (Figures 8 & 9). The enclosure is located 1070' AMSL in the upland till plain overlooking the Big Blue River valley to the west. An intermittent drainage known as Baker Branch is located approximately 1800' south of the enclosure. The soil survey for the county indicates the soil at this location as the moderately sloping, deep, well drained Losantville silt loam, 6 to 12% slopes, eroded (LeC2)(Hillis and Neeley 1987:24, map sheet 34). However, the topography is nearly level, not sloping. The enclosure appears to actually be located in an adjacent mapping unit of the nearly level, deep, well drained Miami silt loam, gravelly substratum, 0 to 2% slopes (MiA)(Hillis and Neeley 1987:32, map sheet 34).

Background

The Chrysler enclosure was first recorded by Thomas Redding (1892:99). Redding, a local attorney and founder of the Henry County Historical Society reported on several earthworks in Henry County. He stated,

> "There is a circular inclosure [sic] on the line between [redacted] It is still in the woods though mostly cut off. Its diameter (measuring in all cases from the center of the embankments), is 115 feet; the height of the embankment, at highest point from bottom of ditch is about three feet. There is an open place, or gateway, on the east side, about twelve feet wide. There is the appearance of a small mound inside of the enclosure toward the west side, about fifteen feet in diameter and eighteen to twenty-four inches high. Width of ditch about eight feet, of embankment about fifteen feet. Large trees have grown, died and decayed within this enclosure and its ditches and upon its embankments since it was built" (Redding 1892:99).

A 1938 photograph of a portion of the enclosure taken by Herbert Heller shows a north-south fence row cross-cutting the enclosure (Figure 10). The western side of the enclosure was in pasture and an apparent cow path can be seen going across the embankment. The eastern side is harder to distinguish from the photograph. A 1937 newspaper article describes the enclosure as overgrown, but that it would be cleared for an attraction in the park (Welch 1937). The western side of the enclosure was donated to the city for incorporation into the park (Welch 1937).

In a more recent survey of archaeological sites in Henry County, Harlos (1967:35) reports that there "is a mound located west of the driveway of New Castle High School". The site has

Site Locations Confidential
Not for Public Disclosure

Figure 8. Location of the Chrysler enclosure (12Hn16) as shown on a portion of the USGS 7.5' New Castle West, Indiana Quadrangle.

Figure 9. The Chrysler Enclosure.

Figure 10. 1938 picture of the Chrysler Enclosure.

also been reported as the Thurston Mound on a Historic Sites and Structures Inventory-Archaeological Sites (1987 form on file at DHPA).

A contour map constructed by a BSU field school in 1995 measured the enclosure as approximately 140' (42.5m) in diameter from the outside edge of the embankment, enclosing an area of 1429 square meters (Figures 11 &12)(McCord and Cochran 1996). A small rise located on the southwest side of the central platform was recorded. The gateway orients to approximately 121 degrees which is in alignment for the rising sun at winter solstice (Cochran 1996).

In 1995, the enclosure was noted to be in excellent condition. It was located in Baker Park and covered in grass and several trees. The contour map showed a slight rise in elevation on the western side of the central platform which might indicate a mound. Another feature the contour map hinted at was a fence row across the central platform. A few potholes could be seen in the possible mound and central platform. The parking lot for the Chrysler High School had encroached on the western edge of the embankment.

Recent Disturbance

The most extensive damage to the site occurred during the late summer of 1997. The construction of a new sidewalk and storm sewer on the eastern edge of the Chrysler High School parking lot destroyed nearly half of the western embankment wall (Figures 13 & 14). While at the site in September, a local resident told ARMS personnel that he had informed the Division of Historic Preservation and Archaeology of the plans for the construction prior to its initiation, but received no response (Jim Cole, personal communication 1997). After the construction began, Mr. Cole again contacted DHPA and an archaeologist was sent for an evaluation. DHPA contacted ARMS to inform us that damage had occurred to the embankment wall since we were to begin fieldwork in a few weeks. While conducting our fieldwork at the enclosure, several photographs were taken to document the disturbance. Between 1.5 and 2 meters of the embankment wall was destroyed. In January of 1998, the site was visited again. The sidewalk construction was completed, but the embankment wall had not been stabilized and had continued to erode. In July, 1998, an archaeologist from DHPA visited the site for another evaluation and again requested that the contractor stabilize the embankment wall.

Goals

The Chrysler enclosure was the only remaining isolated enclosure in the region but it had never been excavated (Cochran 1988). It was anticipated that excavation of the Chrysler enclosure would provide information valuable to Early Woodland research. An isolated enclosure has never before been excavated in Indiana.

The individual goal to be achieved from test excavations at the Chrysler enclosure was to document the site's significance and nominate the site to the State and National Register of

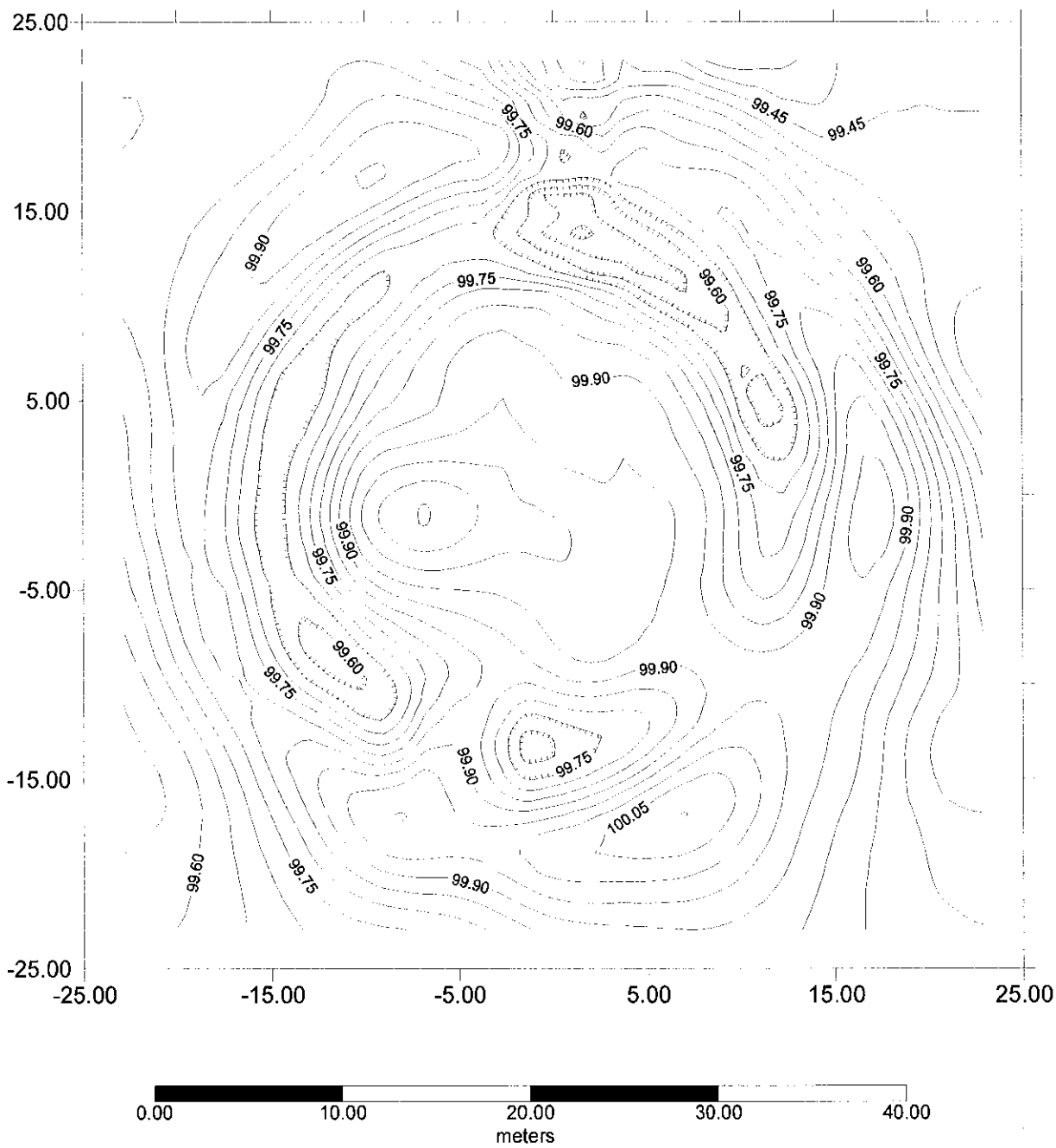


Figure 11. Contour map of the Chrysler Enclosure (contour interval=0.05m)

Chrysler Enclosure

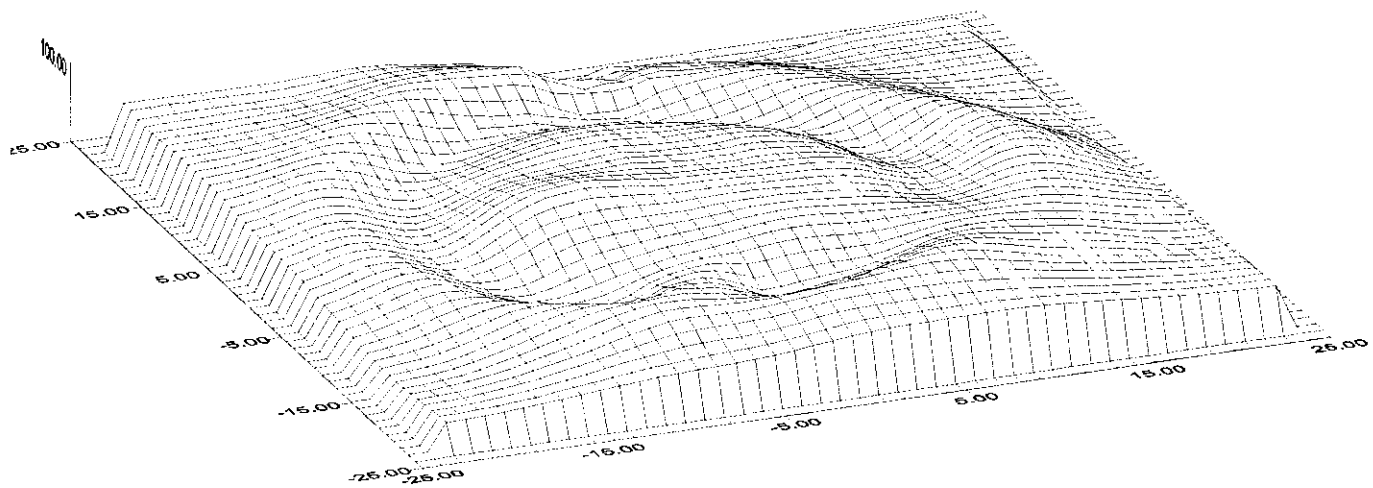


Figure 12. Surface map of the Chrysler Enclosure.

Figure 13. Damage to the embankment.

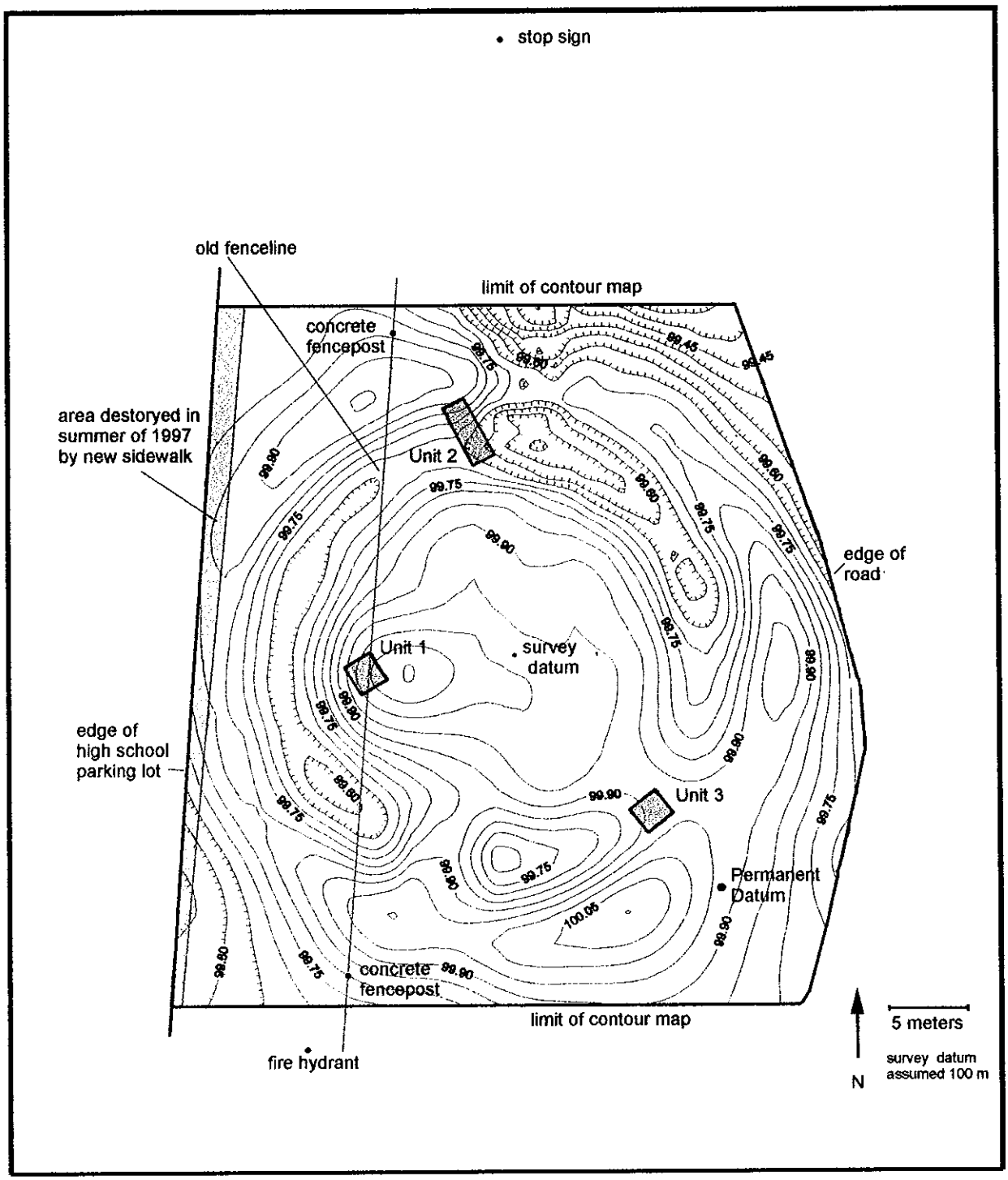


Figure 14. Map of Chrysler showing the location of the excavation units and damage to the embankment wall.

Historic Places. Specific research questions include:

1. What function did this site serve?

2. Is there evidence for mortuary activity?

3. What is the radiocarbon age of this enclosure?

4. How does this site relate to the nearby New Castle enclosure complex and other complexes in the region?

5. How does the Chrysler enclosure compare to other excavated enclosures in the Ohio Valley?

6. Does the site meet the requirements for State and National Register eligibility?

Excavation

It was proposed that 12 square meters would be excavated at the enclosure to document its significance. The excavation was conducted in a combination of 1 x 4 meter or 2 x 2 meter units. Since one of the goals of the testing was to obtain a sample suitable for radiocarbon dating, it was further proposed that systematic oakfield probes would be placed across the site to delimit areas that might contain carbon before the unit locations were selected. The probes were to be place every 5 meters and screened through 6.4 mm mesh. However, due to the dry soil conditions at the time of fieldwork, the oakfield probes could not be utilized. The location of the units were, therefore, selected at random to sample portions of the embankment, the ditch and the possible mound (Figure 14). Unit 1 was placed on the western edge of the possible mound. The unit encompassed part of a pothole to document the disturbance to the site and minimize the excavation of intact deposits. Unit 2 was located to sample both the ditch and embankment to document the original depth of the ditch and recover carbon for dating. Unit 3 was placed to determine how the gateway was constructed.

Fieldwork at the site was initiated on September 15, 1997 and continued until September 22, 1997. The units were excavated in arbitrary 10 cm levels or natural levels to sterile soil. All excavated soil except for the sterile ditch fill was screened through 6.4 mm wire mesh. Samples for radiocarbon dating were collected. Excavation units were mapped by theodolite from a permanent datum located to the southeast outside of the embankment.

Results

Very few artifacts were recovered by the excavation. Appendix B includes a list of the material recovered during the excavation. Rather, the importance of the testing was in documenting the construction of this enclosure. A summary of each unit is provided below.

Unit 1

Unit 1, a 2 x 2 meter unit, was located on the possible mound's periphery (Figure 15). Historic debris including concrete, container glass, plastic, metal pull tops, a wire fence staple, and 2 pennies (1940, 1949) were the bulk of material recovered from this unit. The majority of the debris was most likely left by park patrons, but the fence staple was related to the agricultural activity. Three fire-cracked rocks and 17 pieces of burned clay may actually relate to the prehistoric construction and use of the site but this cannot be said with certainty. Burned clay platforms have been documented in numerous mounds (eg. Webb and Snow 1945:43).

Most importantly, the excavation of Unit 1 documented the existence of an artificial mound. The area that was actually excavated into undisturbed portions of the mound was less than one square meter. The unit just caught the edge of the mound and was partially disturbed by the previous pothole. The unit also caught the edge of the historic fence row.

Testing a small area, reduced the possibility of encountering human remains if they existed in the mound. We encountered no human remains and were able to adequately determine the existence of a mound. The stratigraphy of the mound was somewhat subtle showing little alteration of the natural soil in its construction but lacked natural diagnostic soil horizons (Figure 16). The unit was not taken completely to sterile subsoil. Since a mound structure had been identified, the objective was met.

Unit 2

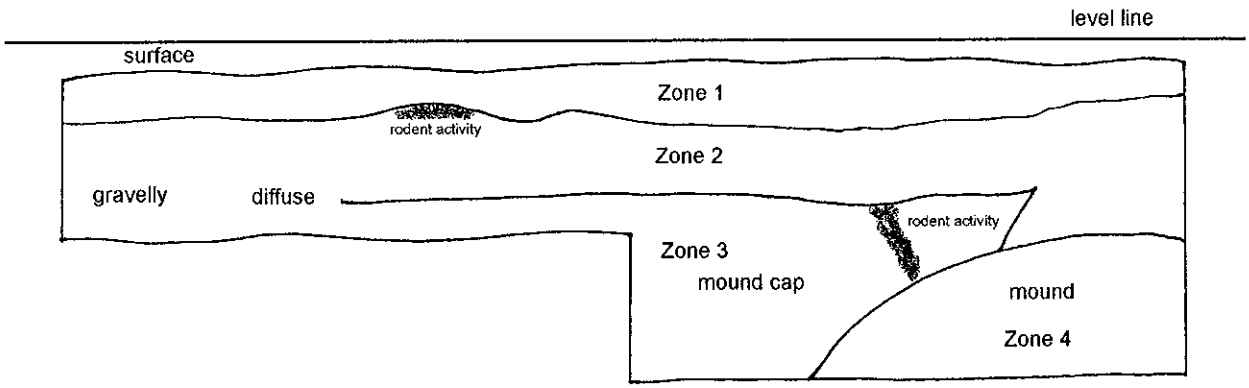
Unit 2, a 1 x 4 meter unit, was located on the north side of the enclosure across portions of the embankment and ditch (Figure 17). The unit was excavated in 10 cm levels until only the ditch fill remained. This was excavated as one level and since it was apparently sterile of prehistoric artifacts, it was not screened. Again the primary material that was recovered was historic debris consisting of container glass, barbed wire and plastic. Three fire-cracked rocks were recovered from the unit and could be associated with either historic or prehistoric activity at the site. Several carbon samples were taken from the bottom of the ditch fill.

The excavation documented that the ditch was approximately 2.2 meters wide at the top and 60 cm deep. The embankment wall was at least 50 cm high, but the unit did not incorporat the highest point on the embankment and erosion had reduced its height. Erosion from both the embankment and central platform was documented (Figure 18).

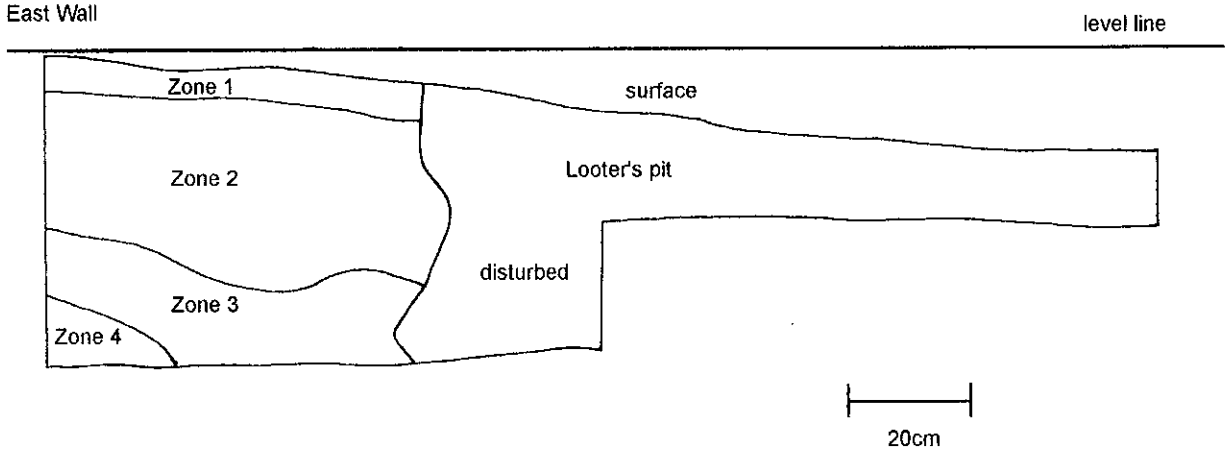
Several chunks of charcoal were found at the bottom of the ditch at the interface with the Pleistocene deposits. A radiocarbon assay was submitted for dating. The sample was small and required AMS dating. The resultant date was 1790 +/- 40 BP (uncorrected AD 160 +/- 40) with a calibrated range of AD 220 to 265 and AD 290 to 320
(Beta-110202). The radiocarbon date was somewhat later than expected, but the sample was from ditch fill. While the date may document the use of the enclosure, it does not necessarily document the construction of the site.

Figure 15. Unit 1.

12-Hn-16
Unit 1
North Wall



12-Hn-16
Unit 1
East Wall



Key:

Zone 1 - 10 YR3/2, silt loam, A horizon development. Some mixing apparent possibly from the pot hole.

Zone 2 - 10 YR4/4 & 10 YR5/4, silt loam. Disturbance from historic fence row on western side of unit.

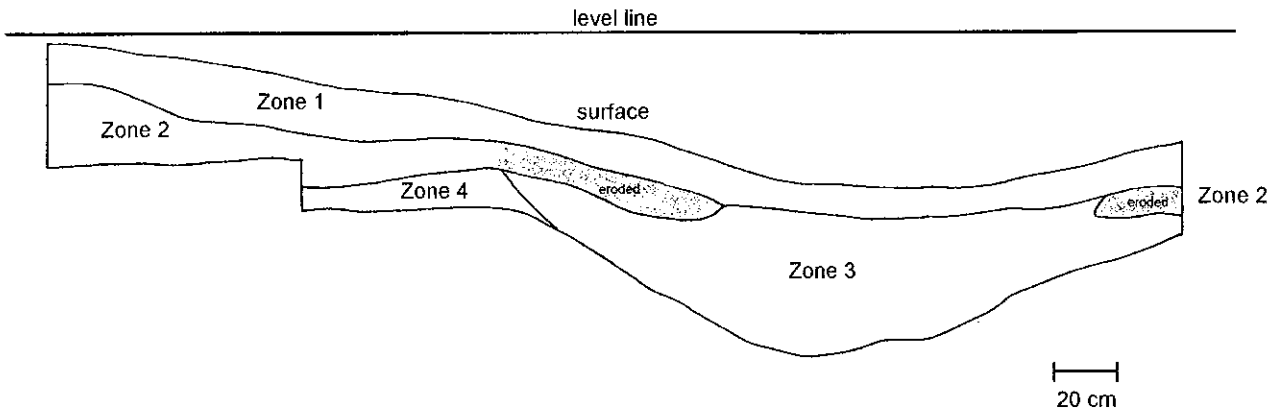
Zone 3 - 10 YR4/2, clay loam. Mound cap, friable structure.

Zone 4 - 10 YR5/4, 10 YR4/4 & 5 YR4/6, silt loam. Mixed mound fill, friable structure.

Figure 16. Profile of Unit 1.

Figure 17. Unit 2.

12-Hn-16
Unit 2
West wall



Key:

Zone 1 - 10 YR3/2, silt loam, A-horizon development.

Zone 2 - 10 YR5/4 and 10 YR5/6, loam. Mixed soil and friable.

Zone 3 - 10 YR2/1 and 10 YR5/6, clay. Mixed soil with weak structure.

Zone 4 - 10 YR6/3 and 10 YR5/6, clay. Compact, undisturbed, mottled soil.

Figure 18. Profile of Unit 2.

Unit 3

Unit 3, a 2 x 2 meter square, was located on the southwest side of the gateway (Figure 19). Again historic debris including container glass, a clay pigeon fragment and a metal fragment were encountered. Three fire-cracked rocks and one unmodified flake of Laurel chert were also recovered. The flake represents the only truly prehistoric artifact recovered from the site.

The unit documented the natural soil profile of the gateway and the excavated portion of the ditch (Figure 20). The gateway was, therefore, constructed by leaving the area intact and excavating the ditch around on either side. It can be stated with certainty that the current gateway was the original gateway and the orientation was not moved.

Research Questions

To better define the relationship between the Chrysler enclosure and other Early/Middle Woodland earthworks in east central Indiana and the Ohio Valley, a brief statement of terminology is necessary. The terminology utilized to distinguish earthwork types follows Cochran (1988). **Mounds** are artificial constructions of earth that show evidence of ritual activity. They may occur isolated, within enclosures or within complexes. **Isolated enclosures** occur in two general forms. First, "sacred" circular enclosures (Webb and Snow 1945) that have interior ditches and exterior banks and an entrance or gateway. These enclosures generally occur as small circles approximately 100' in diameter. The second form are large enclosures of various forms (only rectangles are documented in east central Indiana) encompassing several acres that may have a bank and ditch construction or just a bank construction. Both forms of isolated enclosures may have a mound located within them. **Earthwork complexes** are clusters of enclosures and/or mounds in proximity to each other. The enclosures within complexes can be larger reaching 400' in diameter for circles, and can be panduriform or rectangular in shape. While each of these earthwork types are components of a ceremonial/mortuary complex (Cochran 1996), they differ in form and function and data cannot be directly compared from one earthwork category to another. In other words, an isolated circular enclosure should not be assumed to have the same function as a circular enclosure in an earthwork complex.

One point that must be made in discussing enclosures in the Ohio Valley is that not much is known about them. As Clay (1987:46) states, "although widespread and presumably well known for some time, there is a meager bibliography on Adena enclosures." Otto (1979:11) also states, "Although long identified as 'sacred' circles or enclosures, few have been systematically investigated." It must also be noted that the literature does not necessarily differentiate isolated enclosures (small or large) from enclosures within complexes.

With this background, the individual research questions and a summary of the data gathered for the Chrysler enclosure are presented below.

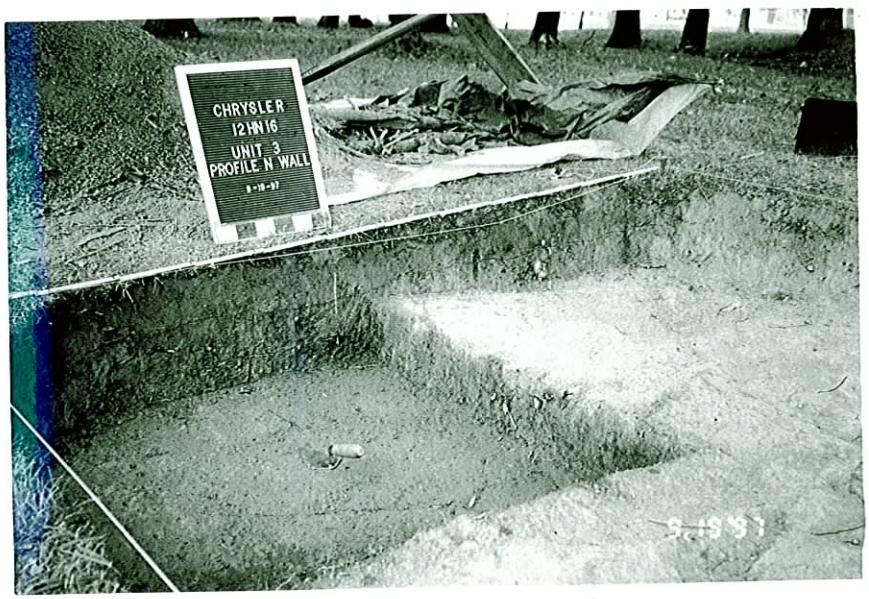
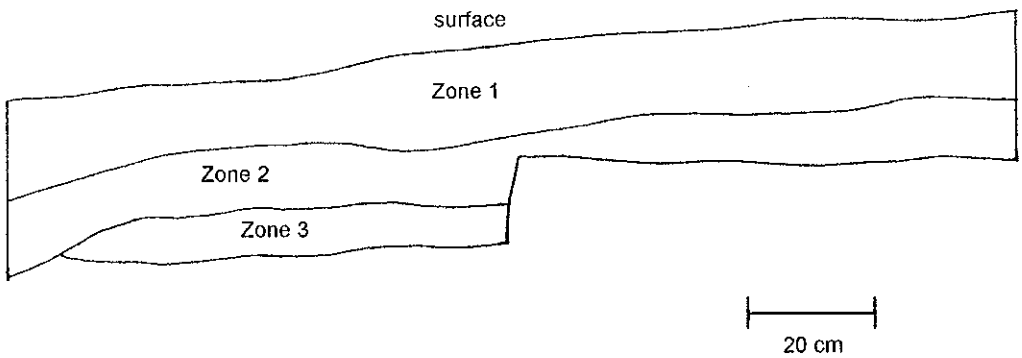


Figure 19. Unit 3.



Key:

Zone 1 - 10 YR3/2, silt loam, A-horizon development.

Zone 2 - 10 YR5/4 and 10 YR5/2, silt loam. Some mixed soil and weak structure.

Zone 3 - 10 YR4/4, loam. Compact, undisturbed soil.

Figure 20. Profile of Unit 3.

1. What function did this site serve?

The function of the "sacred circles" has been contemplated since they were first recorded in the literature. For Squier and Davis (1848) the lowland enclosures were religious centers that had been built by the mysterious Mound Builders. By the 1880's, Henry Morgan thought the enclosures were meeting places for distinct social groups of prehistoric Native Americans and that post patterns may have been constructed for stockades to obtain privacy (Webb and Snow 1945:32). Webb and Snow (1945:52 & 53) interpreted the circular post patterns as representing the remains of Adena houses.

There has been little headway made in determining the function of the small circular enclosures beyond the acceptance that they are ritual centers. Webb and Snow's (1945) hypothesis that the circular post patterns contained within many circular enclosures represent houses is no longer widely accepted as valid (eg. Seeman 1987). It is still thought that these small circles served non-secular purposes since there is no evidence for domestic activities.

Some of the small circles functioned as mortuary centers as evidenced by burial mounds found on the central platforms. However, not every circular enclosure contained a mound structure or evidence for a burial (Webb 1941:167). Clay (1987:54) suggested the possibility that the small circles were built as mortuary structures even if no inhumations took place. These structures served as part of the burial program where remains were exposed and dispersed and did not enter the archaeological record (Clay 1987:54).

> "But beyond this, they were also part, along with circular post-enclosures and submound 'houses,' of shifting use or ritual space not simply for mortuary purposes. Their architecture suggests that they were built to define space and regulate access to it over causeways .. and through permeable post-screens or entrances" (Clay 1987:55).

Clay (1986:594) has also suggested that the use of ritual centers may have changed through time, and "at some critical point, the relationship of the living community to the ritual center changed and the center became associated with mortuary events." Mortuary activities involving inhumations are discernable in the archaeological record. But, the other ritual activities that presumably took place at these structures are much harder to define.

The architecture of the structures themselves and their placement within the ceremonial landscape has provided indications of some of the activities. Submound structures, gateway orientations and earthwork locations have been documented to have astronomical alignments (Clay 1986, Cochran 1992, Cochran 1996, Waldron 1996). The central platform of the Chrysler enclosure was not tested during this project, so the presence or absence of a post structure cannot be ascertained. The gateway of the enclosure was oriented to sunrise at the winter solstice. The enclosure is also linked astronomically within the ceremonial landscape to 6 other earthworks (Table 3)(Figure21).

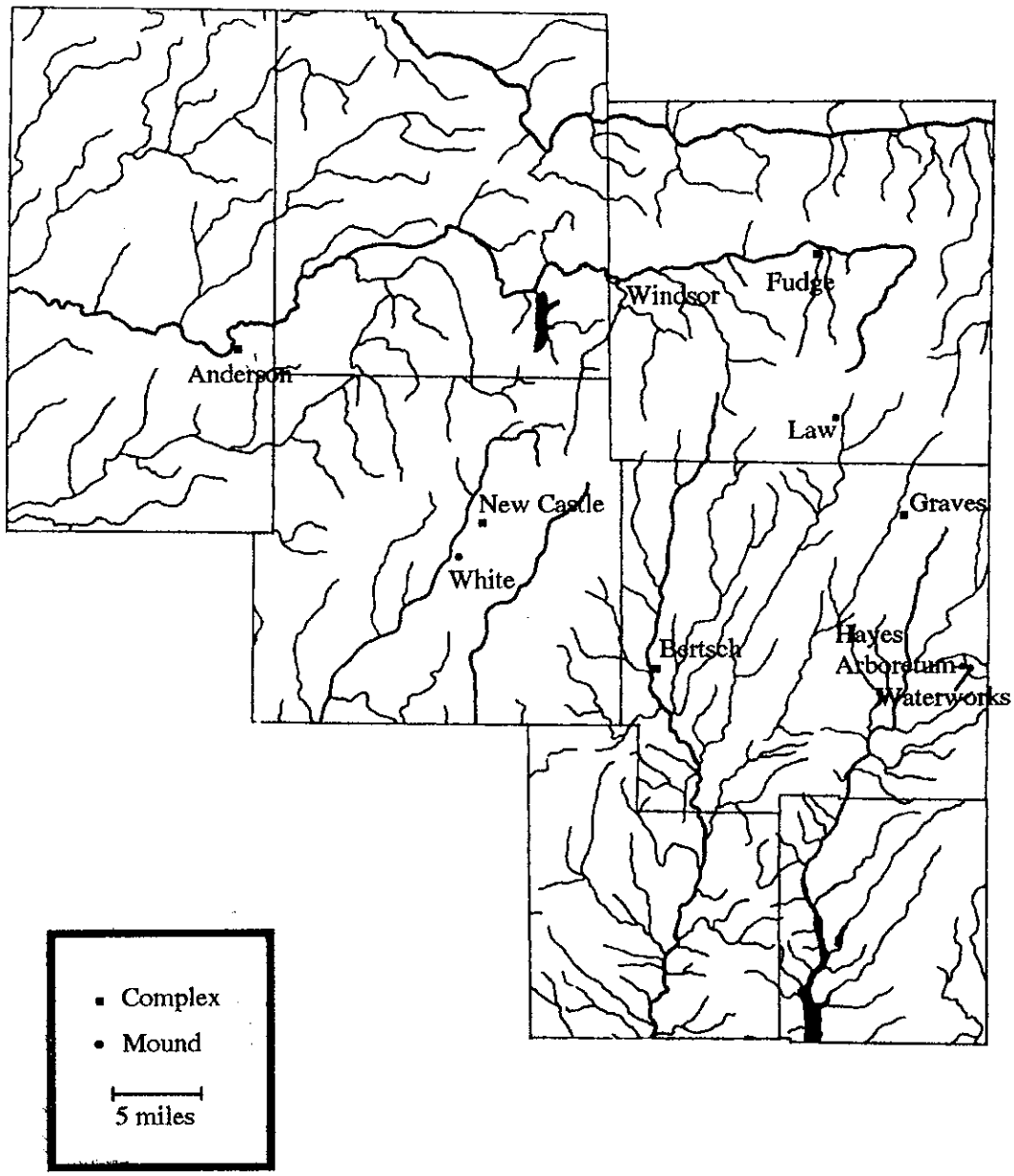


Figure 21. Map of some of the regional earthworks.

Table 3
Astronomical Alignments
(after Waldron 1996)

From Site	Degrees	To Site	Alignment	Alignment Degree
Chrysler	66.3	Law	Moon mim. north rise	65.36 - 66.4
Chrysler	316.15	Anderson	Castor set	316.34
Chrysler	144.15	Glidewell	Fomalhaut rise	144.27
Candal	317	Chrysler	Castor set	316.34
Johnson	245	Chrysler	Moon mim. south set	244.51 - 245.18
Smith	312.45	Chrysler	Arcturus set	312.8

It is unlikely that we will ever be able to reconstruct the ritual ceremonies or understand the religious practices carried out at the Chrysler enclosure from the material record. To state that the site was a ritual center seems too simplistic. It was apparently vital that this space be defined and kept separate from the prosaic events of daily life. But, surely the events carried out at the site also had an impact on the secular life of the patrons.

2. Is there evidence for mortuary activity?

The excavation did not encountered any human remains. However, the excavation of Unit 1 was terminated when the construction of the mound on the central platform was determined artificial. Since it was not the goal of this project to recover human remains, the methods employed made every attempt to avoid human remains. There was a high probability that the mound contained human remains. From all accounts, mounds were utilized as mortuary repositories. It was likely that the pattern of use at Chrysler followed the pattern described by Clay (1986, 1987): the enclosure was utilized for non-mortuary ceremonial activities or mortuary activities that left no remains and changed to a recognizable mortuary center with the addition of inhumations on the central platform that were capped with earth resulting in the construction of a mound. One or more interments were probably part of the mound construction.

3. What is the radiocarbon age of this enclosure?

The radiocarbon sample from Unit 2 at the bottom of the ditch was dated at 1790 +/- 40 BP (uncorrected AD 160 +/- 40) with a calibrated range of AD 220 to 265 and AD 290 to 320 (Beta-110202). As previously stated, the radiocarbon date was somewhat later than expected and while it may not document the construction of the enclosure it documented the use. To place the site within a regional setting, Table 4, shows radiocarbon dates for other ceremonial/mortuary site within the region.

Table 4 Radiocarbon Dates					
Site	Sample Location	Conventional Age	Calibrated Age* (intercept date)	Sample No.	Reference
Chrysler Enclosure	bottom of ditch	1790 +/- 40 BP (AD 160)	AD 220 to 265 (AD 245) AD 290 to 320	Beta-110202	
Anderson Complex	Great Mound post 3	2110 +/- 140 BP (60 BC)	365 to 265 BC 265 BC to AD 60 (114 BC)	M-2429	Vickery 1969
	Great Mound post 2	1720 +/- 130 BP (AD 230)	AD 146 to 446 (AD 341)	M-2428	Vickery 1969
	Great Mound embankment	2170 +/- 90 BP (160 BC)	369 to 58 BC (193 BC)	Beta-22129	Cochran 1988
	Fiddleback embankment	2090 +/- 90 BP (140 BC)	196 BC to AD 12 (90, 67 BC)	Beta-22130	Cochran 1988
	Fiddleback ditch	2070 +/- 150 BP (120 BC)	353 to 303 BC 208 BC to AD 84 (50 BC)	Beta-27169	Kolbe 1992b
	Fiddleback mound	2070 +/- 70 BP (120 BC)	174 BC to AD 12 (50 BC)	Beta-27170	Kolbe 1992b
	Great Mound post 2	2200 +/- 70 BP (250 BC)	373 to 164 BC (337, 324, 202 BC)	Beta-45955	McCord and Cochran 1996
	Great Mound log tomb	1910 +/- 80 BP (AD 40)	AD 19 to 223 (AD 88, 98, 115)	Beta-52612	McCord and Cochran 1996
	Circle Mound embankment	1955 +/- 75 BP (5 BC)	32 to 16 BC 9 BC to AD 130 (AD 69)	I-11, 848	Buehrig and Hicks 1982
	Circle Mound under s. mound	1880 +/- 60 BP (AD 70)	AD 75 to 231 (AD 130)	Beta-2416	Buehrig and Hicks 1982
	Circle Mound under s. mound	1870 +/- 60 BP (AD 80)	AD 134 to 261 (AD 235)	Beta-2417	Buehrig and Hicks 1982
	Circle Mound embankment	1560 +/- 80 BP (AD 390)	AD 419 to 606 (AD 538)	Beta-24115	Buehrig and Hicks 1982
Glidewell	near bottom	1960 +/- 110 BP (10 BC)	50 BC to AD 147 (AD 66) AD 170 to 194	Beta-50830	Kolbe 1992a

Table 4 (cont.)
Radiocarbon Dates

Site	Sample Location	Conventional Age	Calibrated Age* (intercept date)	Sample No.	Reference
New Castle	east side	1910 +/- 140 BP (AD 40)	41 BC to AD 253 (AD 88, 98, 115) AD 303 to 314	M-1851	Swartz 1976
	west side	1940 +/- 160 BP (AD 10)	102 BC to AD 249 (AD 76)	M-1852	Swartz 1976
	intrusive?	1720 +/- 300 BP (AD 230)	2 BC to AD 647 (AD 341)	M-2045	Swartz 1976
White	fire area	1910 +/- 140 BP (AD 40)	41 BC to AD 253 (AD 88, 98, 115) AD 303 to 314	M-2017	Swartz 1973
	fire area	1920 +/- 140 BP (AD 30)	45 BC to AD 249 (AD 84)	M-2018	Swartz 1973
	primary mound 2	1860 +/- 200 BP (AD 90)	45 BC to AD 412 (AD 141)	M-2015	Swartz 1973
	primary mound 1	1740 +/- 140 BP (AD 210)	AD 129 to 439 (AD 264, 281, 329)	M-2016	Swartz 1973
	log tomb 1	1400 +/- 130 BP (AD 550)	AD 547 to 728 (AD 654) AD 732 to 772	M-2021	Swartz 1973
	timber	1490 +/- 130 BP (AD 460)	AD 427 to 665 (AD 600)	M-2019	Swartz 1973
	timber	1550 +/- 150 BP (AD 400)	AD 381 to 654 (AD 541)	M-2020	Swartz 1973
Windsor	near bottom	2020 +/- 70 BP (70 BC)	91 to 85 BC 68 BC to AD 72 (2 BC)	Beta-25224	Cochran 1992

* Calibrated by CALIB v. 3.0.3, Stuvier and Pearson 1993

4. How does this site relate to the nearby New Castle enclosure complex and other complexes in the region?

Within earthwork complexes in the region; ie. combinations of enclosures and/or burial mounds (Cochran 1988:30), there are several surviving circular enclosures at Anderson, New Castle and Berstch (McCord and Cochran 1996). There are two very large rectangular enclosures

in the region, Fudge and Graves (Cochran 1988, McCord and Cochran 1996). Due to the large size and different architecture of these enclosures, they are not directly comparable. Only two of the small circular enclosures within these complexes have been tested, Earthwork 7 [Earthwork 6] at New Castle (Swartz 1976) and 12M2d at Anderson (Kolbe 1992). Excavations of Earthwork 7 [Earthwork 6] covered the southern half of the enclosure and recovered a Kanawha, a Matanzas, a Bifurcate, and a point fragment from the surface; 2 point fragments, a bipolar artifact, 2 anvils and 1 pottery sherd from excavations on the central platform; and 126 pottery sherds from the ditch (Swartz 1976, ARMS files). Testing of 12M2d at Anderson was on a smaller scale of a 1 x 5 meter trench placed across the ditch and embankment and recovered approximately 100 artifacts as well as fire-cracked rock and historic debris (Kolbe 1992). No features or radiocarbon dates were obtained from the excavations. The excavations at Chrysler resulted in the recovery of one lithic flake and 9 pieces of fire-cracked rock. Obviously artifacts were lacking from Chrysler. However, since the other two enclosures occur in complexes they are not felt to be directly comparable to isolated enclosures.

While the small circular enclosures, both isolated and within complexes, are structurally similar, they are also different. The different classes of earthworks were utilized in different ways by the people that constructed them (Clay 1987, Cochran 1996). Small circular enclosures within complexes may have served more regionally corporate functions than isolated ones. At least within east central Indiana, the small circular enclosures within complexes never contained mounds. (Although they are reported in the early literature, a mound has never been confirmed within a small enclosure in a complex). The enclosures that do contain mounds are larger, in excess of 250' in diameter.

There were 8 isolated enclosures documented in east central Indiana with 4 reported in the New Castle area (Cochran 1988). However, Chrysler is the only verified surviving isolated enclosure in the area. There is no excavation data on any of these isolated enclosures.

How Chrysler relates to the other complexes in the region is not well know. The people that built and used the Chrysler enclosure were certainly participating in the same ceremonial/mortuary complex that was responsible for the other Early and Middle Woodland earthworks in the region. Chrysler is related to several other earthworks in the region on astronomical alignments.

The site's use is late (cal AD 245 +/- 40) in relation to other dated mounds and enclosures in the region. This places the use of Chrysler in the same time frame as the White Mound (Swartz 1973), Mound 4 at the New Castle site (Swartz 1976) and Circle Mound at Anderson (see Table 4). Having only one radiocarbon date from one isolated enclosure limits what can be said with any certainty, but isolated enclosures were apparently constructed well after the complexes were began and near the end of this ceremonial/mortuary complex as currently known.

5. How does the Chrysler enclosure compare to other excavated enclosures in the Ohio Valley?

Webb (1941) provided the most comprehensive report of enclosures in the Ohio Valley. He listed 101 sacred enclosures of which 76 were circular with an average diameter of 212'. Twenty-one of the 101 enclosures had interior mounds. Of the 101 enclosures, 35 were seemingly associated with larger earthworks (Webb 1941). However, Webb did not include multiple enclosures together (complexes) as being associated. In reviewing Webb's tabulation, there were only six enclosures (an oval, 4 circles and a rectangle) that were isolated or not associated with other earthworks. Three of the circles were in the vicinity of New Castle and included the Chrysler enclosure. No excavation information was available for any of the isolated enclosures.

Clay (1987) discusses only 7 sites in the Ohio Valley where enclosures have been excavated and reported: Mt. Horeb (15Fa1)(Webb 1941), Biggs (15Gp8)(Hardesty 1964), Dominion Land Co. (33Fr12)(Otto 1979), New Castle (12Hn1) (Vickery 1979), Anderson (12M2)(Vickery 1979), Grave Creek (15Mr1)(Hemmings 1984) and Peter Village (15Fa166). However, none of these sites strictly qualifies as an isolated enclosure comparable to Chrysler. The Mt. Horeb site is a large circular enclosure (300' diameter) that had no interior mound but produced the famous pair post circle on the central platform (Webb 1941). The Peter Village site is an elliptical earthwork with an exterior ditch and interior bank enclosing an area of about 25 acres (Webb 1941, Clay 1987). Mt. Horeb and Peter Village are 2 earthworks within a complex that also consists of another smaller circular earthwork (125' diameter) and a conical mound (Webb 1941). The Biggs site is described as "a burial mound enclosed by a circular ditched earthwork" and is part of the Portsmouth Group of earthworks that includes several enclosures, embankment lines and mounds (Railey 1996:106-108). The Dominion Land Co. site is a large circular enclosure (400' diameter) that has two distinct mounds located on the central platform (Otto 1979). The New Castle and Anderson sites are both complexes containing numerous enclosures and mounds (Cochran 1988). The Grave Creek mound is the largest conical mound in the New World and was encircled by a ditch but no embankment. The dirt from the ditch was utilized in the mound construction. The Grave Creek mound is also part of a complex of nearby earthworks consisting of mounds and enclosures (Hemmings 1984).

The Chrysler enclosure is apparently the only small isolated circular enclosure that has been excavated and reported in the Ohio Valley. While other earthworks similar to the small circles have been documented, it cannot be presumed that information from these structures can be compared to small isolated circles like Chrysler. There is a difference even if we cannot fully understand the meaning.

Aside from the differences, there was very little data for comparing Chrysler to other Ohio River Valley enclosures. As Clay (1987) has stated, only the excavation of Mt. Horeb has been adequately documented. Clay's (1985) excavations at Peter Village were limited. The limited nature of the testing at Chrysler did not provide extensive information for comparing.

The age of circular enclosures remains speculative. Webb and Snow (1945:33) believed

that every sacred circle was Adena in origin. While some sources indicate the enclosures are Late Adena (Dragoo 1963), other researchers have found evidence for them to be Early Adena (Otto 1979:11). The radiocarbon age of circular enclosures is ill-defined due to the lack of investigation. The results of this testing place the use of Chrysler as "Late Adena."

6. Does the site meet the requirements for State and National Register eligibility?

The Chrysler enclosure is the only known surviving isolated circular enclosure in Indiana. As far as can be determined, Chrysler is the only small isolated circular enclosure that has been excavated and reported in the Ohio River Valley. Small isolated enclosures, like Chrysler, are actually rare in this region. Only six small enclosures of a survey of 101 enclosures in the Ohio River Valley have been documented as not associated with other earthworks, i.e. isolated (Webb 1941). More enclosures and isolated enclosures probably once existed.

There were 8 isolated enclosures documented in the early literature in east central Indiana with 4 being reported in the New Castle area (Cochran 1988). However, Chrysler is the only verified surviving isolated enclosure in the area. Chrysler has also retained surprising integrity. Only the western portion of the embankment has been severely damaged. A recent survey of a 25% sample of all reported mounds and earthworks in east central Indiana found that 71% had been destroyed (McCord and Cochran 1996:124). Of the existing 29%, the preservation ranged from almost obliterated to well preserved; all of the sites had suffered from pothunting (McCord and Cochran 1996:124). That Chrysler survived in a well preserved state can be attributed to the lack of plowing, its hardly discernable mound and its location in a city park.

Since there is no prior excavation data on small isolated circular enclosures, information obtained from the site is vital to understanding the ceremonial landscape constructed by the Early/Middle Woodland ceremonial/mortuary complex commonly referred to as Adena/Hopewell. If the radiocarbon date obtained by this testing (cal AD 220 to 265) is accurate, then the Chrysler enclosure was being utilized late within the Adena/Hopewell complex. The future research potential for this site is enormous.

The Chrysler enclosure has been nominated for listing on the State and National Register of Historic Places.

Summary

The Chrysler enclosure is a significant isolated small circular enclosure constructed by the Early/Middle Woodland ceremonial/mortuary complex recognized as Adena/Hopewell. The site was a well preserved circular enclosure of approximately 42.5 m (140') in diameter with a gateway oriented to the southeast. Portions of a possible artificial mound, ditch, embankment and gateway were tested during this project. The ditch was 60 cm deeper than the current ground surface. A small artificially constructed mound was also documented on the southwest side of the central platform. One lithic flake and 9 fire-cracked rocks were recovered during the excavation of 12 square meters. A radiocarbon date of cal AD 220 to 265 was obtained from a charcoal

sample recovered at the bottom of the ditch.

The Chrysler enclosure is the only known surviving small circular isolated enclosure known within Indiana. No other excavations of small isolated circular enclosures in the Ohio Valley could be found in the literature. While the site is certainly not as exceptional in size or structural intricacy as the earthwork complexes, it is integral in understanding the ceremonial landscape of the regional Adena/Hopewell complex.

NEW CASTLE SITE

Setting

The New Castle site (12Hn1) is in Henry Township [redacted] (Figure 22). The site is located between 1050' and 1070' AMSL in the upland till plain overlooking the Big Blue River sluiceway to the west. The complex is between two drainages with the Little Blue River approximately 500' of the northern earthworks and an intermittent drainage approximately 300' south of the southern enclosures. The site is on the nearly level, well drained Eldean silt loam, 0 to 2% slopes (EdA); the gently sloping, well drained Eldean silt loam, 2 to 6% slopes, eroded (EdB2); and the strongly sloping, deep, well drained Losantville silt loam, 12 to 18% slopes, eroded (LeD2)(Hillis and Neeley 1987:17 & 24, map sheet 28).

Background

The New Castle site was reported in various historical accounts as the most impressive prehistoric earthwork site in the county (Pleas 1871:135- 136, Gorby 1886:115-116, Redding 1892:99-103, Thomas 1891:75, Shetrone 1930:249, Lilly 1937:68-71). Of these early sources, Redding (1892) was the most detailed providing descriptions for individual earthworks and their spatial relationship to each other. While Redding's (1892) descriptions were important, no drawing of the site was made and his descriptions were not ordinal. The first and only map of the site was pictured in Lilly (1937) (Figure 23) and reproduced in Swartz (1976)(Figure 24). Unfortunately, this map was made after the construction of Colony No. 3 in the Indiana Village for Epileptics. The construction of Colony No. 3 severely damaged or destroyed some of the earthworks (Swartz 1976).

In 1907 Colony No. 1 of the Indiana Village for Epileptics opened. As the facility expanded, 2 more colonies were constructed. In 1913, Colony No. 3, consisting of 2 cottages for boys, was built at the location of the earthwork complex. The facility continued to grow and became a self-sufficient community. In 1956, the facility was renamed the New Castle State Hospital to incorporate mentally retarded patients. With growing medical advancements, the epileptic patient enrollment declined. In 1972 much of the land was transferred to the Department of Natural Resources for the development of the Wilbur Wright State Recreation Area. By 1985, the active facility only included Colony No. 1 and was renamed the New Castle State Development Center (Radford 1992, Flynn 1974).

Redding (1892) notes that early cultivation had damaged Earthworks 3, 4, 5, 10 and 11. These same earthworks were further damaged by the construction of the colony buildings and roads (Lilly 1937, Vickery 1976). Since the buildings at Colony 3 were no longer utilized by the State Hospital, they were demolished in the mid 1980's.

Site Locations Confidential
Not for Public Disclosure

Figure 22. Location of the New Castle site (12Hn1) as shown on a portion of the USGS 7.5' New Castle East, Indiana Quadrangle.

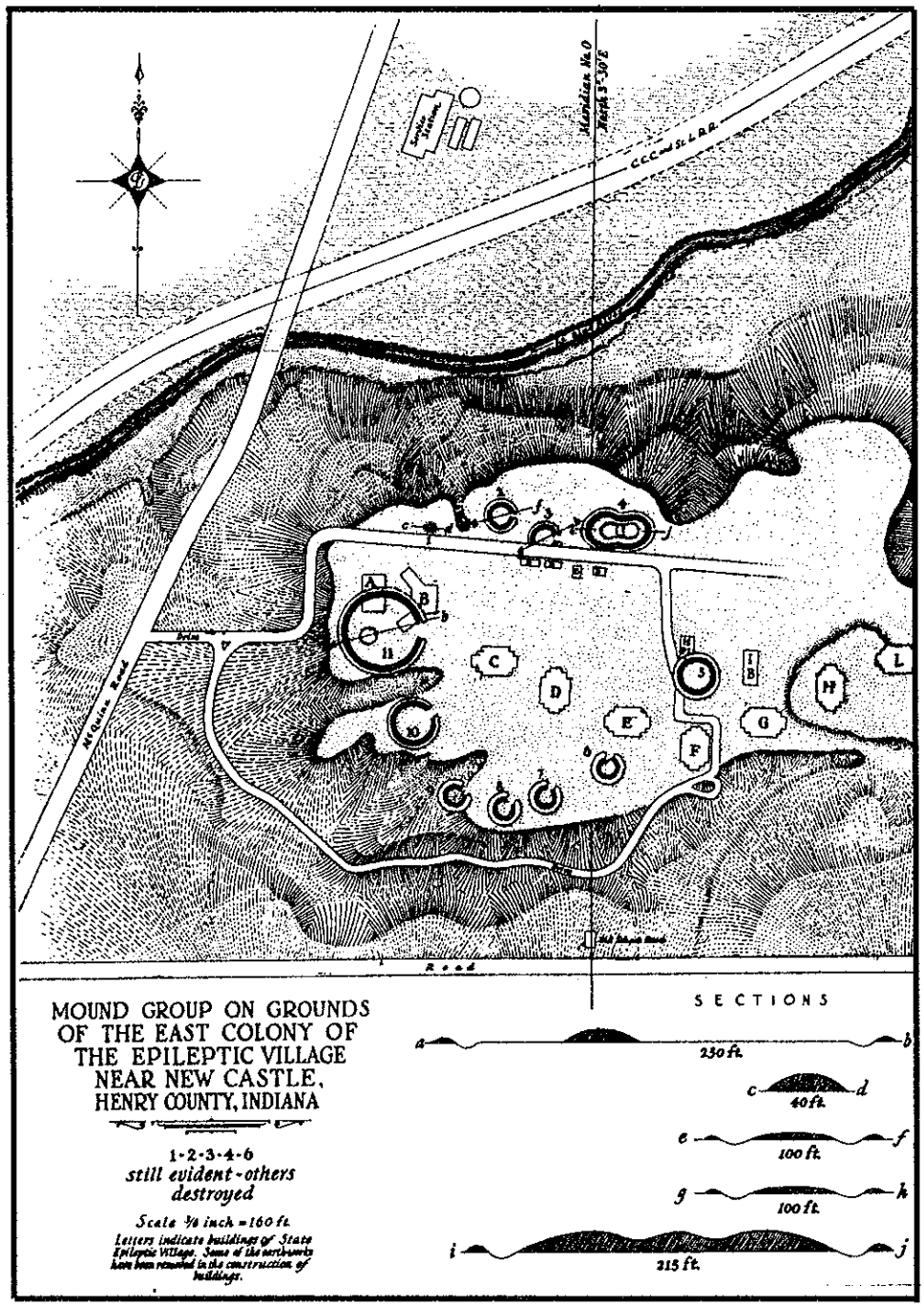


Figure 23. Lilly's (1937) map of the New Castle site.

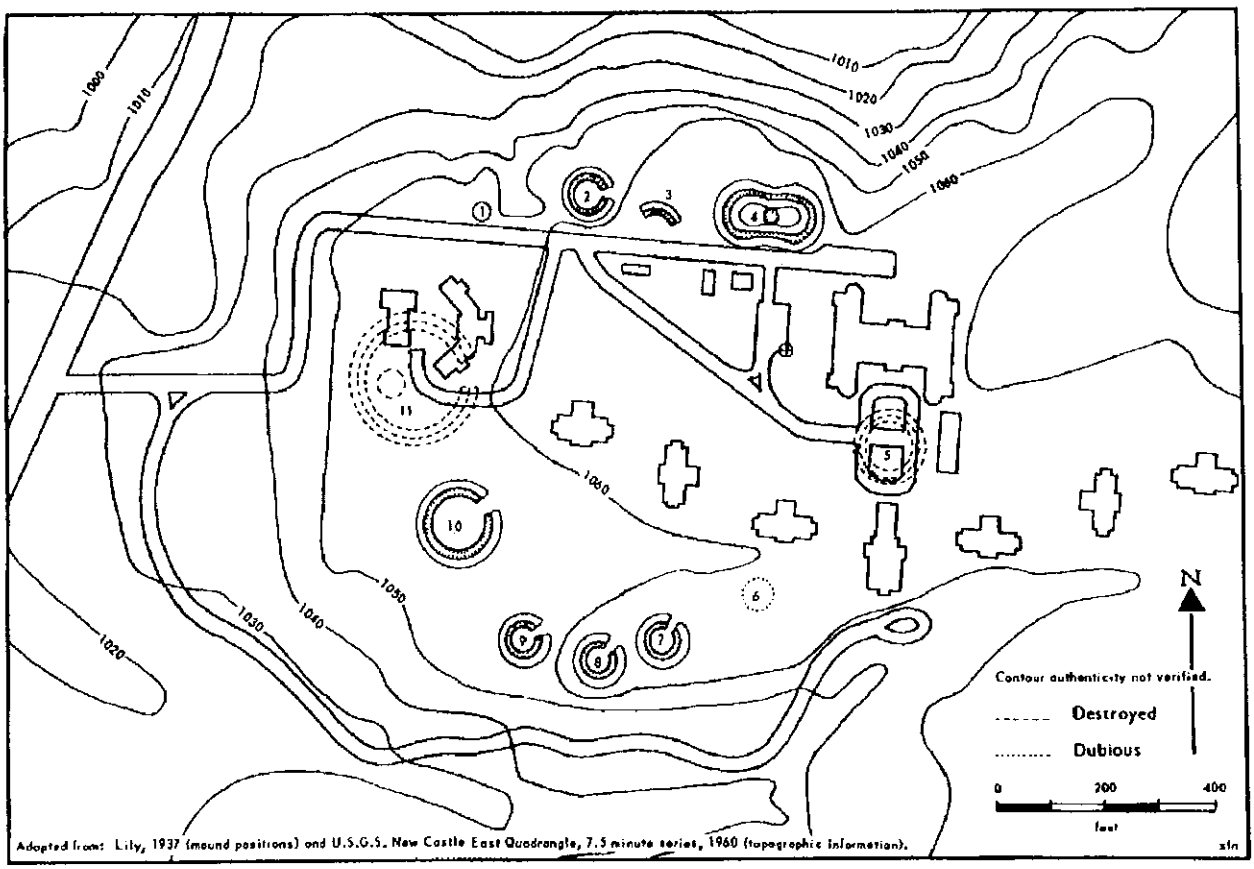


Figure 24. Swartz's (1976) map of the New Castle site.

Site Description

A summary of the enclosures recorded at the New Castle site is provided below. Since Redding's (1892) information pertaining to the site is important, his descriptions are reproduced in Appendix C. The following summary is based on information provided by Redding (1892), Lilly (1937) and Vickery (1976). The numbering system follows that established by Lilly (1937) and varies slightly from Vickery (1976)(Figure 23).

Mound 1 was described as 40' in diameter and about 6' high (Figure 25). The southern edge was in a cultivated field in the 1890s. Redding (1892) mentions an excavation of the mound. A portion of the mound was excavated in 1965 by a Ball State University field school (Swartz 1976).

Earthwork 2 was a circular enclosure approximately 100' in diameter with a gateway opening to the east. It was in woods in the 1890s. A small mound was reported on the south side of the central platform by Redding (1892) but he questioned it origin as artificial.

Earthwork 3 was a circular enclosure approximately 150' in diameter. It was partly in woods, but the southern part was almost obliterated by cultivation in the 1890s. The southern side was further damaged by road grading for the Epileptic Colony. Lilly (1937) drew the gateway oriented to the east, but Redding (1892) never mentioned a gateway. Redding (1892) also mentioned the possibility of a mound within the enclosure, but if it existed it was nearly levelled in the 1890s.

Mound 4 was an elliptical/panduriform large mound and enclosure (Figure 26). The enclosure was 215' long (east-west) and between 122' and 150' wide (north-south). The ditch was 3' to 6' deep and the embankment was about 6' high. The mound was reported to be 2 mounds conjoined with the west being higher. The length of the mound was 160' (east-west) and 80' to 100' wide (north-south). The mound averaged about 10' in height. The majority of the earthwork was in woods, but the embankment was in a cultivated field in the 1890s. The southern edge was further damaged by road grading for the Epileptic Colony. No gateway was reported for this earthwork. Vickery (1979:59 & 62) reported that the entranceway of eight of the circular enclosures were oriented toward the panduriform which suggested it was the focal point of religious and/or civil ceremonial activity. Ball State University field schools excavated the majority of the mound between 1965 and 1972 (Swartz 1976).

Earthwork 5 was a circular enclosure reported as 160' in diameter. It was in a cultivated field and badly eroded in the 1890s. Redding (1982) was unsure if it was an artificial enclosure. Lilly (1937) reported the enclosure as destroyed by hospital construction.

Earthwork 6 was a circular enclosure 100' in diameter with a shallow ditch. The embankment adjoins the embankment of Earthwork 7 to the west. Redding stated the opening was not clear but seemed to be to the east. Lilly (1937) and Vickery (1976) report a small mound on the central platform and an entranceway east of north.

Figure 25. Mound 1 circa 1938.

Figure 26. Mound 4 circa 1938.

Earthwork 7 was reported as a circular enclosure 120' in diameter. A mound 3' to 5' high was reported on the central platform by Redding (1892), but Vickery (1976) reports it was not apparent in 1970. Lilly (1937) reported the enclosure was destroyed. Ball State University field schools reportedly excavated the southern half of this enclosure in 1970 and 1971 (Swartz 1976).

Earthwork 8 was a circular enclosure 90' in diameter with a gateway to the northeast. There was also a reported mound in the center of the enclosure. Lilly (1937) reported the enclosure was destroyed.

Earthwork 9 was a circular enclosure 150' in diameter with an entranceway to the northeast. Lilly (1937) reported the enclosure was destroyed.

Earthwork 10 was a circular enclosure 150' in diameter with a gateway to the east. The earthwork was in cultivation in the 1890s. Lilly (1937) reported the enclosure was destroyed.

Earthwork 11 was the largest circular enclosure in the complex. It was 250' in diameter with a ditch 3' to 5' deep. A mound 40' in diameter and 2' high was located on the western portion of the central platform. The gateway faced east. The earthwork was in cultivation in the 1890s. Lilly (1937) and Vickery (1937) reported the earthwork destroyed by the Epileptic Colony construction.

Earthwork 12 was located to the northeast of the other enclosures. Vickery (1976) designated it as Earthwork 1, but it has been renamed to avoid confusion with Mound 1. This earthwork was reported as a mound 100' in diameter and 6' high surrounded by a ditch and bank. The earthwork had been recently cleared of timber in the 1890s. The earthwork was not pictured on Lilly's (1937) map.

An earthen wall (Earthwork 13) was located east of Earthwork 12 across a ravine. It was reported as a linear embankment 200' long and 6' high along the side of a hill. This earthwork was not included on Lilly's (1937) map.

Another possible mound was reported only by Redding (1892). He reported there was a slight indication of a mound not within an enclosure near Earthwork 10. The area was in cultivation and he could not confidently call it a mound.

Excavations

Redding (1892) documents some early excavations at these earthworks. He provides an account of his excavations of Mound 4 (Redding 1892). Hellar (1974:10) reports seeing artifacts taken from the site by a construction crew when the colony was being built and that they were in the possession of Dr. Walter Van Nuys, the superintendent of the Epileptic Village. Mr. Frank Setzler was invited to see what Dr. Van Nuys "has obtained from the excavation made on the ground [New Castle site]" (Smith 1929). The most extensive excavations at the site were those

conducted by Ball State University field schools during the summers of 1965 to 1972 (Swartz 1976). A summary of the documented excavations is provided below.

Redding (1892) reported that Mound 1 had been dug into, but nothing of importance was found. Since one of the excavators reported by Redding (1892), Mr. Reynolds, was suppose to be a member of the Smithsonian Institute, the National Museum of Natural History (NMNH) of the Smithsonian Institute was queried concerning any collections from the site. The NMNH did not have any collections from the site. Mr. Allen Reynolds of Connersville was not on the staff of the Smithsonian but corresponded with the curators and donated some artifacts (Krakker 1995). The NMHH did have a letter from E. Pleas in 1889 where he describes the New Castle site:

> "Near the centre [sic] of this county is one of the most remarkable collection of mounds and earthworks, some 14 within a space of 10 or 15 acres. These are being rapidly demolished by cultivation. . . . The remarkable fact connected with these works were that when the white man arrived about 1819 or 1820 the Indians were using them and had timbers (palisades) on some of the ditch banks to keep their horses within. At some time I aim to have these works surveyed and have [an] accurate map of them preserved" (NMNH Acc. 21440).

The 1965 BSU field school excavated 3 - 5' square units in the western portion of Mound 1. The excavation revealed the mound had been built on a natural knoll with a primary mound of banded soil and a second capping of soil containing burned bone, charcoal, red ocher, ash and lithic debris. A sheet of untrimmed mica was found surrounded by fragmented human cranial and long bones (Swartz 1976:22-23).

Redding (1892) noted 4 or 5 previous excavations in Mound 4. Redding's (1892) excavations of Mound 4 consisted of one trench in the west mound and one from the center to the east mound. He described areas of burned clay, ashes, burned bone and charcoal (Redding 1892). The majority (85 to 90%) of the mound was excavated by BSU field schools between 1965 and 1972. They documented that each lobe of the mound had a primary mound core and a complex stratigraphy of features (Swartz 1976). The excavations recovered 16 individuals (3 were intrusive), 617 chipped stone artifacts, 9 ground stone artifacts, 2 untrimmed sheets of mica, several thousand ceramic sherds which included 1 complete plain vessel and 1 portion of a Hopewell Zoned Rocker Dentate Stamped vessel, 1 clay platform pipe, 27 split turkey bone pins, 1 bone awl, 2 drilled lynx mandibles, 2 cut long bones, 1 antler rod, 2 bird claws, 5 conch containers, 31 circular shell beads, 462 drilled pearl beads, 4 copper covered bear canine effigies, 1 dog burial (intrusive) and unmodified animal bone (Swartz 1976). Fragments of a copper panpipe were also recovered (Cree 1992). Uncorrected radiocarbon dates from Mound 4 include AD 10 +/- 160, AD 40 +/- 140 and AD 230 +/- 300 (Swartz 1976).

During the 1970 and 1971 BSU field schools, the southern half of the enclosure reported to be Earthwork 7 was excavated. The excavations recovered a Kanawha, a Matanzas, a Bifurcate, and a point fragment from the surface; 2 point fragments, a bipolar artifact, 2 anvils and

1 pottery sherd from excavations on the central platform; and 126 pottery sherds from the ditch (Swartz 1976, ARMS files).

The site was interpreted as a "Hopewell Ceremonial Complex" (Swartz 1976). However, the site has more recently been interpreted as part of the Early and Middle Woodland mortuary complex that documents continuity between cultures recognized as Adena and Hopewell (Cochran 1996). Because of the BSU excavations, the site was nominated and listed on the National Register of Historic Places on April 16, 1976 (Swartz 1976).

Goals

Although the New Castle site had already been placed on the National Register for Historic Places, the site was still inadequately and perhaps inaccurately documented. Although the BSU excavations spanned several seasons, the site map of the complex was never verified (Lilly 1937)(Figure 24) . Since other earthwork complex site maps were found to be inaccurate (Cochran 1996, McCord and Cochran 1996), the New Castle map was questioned. Verification of the site map, therefore, became one of the goals of this project. The goal in assessing the New Castle site was to generate a new site map reflecting the current condition of the earthworks. Research questions involved in this assessment were:

1. Are Redding's (1892) description and Lilly's (1937) map of the site accurate?

2. What earthworks are currently visible by visual survey?

3. What is the integrity of the existing structures?

4. What is the potential for intact remnants where structures are not visible?

5. Are there intersite astronomical alignments?

6. What is the future research value of the site?

Survey

Since the demolition of the hospital buildings, the site area has been allowed to return to nature. When the complex was first visited during this grant by ARMS personnel in January of 1998, Mound 1 and Earthworks 2 and 3 were hardly distinguishable in the tangle of secondary growth. Wilbur Wright Fish and Wildlife was contacted and permission was obtained to clear these earthworks to allow for mapping. On March 14th, 1998, members of the Upper White River Archaeological Society and employees of ARMS cleared this area of small trees, mulitflora roses and tall grass. Mound 4 was also partially covered in secondary growth but due to its size, it was discernable and, therefore, not cleared. All other earthworks found by this survey were in second growth woods and were not cleared.

On March 9th, 1998, the site area was walked initially at random intervals to note the location of the visible earthworks and foundations from the previous State Hospital buildings. The accuracy of Redding's (1892) physical description of the site was then checked using a tape. An instrument survey began on March 16th to record the location of the earthworks in relation to each other. Several points documenting the outside edge, top of the embankment, bottom of the ditch and edge of the central platform were taken at each enclosure. Several points on the slope of Mound 1 and 4 were taken. The size of the site and the vegetation required the resetting of the theodolite in several locations. The earthwork locations were recorded in reference to several points along an old hospital road and building foundation. Photographs were taken of each earthwork that was relocated.

Data from the survey were then imported into SURFER and a plot map of data points was produced. There were not sufficient data points to provide an accurate contour map of the site area, since the survey concentrated on the enclosures. Guided by the plot map the enclosures were then hand drawn to produce a plan map of the site. The outline of the hospital buildings and roads were drawn from a 1978 Soil Conservation Service aerial photograph.

Results

Mapping at the New Castle site provided some new and unique insights about the complex. The survey located and mapped Mound 1 and 4 and Earthworks 2, 3, 5, 6, 7, 8, 9 12 and 13 (Figure 27). The survey results were then compared to previous descriptions and maps of the site.

The earthworks were found in varying states of preservation but generally match the descriptions given in the Background section:

Mound 1 is well preserved. The location of previous excavations are apparent.

Earthwork 2 is well preserved. Interestingly, the ditch on either side of the gateway is uncharacteristically deep giving the appearance of 2 pits within the ditch.

Only the northern third to one-half of Earthwork 3 is apparent from the surface.

The mound of Mound 4 looks very little like pre-excavation photographs. The mound was not well recontoured after excavation. Areas of previous excavation are apparent. The enclosure is fairly well preserved but it is not apparent on the southern side due to cultivation and road construction. The northern edge of the bank in the northwest portion of the enclosure is damaged by a large borrow pit not previously mentioned in the literature. Fill in the northeast corner of the bank is apparent since the bank is very wide and irregular in this area.

Earthwork 6 is severely damaged with only approximately one-quarter of the enclosure intact. Based on photographic evidence, field notes and excavation descriptions, Earthwork 6 not Earthwork 7 was actually excavated by BSU field schools. During this survey, the fence post

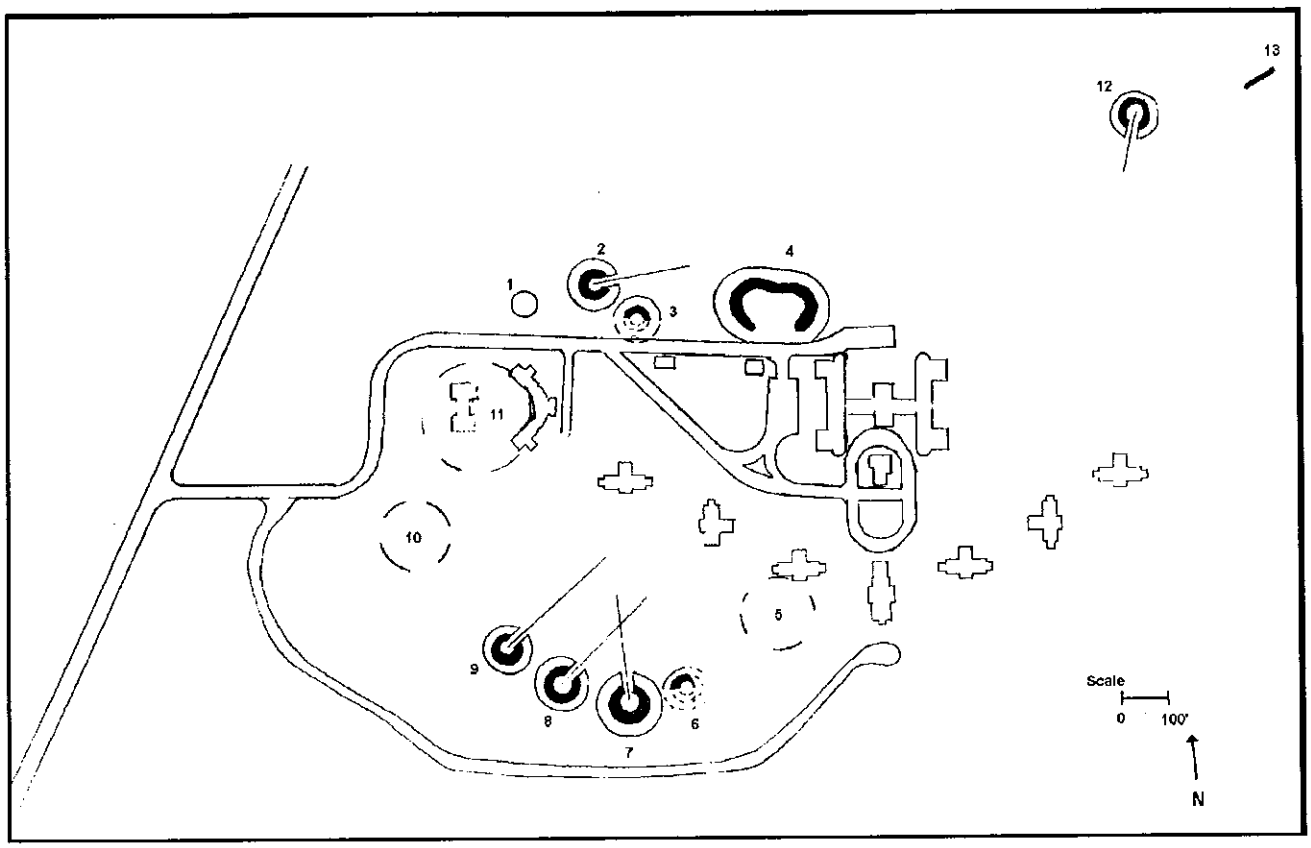


Figure 27. New site map for New Castle.

used as a datum for the excavations was found as described by Olson (1971) and Heathcoate (1972), but south of Earthwork 6, not Earthwork 7. This confusion would explain why no apparent mound was found in 1970 in this enclosure as described by Vickery (1976). Unfortunately, the heavy machinery utilized for backfilling severely damaged the enclosure (1971 field notes, on file at ARMS). The bank and ditch for the southern half of the enclosure are not identifiable although the excavation trenches are.

Earthwork 7 is largest of the southern enclosures. It is built on a natural elevation, described by Redding (1892) as a mound. Several potholes on the central platform attest to the belief that this is a mound, but it actually appears to be part of the natural topography.

Earthworks 8 and 9 are found to be as described by Redding (1892). Earthwork 9 has a recent, within the last 2 years, pothole on the central platform. Earthwork 9 is covered in fallen timber which may account for the misconception of the BSU field schools confusing Earthwork 6 for Earthwork 7. Guided by Lilly's (1937) map only three enclosures are located in this area. Earthwork 6 is located too far east. If Earthwork 9 was hidden by trees, then Earthwork 7 could be mistaken for Earthwork 6.

Earthworks 12 and 13 are described by Redding, but not included on Lilly's (1937) map or Swartz's (1976) revised map even though they were relocated by BSU field schools and included on sketch maps (1966 and 1967 field notes, on file at ARMS). Earthwork 12 appears to be the mound Harlos (1967:37) reports as 12Hn3. Since this mound is clearly associated with the New Castle site, it is part of 12Hn1. The mound described at Earthwork 12 by Redding (1892) appears to be a natural knoll the enclosure is built around. Earthwork 13, the linear embankment, is very unusual. No similar structure is been documented in the east central Indiana earthwork complexes.

Earthworks 5, 10 and 11 were not positively relocated by this survey. Redding noted that they were all damaged by cultivation in the 1890s. The possible mound recorded near Earthwork 10 was not relocated. The location of the mound was not adequately described.

While Redding's (1892) descriptions were generalized, they were the most accurate of any regarding this complex. Redding's (1892) descriptions were actually utilized in finding the current locations of some of the earthworks and clarifying later descriptions and maps. Lilly (1937) also provided some descriptions of individual earthworks, but they were not found to be accurate. Lilly (1937) erroneously reported Earthworks 7, 8 and 9 as destroyed. The gateway orientations provided by Lilly were close to those recorded by this survey, except for Earthwork 7.

Since Redding's descriptions were found to be very accurate in describing the locations and physical characteristics of the existing earthworks, there is no reason to doubt his descriptions of Earthworks 5, 10 and 11. Therefore, his distances and general directions were used to place the approximate locations of these enclosures on the new map (Figure 27). In comparing the new map to Lilly's (1937) map of the site (Figure 23), several discrepancies were noted. The most

obvious change is the location of Earthwork 5. Interestingly, on the 1938 aerials of Henry County at the Indiana State Archives an enclosure is apparent in the location of Earthwork 5 as described by Redding. On Lilly's map the location of Earthwork 6 fits the actual location of Earthwork 5. Therefore, Earthwork 5 may have been missed by the Epileptic Colony construction. The location of Earthwork 10 is in an area that has been graded of at least 1' of earth. According to Redding (1892), Earthwork 11 is farther north then Lilly's location (1937). During the survey, the southern portion of the ditch of Earthwork 11 may have been observed in Redding's location.

Research Questions

1. Are Redding's (1892) description and Lilly's (1937) map of the site accurate?

The survey found Redding's (1892) description of the site to be very accurate. Unfortunately, Redding did not provide ordinal directions or a map with his narrative. He mentioned a map, but it apparently did not make it into the publication. His descriptions were very significant in finding the earthworks and producing a complete site map.

Lilly's (1937) map provides a general view of the spatial relationship of the earthworks, but is otherwise not very accurate. Since Lilly only reported Mound 1 and Earthworks 2, 3, 4 and 6 as still evident, he must have used other information, possibly Redding's descriptions, to produce the remainder of the map.

2 and 3. What earthworks are currently visible by visual survey? What is the integrity of the existing structures?

Remants of all of the earthworks except 5 and 10 were observed by this survey. Earthworks that still appear well preserved were Earthworks 2, 7, 8, 9, 12 and 13. Previous excavations were noted in Earthworks 7 and 9. Mound 1 and the enclosure of Mound 4 are moderately well preserved. Mound 1 has been almost half excavated. The enclosure of Mound 4 has suffered from cultivation, road construction, a borrow pit and fill. At least one-half of Earthwork 3 has been disturbed from cultivation and road construction. The mound of Mound 4 was almost entirely excavated and was not recontoured. Earthwork 6 is approximately three-quarters destroyed by excavation and machine disturbance. A small section of the ditch on the southern side of Earthwork 11 was possibly identified.

4. What is the potential for intact remnants where structures are not visible?

There is a potential to find the other earthworks not seen by the surface survey. Since Earthwork 5 was apparently only cultivated, the bottom of the ditch may still be intact. Earthwork 10 was cultivated and its location has also been graded. Depending on the original depth of the ditch, the bottom may be intact. Redding (1892) notes the ditch as 2 to 3' deep. Earthwork 11 was cultivated and had building constructed on portions of it. However, the

ditches were reported to be 3' to 5' deep. There is a good potential that at least sections of the ditch are undisturbed. The southern portion of Earthwork 3's ditch and the ditch of Mound 4 may also be undamaged below the plowzone. It is doubtful that any intact remains could be recovered from the disturbed portions of Earthwork 6 since it was excavated and disturbed by an earthmover.

5. Are there intersite astronomical alignments?

The new map produced a new arrangement of the earthworks at the New Castle site. The earthworks are not truly arranged in a circular pattern as suggested previously (Vickery 1979:59). The surviving gateways do not intersect to a focal point either. Vickery (1979:59 & 62) believed all of the gateways except for Earthwork 12 were oriented to Mound 4. In actuality, none of the surviving gateways point to Mound 4. None of the gateways orient to Earthwork 11 either, the largest earthwork in the complex. The gateway orientations of these enclosures were, therefore, not built to collectively point at some recognizable point or structure. Some of the gateways do intersect other earthworks; the gateways of Earthworks 8 and 9 point to the northern edge of Earthwork 12, and the gateway of Earthwork 7 points to Mound 1. The documentation of astronomical alignments along gateway orientations for enclosures within complexes have not proved successful (cf. Cochran 1992, Cochran 1996). At New Castle, of the five surviving gateways only one aligns to an astronomical event. The gateway of Earthwork 8 orients to Arcturus rise (48 degrees). Recognizable astronomical events, therefore, had little effect on the orientation of the gateways. However, astronomical events may have had an effect on the arrangement of the earthwork themselves.

Astronomical events have been documented at the Anderson Mounds complex (Cochran 1992). A similar intersite patterning was documented at New Castle. Astronomical events documented by Aveni (1972) dating to 0 BC were utilized in the construction of Appendix D. In total, 45 alignments were recognized and documented between the surviving enclosures. The events documented represent alignments from the center of one structure to the center of another. While numerous other alignments hit the edges of the structures, they were not included in this tabulation. It is likely that alignments which bracket the enclosures were also employed.

Not every alignment listed in Appendix D was probably planned by the builders of the earthworks. Some probably align by chance, especially those where there is close proximity, like Earthworks 2 and 3. On the other hand, we may not be able to identify every celestial object that was being observed.

In documenting the astronomical alignments, it was recognized that the relationship of Earthwork 2 and 3 is the same as Earthwork 8 and 9 even though the structures are different in size.

6. What is the future research value of the site?

Of the large earthwork complexes only Anderson Mounds has had a good deal of archaeological investigation (Cox 1879; White 1969; Vickery 1970, 1979; Kellar 1969; Buehrig and Hicks 1982; Cochran 1988, 1992; Kolbe 1992b). This investigation has lead to the testing of 6 of the 8 earthwork structures at the site. It is from the Anderson Mounds data that most of the Adena and Hopewell chronology for this region has been drawn (Cochran 1992, 1996; McCord and Cochran 1996). The current model of Adena and Hopewell for this region needs additional data for further refinement (eg. McCord and Cochran 1996).

The New Castle site is the only other earthwork complex that retains major portions of its structures intact. While the New Castle site is listed on the National Register, the site is still inadequately documented. Portions of the New Castle site have been excavated, but the excavation utilized methods now 20 years old and the research objectives differed. There is a need for more and current information from the New Castle site.

Of the 13 structures recorded at the site, only 3 have been tested. Portions of at least 7 more structures exist and should be examined. An attempt to locate the ditches of Earthworks 5, 10 and 11 should be implemented. The only radiocarbon dating for the site is from Mound 4. Mound 1 was not temporally placed. The ceramics from Earthwork 6 appear to predate the construction of Mound 4. Radiocarbon samples from the other structures would be very useful in refining the regional model. Additionally, the areas of the site excepting the earthworks has not been investigated archaeologically and may contain associated activity areas.

Summary

The survey of the New Castle site produced a new and accurate map of the earthwork complex. Lilly's (1937) map of the site was found to be inaccurate in the placement and preservation of the earthworks. Redding's (1892) descriptions were found to be a reliable source of information.

The survey also clarified and refined previous documentation of the site. The linear embankment, Earthwork 13, has been slighted in the archaeological literature with only a brief mention. But, this structure is unique in east central Indiana earthwork complexes. Earthwork 12 has also been neglected, but this enclosure does exist to the northeast of the main cluster of enclosures. Earthwork 6 was actually excavated by BSU field schools, not Earthwork 7. Earthwork 5 was not located under the hospital roads, but further south and may have escaped complete destruction.

The preservation of the earthworks was also visually assessed. Of the 13 earthworks reported at the site, portions of 10 structures were still visible. It is likely that portions of the bottom of ditches of the 3 remaining structures were also intact and could be relocated. Damage to the embankment of Mound 4 from borrowing operations had not been previously mentioned.

The New Castle site is actually a well preserved earthwork complex rivaling Anderson Mounds. The site has been inadequately and inaccurately documented. Even the National Register Nomination for this site is deficient in a factual description of the entire complex and the site boundaries are erroneous. This site has enormous research potential in understanding Early/Middle Woodland ceremonial life.

VAN NUYS SITE

Setting

The Van Nuys site (12Hn25) is in Henry Township [redacted] (Figure 28). The site is within the Wilbur Wright Fish and Wildlife Area. The site is between 980' and 990' AMSL in the Big Blue River sluiceway, a deeply entrenched valley. The sluiceway has cut through the Knightstown Moraine in this area. The site is at the southern boundary of extensive peat and muck (marsh) deposits in the sluiceway (Schmidt 1990). The Little Blue River is located immediately south of the site and the channelized Big Blue River is approximately 1100' to the west. Five to seven natural springs located on the valley slopes or at the base of the slope have been noted within the Wilbur Wright Fish and Wildlife Area (Burkett and Hicks 1986:12) The site is on the nearly level, deep, very poorly drained Sloan silty clay loam, occasionally flooded (Sn) and the nearly level, deep, very poorly drained Westland silt loam (We)(Hillis and Neeley 1987: 37 & 39, map sheet 28). General Land Office survey notes for the northwest portion of Section 2, Township 17 North, Range 10 East describe the area as a prairie (Hillis 1819).

Background

The history of land use at the Van Nuys site was similar to that depicted for the New Castle site. In 1906, 1042 acres north of New Castle were selected as the site for the Indiana Village of Epileptics (Radford 1992:162). The Van Nuys site was located within this area. The Village for Epileptics became a self-contained community that included full scale farming operations (Radford 1992:162). The area of the Van Nuys site may have been cultivated prior to the Village, but was definitely farmed during the Village operation. Following a decline of the Epileptic facility, the land was transferred to the Wilbur Wright State Recreation Area in 1972 (Radford 1992:162). By 1986, the Van Nuys site was being cultivated in strips that were alternately planted and left fallow (Burkett and Hicks 1986:4). By the mid 1990s the entire area was fallow.

The northwest quarter of Section [redacted] was surveyed in 1967 by a Ball State University field school. The survey found an extensive site but collected only 51 artifacts consisting of tools and pottery. A plow damaged pit was noted on the surface. A five foot test pit was also excavated, but no location was noted. Along the north bank of the Little Blue River, approximately 50 yards west of the bridge on SR 103, chert was reported. From the artifacts recovered, the site was thought to be related to the Commissary site (12Hn2)(Morris 1968).

Based on the 1967 survey finding, exploratory excavations in the southeast portion of the site were conducted. A total of 42- 5' square units were excavated. The excavation recovered

Site Locations Confidential
Not for Public Disclosure

Figure 28. Location of the Van Nuys site (12Hn25) as shown on a portion of the USGS 7.5' New Castle East, Indiana Quadrangle.

lithic artifacts and pottery including a rim sherd related to Albee cordmarked. The deepest recorded artifact was approximately 20" below the ground surface. Approximately 500 post holes were also reported but they were not in a discernable pattern (Morris 1969). A radiocarbon date from one of the posts was uncorrected AD 1830 +/-100 (M-2218)(Swartz 1969).

Excavations were continued in the same area in 1968 to "further delineate the village profile" and "establish the site components"(Ferguson 1969). A total of 22 - 5' square units were excavated. No artifacts were reported below 6". No post holes were identified. The posts identified in 1968, were interpreted as the remnants of trees that had been cleared by fire. The site was interpreted to be a Late Woodland occupation. It was recommended that no further excavation of the site occur (Ferguson 1969).

The site has also had numerous surface collections. The site was surveyed in 1968, probably in conjunction with the excavation. The site was also collected in 1971, 1972, 1982 and 1990 but the methods employed were not documented (ARMS files).

In 1986, the Van Nuys site was systematically surveyed. Portions of the site were fallow and were not walked. The surface collection delimited the site boundaries and collected diagnostic artifacts from cultivated strips. A controlled surface collection of one strip that had the heaviest concentration of artifacts was also conducted. All materials were collected in a 12 meter grid. A total of 3601 artifacts were recovered from an area of approximately 60 acres. Nine features were also noted. Late Woodland artifacts represented the primary component, but 2 Early Archaic points and 2 Middle Woodland blades were also recovered (Burkett and Hicks 1986).

Goals

The Van Nuys site was a multicomponent site dominated by Albee components. Testing of the site was proposed to recover information from the only known Albee habitation site on the east side of the state. The site was extensive, situated on poorly drained soils and contained subplowzone materials. The Van Nuys site was included in a proposed archaeological district that was nominated to the National Register (Gann 1990). However, the nomination was never finalized. It was hoped that excavation of the site would provide comparative data for Albee studies in the state and reevaluate predictive models indicating that significant sites were not located on poorly drained soils. The goals in conducting test excavations were to clarify previous documentation of the site (Morris 1969, Ferguson 1970, Burkett and Hicks 1986), document the geomorphology, and assess the site's significance. Research questions included:

1. What is the geomorphology of the site?

2. What archaeological components are represented at the site?

3. What is the function of the site? Is it related to the Commissary and Hesher cemeteries?

4. How does this site compare to other non-mortuary Albee sites?

5. What is the preservation of materials in poorly drained soils?

6. What is the depth of the cultural deposits?

Augers

Since the Van Nuys site was reported as approximately 60 acres in size, only a small portion of the site could be addressed by this project. The entire site area had been fallow for several years. The area planned for investigation was covered by a controlled systematic surface survey in 1986 (Burkett and Hicks 1986). This would allow for a correlation of surface and subsurface data. The area covered by the controlled surface collection was approximately 4.8 acres or 8% of the total site area. During that survey, several areas of artifact and fire-cracked rock concentrations were recorded. Since the Van Nuys site was reported to contain alluvial deposits, hand augers were proposed as the first step in the archaeological assessment. It was proposed that 50 augers be excavated to Pleistocene deposits. The soil from the augers was retained in 10 cm lifts to recover cultural material and allow for partial reconstruction of geomorphic setting of the site.

When the field work was initiated on September 9th, 1997 the Van Nuys site was overgrown in weeds, thistles and grasses. However, there were several mowed paths through the area of the surface collection. The location of the augers was, therefore, as close to the controlled surface collection area as possible but opportunistic to the cleared areas. The auger probes were spaced 20 meters apart within three mowed strips, covering a slightly smaller area than proposed, 18,750 square meters or 4.6 acres (Figure 29).

Results

At a broad level, the augers revealed fine grained soils resulting from alluvium, colluvium, loess and organic material underlain by coarsely textured glacial outwash that would be expected in a glacial sluiceway. The coarse outwash deposits were encountered between 0.9 and 1.2 meters below the ground surface. The fine to medium textured outwash was encountered between 0.5 to 0.7 meters below the ground surface. Post-Pleistocene deposits were encountered no more than 0.6 meters below the ground surface. The majority of the soils were poorly drained exhibiting gleyic or stagnogleyic characteristics resulting from a high water table and/or slow permeability.

At a narrower level, the augers revealed a complex, heterogenous geomorphic setting of fine grained, poorly drained soils with pockets of coarse material and moderately drained soils that had little relationship with the current surface topography. Figure 30 illustrates this setting. Soil characteristics recorded by this project are contained in Appendix E.

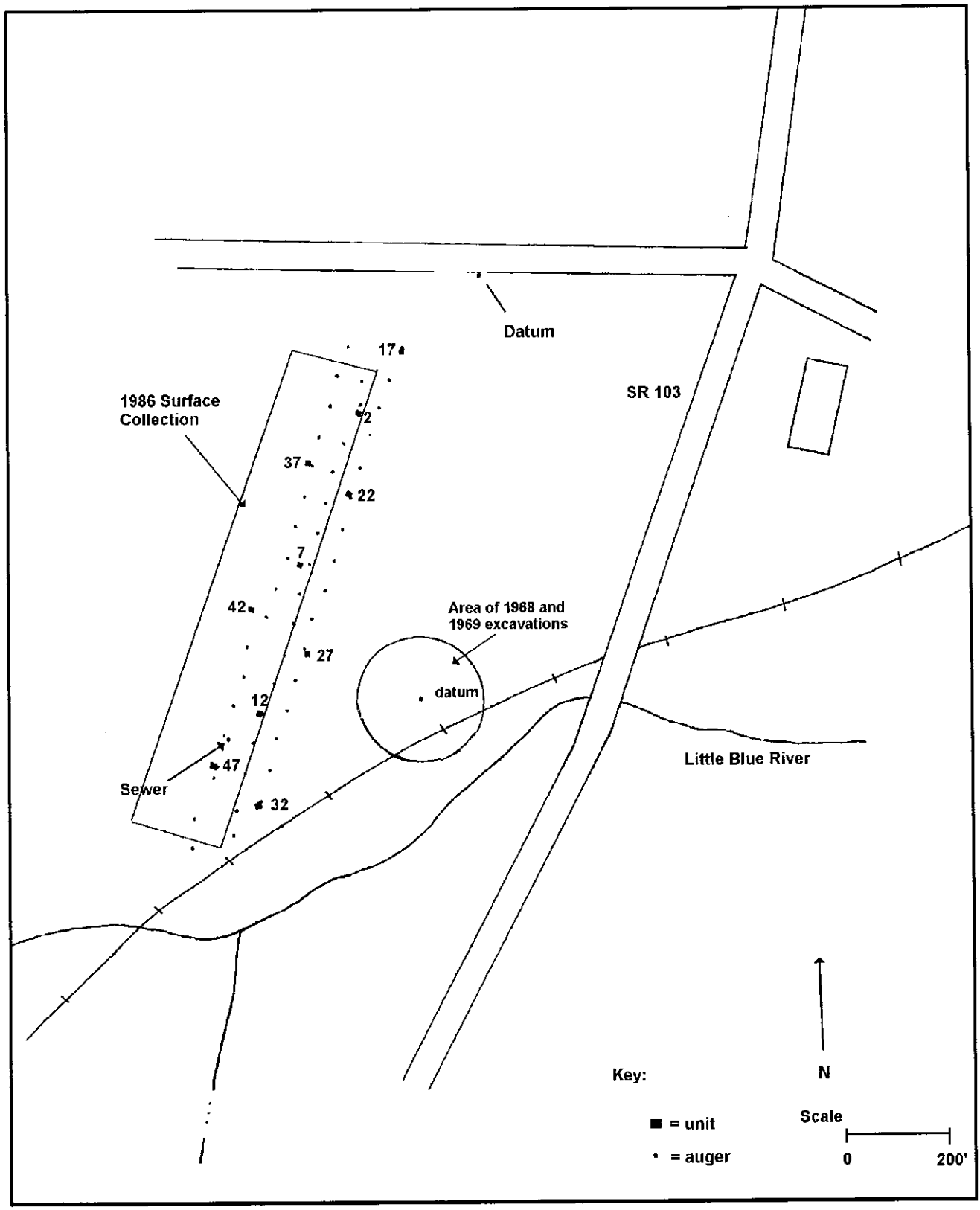


Figure 29. Sketch map of the Van Nuys site.

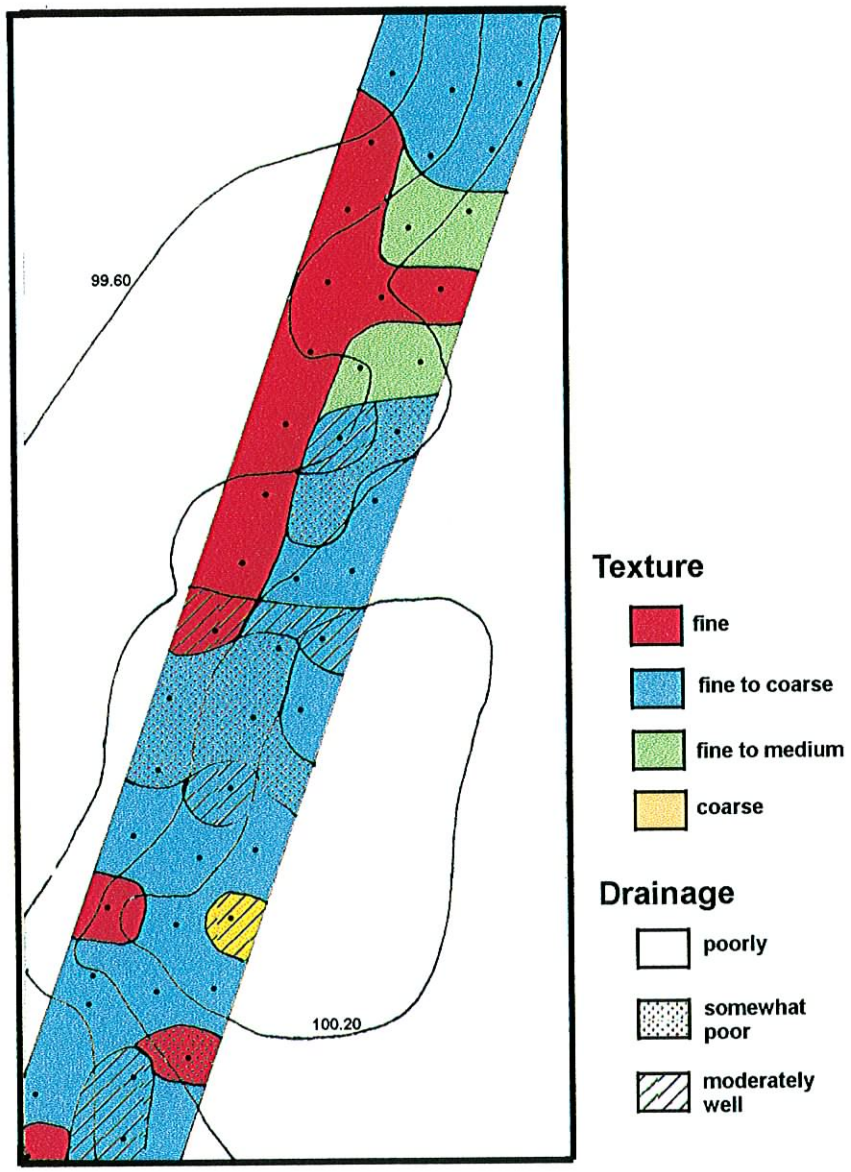


Figure 30. Geomorphology of the Van Nuys site.

The results of the augers were of little help in predicting the location of archaeological materials. Of the fifty augers that were excavated, only 27 contained positive archaeological material. The positive augers displayed the entire range of soil characteristics that were documented but most were located on poorly drained, fine grading to coarse sediments. This represented the majority of soils within the area of investigation.

A total of 33 flakes, 10 pottery sherds, 9 fire-cracked rocks, 19 pieces of unmodified bone (3 were burned), 1 piece of charcoal, 41 cinder fragments and 11 coal slag fragments were recovered from the augers. Unmodified bone was recovered as deep as 130-140 cm below the ground surface, but the deepest prehistoric cultural artifact was recovered between 40 and 50 cm below the ground surface. Artifacts recovered by auger and depth are shown in Appendix F.

Excavation

The placement of excavation units were to be based on the combined results of the 1986 controlled surface collection and the augers. Unfortunately, the overgrowth hampered the position of our investigation within the 1986 collection area and the augers did not provide enough predictive data to allow for placement of the units. Therefore, a systematic sample was employed to cover the entire area examined by augers. Since 10- 2 x 2 meter units were to be excavated, they were placed adjacent to every fifth auger probe. Excavation units were designated by auger number (Figure 31).

The excavation methodology deviated from that proposed in two ways. First, the plowzone was excavated as one level, not in 10 cm levels, since it represented a natural soil horizon. Second, a complete second level (2 x 2 meters) was only excavated in one unit. Based on the information from Unit 42 and from the augers, deeply buried deposits did not exist in that area of the site. There were no indications of buried cultural horizons. If features were present, they would be truncated by the plowzone and visible after the excavation of level 1. Therefore, excavation of the second level for the entire unit was deemed unnecessary. One quarter of the unit (1 x 1 meter) was excavated an additional 10 cm to sample subplowzone artifacts. The artifact density generally dropped in the second level or the level was sterile and the excavation was stopped.

Results

The excavation at the Van Nuys site recovered 1,455 artifacts including: 15 points and point fragments, 3 biface fragments, 5 bipolar artifacts, 1 graver, 1 denticulate, 1047 flakes, 7 other chipped stone fragments, 1 burned and polished antler tine and 228 pottery sherds. Fire-cracked rock totaled 429 pieces (8,959.7 g). The bone fragments totaled 11, 781 (11,635 burned) weighing 267.71g. Other materials recovered included burned sandstone, snail shells, wood, charcoal and coal slag. Appendix F provides a listing of artifacts by provenience.

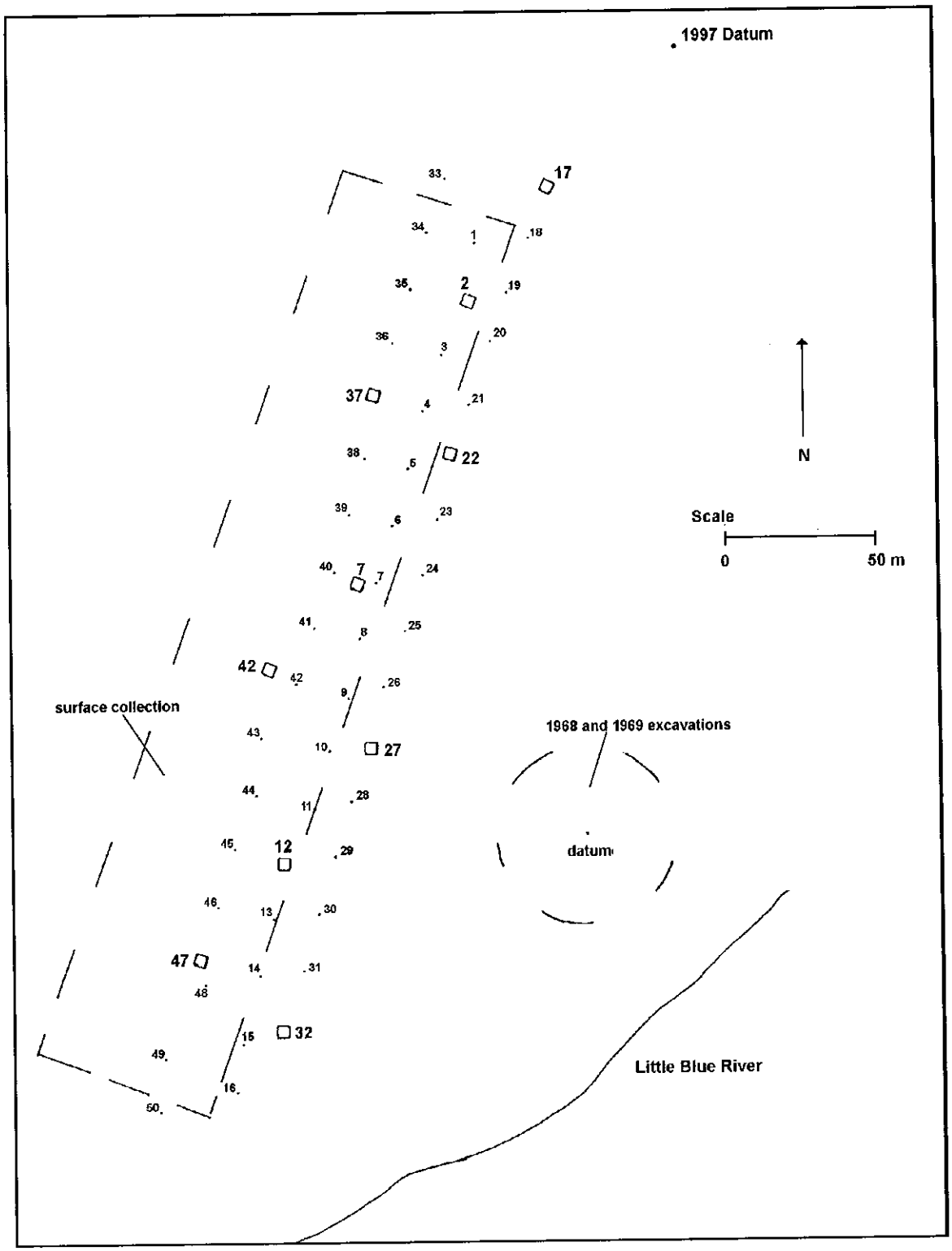


Figure 31. Detail of sketch map showing units and augers.

Excavation Units

Ten units were excavated during this project (Figure 31). Unit 42 was the only unit that had the entire area taken 10 cm below the plowzone constituting Level 2. In Units 2, 7, 12, 17, 22, 32 and 37 only one-quarter (1 x 1 m) of the unit was excavated as a second level. A midden-like deposit was encountered at the base of the plowzone in Unit 27 and was excavated as a feature. Therefore, no second level was excavated in Unit 27. Unit 47 was determined to be disturbed by a drainage system shortly after the initiation of excavation and was, therefore, not completed.

The plowzone documented by the excavation was fairly consistent at 32 cm below the ground surface (Figure 32). The plowzone was a 10YR 3/2 silt loam or sandy loam. The subsoil ranged between 10YR 3/1 and 10YR 4/3 in color that sometimes displayed gleying (10YR 5/6 and 10YR 7/1 mottles). The texture varied between sandy loam and clay loam. In some units the plowzone was difficult to distinguish from the subsoil due to the presence of 10YR 3/2 clay films. No buried cultural horizons were distinguished. The cultural material occurred close to the surface since there was little post-Pleistocene soil accumulation. Table 5 provides a listing of total artifacts and materials by level.

Table 5
Total Artifacts by Level

Unit	Level	# of Artifacts	# of FCR/Wt.	Other
2	1	40	8/318.6 g	
2	2	3		
7	1	36	17/510.9 g	
7	2	0		
12	1	361	100/199.4 g	11 burned bone
12	2	49	3/67.4 g	130 bone, 24 burned bone, 3 burned sandstone
17	1	15		1 burned bone
17	2	40 (38 pottery)		
22	1	117	34/1633 g	
22	2	5	2/29.7 g	
27	1	176	78/1684 g	18 burned bone

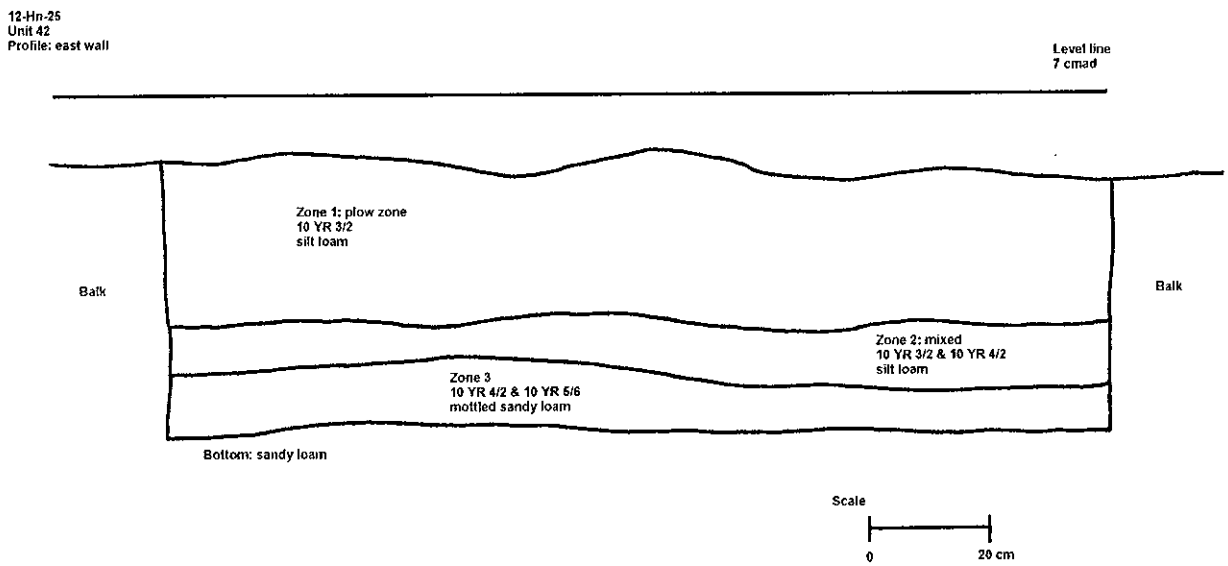


Figure 32. Profile of Unit 42.

Table 5 (cont.) Total Artifacts by Level				
Unit	Level	# of Artifacts	# of FCR/Wt.	Other
27	2	F1 & F2		
32	1	66	8/400.1 g	4 bone, 1 burned bone
32	2	0		
37	1	41	14/461.5 g	2 burned bone
37	2	0		
42	1	49	20/893.2 g	1 bone, 1 burned bone
42	1& 2	19	46/1022.6 g	2 burned bone
47	1*	41	17/356.8 g	
F 1		234	33/139.7 g	11,581 burned bone, 6 bone, 2400(97.9 g) burned sandstone
F2		1	49/1242.8 g	
Note: Level 2 represents a 1 x 1m, except for Unit 42 * Incomplete level				

Artifact densities were utilized to compare the plowzone level of the units. The second level was not comparable due to the lack of material or the presence of features and/or anomalies. However, as demonstrated in Table 5 the number of artifacts in Level 2 dropped significantally. Units 2, 7, 17, 32, 37 and 42 all had low artifact densities in Level 1 ranging between 12 and 56 artifacts per 1 cubic meter (32 cm was utilized as the depth of the plowzone). Units 12 and 27 had moderate artifact densities of 282 artifacts and 137 artifacts per cubic meter, respectively. Unit 22 was disturbed by a drainage system and Unit 47 had significant rodent activity and were, therefore, not comparable.

In comparing the excavation to the 1986 controlled surface collection (Burkett and Hicks 1986) several observations were made. Units 17, 22, 27 and 32 were actually located east of the controlled surface collection, since the augers and excavation missed approximately 24 meters of the western portion of the surface collection (Figure 31). Table 6 summarizes the comparison. In correlating Tables 5 & 6, it was noted that the surface collection blocks around Units 2 and 47 had low surface densities of artifacts and fire-cracked rock and low densities were found by the excavation in these areas. The blocks around Unit 7 showed a higher surface density than that found in the excavation. The blocks around Units 37 and 42 indicated features near the excavation unit that were not encountered by the excavation, but the artifact densities were comparable. Unit 42 had a relatively higher number of fire-cracked rock. The blocks around Unit

12 had high numbers of artifacts and Unit 12 had a high density of material. In summary, the surface collections were an indicator of the subsurface deposits, except for Unit 7.

Table 6
Comparison to Controlled Surface Collection

Unit	Block	# of Artifacts	# of FCR	Feature
2	Block 5, Row 4	4	14	
7	Block 5, Row 11	58	22	
7	Block 5, Row 12	64	0	
12	Block 5, Row 19	66	30	
12	Block 5, Row 20	67	64	
37	Block 3, Row 6	39	92	Baked Clay
42	Block 3, Row 14	3	31	Baked Clay and FCR/Charcoal/Ash
42	Block 3, Row 15	6	19	
47	Block 4, Row 23	40	45	

Artifacts

Raw Materials

There are no primary sources of chert documented in Henry County. However, glacially derived cherts would have been readily available for prehistoric exploitation (Cantin 1994). Morris (1968) recognized chert in gravels of the Little Blue River south of the site. Cherts recognized in the till in Henry County are predominantly Laurel and Fall Creek. The most commonly utilized cherts documented from the artifacts recovered were the locally derived till sources. Table 7 shows the raw material utilization. Exotic cherts to the Van Nuys area include Attica, Flint Ridge, Upper Mercer and Wyandotte.

Table 7 Raw Material Utilization			
Material	No./%	No. Heat Treated/%	No. Heat Damaged/%
Attica	1/0.1	0	0
Fall Creek	313/32.8	92/9.6	4/0.4
Flint Ridge	16/1.7	0	0
Glacial	3/0.3	0	0
Laurel	334/35.0	119/12.5	8/0.8
Unknown	40/41.9	2/0.2	9/0.9
Upper Mercer	1/0.1	0	0
Wyandotte	12/12.6	0	1/0.1
TOTAL	720/75.4	213/22.3	22/23.0
*Microflakes were not included			

The incidence of heat treatment was also examined. As seen in Table 7, heat treatment was not extensively exploited. Heat treatment was a minor component of Late Woodland lithic technology at the Morell-Sheets site, an Albee component habitation in Montgomery County (McCord and Cochran 1994).

Lithics

The excavation recovered 1080 lithic artifacts. The lithic assemblage was dominated by lithic debris, but no cores were recovered. A breakdown of artifacts by type is provided in Table 8.

Table 8 Lithic Artifact Totals		
Classification	Number	Percentage
Unmodified flakes	783	72.5
Edge modified flake	156	14.4
Microflakes	101	9.4
Block flakes	7	0.6
Bipolar	5	0.5
Point/Point fragments	15	1.4
Graver	1	0.1
Denticulate	1	0.1
Biface fragments	3	0.3
Anvil/Hammerstone	1	0.1
Other Chipped Stone	7	0.6

Fifteen point and point fragments were recovered (Figure 33). Five triangular points and point fragments were identified. Of the remaining 10 fragments, only 2 could be assigned to a non-Late Woodland time period. One fragment was the mid section of an apparent late Middle Woodland point. The other fragment could not be assigned temporally, but the technology was not typical of Late Woodland. The points, therefore, indicate the site was predominantly a Late Woodland occupation. Interestingly, 8 of the 15 point/point fragments were from Unit 12.

Only 2 other formal tools were found during the excavation (Figure 34). One was a graver. The other was a denticulate. The lack of formal lithic tools other than points was also duplicated at the Morell-Sheets site (McCord and Cochran 1994).

Ceramics

A small collection of prehistoric ceramics were recovered by the excavation. While 232 sherds were found, the collection only weighed 240.2 grams, demonstrating the small size of the majority of the ceramics. Seven rims, 1 neck and 220 body sherds were recovered. Only 12 body sherds were larger than 2.5 cm and not exfoliated or eroded.

The manufacture of the ceramics was consistent. The paste was compact, uniform and slightly sandy. All of the pottery was grit tempered with a crushed granitic rock. Temper size ranged from 1.52 to 3.37 mm. The surface treatment was difficult to distinguish due to the high

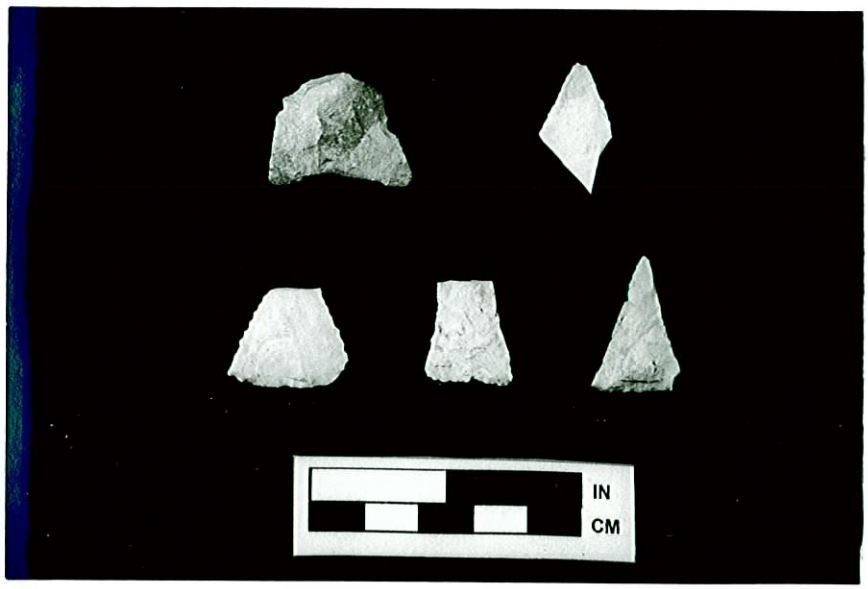


Figure 33. Triangular point and point fragments. Top row: Unit 27, Level 1. Bottom row: Unit 12, Level 1 (2) and Unit 32, Level 1.

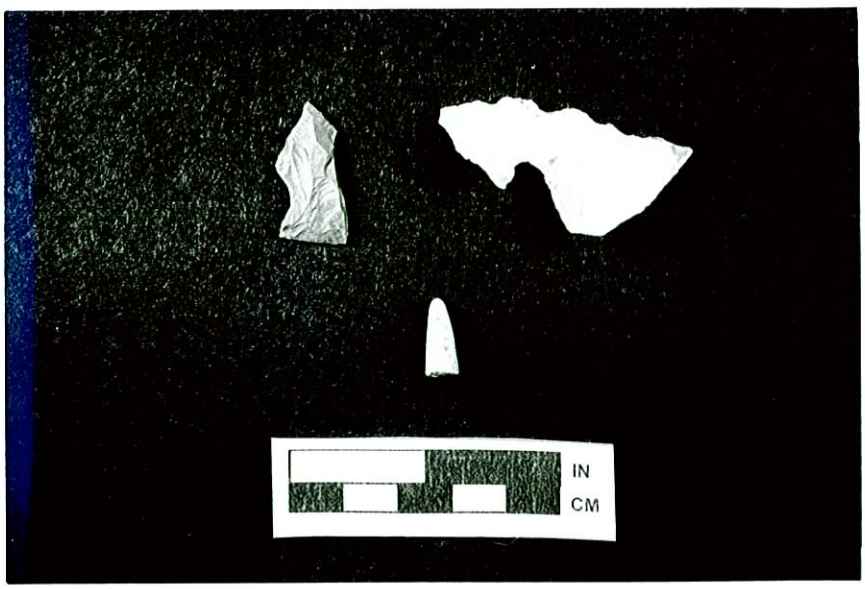


Figure 34. Graver (Unit 27, Level 1), denticulate (Unit 42, Level 1) and antler tine (Unit 27, F1).

incidence of eroded or exfoliated surfaces. Of the sherds with identifiable surface treatments, only cordmarking was noted. Body sherds ranged in thickness between 5.67 and 9.47 mm.

The 7 rim sherds were all from Unit 12. The rims varied between straight to collared forms (Figure 35). The lips were flat to slightly rounded. Two of the rims had eroded surfaces and 5 were cordmarked. One of the cordmarked rims had a notch in the lip. This was the only decorated sherd recovered. The thickness of the rims varied between 3.45 and 8.36 mm at the lip and 8.04 and 8.29 mm on the collar, if present.

Only one neck was recovered. It had a cordmarked surface and was 11.88 mm thick. It was also recovered from Unit 12.

The ceramics were very similar to the assemblage documented at the Morell-Sheets site (McCord and Cochran 1994). At Morell-Sheets, collared and uncollared rim forms were related to an Albee phase occupation dating from AD 800 to AD 1200. The uncollared forms were associated with the earliest dates from the site and decorative complexity increased through time (McCord and Cochran 1994). Like Morell-Sheets, the ceramics from Van Nuys are closely related to the Albee Cordmarked type (Winters 1967). However, classification problems have been recognized in this ceramic type (eg. McCord and Cochran 1994). Therefore, the ceramics were not classified as Albee Cordmarked, but as a ceramic form diagnostic of the Albee Phase.

Other Materials

Bone was numerically the largest class of material with 11,764 pieces. However, only 267.71 g were recovered. Most of the bone (11,587 pieces) were recovered from F1, a midden-like deposit. The majority of the bone was burned but was otherwise unmodified (11, 635 pieces). Only one artifact was recognized, a polished and burned antler tine (Figure 34). This artifact may represent a portion of an antler arrow point. Antler points were recovered from the Hesher site, a nearby Albee Phase cemetery (Cochran et al. 1988). Most of the bone was very fragmented and was not identifiable. All of the identified bone was classified as deer.

Burned sandstone was recovered from Units 12, 17 and 32 and Feature 1. Feature 1 contained 2400 (97.9 g) of the 2406 pieces (100.4 g) recovered. Unit 12 contained 3 pieces, Unit 17 contained 2 pieces and Unit 32 contained 1 piece.

Other material recovered during the excavation included snail shells, wood, charcoal and coal slag. The snails, wood and isolated charcoal were not considered cultural. The coal slag documented historic mixing of materials.

Features

Only 2 features were recorded during the excavation. Both features were located in Unit 27. Both had been truncated by plowing.

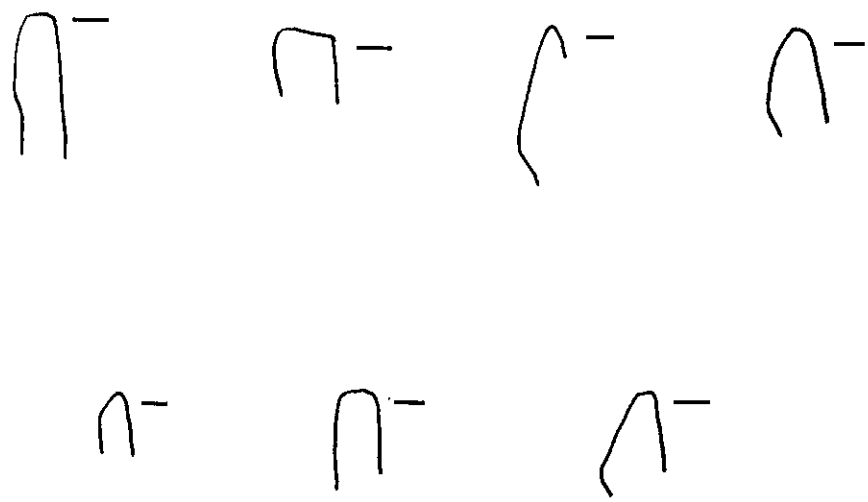


Figure 35. Rim profiles. All are from Unit 12, Level 1, except lower right corner is Unit 12, Level 2.

Feature 1 was recorded as a midden-like deposit in the northwest corner of Unit 27 (Figure 36). The feature was identified as a concentration of burned bone, burned sandstone, lithics, pottery and small flecks of charcoal. The deposit extended north and west outside of the unit. The soil color within the concentration was 10YR 3/2, the same color recognized for the plowzone. The soil was not black or greasy usually associated with a midden deposit. The deposit was approximately 11 cm thick. It did not appear to be a pit but a natural depression that had been filled. The west half of the feature within the unit was excavated and retained for flotation. The feature contained 113 flakes, 101 microflakes, 9 pottery sherds (4.6 g), 11, 575 pieces of burned bone (225.8 g), 6 pieces of unburned bone (0.4 g), 2,400 pieces of burned sandstone (97.9 g), 33 fire-cracked rocks (139.8 g) and charcoal.

Feature 2 was a concentration of fire-cracked rock in the southeast corner of Unit 27 (Figure 37). The fire-cracked rocks were not in a discernable pattern but simply a cluster. The feature appeared to extend to the south and east outside of the unit. There was no discernable soil change from the surrounding subsoil. Again this appeared to be a low area that escaped plowing. The feature within the unit was excavated and retained for flotation. The feature consisted of 49 fire-cracked rocks (1242.8 g), one flake and charcoal.

While no other features were recorded during the excavation, a discussion of Unit 12 is warranted. Unit 12 contained the highest numbers of artifacts and fire-cracked rock of any of the units. It is believed that Unit 12 also encountered a midden-like deposit. The deposit was not recognized at the base of the plowzone because of the concentration of material found in the plowzone. The number of artifacts dropped in Level 2, but flecking of burned sandstone and bone were noted. However, since these materials were small, most were not recovered by screening. The deposit, like that documented for Feature 1, was shallow (less than 10 cm) because it had been truncated by plowing.

In Unit 17, an interesting pottery concentration was encountered in the second level. Only 40 artifacts were recovered from Level 2 and 38 were pottery sherds. The concentration of sherds was encountered below the base of plowzone. There was no discernable soil change from the surrounding subsoil. The small sherds, may be from the same vessel.

Reanalysis

Excavations conducted between 1967 and 1969 covered approximately 1635 square feet or 0.06% of the total site area. To date, the total excavation conducted at the site was approximately 2,055.56 square feet or 0.08% of the total site area. Due to the small sample size of the site, the previous investigations of the Van Nuys site were examined. This included a reanalysis of material primarily from the 1968 and 1969 excavations. Diagnostic artifacts from the 1986 controlled surface collection were also examined. Appendix G contains a listing of the material recovered by previous investigations and new identifications.

A complete discussion of the reanalysis was hindered by the large quantity of material and

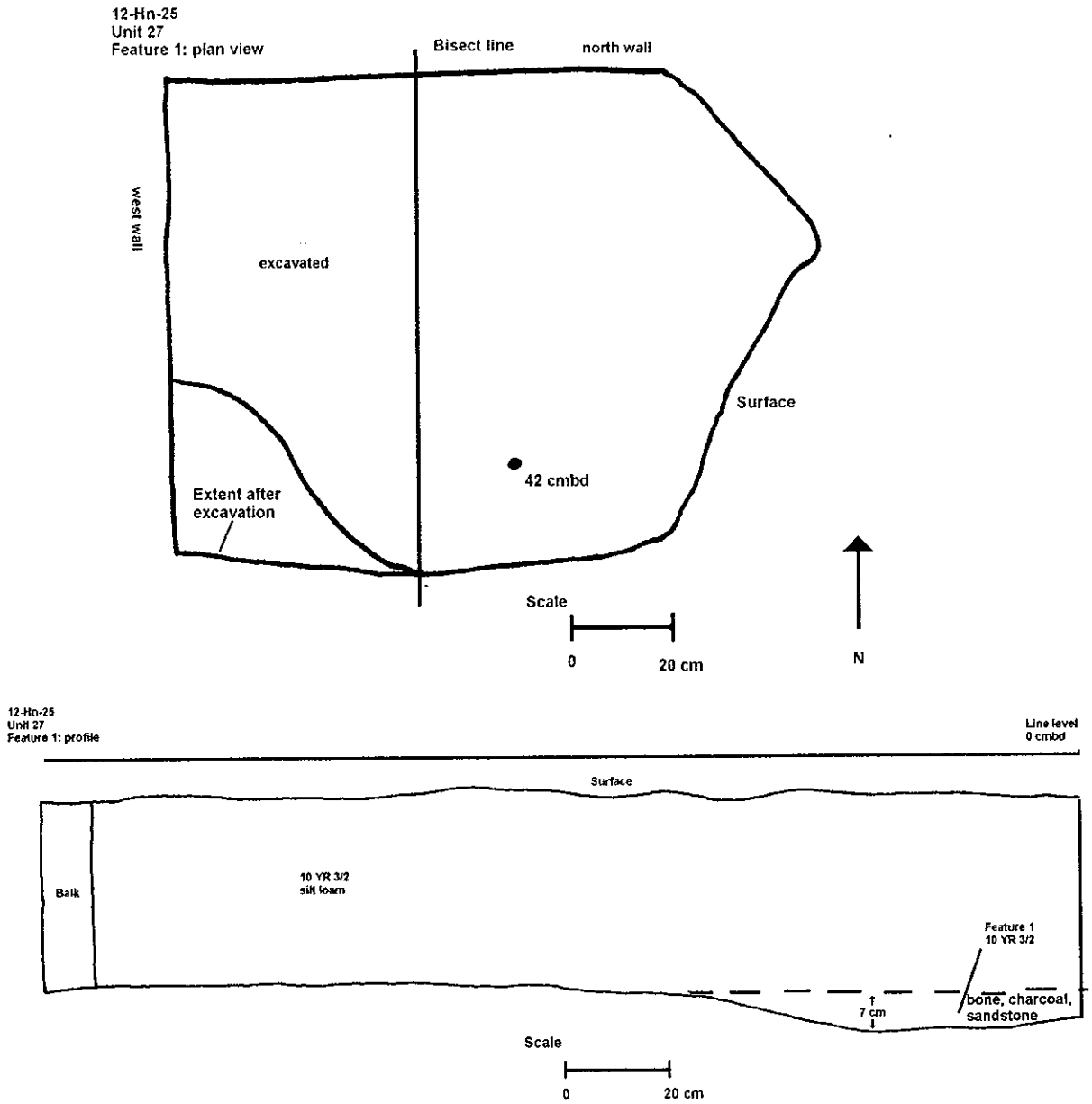


Figure 36. Feature 1 plan and profile.

12-Hn-25
Unit 27
Feature 2: plan view, level 1

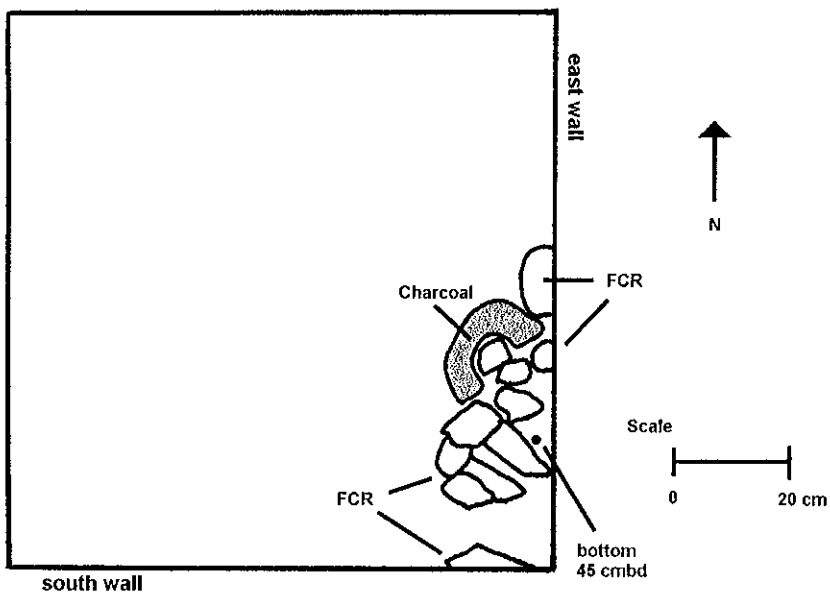


Figure 37. Plan of Feature 2.

some missing or unprovenienced artifacts. The collection consisted primarily of lithic debris. A few tools such as perforators and gravers were documented. Hundreds of pottery sherds were also present. Other materials recovered from the site included bone, shell, wood, and charcoal. Since the previous collections from the site were extensive, only the unique or diagnostic artifacts will be discussed in detail.

A total of 77 temporally classifiable points and point fragments were recovered by previous investigations. By far, the majority of points (n=70, 91%) were Late Woodland triangular forms (Figure 38). Other diagnostic points included 1 St. Charles (Early Archaic), 1 Unclassified Early to Middle Archaic point, 1 Brewerton (Late Archaic), 1 Lamoka (Late Archaic), 3 Rivertons (Late Archaic), 1 Adena (Early Woodland) and 1 Jack's Reef (Late Woodland) (Figure 39). Two Middle Woodland blades were also recovered.

A few other lithic tools require comment (Figure 40). Six adzes/celts were recovered from Van Nuys: 2 were chipped stone and 4 were ground slate. A chipped stone adze was also recovered from the Hesher site, an Albee cemetery (Cochran et al. 1988). An interesting double-ended adze was also recovered. A similar chisel or "pick" was found in the Walkerton Mound in Johnson Co. (Faulkner 1960:129). A chipped slate disk was identified from the Van Nuys collection. Converse (1973:40) states that chipped slate disks were Late Woodland. The anvils/hammerstones that were recovered from the site were flat sided and showed use as both anvils and hammerstones. Similar artifacts have been recovered from the Late Woodland Bowen site (Dorwin 1971) and Taylor Village (Don Cochran, personal communication 1998).

The pottery collection consisted of several hundred sherds. However, most were very small. No formal analysis of the pottery assemblage was conducted, but it appeared to predominately be Late Woodland in age. All the rims recovered could be related to Albee ceramics. Only two sherds were obviously not Late Woodland. They were thick, had large grit temper and were cordmarked on the exterior. Based on the manufacture, the sherds appear to be Early Woodland in age.

Some of the bone had been modified into tools. One fragment of a bone beamer and 3 bone awls were identified. Bone beamers were characteristically Late Woodland in age and several were recovered from the Commissary cemetery (Swartz 1982). As a corollary, no endscrapers were recorded by any of the previous excavations.

The reanalysis of the previous investigations demonstrated the predominance of Late Woodland materials. Most of the material could be related to an Albee component occupation. That is not to suggest, however, that the site was single component. As documented, the site also contained Archaic and other Woodland components. The only prehistoric time period not represented at the site was Paleoindian.

Figure 38. Examples of Triangular points recovered by previous investigations.

Figure 39. Other diagnositc points from Van Nuys. Top row: Jack's Reef, Adena, Riverton, Riverton, and Riverton. Bottom row: Brewerton, Lamoka, Unclassified EA/MA point, and St. Charles

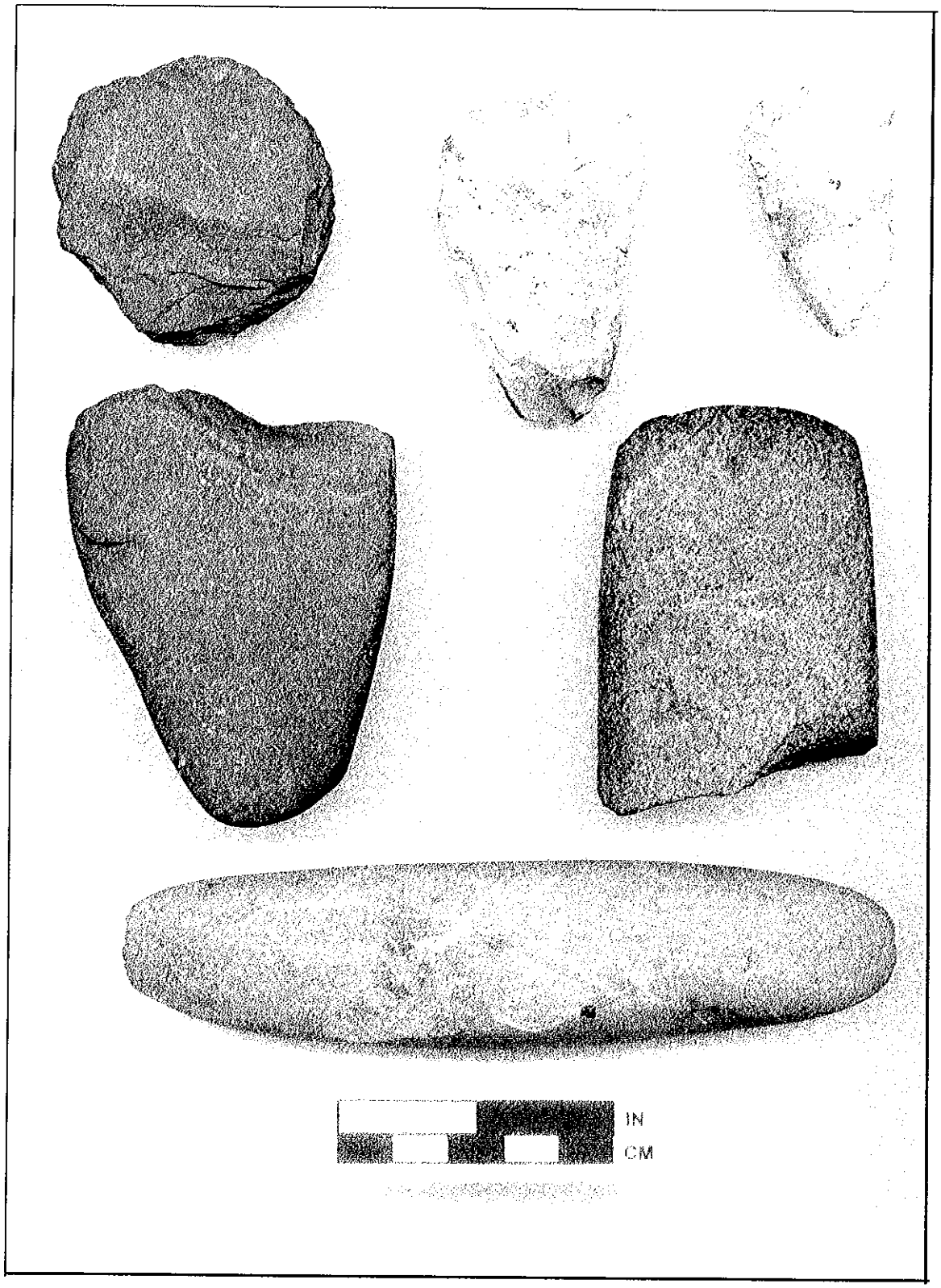


Figure 40. Other stone tools. Top row: Chipped slate disk, chipped stone adze, and chipped stone adze. Middle row: Adze/celt fragment and celt fragment. Bottom row: Double ended adze

Research Questions

1. What is the geomorphology of the site?

The Van Nuys site is in the Big Blue River sluiceway. The site is, therefore, located on a glacial outwash plain of coarse textured materials overlain by fine to medium textured outwash. Due to the semisorted nature of the deposits the soils reflect a heterogenous environment with pockets of medium and coarse textured materials in the finer textured subsoil in the area investigated. Post-Pleistocene sediments consist of fine textured material resulting from alluvium, colluvium, eolian deposits and organic material. The site is located on the southern boundary of extensive muck and peat deposits in the sluiceway valley. The Post-Pleistocene deposits are apparently less than 60 cm deep. There is little surface topographic relief at the site with only 0.6 m (2') difference noted in the area investigated. However, some cultural deposits occurred in low subsurface depressions that were deep enough to escape destruction from plowing.

2. What archaeological components are represented at the site?

The artifacts recovered by this project and previous investigations documented Archaic through Woodland occupations of the Van Nuys site. The only prehistoric time period not represented at the site was Paleoindian. The artifacts were predominantly of Late Woodland age with only a few artifacts representing other components. The triangular points, the Jack's Reef point, most of the ceramics and the bone tools have all been documented in Albee component sites (Winters 1967:60-69, Halsey 1976, McCord and Cochran 1996).

3. What is the function of the site? Is it related to the Commissary and Hesher cemeteries?

The site appears to have been only briefly visited for several thousand years prior to the Late Woodland period as evidenced by the sparsity of non-Late Woodland artifacts. But during the Late Woodland, the site was more extensively occupied. A change in the subsistence pattern with the addition of horticulture might explain the change in settlement.

As discussed by McCord and Cochran (1996:165), the general prehistoric settlement model for east central Indiana has been defined as dispersed due to the dispersed resources (Cochran 1984:6, Wepler and Cochran 1983:90, Wepler 1992). Historic aboriginal occupation in the region incorporated semi-permanent sites within or near the flood plain where crops were grown (Wepler 1992). The planting sites were the focal points for a population that was dispersed into the surrounding forests except during the planting and harvest periods (Wepler 1992). The current model for Late Woodland settlement in the region follows the Historic model in that the small floodplain prairies were selected for horticulture (McCord and Cochran 1996:165).

The Van Nuys site fits the environmental setting for a temporary Late Woodland occupation focused on horticulture The site area is not actually on a large floodplain but GLO notes documented a prairie within the sluiceway at this location. The location of Van Nuys would

have provided easy access to the upland forests and marsh resources during the Late Woodland.

The majority of the information from Van Nuys is from surface collections of the site. Only a very small portion of the site has been tested. So far, no evidence of structures or storage pits which might indicate long term habitation has been substantiated. From the current data, the Late Woodland occupation of the site was probably repeated over several years on a short term basis.

The main component of the site is related to the Albee phase. The nearby Commissary and Hesher cemeteries are also related to the Albee phase (Cochran et al. 1988). Radiocarbon dates from Commissary include uncorrected AD 635 +/- 200 (UGa-299)(Swartz 1982) and AD 1090 +/- 60 (Beta-10219)(Burkett and Cochran 1984:19). Radiocarbon dates from Hesher include uncorrected AD 520 +/- 60 (Beta-22127), AD 900 +/- 80 (Beta-22128) and AD 950 +/- 50 (Beta-22126)(Cochran et al. 1988). On average the dates for the cemeteries ranges roughly between AD 600 and 1100. The Van Nuys site was probably occupied by the same group of people utilizing the cemeteries during the time frame documented at the cemeteries. Collectively, these sites represent two functional classes of sites being utilized by a dispersed population identified as Albee.

4. How does this site compare to other non-mortuary Albee sites?

The only documented Albee site without a mortuary component is the Morell-Sheets in Montgomery County (McCord and Cochran 1996). The site was a virtually single component Albee site ranging in time between AD 800 and 1200. The Morell-Sheets site was a semi-permanent site located in a large sluiceway valley with access to several ecological zones. The site was likely inhabitated from late spring to early fall. The cultivation of little barley and maize and the collection of wild plants and nuts, hunting of terrestrial animals and exploitation of aquatic resources were documented as the subsistence base. The lithic technology consisted of triangular points manufactured from local materials with a low incidence of other formal tools. Bone artifacts were also sparse. The ceramic industry displayed technological changes through the Albee occupation.

The data recovered from the Morell-Sheets site was from excavation, while most of the information from the Van Nuys site was from surface collections. The recovery methods therefore impeded some direct comparisons. The sites were also located approximately 80 miles apart. The Van Nuys site was located within a similar setting of a sluiceway valley with a variety of resources nearby. That Van Nuys was occupied to practice horticulture is suggested by the natural setting and the regional settlement model, but this was not confirmed. The lithic and ceramic technologies at Van Nuys were similar to those documented at Morell-Sheets. Without further excavation data from Van Nuys no further comparisons can be made.

5. What is the preservation of materials in poorly drained soils?

The preservation of material at Van Nuys ranged between poor and good. This variation

was most likely caused by the drainage characteristics of the soil rather than soil acidity. The unburned bone that was recovered in cultural contexts to a depth of approximately 40 cm was in poor condition. A portion of a deer mandible found in level 2 of Unit 12 was poorly preserved and broke into several pieces upon removal from the matrix. The bone recovered by the augers in glacial sediments were well preserved but fragmented. The only recognizable difference was that the bone near the surface was in less permeable soils than the sand and gravels of the glacial sediments. The burned bone was better preserved but was usually very fragmented. Much of the pottery had eroded or exfoliated surfaces.

6. What is the depth of the cultural deposits?

Cultural material was encountered to depths of approximately 40 cm below the ground surface. Most of the cultural material was, therefore, disturbed by plowing. The testing and augers found no deeply buried cultural material. There had been little soil accumulation since the Pleistocene deposits. Therefore, the cultural material was deposited at or near the current surface.

Summary

The data recovered by the augers and test excavations helped to clarify interpretations of the Van Nuys site. The site is mulitcomponent, but is dominated by Late Woodland materials related to the Albee Phase. The site is located in the large Big Blue River sluiceway that had a prairie environment at the time of historic settlement. The location of the site provided ready access to the marsh resources to the north and the surrounding forest resources. Based on the limited testing, the site fits a dispersed Late Woodland settlement pattern that has semi-permanent sites on floodplain prairies to grow crops. While no evidence of horticulture is present, the setting is ideal. The poor drainage characteristics at the site are probably a limitation for long term extensive occupation throughout prehistory. However, multiple limited occupations of the Van Nuys site occurred regardless of the poorly drained soils. While less than 0.1% of the site has been tested, this project demonstrates that undisturbed significant deposits are present at the Van Nuys site.

CONCLUSIONS AND RECOMMENDATIONS

During this project 3 unique archaeological sites were investigated to help clarify interpretations and increase the understanding of the Woodland period in Henry County and east central Indiana. The Chrysler enclosure and the Van Nuys site were addressed through limited test excavations. The New Castle site was resurveyed to assess its condition and test the accuracy of previous descriptions and maps.

The Chrysler enclosure was the only known surviving small, circular, isolated enclosure known in Indiana. The testing conducted by this project represented the only documented excavation of a small isolated circular enclosure in the Ohio Valley. The project documented the good preservation of the site and the presence of intact cultural deposits. A small artificial mound was located on the western side of the central platform. A radiocarbon date of cal AD 220 to 265 was obtained from a charcoal sample from the bottom of the ditch. If the date was accurate then the site was being utilized late with the Adena/Hopewell complex. Since small isolated circular enclosures were rare in the archaeological literature and no other investigations of these sites has been documented, the information recovered from the Chrysler enclosure was vital to understanding the ceremonial landscape constructed by the Adena/Hopewell complex. The preservation of the site should be continued. Future archaeological investigations might focus on delimiting other activity areas on the central platform. The site has been nominated to the National Register of Historic Places.

The survey of the New Castle site produced a new and accurate map of the Early/Middle Woodland earthwork complex. The descriptions of the site provided by Redding (1892) were very accurate and helpful in the survey. Previous errors concerning the location and preservation of the earthworks were amended. Much of the previous work conducted at the site misrepresented its integrity. The site contained 13 earthworks of which portions of 10 were still visible. Portions of the ditches of the remaining 3 may still exist. The existence of Earthworks 12 and 13 were buried in the literature. The New Castle site was already listed on the National Register. Future archaeological work at the site should focus on the earthworks not previously investigated, document activity areas around the earthworks and find surviving remnants of Earthworks 5, 10 and 11.

The data recovered by the augers and test excavations documented the Van Nuys site as mulitcomponent, but dominated by Late Woodland materials related to the Albee Phase. Based on the limited testing, the site fits a dispersed Late Woodland settlement pattern that had semi-permanent sites on floodplain prairies to grow crops. A wide variety of resources were readily available in and around the site. The poor drainage characteristics at the site were probably a limitation for long term extensive occupation throughout prehistory. However, multiple limited occupations of the Van Nuys site occurred regardless of the poorly drained soils. This project demonstrated that undisturbed significant deposits were present at the Van Nuys site. Unfortunately, no deeply buried deposits were encountered. Further, archaeological investigation focussing on refining the settlement and subsistence patterns of the Late Woodland and other occupations of the site should be conducted.

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APPENDIX A
Chipped Stone Artifact Classifications

Appendix A
Chipped Stone Artifact Classification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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APPENDIX B
Artifacts Recovered from Chrysler

Appendix B
Artifacts Recovered from Chrysler

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.2.1.1	FCR		1	1		1	11.18g
98.17.2.1.2	C-14 sample		1	1		1	
98.17.2.1.3	Burned clay		1	2		2	
98.17.2.1.4	FCR		1	2		1	80.6g
98.17.2.1.5	C-14 sample		1	2	30cmS, 26cmW (NE); 27cmbd	1	
98.17.2.1.6	Burned clay		1	3		1	
98.17.2.1.7	FCR		1	3		1	60.5g
98.17.2.1.8	Burned clay		1	4	NE 1/4	15	
98.17.2.1.9	C-14 sample		1	5	1mS, 1.48mE (datum); 54cmbd	1	
98.17.2.1.10	Soil sample		1	5	NE 1/4	1	
98.17.2.1.11	FCR		2	4		1	30.7g
98.17.2.1.12	Soil sample		2	4	from embankment	1	
98.17.2.1.13	FCR		2	6		1	70.0g
98.17.2.1.14	FCR		2	7		1	15.6g
98.17.2.1.15	C-14 sample		2	ditch	1.51mN(Swall),11cmE(Wwall),1.12mdbd	1	
98.17.2.1.16	Wood from C-14 sample		2	ditch	1.75mN(Swall),50cmW(Ewall),1.03mdbd	1	
98.17.2.1.17	FCR		3	1		1	18.8g
98.17.2.1.18	FCR		3	2		1	78.9g
98.17.2.1.19	Flake, unm	Laurel	3	3		1	
98.17.2.1.20	FCR		3	3		1	22.1g
98.17.2.1.21	C-14 sample		3	4	70cmS, 20cmE (NW); 46cmbd	1	

APPENDIX C
Redding's (1892) Description of the New Castle Site

Appendix C

Excerpt pertaining to the New Castle site from *The Pre-historic Earthworks of Henry County, IND.* by T.B. Redding, 1892.

On the north-east quarter of this same section [redacted] mostly on the southwest quarter of the quarter and less than half a mile to the northeast from the above named enclosure, is the largest group of enclosures and mounds found in the county [12-Hn-1]. They are situated on the eastern part of the farm of John C. Hudleson, and cover an area of ten to twenty acres. There are in the group nine well defined enclosures, and one or two apparent enclosures which have been so completely obliterated by the plow that I cannot be certain about them. I have visited and measured all of these. The largest is situated farthest east, near the line and very near the N. E. corner of the quarter quarter. It is 650 feet in circumference and is an ellipse, longest east and west. Its east and west diameter is 215 feet. The north and south is about 150 feet. Within this enclosure is a large mound [Mound 4], longest east and west and having much the appearance of two mounds joined to each other, the western mound being the highest. The length of the mound, east and west, is 140 feet and it is about 100 feet wide, north and south. The height of the mounds above the general original surface is about ten feet; above the bottom of the ditches [is] about fifteen feet. The ditch varies in depth but is probably six feet in [the] deepest place, and shallows off into three feet at places. It is mostly in the original forest, but has its south embankment in a cultivated field. On each side of the eastern part of the mound there are slight elevations, whether natural or artificial I cannot tell. They give the mound an appearance of an attempt to imitate a cross. I have a map of this whole group, and an elevation showing [the] shape of the large mound. This mound has been dug into in four or five places at different times.

In the fall of 1890 myself and several others made an exploration of parts of this mound. We dug a trench six to eight feet deep from the east side to the center, and one from north to south through the western end of the mound. We found two places in the last, one within eight or ten feet of each end, where the clay had been burned hard, and yet there were no ashes. Between these two places about thirty feet apart we found deposits of ashes but no burnt clay, indicating that the ashes had been removed from the places of fire and thrown in heaps at a distance of a few feet. These places of burnt earth were about two by three feet in size and burned to a depth of ten or more inches. One of them had the appearance of having been raised above the surrounding earth seven or more inches. It was longest east and west and had somewhat the appearance of the figure 8. Near the center of the mound in the trench dug from the eastern side we found, at a depth of nearly nine feet, a large bed of ashes some six by seven feet in diameter. The bed was slightly hollowed out and the ashes at [the] deepest place, near the center, were not less than four to five inches in depth. Among these ashes we found much charcoal and many fragments of bones, some of which I have with me. I am not able to say from what animal they are. A little to the northwest of this bed of ashes was another bed of ashes and burnt clay which had been

explored at some time by other parties, but I cannot give results. The large bed found by us was burned hard, of a dull red color, [and] to a depth of about eight inches.

At the time of making the exploration of the large mound we discovered another small mound [Mound 12] about sixty rods [900 - 1000 feet] to the northeast of the large one, 100 feet in diameter and about six feet high, situated upon a point of a hill overlooking Blue river valley, and in front of which was formerly a marsh of several acres. The ditch and enclosure around the mound are very distinct, it having only recently been cleared of timber. The ditch at places is three feet deep and the embankment averages about two and a half feet in height.

To the east of this a few rods, just across a deep ravine on the north edge of a hill, is an embankment of about six feet in height and nearly two hundred feet long [Wall]. To the south of the ditch behind the embankment, which is not less than forty to fifty feet wide, the hill rises about twenty feet. The excavation behind [the] embankment is longest east and west. It is wholly unlike anything else found in the county, and no one is able to give any account of its origin.

Ten rods west of this large mound and enclosure is another enclosure, partly in the woods but mostly in the cultivated field [Mound 3]. The ditch is well preserved in that part in the woods, but is almost wholly obliterated in that part within the field. As near as I could determine this enclosure was about one hundred and fifty feet in diameter. The ditch on the north side is now about two to two and one-half feet in depth. I am inclined to the opinion that there was also a mound probably two or three feet high within its enclosure, but if so it is nearly levelled. One hundred feet to the northwest of the last is another enclosure [Mound 2], all in the woods, ninety-four feet in diameter and with shallow inside ditches at present one to three feet deep, and having a gateway on [the] east, opening toward the large mound already described. Near the gateway, on the south, is the appearance of a small mound about twelve feet in diameter and twelve to eighteen inches high. It has been dug into recently and seems to be a mass of gravel. I am in doubt whether it is natural or artificial. One hundred feet from the last is an artificial mound [Mound 1] forty feet in diameter and about six feet high. The south edge is in the cultivated field but the main body of the mound is in the woods. It has been recently dug into by Joshua Holland, of North Carolina, and Mr. Reynolds, of the Smithsonian Institute, but work was not completed and nothing of importance was found. This is the only clearly identified mound in the whole group not within a circular enclosure. About one hundred and fifty feet south of this little mound, within the cultivated field, are the remains of a large circular enclosure [Mound 11] with a gateway facing the east and the large enclosure already described. It is two hundred and fifty feet in diameter and the ditches are from three to five feet or more in depth, notwithstanding years of cultivation under the plow. There is the appearance of a mound in the western part of this enclosure, about forty feet in diameter and about two feet high.

One hundred feet south of the above is another enclosure one hundred and fifty feet in diameter, with ditches two or three feet in depth [Mound 10]. It has also an opening to the east, but not so well marked as the others. This enclosure is almost immediately east of the house on said tract and just east of the old orchard. A long period of cultivation has doubtless much lowered its walls. There is a slight indication of a mound near by [Possible Mound], but if it is

one the plow has so completely obscured the evidence that it is not safe to call it one. About two hundred and fifty feet to the southeast, in the edge of the grove, is another enclosure [Mound 9] one hundred feet in diameter, with [a] ditch on [the] inside two to two and one-half feet in depth. It has also a gate or opening on the east facing the large enclosed mound. Sixty feet to the southeast of the above is another enclosure [Mound 8] ninety feet in diameter, with [an] inside ditch eighteen to twenty-four inches in depth, and having an opening to the northeast facing the large enclosure and mound. There is also a small mound in the center of this enclosure.

Going another hundred feet to the southeast we find another enclosure one hundred and twenty feet in diameter, with a mound in the center from three to five feet high [Mound 7]. The ditch is from two to three feet deep. There is an opening on the northeast facing the large enclosure and mound. East, slightly north of the above and adjoining it is another enclosure one hundred feet in diameter [Mound 6]. The ditch is shallow, not more than eighteen to twenty-four inches in depth. The embankment on the west and adjoining the preceding seems to be common to both enclosures. The space between the ditches of the two is about twenty to twenty-five feet. To the northeast is a low, wet place. The opening is not very clearly marked in this last enclosure but it seems to be to the east. North of this last, about three hundred feet in the cultivated field, are very strong evidences of another enclosure [Mound 5], but it has been so disfigured by the plow and long cultivation that I do not feel safe in saying positively that it is an artificial enclosure, but it is very suggestive of one, and is about one hundred and sixty feet in diameter.

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APPENDIX D
Intersite Astronomical Alignments

Appendix D

Astronomical events documented by Aveni (1972) dating to 0 BC were utilized the construction of Table 1. In total, 45 alignments were recognized and documented between the surviving enclosures. The events documented represent alignments from the center of one structure to the center of another. While numerous other alignments hit the edges of the structures, they were not included in this tabulation. It is likely that alignments which bracket the enclosures were also employed.

Table 1
Intersite Astronomical Alignments

From Structure	To Structure	Alignment	Degrees
Earthwork 8	Earthwork 9	Sun set, summer solstice	302
Earthwork 9	Earthwork 8	Sun rise, winter solstice	121
Earthwork 13	linear	Sun set, winter solstice	239.5
Earthwork 2	Earthwork 3	Moon maximum, south rise	129.5
Earthwork 12	Mound 4 (west)	Moon minimum, south set	230.5
Earthwork 9	Earthwork 8	Moon maximum, south rise	129.5
Earthwork 8	Earthwork 9	Moon maximum, north set	308.5
Earthwork 7	Earthwork 8	Moon minimum, north set	294.5
Mound 1	Earthwork 2	Aldebaran rise	76
Earthwork 7	Earthwork 8	Aldebaran set	284
Earthwork 7	Earthwork 6	Aldebaran rise	76
Earthwork 6	Earthwork 9	Aldebaran set	284
Earthwork 3	Mound 1	Altair set	244.5
Earthwork 3	Mound 4 (west)	Altair rise	115.5
Mound 4	Earthwork 2	Altair set	244.5
Earthwork 7	Earthwork 6	Altair rise	115.5
Earthwork 3	Earthwork 2	Arcturus set	312
Earthwork 3	Mound 4	Betelgeuse rise	83.5
Earthwork 8	Earthwork 9	Arcturus set	312

Table 1 (cont.) Intersite Astronomical Alignments			
From Structure	To Structure	Alignment	Degrees
Mound 4	Earthwork 2	Betelgeuse set	276.5
Earthwork 7	Earthwork 6	Betelgeuse rise	83.5
Earthwork 8	Mound 4 (east)	Capella rise	30
Earthwork 8	Earthwork 12	Castor rise	43.5
Earthwork 9	Mound 4 (west)	Deneb rise	33
Mound 1	Earthwork 3	Epsilon Orionis rise	96
Earthwork 6	Earthwork 7	Epsilon Orionis set	264
Mound 4 (west)	Earthwork 9	Fomalhaut set	215.5
Earthwork 12	Earthwork 6	Fomalhaut set	215.5
Earthwork 7	Earthwork 8	Pleidas set	291.5
Mound 1	Earthwork 2	Pleidas rise	68.5
Earthwork 3	Earthwork 2	Pollux set	311.5
Earthwork 8	Earthwork 9	Pollux set	311.5
Earthwork 3	Mound 1	Procyon set	281
Earthwork 3	Mound 4 (west)	Procyon rise	79
Earthwork 6	Earthwork 9	Procyon set	281
Earthwork 7	Earthwork 6	Procyon rise	79
Mound 4 (west)	Earthwork 12	Regulus rise	106
Earthwork 7	Earthwork 9	Regulus set	254
Earthwork 2	Mound 1	Sirius set	249.5
Earthwork 8	Earthwork 7	Sirius rise	110.5
Mound 1	Mound 4	Spica rise (Equinox)	90
Mound 4	Mound 1	Spica set (Equinox)	270
Earthwork 2	Mound 1	Rigel set	254
Earthwork 6	Earthwork 7	Rigel set	254
Earthwork 8	Earthwork 7	Rigel rise	106
Earthwork 9	Mound 4 (west)	Vega rise	35

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APPENDIX E
Soil Characteristics of the Augers

Appendix E
Soil Characteristics of the Augers

AUGER #	AUGER DEPTH	MUNSELL COLOR	SOIL TYPE
33	0-10 cm	10 YR 3/2	silt loam
33	10-20 cm	10 YR 3/2	silt loam
33	20-30 cm	10 YR 3/2	silt loam
33	30-40 cm	10 YR 3/1 with 10 YR 5/6	clay loam
33	40-50 cm	10 YR 3/1 with 10 YR 5/6	clay loam
33	50-60 cm	10 YR 3/1 with 10 YR 5/1	clay
33	60-70 cm	10 YR 3/1 with 10 YR 5/1	clay
33	70-80 cm	10 YR 3/1 with 10 YR 5/1	clay
33	80-90 cm	10 YR 5/2	sandy clay loam
33	90-100 cm	10 YR 5/2	sand and gravel
33	100-110 cm	10 YR 5/2	sand and gravel
33	110-120 cm	10 YR 5/3	sand and gravel
33	120-130 cm	10 YR 5/3	sand and gravel
17	0-10 cm	10 YR 3/2	silt loam
17	10-20 cm	10 YR 3/2	silt loam
17	20-30 cm	10 YR 3/2	silt loam
17	30-40 cm	10 YR 3/1 with 10 YR 5/1	silt loam
17	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam
17	50-60 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
17	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay loam
17	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
17	80-90 cm	10 YR 4/1 with 10 YR 5/6	clay loam
17	90-100 cm	10 YR 4/3 with 10 YR 5/6	sandy loam with gravel
17	100-110 cm	10 YR 5/6	loamy sand with gravel

34	0-10 cm	10 YR 3/2	silt loam
34	10-20 cm	10 YR 3/2	silt loam
34	20-30 cm	10 YR 3/2	silt loam
34	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
34	40-50 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
34	50-60 cm	10 YR 4/1 with 10 YR 5/6 &5/1	clay loam
34	60-70 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
34	70-80 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
34	80-90 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
34	90-100 cm	10 YR 5/2	sandy clay loam
34	100-110 cm	10 YR 5/2	sandy loam
34	110-120 cm	10 YR 4/1	loamy sand
34	120-130 cm	10 YR 4/1	loamy sand
34	130-140 cm	10 YR 5/4	sand and gravel
34	140-146 cm	10 YR 5/4	sand and gravel
1	0-10 cm	10 YR 3/2	silt loam
1	10-20 cm	10 YR 3/2	silt loam
1	20-30 cm	10 YR 3/2	silt loam
1	30-40 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
1	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
1	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
1	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay
1	70-80 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
1	80-90 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
1	90-100 cm	10 YR 5/1	sandy loam
1	100-110 cm	10 YR 4/1	sandy loam
1	110-120 cm	10 YR 4/1	loamy sand
1	120-130 cm	10 YR 4/1	loamy sand

1	130-140 cm	10 YR 5/3	sand
1	140-150 cm	10 YR 5/3	sand with gravel
1	150-156 cm	10 YR 5/3	sandy clay loam with gravel
18	0-10 cm	10 YR 3/2	silt loam
18	10-20 cm	10 YR 3/2	silt loam
18	20-30 cm	10 YR 3/2	silt loam
18	30-40 cm	10 YR 3/2	silt loam
18	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
18	50-60 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
18	60-70 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
18	70-80 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
18	80-90 cm	10 YR 5/2 with 10 YR 5/6 & 5/1	clay loam
18	90-100 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
18	100-110 cm	10 YR 5/1	sandy loam
18	110-120 cm	10 YR 5/1	loamy sand
18	120-130 cm	10 YR 5/1	loamy sand with gravel
35	0-10 cm	10 YR 3/2	silt loam
35	10-20 cm	10 YR 3/2	silt loam
35	20-30 cm	10 YR 3/2	silt loam
35	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
35	40-50 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	silty clay loam
35	50-60 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	silty clay loam
35	60-70 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	silty clay loam
35	70-80 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
35	80-90 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
35	90-100 cm	10 YR 5/6 with 10 YR 5/1	clay loam
35	100-110 cm	10 YR 5/6 with	clay loam

35	110-120 cm	10 YR 5/1 with 10 YR 5/6	sandy clay loam
35	120-130 cm	10 YR 5/1 with 10 YR 5/6	sandy clay loam
35	130-140 cm	10 YR 5/1 with 10 YR 5/6	clay loam
35	140-150 cm	10 YR 5/1 with 10 YR 5/6	clay loam
2	0-10 cm	10 YR 3/2	silt loam
2	10-20 cm	10 YR 3/2	silt loam
2	20-30 cm	10 YR 3/2	silt loam
2	30-40 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
2	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
2	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
2	60-70 cm	10 YR 4/1 with 10 YR 5/6	sandy clay loam
2	70-80 cm	10 YR 4/1 with 10 YR 5/6	sandy loam
2	80-90 cm	10 YR 5/1 with 10 YR 5/6	sandy loam
2	90-100 cm	10 YR 5/1 with 10 YR 5/6	sandy loam
2	100-110 cm	10 YR 5/1 with 10 YR 5/6	loamy sand
2	110-120 cm	10 YR 4/1	loamy sand
2	120-130 cm	10 YR 4/1	sand
2	130-140 cm	10 YR 4/2	sand with gravel
2	140-152	10 YR 4/2	sand with gravel
2	loose sand		
19	0-10 cm	10 YR 3/2	silt loam
19	10-20 cm	10 YR 3/2	silt loam
19	20-30 cm	10 YR 3/2	silt loam
19	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silt loam
19	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
19	50-60 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam

19	60-70 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
19	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
19	80-90 cm	10 YR 5/1 with 10 YR 5/6	clay loam
19	90-100 cm	10 YR 4/2	sandy loam
19	100-110 cm	10 YR 4/2	sandy loam with gravel
19	110-120 cm	10 YR 4/2	loamy sand with gravel
19	120-135 cm	10 YR 4/2	loamy sand with gravel
36	0-10 cm	10 YR 3/2	silt loam
36	10-20 cm	10 YR 3/2	silt loam
36	20-30 cm	10 YR 3/2	silt loam
36	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
36	40-50 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
36	50-60 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay loam
36	60-70 cm	10 YR 4/1 with 10 YR 5/6 & 5/1	clay
36	70-80 cm	10 YR 3/6 with 10 YR 4/1	clay
36	80-90 cm	10 YR 3/6 with 10 YR 4/1	clay
36	90-100 cm	10 YR 3/6 with 10 YR 4/1	gravelly clay
36	100-110 cm	10 YR 5/1 with 10 YR 5/6	gravelly clay
36	110-113 cm	10 YR 5/1 with 10 YR 5/6	gravelly clay
3	0-10 cm	10 YR 3/2	silt loam
3	10-20 cm	10 YR 3/2	silt loam
3	20-30 cm	10 YR 3/2	silt loam
3	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	clay loam
3	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	clay loam
3	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam

3	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay
3	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay
3	80-90 cm	10 YR 5/2 with 10 YR 5/6	clay
3	90-100 cm	10 YR 4/1 with 10 YR 5/6	clay
3	100-120 cm	10 YR 5/1 with 10 YR 5/6	sandy clay loam
3	120-130 cm	10 YR 5/1	loamy sand
3	130-139 cm	10 YR 4/1	sandy clay loam
3	rock		
20	0-10 cm	10 YR 3/2	silt loam
20	10-20 cm	10 YR 3/2	silt loam
20	20-30 cm	10 YR 3/2	silt loam
20	30-40 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam
20	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam
20	50-60 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam
20	60-70 cm	10 YR 4/1 with 10 YR 5/6	silt loam
20	70-80 cm	10 YR 4/1 with 10 YR 5/6	silt loam
20	80-90 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
20	90-100 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
20	100-110 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
20	110-120 cm	10 YR 5/2	loam
20	120-130 cm	10 YR 5/2	sandy loam
37	0-10 cm	10 YR 3/2	silt loam
37	10-20 cm	10 YR 3/2	silt loam
37	20-30 cm	10 YR 3/2	silt loam
37	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
37	40-50 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
37	50-60 cm	10 YR 4/2 with	clay loam

37	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
37	70-80 cm	10 YR 5/1 with 10 YR 4/2 & 5/6	clay loam
37	80-90 cm	10 YR 5/1 with 10 YR 4/2 & 5/6	clay
37	90-100 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay
37	100-110 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
37	110-118 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
4	0-10 cm	10 YR 3/2	silt loam
4	10-20 cm	10 YR 3/2	silt loam
4	20-30 cm	10 YR 3/2	silt loam
4	30-40 cm	10 YR 4/2	silt loam
4	40-50 cm	10 YR 4/2 with 10 YR 5/6	clay loam
4	50-60 cm	10 YR 4/2 with 10 YR 5/6	clay loam
4	60-70 cm	10 YR 4/2 with 10 YR 5/6	clay
4	70-80 cm	10 YR 5/2 with 10 YR 5/6	clay
4	80-90 cm	10 YR 5/2 with 10 YR 5/6	clay
4	90-100 cm	10 YR 5/2 with 10 YR 5/6	clay
4	100-110 cm	10 YR 5/6 with 10 YR 5/1	clay
4	110-120 cm	10 YR 5/6 with 10 YR 5/1	clay
4	120-130 cm	10 YR 5/6 with 10 YR 5/1	clay
4	130-134 cm	10 YR 5/4 with 10 YR 5/1 & 5/6	clay with gravel
4	rock		
21	0-10 cm	10 YR 3/2	silt loam
21	10-20 cm	10 YR 3/2	silt loam
21	20-30 cm	10 YR 3/2	silt loam
21	30-40 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam

21	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silty clay loam
21	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
21	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay loam
21	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
21	80-90 cm	10 YR 4/1 with 10 YR 5/6	clay loam
21	90-100 cm	10 YR 4/1 with 10 YR 5/6	clay
21	100-110 cm	10 YR 4/1 with 10 YR 5/6	clay
21	110-120 cm	10 YR 3/1 with 10 YR 5/6	clay
21	120-130 cm	10 YR 5/6 with 10 YR 5/1	silty clay loam with gravel
38	0-10 cm	10 YR 3/2	silt loam
38	10-20 cm	10 YR 3/2	silt loam
38	20-30 cm	10 YR 3/2	silt loam
38	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
38	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
38	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
38	60-70 cm	10 YR 5/1 with 10 YR 5/6 & 4/1	clay loam
38	70-80 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
38	80-90 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
38	90-100 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
38	100-102 cm	10 YR 5/6 with 10 YR 4/2 & 5/1	clay
5	0-10 cm	10 YR 3/2	silt loam
5	10-20 cm	10 YR 3/2	silt loam
5	20-30 cm	10 YR 3/2	silt loam
5	30-40 cm	10 YR 3/2 with 10 YR 5/6	silt loam
5	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silt loam

5	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
5	60-70 cm	10 YR 5/1 with 10 YR 5/6	clay loam
5	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
5	80-100 cm	10 YR 5/2	sandy loam
5	100-109 cm	10 YR 5/2	sand with gravel
5	rock		
22	0-10 cm	10 YR 3/2	silt loam
22	10-20 cm	10 YR 3/2	silt loam
22	20-30 cm	10 YR 3/2	silt loam
22	30-40 cm	10 YR 3/2	silt loam
22	40-50 cm	10 YR 3/1 with 10 YR 5/6 & 5/1	silt loam
22	50-60 cm	10 YR 3/1 with 10 YR 4/3, 5/6 & 5/1	silt loam
22	60-70 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	sandy loam
22	70-80 cm	10 YR 4/1 with 10 YR 5/6	sandy loam
22	80-100 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
22	100-110 cm	10 YR 3/1	sandy loam with gravel
22	110-123 cm	10 YR 3/1	sandy loam with gravel
39	0-10 cm	10 YR 3/2	silt loam
39	10-20 cm	10 YR 3/2	silt loam
39	20-30 cm	10 YR 3/2	silt loam
39	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
39	40-50 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
39	50-60 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silty clay loam
39	60-70 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	sandy clay loam
39	70-80 cm	10 YR 5/3 with 10 YR 5/6	sandy loam
39	80-90 cm	10 YR 5/1 with 10 YR 5/6	clay loam

39	90-100 cm	10 YR 5/1 with 10 YR 5/6	gravelly clay loam
39	100-110 cm	10 YR 6/2 with 10 YR 5/6	clay loam
39	110-120 cm	10 YR 6/2 with 10 YR 5/6	clay
39	120-130 cm	10 YR 6/2 with 10 YR 5/6	clay
39	130-134 cm	10 YR 6/2 with 10 YR 5/6	gravelly clay
6	0-10 cm	10 YR 3/2	silt loam
6	10-20 cm	10 YR 3/2	silt loam
6	20-30 cm	10 YR 3/2	silt loam
6	30-40 cm	10 YR 4/3	silt loam
6	40-50 cm	10 YR 4/3	sandy loam
6	50-60 cm	10 YR 4/2	sandy loam
6	60-70 cm	10 YR 4/2	sandy loam
6	70-80 cm	10 YR 4/2	sandy loam
6	80-90 cm	10 YR 4/2	loamy sand
6	90-100 cm	10 YR 4/2	loamy sand
6	100-110 cm	10 YR 5/2	sand
6	110-120 cm	10 YR 5/2	sand with gravel
6	120-128 cm	10 YR 5/3	sand with gravel
6	loose sand		
23	0-10 cm	10 YR 3/2	silt loam
23	10-20 cm	10 YR 3/2	silt loam
23	20-30 cm	10 YR 3/2	silt loam
23	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 6/1	silty clay loam
23	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 6/1	silty clay loam
23	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 6/1	silty clay loam
23	60-70 cm	10 YR 4/3 with 10 YR 5/6 & 6/1	sandy clay loam
23	70-80 cm	10 YR 4/3 with 10 YR 5/6 & 6/1	sandy clay loam
23	80-90 cm	10 YR 5/2 with 10 YR 5/6	sandy clay loam
23	90-100 cm	10 YR 5/2	sandy clay loam

23	100-110 cm	10 YR 5/2	sandy loam
23	110-120 cm	10 YR 5/2	sandy loam
23	120-130 cm	10 YR 4/2	sandy loam
23	130-140 cm	10 YR 4/2	loamy sand
40	0-10 cm	10 YR 3/2	silt loam
40	10-20 cm	10 YR 3/2	silt loam
40	20-30 cm	10 YR 3/2	silt loam
40	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
40	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
40	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
40	60-70 cm	10 YR 5/1 with 10 YR 5/6	clay loam
40	70-80 cm	10 YR 5/1 with 10 YR 5/6	clay loam
40	80-90 cm	10 YR 5/1 with 10 YR 5/6	clay loam
40	90-100 cm	10 YR 5/6 with 10 YR 5/1	clay
40	100-110 cm	10 YR 5/6 with 10 YR 5/1	clay
40	110-120 cm	10 YR 5/6 with 10 YR 5/1	clay
40	120-123 cm	10 YR 5/6 with 10 YR 5/1	clay with gravel
7	0-10 cm	10 YR 3/2	silt loam
7	10-20 cm	10 YR 3/2	silt loam
7	20-30 cm	10 YR 3/2	silt loam
7	30-40 cm	10 YR 3/2 with 10 YR 5/6	clay loam
7	40-50 cm	10 YR 4/1 with 10 YR 5/6	clay loam
7	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
7	60-70 cm	10 YR 4/1 with 10 YR 5/6	sandy clay loam
7	70-80 cm	10 YR 5/2	sandy loam
7	80-90 cm	10 YR 5/2	sandy loam
7	90-100 cm	10 YR 5/2	sandy loam

7	100-110 cm	10 YR 5/2	sandy loam
7	110-120 cm	10 YR 5/2	loamy sand with gravel
7	120-130 cm	10 YR 4/1	loamy sand with gravel
7	130-140 cm	10 YR 5/2	sand with gravel
7	140-146 cm	10 YR 5/2	sand with gravel
7	rock		
24	0-10 cm	10 YR 3/2	silt loam
24	10-20 cm	10 YR 3/2	silt loam
24	20-30 cm	10 YR 3/2	silt loam
24	30-40 cm	10 YR 3/2	silt loam
24	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 6/2	silty clay loam
24	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 6/2	silty clay loam
24	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 6/2	silty clay loam
24	70-80 cm	10 YR 4/2 with 10 YR 5/6 & 6/2	silty clay loam
24	80-90 cm	10 YR 4/1 with 10 YR 5/6 & 6/2	sandy clay loam
24	90-100 cm	10 YR 4/1	sandy clay loam
24	100-115 cm	10 YR 4/2	sandy loam
24	115-120 cm	10 YR 4/2	sandy loam
24	rock		
41	0-10 cm	10 YR 3/2	silt loam
41	10-20 cm	10 YR 3/2	silt loam
41	20-30 cm	10 YR 3/2	silt loam
41	30-40 cm	10 YR 3/2	silty clay loam
41	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
41	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
41	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
41	70-80 cm	10 YR 5/1 with 10 YR 5/6 & 4/2	clay loam
41	80-90 cm	10 YR 5/1 with 10 YR 5/6 & 4/2	clay loam

41	90-100 cm	10 YR 5/6 with 10 YR 5/1	clay
41	100-110 cm	10 YR 5/6 with 10 YR 5/1	clay
41	110-120 cm	10 YR 5/6 with 10 YR 5/1	clay
41	120-130 cm	10 YR 5/6 with 10 YR 5/1	clay with gravel
41	130-137 cm	10 YR 5/6 with 10 YR 5/1	clay with gravel
8	0-10 cm	10 YR 3/2	silt loam
8	10-20 cm	10 YR 3/2	silt loam
8	20-30 cm	10 YR 3/2	silt loam
8	30-40 cm	10 YR 3/2	silt loam
8	40-50 cm	10 YR 3/4	loamy sand
8	50-60 cm	10 YR 5/4	loamy sand
8	60-70 cm	10 YR 4/4	sand
8	70-80 cm	10 YR 5/2 with 10 YR 5/6	sandy clay loam
8	80-90 cm	10 YR 5/2 with 10 YR 5/6	sandy clay loam
8	90-100 cm	10 YR 5/1 with strong mottles & 10 YR 5/6	clay
8	100-110 cm	10 YR 5/1 with strong mottles & 10 YR 5/6	clay
8	110-120 cm	10 YR 5/1 with strong mottles & 10 YR 5/6	clay
8	120-130 cm	10 YR 5/1 with strong mottles & 10 YR 5/6	clay
8	130-138 cm	10 YR 5/1 with strong mottles & 10 YR 5/6	clay and gravel
8	hard clay and rock		
25	0-10 cm	10 YR 3/2	silt loam
25	10-20 cm	10 YR 3/2	silt loam
25	20-30 cm	10 YR 3/2	silt loam
25	30-40 cm	10 YR 3/2	silt loam
25	40-50 cm	10 YR 4/2 with 10 YR 5/6	silt loam

25	50-60 cm	10 YR 4/2 with 10 YR 5/6	silt loam
25	60-70 cm	10 YR 4/4 with 10 YR 5/6 & 6/1	silt loam
25	70-80 cm	10 YR 4/4 with 10 YR 5/6 & 6/1	silt loam
25	80-100 cm	10 YR 5/2 with 10 YR 5/6	sandy loam
25	100-110 cm	10 YR 5/2 with 10 YR 5/6	sandy loam with gravel
25	110-120 cm	10 YR 6/2	loamy sand with gravel
42	0-10 cm	10 YR 3/2	silt loam
42	10-20 cm	10 YR 3/2	silt loam
42	20-30 cm	10 YR 3/2	silt loam
42	30-40 cm	10 YR 3/2	silt loam
42	40-50 cm	10 YR 4/3	silt loam
42	50-60 cm	10 YR 4/3	silt loam
42	60-70 cm	10 YR 5/4	sandy loam
42	70-80 cm	10 YR 5/4	sandy loam
42	80-90 cm	10 YR 4/2	sandy loam
42	90-100 cm	10 YR 4/2	loamy sand
42	100-110 cm	10 YR 4/2	loamy sand
42	110-120 cm	10 YR 4/2	loamy sand
42	120-130 cm	10 YR 4/2	loamy sand
42	130-137 cm	10 YR 4/2	loamy sand
9	0-10 cm	10 YR 3/2	silt loam
9	10-20 cm	10 YR 3/2	silt loam
9	20-30 cm	10 YR 3/2	silt loam
9	30-40 cm	10 YR 3/2	clay loam
9	40-50 cm	10 YR 4/2 with 10 YR 5/6	sandy loam
9	50-60 cm	10 YR 4/3	sandy loam
9	60-70 cm	10 YR 4/3	sandy loam
9	70-80 cm	10 YR 5/2	loamy sand
9	80-90 cm	10 YR 5/2	loamy sand with gravel
9	90-100 cm	10 YR 5/1	loamy sand with gravel

9	100-110 cm	10 YR 5/1	sand with gravel
9	110-116 cm	10 YR 5/1	sand with gravel
9	loose sand		
26	0-10 cm	10 YR 3/2	silt loam
26	10-20 cm	10 YR 3/2	silt loam
26	20-30 cm	10 YR 3/2	silt loam
26	30-40 cm	10 YR 4/3	silt loam
26	40-50 cm	10 YR 4/3	silt loam
26	50-60 cm	10 YR 5/3	sandy loam
26	60-70 cm	10 YR 5/3	sandy loam
26	70-80 cm	10 YR 5/3	loamy sand
26	80-90 cm	10 YR 5/3	loamy sand
26	90-100 cm	10 YR 5/4	sand and gravel
26	100-110 cm	10 YR 5/4	sand and gravel
26	110-120 cm	10 YR 5/4	sand and gravel
26	120-130 cm	10 YR 5/4	sand and gravel
43	0-10 cm	10 YR 3/2	silt loam
43	10-20 cm	10 YR 3/2	silt loam
43	20-30 cm	10 YR 3/2	silt loam
43	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
43	40-50 cm	10 YR 4/2 with 10 YR 3/1 & 5/6	silty clay loam
43	50-60 cm	10 YR 4/2 with 10 YR 3/1 & 5/6	silty clay loam
43	60-70 cm	10 YR 5/2	sandy loam
43	70-80 cm	10 YR 5/2	sandy loam
43	80-90 cm	10 YR 5/2	sandy loam
43	90-100 cm	10 YR 5/2	loamy sand with gravel
43	100-104 cm	10 YR 5/2	loamy sand with gravel
10	0-10 cm	10 YR 3/2	silt loam
10	10-20 cm	10 YR 3/2	silt loam
10	20-30 cm	10 YR 3/2	silt loam
10	30-40 cm	10 YR 3/2 with 10 YR 5/6	clay loam
10	40-50 cm	10 YR 4/2 with	clay loam

10	50-60 cm	10 YR 4/4	sandy loam
10	60-70 cm	10 YR 5/4	sandy loam
10	70-80 cm	10 YR 5/4	sandy loam
10	80-90 cm	10 YR 5/2	loamy sand
10	90-100 cm	10 YR 5/2	loamy sand
10	100-110 cm	10 YR 5/1	loamy sand with pea & gravel
10	110-120 cm	10 YR 5/3	sand & gravel
10	120-130 cm	10 YR 5/3	sand & gravel
10	rock		
27	0-10 cm	10 YR 3/2	silt loam
27	10-20 cm	10 YR 3/2	silt loam
27	20-30 cm	10 YR 3/2	silt loam
27	30-40 cm	10 YR 3/2	silt loam
27	40-50 cm	10 YR 4/3	silty clay loam
27	50-60 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silty clay loam
27	60-70 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silt loam
27	70-80 cm	10 YR 5/3	silt loam
27	80-90 cm	10 YR 5/3	silt loam
27	90-100 cm	10 YR 5/2 with 10 YR 5/6	silty clay loam
27	100-110 cm	10 YR 5/2 with 10 YR 5/6	silty clay loam
27	110-120 cm	10 YR 5/2 with 10 YR 5/6	silty clay loam
27	120-130 cm	10 YR 5/2 with 10 YR 5/6	loamy sand
27	130-140 cm	10 YR 4/2	loamy sand
27	140-150 cm	10 YR 4/2	loamy sand
44	0-10 cm	10 YR 3/2	silt loam
44	10-20 cm	10 YR 3/2	silt loam
44	20-30 cm	10 YR 3/2	silt loam
44	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
44	40-50 cm	10 YR 4/2 with 10 YR 5/6	silty clay loam

44	50-60 cm	10 YR 4/2 with 10 YR 5/6	silty clay loam
44	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
44	70-80 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
44	80-90 cm	10 YR 5/1 with 10 YR 5/6	clay loam
44	90-100 cm	10 YR 5/2	silty clay loam
44	100-110 cm	10 YR 5/2	silty clay loam
44	110-120 cm	10 YR 5/2	sandy loam
44	120-130 cm	10 YR 5/1 with 10 YR 5/6	clay
11	0-10 cm	10 YR 3/2	silt loam
11	10-20 cm	10 YR 3/2	silt loam
11	20-30 cm	10 YR 3/2	silt loam
11	30-40 cm	10 YR 3/2	clay loam
11	40-50 cm	10 YR 4/2 with 10 YR 5/1 & 5/6	clay loam
11	50-60 cm	10 YR 4/2 with 10 YR 5/1 & 5/6	sandy clay loam
11	60-70 cm	10 YR 4/2	sandy clay loam
11	70-80 cm	10 YR 4/2	sandy loam
11	80-90 cm	10 YR 4/2	sandy loam
11	90-100 cm	10 YR 5/2	sandy loam
11	100-110 cm	10 YR 5/1	loamy sand
11	110-120 cm	10 YR 5/1	loamy sand
11	120 130 cm	10 YR 5/1	loamy sand
11	130-140 cm	10 YR 5/1	fine sand
11	140-150 cm	10 YR 5/1	fine sand
28	0-10 cm	10 YR 3/2	silt loam
28	10-20 cm	10 YR 3/2	silt loam
28	20-30 cm	10 YR 3/2	silt loam
28	30-40 cm	10 YR 3/2	silt loam
28	40-50 cm	10 YR 3/2 with 10 YR 5/6	silt loam
28	50-60 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	sandy loam
28	60-70 cm	10 YR 5/3	sandy loam

28	70-80 cm	10 YR 5/3	sandy loam
28	80-90 cm	10 YR 5/3	sandy loam
28	90-100 cm	10 YR 5/2	loamy sand
28	100-110 cm	10 YR 5/2	loamy sand
28	110-115 cm	10 YR 5/3	sand
45	0-10 cm	10 YR 3/2	silt loam
45	10-20 cm	10 YR 3/2	silt loam
45	20-30 cm	10 YR 3/2	silt loam
45	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
45	40-50 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
45	50-60 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
45	60-70 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
45	70-80 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
45	80-90 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam
45	90-100 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	clay loam with gravel
45	100-110 cm	10 YR 4/3	loamy sand with gravel
45	110-120 cm	10 YR 4/3	loamy sand with gravel
45	120-125 cm	10 YR 4/3	sand and gravel
12	0-10 cm	10 YR 3/2	silt loam
12	10-20 cm	10 YR 3/2	silt loam
12	20-30 cm	10 YR 3/2	silt loam
12	30-40 cm	10 YR 3/2	silt loam
12	40-50 cm	10 YR 4/2 with 10 YR 5/6	silt loam
12	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	silty clay loam
12	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	silty clay loam
12	70-80 cm	10 YR 4/2	sandy loam
12	80-90 cm	10 YR 4/2	sandy loam
12	90-100 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	clay loam

12	100-110 cm	10 YR 5/2 with 10 YR 5/6	clay loam
12	110-120 cm	10 YR 5/2 with 10 YR 5/6	clay loam
12	120-130 cm	10 YR 5/1 with 10 YR 5/6	clay loam
12	130-140 cm	10 YR 5/1 with 10 YR 5/6	clay loam
12	140-150 cm	10 YR 4/1 with 10 YR 5/6	clay loam
29	0-10 cm	10 YR 3/2	silt loam
29	10-20 cm	10 YR 3/2	silt loam
29	20-30 cm	10 YR 3/2	silt loam
29	30-40 cm	10 YR 4/3	silt loam
29	40-50 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silt loam
29	50-60 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silt loam
29	60-70 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silty clay loam
29	70-80 cm	10 YR 5/2 with 10 YR 5/6 & 5/1	silty clay loam
29	80-90 cm	10 YR 5/2	sandy clay loam
29	90-100 cm	10 YR 5/2	sandy clay loam
29	100-110 cm	10 YR 5/2 with 10 YR 5/6	sandy clay loam
29	110-120 cm	10 YR 5/1 with 10 YR 5/6	clay loam
29	120-130 cm	10 YR 5/1 with 10 YR 5/6	clay loam
29	130-140 cm	10 YR 5/1 with 10 YR 5/6	clay loam
29	140-150 cm	10 YR 5/1 with 10 YR 5/6	sandy clay loam
46	0-10 cm	10 YR 3/2	silt loam
46	10-20 cm	10 YR 3/2	silt loam
46	20-30 cm	10 YR 3/2	silt loam
46	30-40 cm	10 YR 3/2	silty clay loam
46	40-50 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
46	50-60 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam

46	60-70 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
46	70-80 cm	10 YR 5/1 with 10 YR 5/6	clay loam
46	80-90 cm	10 YR 5/1 with 10 YR 5/6	clay loam
46	90-100 cm	10 YR 5/1 with 10 YR 5/6	clay loam
46	100-110 cm	10 YR 5/6 with 10 YR 5/1	clay loam
46	110-120 cm	10 YR 5/6 with 10 YR 5/1	clay
46	120-130 cm	10 YR 5/1 with 10 YR 5/6	clay
13	0-10 cm	10 YR 3/2	silt loam
13	10-20 cm	10 YR 3/2	silt loam
13	20-30 cm	10 YR 3/2	silt loam
13	30-40 cm	10 YR 3/2	silt loam
13	40-50 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	silt loam
13	50-60 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	silt loam
13	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/2	silt clay loam
13	70-80 cm	10 YR 4/1 with 10 YR 5/6 & 5/2	silt clay loam
13	80-90 cm	10 YR 4/1 with 10 YR 5/6 & 5/2	silt clay loam
13	90-100 cm	10 YR 4/1 with 10 YR 5/6 & 5/2	silt clay loam
13	100-110 cm	10 YR 4/4 with 10 YR 5/6, 5/2 & 4/1	clay loam
13	110-120 cm	10 YR 4/4 with 10 YR 5/6, 5/2 & 4/1	clay loam
13	120-130 cm	10 YR 5/4 with 10 YR 5/6 & 5/2	loamy sand
13	130-140 cm	10 YR 5/4 with 10 YR 5/6 & 5/2	loamy sand
30	0-10 cm	10 YR 3/2	sandy loam
30	10-20 cm	10 YR 3/2	sandy loam
30	20-30 cm	10 YR 3/2	sandy loam
30	30-40 cm	10 YR 4/3	sandy loam

30	40-50 cm	10 YR 4/3	sand
30	50-60 cm	10 YR 4/3	sand
30	60-70 cm	10 YR 4/3	sand
30	70-80 cm	10 YR 4/3	sand
30	80-90 cm	10 YR 4/3	sand
30	90-100 cm	10 YR 4/3	sand
30	100-110 cm	10 YR 4/2	loamy sand
30	110-120 cm	10 YR 4/2	sandy clay loam
30	120-125 cm	10 YR 4/2	sandy clay loam
47	0-10 cm	10 YR 3/2	silt loam
47	10-20 cm	10 YR 3/2	silt loam
47	20-30 cm	10 YR 3/2	silt loam
47	30-40 cm	10 YR 3/2	silty clay loam
47	40-50 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
47	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
47	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay loam
47	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
47	80-90 cm	10 YR 5/6 with 10 YR 5/1	clay loam
47	90-100 cm	10 YR 5/1 with 10 YR 5/6	clay loam
47	100-110 cm	10 YR 5/1 with 10 YR 5/6	clay loam
47	110-120 cm	10 YR 5/1 with 10 YR 5/6	clay loam
14	0-10 cm	10 YR 3/2	silt loam
14	10-20 cm	10 YR 3/2	silt loam
14	20-30 cm	10 YR 3/2	silt loam
14	30-40 cm	10 YR 3/2	silt loam
14	40-50 cm	10 YR 4/2 with 10 YR 5/1	silt loam
14	50-60 cm	10 YR 4/2 with 10 YR 5/1	silt loam
14	60-70 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
14	70-80 cm	10 YR 4/2 with	silty clay loam

14	80-90 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
14	90-100 cm	10 YR 4/2 with 10 YR 5/6 & 5/1	silty clay loam
14	100-110 cm	10 YR 5/1 with 10 YR 5/6	silty clay loam
14	110-120 cm	10 YR 4/1 with 10 YR 5/6	clay loam
14	120-130 cm	10 YR 4/1 with 10 YR 5/6	clay loam
14	130-140 cm	10 YR 4/1 with 10 YR 5/6	clay loam
14	140-150 cm	10 YR 4/1 with 10 YR 5/6	sandy clay loam with gravel
31	0-10 cm	10 YR 3/2	silt loam
31	10-20 cm	10 YR 3/2	silt loam
31	20-30 cm	10 YR 3/2	silt loam
31	30-40 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silt loam
31	40-50 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silt loam
31	50-60 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silt loam
31	60-70 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
31	70-80 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
31	80-90 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silty clay loam
31	90-100 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
31	100-110 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
31	110-120 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
31	120-130 cm	10 YR 5/2 with 10 YR 5/6	clay
31	130-140 cm	10 YR 5/2 with 10 YR 5/6	clay
31	140-150 cm	10 YR 5/2 with 10 YR 5/6	sandy clay loam
48	0-10 cm	10 YR 3/2	silt loam
48	10-20 cm	10 YR 3/2	silt loam

48	20-30 cm	10 YR 3/2	silt loam
48	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
48	40-50 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
48	50-60 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
48	60-70 cm	10 YR 4/1 with 10 YR 5/6 & 4/4	silty clay loam
48	70-80 cm	10 YR 4/1 with 10 YR 5/6 & 4/4	silty clay loam
48	80-90 cm	10 YR 4/1 with 10 YR 5/6 & 4/4	clay loam
48	90-100 cm	10 YR 5/6 with 10 YR 5/1	clay loam
48	100-110 cm	10 YR 5/2	sandy loam
48	110-120 cm	10 YR 5/2	sandy loam with gravel
48	120-123 cm	10 YR 5/2	sandy loam with gravel
49	0-10 cm	10 YR 3/2	silt loam
49	10-20 cm	10 YR 3/2	silt loam
49	20-30 cm	10 YR 3/2	silt loam
49	30-40 cm	10 YR 3/2 with 10 YR 5/6	silty clay loam
49	40-50 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
49	50-60 cm	10 YR 4/1 with 10 YR 5/6	clay loam
49	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay loam
49	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
49	80-90 cm	10 YR 4/1 with 10 YR 5/6	clay loam
49	90-100 cm	10 YR 6/4	sandy loam with gravel
49	100-110 cm	10 YR 6/4	sandy loam with gravel
49	110-120 cm	10 YR 6/4	sandy loam with gravel
15	0-10 cm	10 YR 3/2	silt loam
15	10-20 cm	10 YR 3/2	silt loam

15	20-30 cm	10 YR 3/2	silt loam
15	30-40 cm	10 YR 3/2	silt loam
15	40-50 cm	10 YR 3/3	silt loam
15	50-60 cm	10 YR 4/4	sandy loam
15	60-70 cm	10 YR 5/4	sand
15	70-80 cm	10 YR 5/4	sand
15	80-90 cm	10 YR 5/3	loamy sand
15	90-100 cm	10 YR 5/3	loamy sand
15	100-110 cm	10 YR 6/4	sand
15	110-120 cm	10 YR 6/4	sand
15	120-130 cm	10 YR 5/2 with 10 YR 5/6	loamy sand with gravel
32	0-10 cm	10 YR 3/2	silt loam
32	10-20 cm	10 YR 3/2	silt loam
32	20-30 cm	10 YR 3/2	silt loam
32	30-40 cm	10 YR 3/2	silt loam
32	40-50 cm	10 YR 4/3	silt loam
32	50-60 cm	10 YR 3/2	silt loam
32	60-70 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
32	70-80 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam
32	80-90 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	silty clay loam
32	90-100 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
32	100-110 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
32	110-120 cm	10 YR 4/3 with 10 YR 5/6 & 5/1	clay loam
32	120-130 cm	10 YR 5/2 with 10 YR 5/6 & 5/1	clay loam
32	130-140 cm	10 YR 5/2 with 10 YR 5/6 & 5/1	clay
50	0-10 cm	10 YR 3/2	silt loam
50	10-20 cm	10 YR 3/2	silt loam
50	20-30 cm	10 YR 3/2	silt loam
50	30-40 cm	10 YR 3/2	silty clay loam
50	40-50 cm	10 YR 3/2 with 10 YR 5/6 & 5/1	silty clay loam

50	50-60 cm	10 YR 4/1 with 10 YR 5/6	silty clay loam
50	60-70 cm	10 YR 4/1 with 10 YR 5/6	clay loam
50	70-80 cm	10 YR 4/1 with 10 YR 5/6	clay loam
50	80-90 cm	10 YR 5/6 with 10 YR 5/1 & 4/4	clay loam
50	90-100 cm	10 YR 5/6 with 10 YR 5/1 & 4/4	clay loam
50	100-110 cm	10 YR 5/1 with 10 YR 5/6 & 4/4	clay loam
50	110-120 cm	10 YR 5/1 with 10 YR 5/6	clay
50	120-130 cm	10 YR 5/1 with 10 YR 5/6	clay
16	0-10 cm	10 YR 3/2	silt loam
16	10-20 cm	10 YR 3/2	silt loam
16	20-30 cm	10 YR 3/2	silt loam
16	30-40 cm	10 YR 3/2	silt loam
16	40-50 cm	10 YR 4/3	loam
16	50-60 cm	10 YR 4/3	loam
16	60-70 cm	10 YR 4/3	loam
16	70-80 cm	10 YR 4/3	sandy loam
16	80-90 cm	10 YR 5/3	sandy loam
16	90-100 cm	10 YR 5/3	sandy loam
16	100-110 cm	10 YR 5/3	sand and gravel
16	110-120 cm	10 YR 5/3	sand and gravel
16	120-130 cm	10 YR 5/3	sand and gravel

APPENDIX F
Artifacts Recovered from Van Nuys

Appendix F
Artifacts Recovered from Van Nuys

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.1	Flake, unm.	Fall Creek	2	1		13	0.00
98.17.1.1.2	Flake, unm.	Laurel, HT	2	1		1	0.00
98.17.1.1.3	Flake, edge-mod.	Fall Creek	2	1		1	0.00
98.17.1.1.4	Flake, edge-mod.	Fall Creek, HT	2	1		2	0.00
98.17.1.1.5	Flake, edge-mod.	Laurel	2	1		20	0.00
98.17.1.1.6	Flake, edge-mod.	Laurel, HT	2	1		2	0.00
98.17.1.1.7	Sherd	exfol/grit-temp.	2	1		1	0.70
98.17.1.1.8	Coal slag		2	1		4	0.00
98.17.1.1.9	FCR		2	1		8	0.00
98.17.1.1.10	Flake, unm.	Fall Creek	2	2		1	0.00
98.17.1.1.11	Flake, unm.	Laurel	2	2		2	0.00
98.17.1.1.12	Bipolar	Laurel	7	1		1	0.00
98.17.1.1.13	Flake, unm.	Fall Creek	7	1		13	0.00
98.17.1.1.14	Flake, unm.	Fall Creek, HT	7	1		6	0.00
98.17.1.1.15	Flake, unm.	Laurel	7	1		9	0.00
98.17.1.1.16	Flake, edge-mod.	Fall Creek	7	1		1	0.00
98.17.1.1.17	Flake, edge-mod.	Fall Creek, HT	7	1		2	0.00
98.17.1.1.18	Flake, edge-mod.	Laurel, HT	7	1		1	0.00
98.17.1.1.19	Sherd, body	cord-marked/grit-temp.	7	1		1	0.40
98.17.1.1.20	Sherd, body	exfol/grit-temp.	7	1		2	0.50
98.17.1.1.21	Charcoal	not sterile	7	1		1	0.00
98.17.1.1.22	Coal slag		7	1		3	0.00
98.17.1.1.23	FCR		7	1		17	0.00
98.17.1.1.24	Point fragment	Fall Creek	12	1		2	0.00
98.17.1.1.25	Point fragment	Laurel, HT	12	1		1	0.00
98.17.1.1.26	Point fragment	Wyandotte	12	1		1	0.00
98.17.1.1.27	Point fragment	Unknown	12	1		1	0.00
98.17.1.1.28	Point fragment	Unknown, HT	12	1		1	0.00
98.17.1.1.29	Bipolar	Laurel	12	1		1	0.00
98.17.1.1.30	Anvil/Hammerstone		12	1		1	0.00
98.17.1.1.31	Flake, unm.	Fall Creek	12	1		93	0.00
98.17.1.1.32	Flake, unm.	Fall Creek, HT	12	1		27	0.00
98.17.1.1.33	Flake, unm.	Fall Creek, HD	12	1		1	0.00
98.17.1.1.34	Flake, unm.	Flint Ridge	12	1		6	0.00
98.17.1.1.35	Flake, unm.	Glacial	12	1		3	0.00
98.17.1.1.36	Flake, unm.	Laurel	12	1		62	0.00
98.17.1.1.37	Flake, unm.	Laurel, HT	12	1		22	0.00
98.17.1.1.38	Flake, unm.	Laurel, HD	12	1		5	0.00
98.17.1.1.39	Flake, unm.	Wyandotte	12	1		2	0.00
98.17.1.1.40	Flake, unm.	Wyandotte, HD	12	1		1	0.00
98.17.1.1.41	Flake, unm.	Unknown	12	1		2	0.00
98.17.1.1.42	Flake, edge-mod.	Attica	12	1		1	0.00
98.17.1.1.43	Flake, edge-mod.	Fall Creek	12	1		11	0.00
98.17.1.1.44	Flake, edge-mod.	Fall Creek, HT	12	1		3	0.00
98.17.1.1.45	Flake, edge-mod.	Flint Ridge	12	1		1	0.00
98.17.1.1.46	Flake, edge-mod.	Laurel	12	1		11	0.00
98.17.1.1.47	Flake, edge-mod.	Laurel, HT	12	1		3	0.00
98.17.1.1.48	Flake, edge-mod.	Unknown	12	1		3	0.00
98.17.1.1.49	Block flake	Fall Creek	12	1		2	0.00
98.17.1.1.50	Block flake	Laurel, HD	12	1		1	0.00
98.17.1.1.51	Burned bone, unm.		12	1		11	3.10
98.17.1.1.52	Sherd, rim	cord-marked/grit-temp.	12	1		4	11.60
98.17.1.1.53	Sherd, rim	eroded/grit-temp.	12	1		2	2.20
98.17.1.1.54	Sherd, body	cord-mar/dec/grit-temp.	12	1		1	1.60
98.17.1.1.55	Sherd, body	cord-marked/grit-temp.	12	1		15	28.90
98.17.1.1.56	Sherd, body	exfoliated/grit-temp.	12	1		71	49.60
98.17.1.1.57	Coal slag		12	1		39	0.00
98.17.1.1.58	FCR		12	1		100	0.00
98.17.1.1.59	Triangular point fragment	Fall Creek	12	2		2	0.00
98.17.1.1.60	Biface fragment	Fall Creek	12	2		1	0.00
98.17.1.1.61	Flake, unm.	Fall Creek	12	2		14	0.00
98.17.1.1.62	Flake, unm.	Laurel	12	2		8	0.00
98.17.1.1.63	Flake, unm.	Laurel, HT	12	2		1	0.00
98.17.1.1.64	Flake, unm.	Wyandotte	12	2		1	0.00
98.17.1.1.65	Flake, edge-mod.	Fall Creek	12	2		3	0.00
98.17.1.1.66	Flake, edge-mod.	Fall Creek, HT	12	2		1	0.00
98.17.1.1.67	Flake, edge-mod.	Laurel	12	2		6	0.00

Appendix F
Artifacts Recovered from Van Nuys

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.68	Ochre, yellow		12	2		3	0.00
98.17.1.1.69	Sherd, rim	cord-mark/dec/grit-temp.	12	2		1	2.10
98.17.1.1.70	Sherd, neck	cord-marked/grit-temp.	12	2		1	6.30
98.17.1.1.71	Sherd, body	cord-marked/grit-temp.	12	2		1	6.90
98.17.1.1.72	Sherd, body	eroded/grit-temp.	12	2		3	3.90
98.17.1.1.73	Sherd, body	exfoliated/grit-temp.	12	2		6	4.20
98.17.1.1.74	Bone, unm.		12	2	SE corner	21	4.70
98.17.1.1.75	Bone, unm.		12	2	collected together	34	5.50
98.17.1.1.76	Bone, unm.		12	2		41	6.20
98.17.1.1.77	Burned bone, unm.		12	2		24	3.10
98.17.1.1.78	Bone, unm.	deer mandible fragment	12	2	NE corner; 47cmbd	23	11.50
98.17.1.1.79	Tooth fragment	deer	12	2		11	3.80
98.17.1.1.80	C-14 sample		12	2		1	0.00
98.17.1.1.81	Coal slag		12	2		3	0.00
98.17.1.1.82	FCR		12	2		3	0.00
98.17.1.1.83	Point fragment	Laurel	17	1		1	0.00
98.17.1.1.84	Flake, unm.	Fall Creek	17	1		6	0.00
98.17.1.1.85	Flake, unm.	Fall Creek, HT	17	1		1	0.00
98.17.1.1.86	Flake, unm.	Laurel	17	1		2	0.00
98.17.1.1.87	Flake, edge-mod.	Fall Creek	17	1		1	0.00
98.17.1.1.88	Flake, edge-mod.	Fall Creek, HT	17	1		1	0.00
98.17.1.1.89	Flake, edge-mod.	Laurel, HT	17	1		1	0.00
98.17.1.1.90	Block flake	Unknown	17	1		1	0.00
98.17.1.1.91	Burned bone, unm.		17	1		1	0.40
98.17.1.1.92	Charcoal, not sterile		17	1		1	0.00
98.17.1.1.93	Sandstone		17	1		2	0.00
98.17.1.1.94	Coal slag		17	1		1	0.00
98.17.1.1.95	Flake, edge-mod.	Fall Creek	17	2		2	0.00
98.17.1.1.96	Sherd, body	cord-marked/grit-temp.	17	2		9	28.30
98.17.1.1.97	Sherd, body	exfoliated/grit-temp.	17	2		29	18.40
98.17.1.1.98	Point fragment	Laurel	22	1		1	0.00
98.17.1.1.99	Flake, unm.	Fall Creek	22	1		33	0.00
98.17.1.1.100	Flake, unm.	Fall Creek, HT	22	1		5	0.00
98.17.1.1.101	Flake, unm.	Flint Ridge	22	1		2	0.00
98.17.1.1.102	Flake, unm.	Laurel	22	1		38	0.00
98.17.1.1.103	Flake, unm.	Laurel, HT	22	1		14	0.00
98.17.1.1.104	Flake, unm.	Unknown	22	1		1	0.00
98.17.1.1.105	Flake, edge-mod.	Fall Creek	22	1		5	0.00
98.17.1.1.106	Flake, edge-mod.	Fall Creek, HT	22	1		2	0.00
98.17.1.1.107	Flake, edge-mod.	Laurel	22	1		3	0.00
98.17.1.1.108	Flake, edge-mod.	Wyandotte	22	1		1	0.00
98.17.1.1.109	Sherd, body	cord-marked/grit-temp.	22	1		4	8.70
98.17.1.1.110	Sherd, body	eroded/grit-temp.	22	1		3	9.80
98.17.1.1.111	Sherd, body	exfoliated/grit-temp.	22	1		5	2.20
98.17.1.1.112	FCR		22	1		34	0.00
98.17.1.1.113	Flake, unm.	Laurel	22	2		2	0.00
98.17.1.1.114	Flake, edge-mod.	Fall Creek	22	2		1	0.00
98.17.1.1.115	Sherd, body	cord-marked/grit-temp.	22	2		1	1.60
98.17.1.1.116	Sherd, body	eroded/grit-temp.	22	2		1	0.70
98.17.1.1.117	FCR		22	2		2	0.00
98.17.1.1.118	Triangular point fragment	Fall Creek	27	1		1	0.00
98.17.1.1.119	Point fragment	Fall Creek, HT; unif.resh	27	1		1	0.00
98.17.1.1.120	Graver	Fall Creek, HT	27	1		1	0.00
98.17.1.1.121	Biface fragment	Laurel	27	1		1	0.00
98.17.1.1.122	Biface fragment	Laurel, HD	27	1		1	0.00
98.17.1.1.123	Flake, unm.	Fall Creek	27	1		39	0.00
98.17.1.1.124	Flake, unm.	Fall Creek, HT	27	1		3	0.00
98.17.1.1.125	Flake, unm.	Flint Ridge	27	1		4	0.00
98.17.1.1.126	Flake, unm.	Laurel	27	1		68	0.00
98.17.1.1.127	Flake, unm.	Laurel, HT	27	1		17	0.00
98.17.1.1.128	Flake, unm.	Laurel, HD	27	1		1	0.00
98.17.1.1.129	Flake, unm.	Unknown	27	1		3	0.00
98.17.1.1.130	Flake, unm.	Unknown, HT	27	1		1	0.00
98.17.1.1.131	Flake, unm.	Upper Mercer	27	1		1	0.00
98.17.1.1.132	Flake, edge-mod.	Fall Creek	27	1		7	0.00
98.17.1.1.133	Flake, edge-mod.	Laurel	27	1		4	0.00
98.17.1.1.134	Sherd, body	eroded/grit-temp.	27	1		2	2.60

Appendix F
Artifacts Recovered from Van Nuys

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.135	Sherd	exfoliated/grit-temp.	27	1		21	13.20
98.17.1.1.136	Burned bone, unm.		27	1		18	2.30
98.17.1.1.137	Coal slag		27	1		47	0.00
98.17.1.1.138	FCR		27	1		78	0.00
98.17.1.1.139	Triangular point	Fall Creek	32	1		1	0.00
98.17.1.1.140	Point fragment	Flint Ridge, Late MW?	32	1		1	0.00
98.17.1.1.141	Point fragment	Laurel, HT	32	1		1	0.00
98.17.1.1.142	Bipolar	Fall Creek	32	1		1	0.00
98.17.1.1.143	Flake, unm.	Fall Creek	32	1		7	0.00
98.17.1.1.144	Flake, unm.	Fall Creek, HT	32	1		9	0.00
98.17.1.1.145	Flake, unm.	Laurel	32	1		10	0.00
98.17.1.1.146	Flake, unm.	Laurel, HT	32	1		6	0.00
98.17.1.1.147	Flake, unm.	Unknown	32	1		5	0.00
98.17.1.1.148	Flake, edge-mod.	Fall Creek	32	1		2	0.00
98.17.1.1.149	Flake, edge-mod.	Fall Creek, HT	32	1		2	0.00
98.17.1.1.150	Flake, edge-mod.	Fall Creek, HD	32	1		2	0.00
98.17.1.1.151	Flake, edge-mod.	Laurel	32	1		7	0.00
98.17.1.1.152	Ochre, yellow		32	1		1	0.00
98.17.1.1.153	Sherd, body	cord-marked/grit-temp.	32	1		1	5.10
98.17.1.1.154	Sherd, body	exfoliated/grit-temp.	32	1		11	4.70
98.17.1.1.155	Bone, unm.		32	1		3	1.50
98.17.1.1.156	Burned bone, unm.		32	1		1	0.40
98.17.1.1.157	Tooth fragment	faunal	32	1		1	0.40
98.17.1.1.158	Coal slag		32	1		110	0.00
98.17.1.1.159	FCR		32	1		8	0.00
98.17.1.1.160	Bipolar	Laurel	37	1		1	0.00
98.17.1.1.161	Flake, unm.	Fall Creek	37	1		13	0.00
98.17.1.1.162	Flake, unm.	Fall Creek, HT	37	1		3	0.00
98.17.1.1.163	Flake, unm.	Flint Ridge	37	1		1	0.00
98.17.1.1.164	Flake, unm.	Laurel	37	1		6	0.00
98.17.1.1.165	Flake, unm.	Laurel, HT	37	1		3	0.00
98.17.1.1.166	Flake, unm.	Wyandotte	37	1		3	0.00
98.17.1.1.167	Flake, unm.	Unknown	37	1		1	0.00
98.17.1.1.168	Flake, edge-mod.	Fall Creek	37	1		2	0.00
98.17.1.1.169	Flake, edge-mod.	Laurel	37	1		4	0.00
98.17.1.1.170	Other chipped stone	slate	37	1		1	0.00
98.17.1.1.171	Sherd, body	exfoliated/grit-temp.	37	1		3	1.40
98.17.1.1.172	Burned bone, unm.		37	1		2	0.10
98.17.1.1.173	FCR		37	1		14	0.00
98.17.1.1.174	Bipolar	Unknown	42	1		1	0.00
98.17.1.1.175	Denticulate	Fall Creek	42	1		1	0.00
98.17.1.1.176	Flake, unm.	Fall Creek	42	1		9	0.00
98.17.1.1.177	Flake, unm.	Fall Creek, HT	42	1		1	0.00
98.17.1.1.178	Flake, unm.	Laurel	42	1		8	0.00
98.17.1.1.179	Flake, unm.	Laurel, HT	42	1		1	0.00
98.17.1.1.180	Flake, unm.	Wyandotte	42	1		2	0.00
98.17.1.1.181	Flake, unm.	Unknown	42	1		1	0.00
98.17.1.1.182	Flake, edge-mod.	Fall Creek	42	1		4	0.00
98.17.1.1.183	Flake, edge-mod.	Flint Ridge	42	1		1	0.00
98.17.1.1.184	Flake, edge-mod.	Laurel	42	1		6	0.00
98.17.1.1.185	Other chipped stone	slate	42	1		2	0.00
98.17.1.1.186	Sherd, body	cord-marked/grit-temp.	42	1		4	6.70
98.17.1.1.187	Sherd, body	exfoliated/grit-temp.	42	1		8	3.90
98.17.1.1.188	Bone, unm.		42	1		1	0.10
98.17.1.1.189	Burned bone, unm.		42	1		1	0.90
98.17.1.1.190	Coal slag		42	1		2	0.00
98.17.1.1.191	FCR		42	1		20	0.00
98.17.1.1.192	Flake, unm.	Fall Creek	42	1/2		7	0.00
98.17.1.1.193	Flake, unm.	Laurel	42	1/2		4	0.00
98.17.1.1.194	Flake, unm.	Laurel, HT	42	1/2		1	0.00
98.17.1.1.195	Flake, unm.	Wyandotte	42	1/2		1	0.00
98.17.11.196	Flake, unm.	Unknown	42	1/2		1	0.00
98.17.1.1.197	Other chipped stone	slate	42	1/2		3	0.00
98.17.1.1.198	Sherd, body	exfoliated/grit-temp.	42	1/2		2	3.10
98.17.1.1.199	Burned bone, unm.		42	1/2		2	0.70
98.17.1.1.200	Coal slag		42	1/2		4	0.00
98.17.1.1.201	FCR		42	1/2		46	0.00

Appendix F
Artifacts Recovered from Van Nuys

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.202	Flake, unm.	Fall Creek	47	1		5	0.00
98.17.1.1.203	Flake, unm.	Fall Creek, HT	47	1		4	0.00
98.17.1.1.204	Flake, unm.	Laurel	47	1		15	0.00
98.17.1.1.205	Flake, unm.	Laurel, HT	47	1		2	0.00
98.17.1.1.206	Flake, edge-mod.	Fall Creek	47	1		2	0.00
98.17.1.1.207	Flake, edge-mod.	Fall Creek, HT	47	1		1	0.00
98.17.1.1.208	Flake, edge-mod.	Fall Creek, HD	47	1		1	0.00
98.17.1.1.209	Flake, edge-mod.	Laurel	47	1		3	0.00
98.17.1.1.210	Block flake	Laurel	47	1		1	0.00
98.17.1.1.211	Other chipped stone		47	1		1	0.00
98.17.1.1.212	Sherd, body	cord-marked/grit-temp.	47	1		1	0.60
98.17.1.1.213	Sherd, body	exfoliated/grit-temp.	47	1		5	5.70
98.17.1.1.214	FCR		47	1		17	0.00
98.17.1.1.215	Flake, unm.	Fall Creek	27	F1	top; NW corner	1	0.00
98.17.1.1.216	Flake, unm.	Fall Creek, HT	27	F1	top; NW corner	3	0.00
98.17.1.1.217	Flake, unm.	Laurel, HT	27	F1	top; NW corner	2	0.00
98.17.1.1.218	Flake, unm.	Laurel	27	F1	top; NW corner	3	0.00
98.17.1.1.219	Flake, edge-mod.	Laurel	27	F1	top; NW corner	1	0.00
98.17.1.1.220	Flake, edge-mod.	Laurel, HT	27	F1	top; NW corner	1	0.00
98.17.1.1.221	Antler tine	burned/polished	27	F1	top; NW corner	1	0.40
98.17.1.1.222	Burned bone, unm.		27	F1	top; NW corner	30	7.80
98.17.1.1.223	Flake, unm.	Fall Creek	27	F1/L1	(4 cm); W1/2, screened	3	0.00
98.17.1.1.224	Flake, unm.	Fall Creek, HT	27	F1/L1	W1/2, screened	11	0.00
98.17.1.1.225	Flake, unm.	Laurel	27	F1/L1	W1/2, screened	12	0.00
98.17.1.1.226	Flake, unm.	Laurel, HT	27	F1/L1	W1/2, screened	24	0.00
98.17.1.1.227	Flake, unm.	Wyandotte	27	F1/L1	W1/2, screened	1	0.00
98.17.1.1.228	Flake, unm.	Unknown	27	F1/L1	W1/2, screened	13	0.00
98.17.1.1.229	Flake, unm.	Unknown, HD	27	F1/L1	W1/2, screened	9	0.00
98.17.1.1.230	Flake, edge-mod.	Laurel, HT	27	F1/L1	W1/2, screened	1	0.00
98.17.1.1.231	Microflakes		27	F1/L1	W1/2, screened	7	0.00
98.17.1.1.232	Sherd	exfoliated/grit-temp.	27	F1/L1	W1/2, screened	4	1.10
98.17.1.1.233	Bone, unm.		27	F1/L1	W1/2, screened	6	0.40
98.17.1.1.234	Burned bone, unm.		27	F1/L1	W1/2, floated	8	0.10
98.17.1.1.235	Burned bone, unm.		27	F1/L1	W1/2, screened	1,849	71.80
98.17.1.1.236	Charcoal, not sterile		27	F1/L1	W1/2, screened	1	0.00
98.17.1.1.237	Wood,rootlets,charcoal		27	F1/L1	W1/2, floated	1	0.00
98.17.1.1.238	Sandstone		27	F1/L1	W1/2, screened	1,416	0.00
98.17.1.1.239	FCR		27	F1/L1	W1/2, screened	27	0.00
98.17.1.1.240	Flake, unm.	Fall Creek	27	F1/L2	(3-6cm); W1/2, screened	2	0.00
98.17.1.1.241	Flake, unm.	Fall Creek, HT	27	F1/L2	W1/2, screened	3	0.00
98.17.1.1.242	Flake, unm.	Laurel	27	F1/L2	W1/2, screened	10	0.00
98.17.1.1.243	Flake, unm.	Laurel, HT	27	F1/L2	W1/2, screened	8	0.00
98.17.1.1.244	Flake, unm.	Unknown	27	F1/L2	W1/2, screened	3	0.00
98.17.1.1.245	Microflakes		27	F1/L2		52	0.00
98.17.1.1.246	Block flake	Unknown	27	F1/L2	W1/2, screened	2	0.00
98.17.1.1.246a	Sandstone		27	F1/L2	W1/2, screened	675	0.00
98.17.1.1.247	Sherd, body	exfoliated/grit-temp.	27	F1/L2	W1/2, screened	1	0.20
98.17.1.1.248	Burned bone, unm.		27	F1/L2		3,974	11.30
98.17.1.1.249	Burned bone, unm.		27	F1/L2	W1/2, floated	37	0.30
98.17.1.1.250	Burned bone, unm.		27	F1/L2	W1/2, screened	1,229	51.40
98.17.1.1.251	Wood,rootlets,char,coprol		27	F1/L2	W1/2, floated	1	0.00
98.17.1.1.252	Charcoal, not sterile		27	F1/L2	W1/2, screened	1	0.00
98.17.1.1.253	FCR		27	F1/L2	W1/2, screened	2	0.00
98.17.1.1.254	Flake, unm.	Fall Creek	27	F1/L3	(6-7cm); W1/3, screened	1	0.00
98.17.1.1.255	Flake, unm.	Laurel	27	F1/L3	W1/3, screened	2	0.00
98.17.1.1.256	Flake, unm.	Laurel, HT	27	F1/L3	W1/3, screened	6	0.00
98.17.1.1.257	Flake, unm.	Unknown	27	F1/L3	W1/3, screened	2	0.00
98.17.1.1.258	Microflakes		27	F1/L3		42	0.00
98.17.1.1.259	Sandstone		27	F1/L3	W1/3, screened	309	0.00
98.17.1.1.260	Sherd	exfoliated/grit-temp.	27	F1/L3	W1/3, screened	2	0.50
98.17.1.1.261	Burned bone, unm.		27	F1/L3		3,683	10.00
98.17.1.1.262	Burned bone, unm.		27	F1/L3	W1/3, floated	7	0.10
98.17.1.1.263	Burned bone, unm.		27	F1/L3	W1/3, screened	699	29.70
98.17.1.1.264	Snail shell fragment, unm		27	F1/L3	W1/3, floated	3	0.00
98.17.1.1.265	Wood,rootlets,char,coprol		27	F1/L3	W1/3, floated	1	0.00
98.17.1.1.266	Charcoal, not sterile		27	F1/L3	W1/3, screened	1	0.00
98.17.1.1.267	FCR		27	F1/L3	W1/3, screened	4	0.00

Appendix F
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Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.268	Sherd, body	eroded/grit-temp.	27	F1	W1/2	2	2.80
98.17.1.1.269	Astragalus	deer	27	F1	W1/2	3	12.70
98.17.1.1.270	Epiphysis of tibia	deer	27	F1	W1/2	1	2.40
98.17.1.1.271	Phalange	deer	27	F1	W1/2	1	1.20
98.17.1.1.272	Burned bone, unm.	deer	27	F1	W1/2	5	7.70
98.17.1.1.273	Burned bone, unm.		27	F1	W1/2	54	35.60
98.17.1.1.274	C-14 sample		27	F1	W1/2	1	0.00
98.17.1.1.275	Flake, unm.	Laurel	27	F2	screened	1	0.00
98.17.1.1.276	Insect parts		27	F2	screened	11	0.00
98.17.1.1.277	Thistle,insect part,shell		27	F2	floated	7	0.00
98.17.1.1.278	Wood,rootlets,charcoal		27	F2	floated	1	0.00
98.17.1.1.279	Charcoal, not sterile		27	F2	screened	1	0.00
98.17.1.1.280	C-14 sample		27	F2	20-30cmN,12-20cmW(SEc 41-44cmbd	1	0.00
98.17.1.1.281	FCR		27	F2	screened	49	0.00
98.17.1.1.282	Flake, unm.	Unknown	A#1	20-30cm		1	0.00
98.17.1.1.283	Flake, unm.	Laurel	A#3	10-20cm		1	0.00
98.17.1.1.284	Flake, unm.	Glacial	A#4	10-20cm		1	0.00
98.17.1.1.285	Flake, unm.	Laurel	A#4	10-20cm		1	0.00
98.17.1.1.286	Sherd, body	cord-marked/grit-temp.	A#4	10-20cm		1	0.50
98.17.1.1.287	Cinder		A#4	10-20cm		1	0.00
98.17.1.1.288	Coal slag		A#4	20-30cm		2	0.00
98.17.1.1.289	Coal slag		A#4	40-50cm		1	0.00
98.17.1.1.290	FCR		A#5	40-50cm		1	0.00
98.17.1.1.291	Flake, unm.	Unknown	A#7	30-40cm		1	0.00
98.17.1.1.292	Bone, unm.		A#7	120-130cm		1	0.40
98.17.1.1.293	Charcoal, not sterile		A#7	120-130cm		1	0.00
98.17.1.1.294	Bone, unm.		A#8	50-60cm		1	1.60
98.17.1.1.295	Flake, unm.	Unknown	A#9	0-10cm		1	0.00
98.17.1.1.296	Cinder		A#9	10-20cm		1	0.00
98.17.1.1.297	FCR		A#9	10-20cm		1	0.00
98.17.1.1.298	Bone, unm.		A#9	80-90cm		1	1.90
98.17.1.1.299	Flake, unm.	Glacial	A#10	20-30cm		1	0.00
98.17.1.1.300	Flake, unm.	Unknown	A#10	20-30cm		1	0.00
98.17.1.1.301	Flake, unm.	Unknown, HT	A#10	20-30cm		1	0.00
98.17.1.1.302	Cinder		A#10	20-30cm		1	0.00
98.17.1.1.303	Coal slag		A#11	0-10cm		1	0.00
98.17.1.1.304	Flake, unm.	Unknown	A#11	10-20cm		3	0.00
98.17.1.1.305	Flake, unm.	Unknown	A#11	20-30cm		1	0.00
98.17.1.1.306	Bone, unm.		A#11	80-90cm		1	0.20
98.17.1.1.307	Flake, unm.	Laurel	A#12	0-10cm		1	0.00
98.17.1.1.308	Flake, unm.	Unknown	A#12	20-30cm		1	0.00
98.17.1.1.309	Burned bone, unm.		A#12	30-40cm		2	0.20
98.17.1.1.310	Bone, unm.		A#12	70-80cm		1	0.20
98.17.1.1.311	Bone, unm.		A#12	100-110cm		1	0.10
98.17.1.1.312	Flake, edge-mod.	Laurel	A#13	0-10cm		1	0.00
98.17.1.1.313	FCR		A#13	0-10cm		1	0.00
98.17.1.1.314	Bone, unm.		A#13	30-40cm		3	1.50
98.17.1.1.315	Sherd, body	exfoliated/grit-temp.	A#14	10-20cm		1	0.20
98.17.1.1.316	Sherd, body	eroded/grit-temp.	A#14	20-30cm		1	0.30
98.17.1.1.317	Bone, unm.		A#14	130-140cm		1	0.10
98.17.1.1.318	Flake, unm.	Unknown	A#15	20-30cm		1	0.00
98.17.1.1.319	Flake, unm.	Glacial	A#17	10-20cm		1	0.00
98.17.1.1.320	Flake, edge-mod.	Fall Creek	A#17	20-30cm		1	0.00
98.17.1.1.321	Bone, unm.		A#17	20-30cm		1	0.10
98.17.1.1.322	Coal slag		A#17	20-30cm		2	0.00
98.17.1.1.323	Flake, unm.	Laurel	A#20	10-20cm		1	0.00
98.17.1.1.324	Flake, edge-mod.	Laurel	A#20	10-20cm		1	0.00
98.17.1.1.325	Flake, unm.	Laurel	A#20	20-30cm		1	0.00
98.17.1.1.326	Cinder		A#20	20-30cm		4	0.00
98.17.1.1.327	Flake, unm.	Unknown	A#20	30-40cm		1	0.00
98.17.1.1.328	FCR		A#21	30-40cm		2	0.00
98.17.1.1.329	Flake, unm.	Unknown	A#22	0-10cm		1	0.00
98.17.1.1.330	Cinder		A#22	0-10cm		7	0.00
98.17.1.1.331	Cinder		A#22	10-20cm		3	0.00
98.17.1.1.332	Flake, unm.	Unknown	A#22	20-30cm		2	0.00
98.17.1.1.333	Cinder		A#22	20-30cm		10	0.00

Appendix F
Artifacts Recovered from Van Nuys

Catalog No.	Identification	Material	XU	Level	Provenience	No.	Weight
98.17.1.1.334	Cinder		A#22	30-40cm		1	0.00
98.17.1.1.335	FCR		A#23	10-20cm		1	0.00
98.17.1.1.336	Flake, unm.	Unknown	A#24	0-10cm		1	0.00
98.17.1.1.337	Cinder		A#24	0-10cm		2	0.00
98.17.1.1.338	FCR		A#27	10-20cm		1	0.00
98.17.1.1.339	Flake, unm.	Fall Creek	A#28	10-20cm		1	0.00
98.17.1.1.340	Flake, unm.	Laurel	A#30	40-50cm		1	0.00
98.17.1.1.341	Bone, unm.		A#30	100-110cm		1	4.80
98.17.1.1.342	Cinder		A#31	0-10cm		2	0.00
98.17.1.1.343	Sherd	exfoliated/grit-temp.	A#31	40-50cm		4	0.00
98.17.1.1.344	Cinder		A#32	10-20cm		2	0.00
98.17.1.1.345	Flake, unm.	Unknown, HD	A#32	20-30cm		1	0.00
98.17.1.1.346	Bone, unm.		A#32	60-70cm		3	2.90
98.17.1.1.347	Sherd, body	exfoliated/grit-temp.	A#35	20-30cm		2	1.20
98.17.1.1.348	Sherd, body	eroded/grit-temp.	A#35	40-50cm		1	0.80
98.17.1.1.349	Coal slag		A#38	10-20cm		5	0.00
98.17.1.1.350	Cinder		A#40	0-10cm		1	0.00
98.17.1.1.351	Cinder		A#40	30-40cm		1	0.00
98.17.1.1.352	Cinder		A#41	20-30cm		1	0.00
98.17.1.1.353	Cinder		A#44	0-10cm		1	0.00
98.17.1.1.354	Flake, unm.	Unknown	A#44	10-20cm		1	0.00
98.17.1.1.355	FCR		A#44	10-20cm		1	0.00
98.17.1.1.356	Cinder		A#45	50-60cm		1	0.00
98.17.1.1.357	Burned bone, unm.		A#45	100-110cm		1	0.70
98.17.1.1.358	Cinder		A#46	0-10cm		2	0.00
98.17.1.1.359	Flake, unm.	Laurel, HT	A#47	0-10cm		1	0.00
98.17.1.1.360	FCR		A#47	40-50cm		1	0.00
98.17.1.1.361	Flake, unm.	Laurel	A#48	10-20cm		1	0.00
98.17.1.1.362	Bone, unm.		A#49	40-50cm		1	0.40

APPENDIX G
Artifacts from Previous Investigation at Van Nuys

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
27F-7-1	celt, fractured	gr. stone celt/adze				surface co	1	
27F-7-2	celt, crude	gr. stone celt/adze				surface co	1	
27F-7-3	problematic object	other chipped stone				surface co	1	
27F-7-4	celt, fractured	gr. stone celt/adze				surface co	1	
27F-7-5	grinding stone	missing	granite			surface co	1	
27F-7-6	drill	missing	Wyandotte			surface co	1	
27F-7-7	grinding stone	anvil/hammerstone				surface co	1	
27F-7-8	grinding stone	rock w/plow damage				surface co	1	
27F-7-9	drill, fractured	perforator fragment	Laurel			surface co	1	
27F-7-10	drill, fractured	perforator fragment	Laurel, HT			surface co	1	
27F-7-11	drill, fractured	missing				surface co	1	
27F-7-12	scraper, hand	chipped stone adze	Laurel			surface co	1	
27F-7-13	scraper, hand	other chipped stone				surface co	1	
27F-7-14	scraper, thumb	flake, edge-modified	Fall Creek			surface co	1	
27F-7-15	scraper, thumb	missing				surface co	1	
27F-7-16	point, complete	point fragment	Laurel			surface co	1	
27F-7-17	point, complete	missing				surface co	1	
27F-7-18	point, complete	missing				surface co	1	
27F-7-19	point, complete	missing				surface co	1	
27F-7-20	point, basal frag	Tr.pnt. frag,retouch	Laurel			surface co	1	
27F-7-21	point, basal frag	Tr. point fragment	Fall Creek			surface co	1	
27F-7-22	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-23	point, basal frag	missing				surface co	1	
27F-7-24	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-25	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-26	point, basal frag n	missing				surface co	1	
27F-7-27	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-28	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-29	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-30	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-31	point, basal frag	Tr. point fragment	Laurel			surface co	1	
27F-7-32	point, basal frag	missing				surface co	1	
27F-7-33	corn cob, 9 rows	missing				surface co	1	
27F-7-34	sherd, plain rim	missing				surface co	1	
27F-7-35	sherd, cord-marked	missing				surface co	1	
27F-7-36	sherd, cord-marked	missing				surface co	1	
27F-7-37	sherd, cord-marked	missing				surface co	1	
27F-7-38	sherd. cord-marked	missing				surface co	1	
27F-7-39	sherd, cord-marked	missing				surface co	1	
27F-7-40	sherd, plain rim	missing				surface co	1	
27F-7-41	sherd, plain	missing				surface co	1	
27F-7-42	sherd, plain	missing				surface co	1	
27F-7-43	sherd, plain	missing				surface co	1	
27F-7-44	sherd, plain	missing				surface co	1	
27F-7-45	sherd, plain	missing				surface co	1	
27F-7-46	sherd, plain	missing				surface co	1	
27F-7-47	sherd, plain	missing				surface co	1	
27F-7-48	sherd, plain	missing				surface co	1	
27F-7-49	sherd, plain	missing				surface co	1	
27F-7-50	sherd, plain	missing				surface co	1	
27F-7-51	sherd, plain	missing				surface co	1	
27F-7-52	sherd, plain	missing				surface co	1	
37F-4-1	sherds	see Appendix G-1		E1 S16	18"	N44" E48"	49	
37F-4-2	bone	dis.humerus; beaver?		E1 S14	35"	N10" E20"	1	
37F-4-3	bone	bone awl fragment		E1 S14	40"	N1" E1"	1	
37F-4-4	bone	l.bone frag; unmod.		E1 S15	20"	N2" E46"	4	
37F-4-5	bone	fragment, unmod.		E1 S17	4"	N0" E41"	1	
37F-4-6	bone	fragment, unmod.		E1 S17	12"	N38" E27"	1	
37F-4-7	shell	mussel shell frag.		E1 S10	66"	at random	20+	
37F-4-8	shell, (powder)	mussel shell frag.		E1 S12	36"	N36" E36"	20+	
37F-4-9	bone	fragment, unmod.		E1 S16	18"	N44" E48"	5/1	
37F-4-10	point, basal frag	see Appendix G-1		E1 S16	18"	N44" E48"	1	
37F-4-11	tooth	deer molar		E2 S16	12-18"	at random	1	
37F-4-12	point, madison	Tr.point fragment	Laurel	E2 S16	12-18"	at random	1	
37F-4-13	scraper/ret. flake	Biface, stage 2	Laurel	E2 S17	20"	N0" E13"	1	
37F-4-14	sherd	cord-mark; grit temp		E1 S18	6"	N60" E0"	1	
37F-4-15	bone	l.bone frag; unmod.		E1 S18	7"	N23" E0"	3	
37F-4-16	bone	l.bone frag;unmod.		W14S17	16"	N53" E51"	1	
37F-4-17	bone	fragment, unmod.		W14S17	18"	N56" E4"	1	

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
37F-4-18	bone	see Appendix G-1		E1 S14	40"	N0" E40"	4	
37F-4-19	bone	l.bone frag; unmod.		E1 S19	6-12"	at random	3	
37F-4-20	sherd	cord-mark; grit temp		W2 S17	12"	N20" E82"	1	
37F-4-21	flake, retouched	graver	Unknown	W3 S17	12"	N57" E21"	1	
37F-4-22	sherd	see Appendix G-1		E1 S15	31"	N47" E3"	1	firepit
37F-4-23	sherd	see Appendix G-1		E1 S15	34"	N53" E12"	1	firepit
37F-4-24	bone	see Appendix G-1		E1 S15	34"	N53" E12"	2	firepit
37F-4-25	bone	fragment, unmod.		E1 S15		at random	7	firepit
37F-4-26	bone, chert, shell	see Appendix G-1		E1 S15		at random	35	firepit
37F-4-27	bone, shell	see Appendix G-1		W16S17	6-12"	at random	9	
37F-4-28	sherd, bone, chert	missing		E1 S15		at random	10	firepit
37F-4-29	C-14 sample	missing	charcoal	W1 S16	27"	N0" E60"	7	firepit
49F-2-1	nutting stone	hammer/nutting stone				surface		
49F-2-2	rock	sandstone	(limonite)			surface		
49F-2-3	point frag, madison	Biface fragment	Fall Creek			surface		
49F-2-4	chert, frag	flake, unmod, HT/HD	Laurel			surface		
49F-2-5	biface, frag	Biface fragemt	Laurel, HT			surface		
49F-2-6	bag of chert	missing				surface		
49F-2-7	tooth	Deer molar fragment		S18 W9	0-6"	disturbed		
49F-2-8	point, frag	Tr.point fragment	Fall Creek			surface		
49F-2-9	point frag, madison	Tr.point fragment	Laurel			surface		
49F-2-10	point frag, madison	Biface fragment	Laurel			surface		
49F-2-11	scraper frag/core	flake, unmod.	Fall Creek			surface		
49F-2-12	flake knife, ed.mod.	Flake, edge-modified	F.Crk, HT			surface		
49F-2-13	scraper, ed.mod.	bipolar	Laurel			surface		
49F-2-14	point, frag	flake, edge-modified	Laurel			surface		
49F-2-15	flake, scraper	missing				surface		
49F-2-16	point/perf. frag	Tr.point fragment	Laurel, HT			surface		
49F-2-17	celt, double-edged	dble-end gr.st. adze				surface		
49F-2-18	chert core/rock	see Appendix G-1				surface		
49F-2-19	chert core	core	Laurel			surface		
49F-2-20	chert core	chert				surface		
49F-2-21	sherd	coal slag				surface		
49F-2-22	sherd	rock				surface		
49F-2-23	chert	flake, unmod.	Laurel			surface		
49F-2-24	ochre, yellow	sandstone				surface		
49F-2-25	scraper	flake, edge-modified	Fall Creek			surface		
49F-2-26	point, frag	biface fragment	Laurel			surface		
49F-2-27	scraper	flake, unmod.	F.Ridge,HT			surface		
49F-2-28	sherds	see Appendix G-1				surface	21	
49F-2-27	blade knife	missing				surface		
49F-2-28	sherd, plain red	see Appendix G-1		S18 W8	7"	plow zone		
49F-2-29	charcoal	charcoal		S19 W8	13.5"	10"S 4"E	1	brn ground
49F-2-30	bone, frag	fragment; polished		S19 W8	11"	56"N 4"E	1	charcoal
49F-2-31	bone, frag	l.bone frag;polished		S19 W8	11"	56"N 4"E	1	charcoal
49F-2-32	bone, frag	mod.frag; polished		S19 W8	11"	55.5"N 3"E	1	
49F-2-33	bone, frag	beamer fr;metapoidal	deer	S19 W8	11"	59"N 6"E	1	
49F-2-34	bone, frag	fragment; polished		S19 W8	11"	60"N 3"E	1	
49F-2-35	bone, frag	missing		S19 W9	12"	57"E 27"S	1	
49F-2-36	bone, frag	fragment; polished		S18 W8	13"	43"E 9"N	1	
49F-2-37	bone, frag	fragment; polished		S19 W9	12"	55"E 26"N	1	
49F-2-38	FCR	FCR		S19 W9	12"	53"E 41"N	1	bone, frag
49F-2-39	FCR	FCR		S19 W8	12"	3"E 59.5"N	1	bone, frag
49F-2-40	bone	awl		S18 W9	16"	11"E 5.5"N	2	
49F-2-41	bone	missing		S18 W9	15"	50"N 20"E	1	
49F-2-42	point, frag	biface fragment	Attica			surface		
49F-2-43	point frag, madison	Tr.point fragment	Fall Creek			surface		
49F-2-44	spoke shave, ed.mod.	flake, edge-modified	Fall Creek			surface		
49F-2-45	worked disc/OCS	chipped stone disk	slate			surface		
49F-2-46	point, madison	Tr.point fragment	Laurel			surface		
49F-2-47	pnt/bif frag st 3	see Appendix G-1				surface		
49F-2-48	point, frag	point fragment	Fall Creek			surface		
49F-2-49	point frag, madison	Tr.point fragment	Fall Creek			surface		
49F-2-50	point frag, madison	Tr.point fragment	Laurel, HT			surface		
49F-2-51	point frag, madison	Tr.point fragment	Laurel			surface		
49F-2-52	sherd, rim	missing				surface		
49F-2-53	sherd	cord-mark; grit temp				surface		
49F-2-54	pitted stone	anvil/hammerstone				surface		
49F-2-55	scraper, ed.mod.	flake, unmod.	Laurel, HT			surface		

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
49F-2-56	scraper, flake/anvil	anvil/hammerstone				surface		
49F-2-57	mano	mising				surface		
49F-2-58	sherd	cord-mark; grit temp	E.W.land	S18 W8	12.5"	26"S 54"E		
49F-2-59	flake	missing		S18 W1	12"	53"N 8"E		
49F-2-60	flake, primary	flake, unmod.	Laurel	S18 W1		plow zone		
49F-2-61	shell	shell fragments		S15 W8	26.5"	7"S 33"E		
49F-2-62	FCR	missing		S18 W1	12"	17"N 8"E		
49F-2-63	FCR	FCR		S18 W1	6.5"	43"N 33"E		
49F-2-64	FCR	FCR		S18 W1	15"	33"N 45"E		
49F-2-65	FCR	FCR		S18 W1	17"	40"N 36"E		
49F-3-1	sherd	plain; grit tempered	E.W.land	S15 W9	0-6"	plow zone		
49F-3-2	sherd	cord-mark; grit temp		S15 W9	0-6"	plow zone		
49F-3-3	sherd	cord-mark; grit temp		S15 W9	0-6"	plow zone		
49F-3-4	sherd	exfoliated		S15 W9	0-6"	plow zone		
49F-3-5	sherd	cord-mark; grit temp		S15 W9	0-6"	plow zone		
49F-3-6	sherd	cord-mark; grit temp		S15 W9	0-6"	plow zone		
49F-3-7	sherd	cord-mark; grit temp		S15 W9	0-6"	plow zone		
49F-3-8	scraper	missing		S15 W8	8"	40"S 6"E		
49F-3-9	drill/perf. frag	Tr.point/perf.frag	Laurel			surface		
49F-3-10	point, frag	Tr. point fragment	Laurel			surface		
49F-3-11	point, frag	point fragment	Laurel			surface		
49F-3-12	point, frag	Triangular point	Laurel			surface		
49F-3-13	drill/perf. frag	perforator fragment	Fall Creek			surface		
49F-3-14	FCR	missing		W8 S18	14.5"	27"S 32"E	1	FCR
49F-3-15	mussel bivalve	mussel shell		W8 S15	27"	17"? 1.5"S	1	
49F-3-16	FCR	missing		W8 S18	14.5"	10"S 32"E	1	FCR
49F-3-17	FCR	FCR		W8 S18	14.5"	18"S 36"E	1	FCR
49F-3-18	FCR	FCR		W8 S18	13"	36"S 1"E	1	FCR
49F-3-19	FCR	rock		W8 S18	13"	30"S 22"E	1	FCR
49F-3-20	FCR	FCR		W8 S18	14"	20"S 19"E	1	FCR
49F-3-21	tooth	missing		S18 W8	10"	15"S 1"E	1	FCR
49F-3-22	bone	missing		S18 W8	13"	47"S 4"E	1	FCR
49F-3-23	FCR	FCR		S18 W9	14"	54"N 7"E	1	FCR
49F-3-24	abrador	rock	rock	S18 W1	18"	28"N 20"E	1	
57F-4-1	point, missing	missing				surface		
57F-4-2	point, missing	missing				surface		
57F-4-3	wrkd flake, missing	missing				surface		
57F-4-4	wrkd flake, missing	missing				surface		
57F-4-5	unfinished, missing	missing				surface		
57F-4-6	point, missing	missing				surface		
57F-4-7	point, basal frag	flake, edge-modified	Fall Creek			surface		
57F-4-8	point frag, missing	missing				surface		
57F-4-9	scraper/flake, em	flake, edge-modified	Laurel			surface		
57F-4-10	biface, frag	point fragment	F.Crk, HT			surface		
57F-4-11	Flake, edge mod.	flake, edge-modified	Laurel, HT			surface		
57F-4-12	Core deb./core	core	F.Crk, HT			surface		
57F-4-13	chert	core	Fall Creek			surface		
57F-14	bone	see Appendix G-1				surface	5	
57F-15	flake	flake, edge-modified	Laurel, HT			surface	1	
57F-16	sherd	cord-mark; grit temp		E1 S15		fire pit	4	
57F-17	flake	see Appendix G-1		E1 S15		fire pit	4	
57F-18	bone	see Appendix G-1		E1 S15		fire pit	3	
57F-19	flake	see Appendix G-1				surface co	18	
57F-20	FCR	FCR				surface co	1	
57F-21	flake	see Appendix G-1				surface co	11	
57F-22	sherd	see Appendix G-1				surface co	2	
57F-23	field tile	drain tile				surface co	1	
57F-24	chert	chert	glacial			surface co	2	
57F-25	flake	see Appendix G-1				surface co	25	
57F-26	flake, utilized	see Appendix G-1				surface co	9	
57F-27	FCR	FCR				surface	1	
57F-28	flake	flake, unmod.	quartzite			surface	1	
57F-29	flake	see Appendix G-1				surface	9	
57F-30	flake	other chipped stone	slate			surface	2	
57F-31	shell fragment	missing				surface	1	
57F-32	bone	missing				surface	7	
57F-33	flake	see Appendix G-1				surface	9	
57F-34	sherd	see Appendix G-1				surface	2	
57F-35	flake	see Appendix G-1				surface	6	

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
57F-36	point, frag	biface fragment	F.Crk, HT			surface	2	in type co
57F-37	flake, utilized	see Appendix G-1				surface	5	
57F-38	flake	see Appendix G-1		E1 S18	6-12"	screened	5	
57F-39	flake	chert		E1 S18			1	
57F-40	chert	chert	glacial	E1 S17			2	
57F-41	flake	flake, unmod.	Laurel	W14S11	6-12"		1	
57F-42	flake	see Appendix G-1		S1 E12	12-18"		4	
57F-43	flake	see Appendix G-1		S1 E12	6-12"		4	
57F-44	flake			W14S17	0-6"		1	
57F-45	biface, frag	Tr.point fragment	Laurel, HT	W1 S16			1	
57F-46	flake	see Appendix G-1			0-12"	side walls	2	
86.14.1	flake, frag					B1/R1	3	
86.14.2	flake, edge mod.					B1/R1	3	
86.14.3	flake, primary					B1/R1	2	
86.14.4	flake, frag					B2/R1	4	
86.14.5	flake, init. red.					B2/R1	1	
86.14.6	flake, primary					B2/R1	3	
86.14.7	flake, edge mod.					B2/R1	1	
86.14.8	flake, secondary					B2/R1	1	
86.14.9	core					B2/R1	1	
86.14.10	sherd					B2/R1	1	
86.14.11	flake, frag					B3/R1	3	
86.14.12	flake, edge mod.					B3/R1	2	
86.14.13	flake, frag					R1/B4	5	
86.14.14	bipolar					R1/B4	1	
86.14.15	flake, primary					R1/B4	2	
86.14.16	flake, edge mod.					R1/B4	3	
86.14.17	biface, frag	core	Fall Creek			R1/B5	1	
86.14.18	flake, edge mod.					R1/B5	1	
86.14.19	flake, edge mod.					R2/B1	8	
86.14.20	flake, primary					R2/B1	4	
86.14.21	flake, frag					R2/B1	2	
86.14.22	flake, init. red.					R2/B1	1	
86.14.23	bone, burned					R2/B1	1	
86.14.24	point, frag	point fragment	Laurel			R2/B1	1	
86.14.25	flake, edge mod.					R2/B2	4	
86.14.26	flake, init. red.					R2/B2	1	
86.14.27	flake, frag					R2/B2	1	
86.14.28	flake, primary					R2/B2	1	
86.14.29	iron concentration					R2/B2	1	
86.14.30	point, madison	tr.point fragment	Laurel			R2/B3	1	
86.14.31	flake, frag					R2/B3	1	
86.14.32	flake, init. red.					R2/B3	1	
86.14.33	flake, edge mod.					R2/B3	1	
86.14.34	flake, frag					R2/B4	1	
86.14.35	flake, edge mod.					R2/B4	1	
86.14.36	flake, frag					R2/B5	2	
86.14.37	flake, init. red.					R3/B1	1	
86.14.38	flake, edge mod.					R3/B1	6	
86.14.39	flake, frag					R3/B1	9	
86.14.40	flake, primary					R3/B1	10	
86.14.41	flake, secondary					R3/B2	1	
86.14.42	flake, edge mod.					R3/B2	1	
86.14.43	bipolar					R3/B2	1	
86.14.44	flake, primary					R3/B2	4	
86.14.45	flake, frag					R3/B2	4	
86.14.46	flake, primary					R3/B3	2	
86.14.47	flake, frag					R3/B3	2	
86.14.48	flake, edge mod.					R3/B4	3	
86.14.49	flake, frag					R3/B4	1	
86.14.50	flake, edge mod.					R3/B5	2	
86.14.51	flake, primary					R3/B5	1	
86.14.52	sherd					R3/B5	1	
86.14.53	point, frag	tr.point fragment	Laurel, HT			R4/B1	1	
86.14.54	flake, edge mod.					R4/B1	6	
86.14.55	flake, primary					R4/B1	10	
86.14.56	flake, init. red.					R4/B1	3	
86.14.57	flake, frag					R4/B1	6	
86.14.58	edge mod.					R4/B2	7	

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Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.59	flake, frag					R4/B2	4	
86.14.60	flake, primary					R4/B2	4	
86.14.61	retouched					R4/B2	1	
86.14.62	biface, frag	biface fragment	Fall Creek			R4/B2	1	
86.14.63	bipolar					R4/B2	1	
86.14.64	sherd					R4/B2	2	
86.14.65	point, frag	Riverton point frag	Laurel, HT			R4/B3	1	
86.14.66	flake, frag					R4/B3	1	
86.14.67	flake, primary					R4/B3	6	
86.14.68	flake, edge mod.					R4/B3	3	
86.14.69	biface	biface, stage 3	Fall Creek			R4/B4	1	
86.14.70	core					R4/B4	1	
86.14.71	edge mod.					R4/B4	1	
86.14.72	flake, primary					R4/B4	11	
86.14.73	flake, frag					R4/B4	4	
86.14.74	point frag, Madison	tr.point fragment	Laurel			R4/B4	1	
86.14.75	point, frag	triangular point	Laurel			R4/B5	1	
86.14.76	flake, block					R4/B5	1	
86.14.77	burned shell					R4/B5	1	
86.14.78	core					R4/B5	2	
86.14.79	point, frag	point fragment	Laurel, HT			R4/B5	1	
86.14.80	flake, frag					R4/B5	3	
86.14.81	flake, edge mod.					R4/B5	2	
86.14.82	flake, primary					R4/B5	6	
86.14.83	flake, edge mod.					R5/B1	6	
86.14.84	flake, frag					R5/B1	2	
86.14.85	bipolar					R5/B1	2	
86.14.86	flake, primary					R5/B1	6	
86.14.87	bipolar					R5/B2	1	
86.14.88	sherd					R5/B2	1	
86.14.89	flake, primary					R5/B2	9	
86.14.90	flake, edge mod.					R5/B2	9	
86.14.91	flake, frag					R5/B2	5	
86.14.92	cinder					R5/B2	1	
86.14.93	other chipped stone					R5/B2	1	
86.14.94	flake, frag					R5/B3	6	
86.14.95	retouched					R5/B3	1	
86.14.96	flake, primary					R5/B3	8	
86.14.97	flake, init. red.					R5/B3	3	
86.14.98	flake, edge mod.					R5/B3	4	
86.14.99	other chipped stone					R5/B4	1	
86.14.100	flake, primary					R5/B4	4	
86.14.101	flake, frag					R5/B4	3	
86.14.102	flake, edge mod.					R5/B4	3	
86.14.103	other chipped stone					R5/B5	1	
86.14.104	flake, primary					R5/B5	4	
86.14.105	flake, frag					R5/B5	7	
86.14.106	flake, edge mod.					R5/B5	5	
86.14.107	bipolar					R6/B1	1	
86.14.108	flake, init. red.					R6/B1	1	
86.14.109	flake, primary					R6/B1	4	
86.14.110	flake, frag					R6/B1	5	
86.14.111	flake, edge mod.					R6/B1	3	
86.14.112	anvil/nutting stone					R6/B1	1	
86.14.113	sherd					R6/B5a	1	
86.14.114	flake, primary					R6/B5a	2	
86.14.115	other chipped stone					R6/B3	1	
86.14.116	daub					R6/B3	1	
86.14.117	sherd					R6/B3	7	
86.14.118	flake, secondary					R6/B3	1	
86.14.119	flake, init. red.					R6/B3	4	
86.14.120	flake, edge mod.					R6/B3	4	
86.14.121	flake, frag					R6/B3	10	
86.14.122	flake, primary					R6/B3	11	
86.14.123	sherd					R6/B4	1	
86.14.124	flake, secondary					R6/B4	1	
86.14.125	bipolar					R6/B4	3	
86.14.126	flake, init. red.					R6/B4	4	
86.14.127	core					R6/B4	1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.128	flake, frag					R6/B4	26	
86.14.129	flake, primary					R6/B4	19	
86.14.130	flake, edge mod.					R6/B4	20	
86.14.131	blade frag, edge mod	blade	F.Ridge,HT			R6/B5	1	
86.14.132	core					R6/B5	2	
86.14.133	flake, primary					R6/B5	23	
86.14.134	edge mod.					R6/B5	20	
86.14.135	point, frag	see Appendix G-1				R6/B5	2	
86.14.136	sherd					R6/B5	4	
86.14.137	bipolar					R6/B5	1	
86.14.138	flake, block					R6/B5	2	
86.14.139	flake, init. red.					R6/B5	5	
86.14.140	flake, frag					R6/B5	17	
86.14.141	sherd					R6/B2	11	
86.14.142	other chipped stone					R6/B2	2	
86.14.143	biface	biface frag, stage 4	Fall Creek			R6/B2	1	
86.14.144	flake, init. red.					R6/B2	3	
86.14.145	flake, primary					R6/B2	3	
86.14.146	flake, frag					R6/B2	5	
86.14.147	flake, edge mod.					R6/B2	9	
86.14.148	flake, primary					R7/B1	3	
86.14.149	flake, init. red.					R7/B1	1	
86.14.150	flake, frag					R7/B1	4	
86.14.151	core					R7/B1	2	
86.14.152	edge mod.					R7/B1	13	
86.14.153	flake, frag					R7/B2	4	
86.14.154	primary					R7/B2	5	
86.14.155	edge mod.					R7/B2	8	
86.14.156	cinder					R7/B2	1	
86.14.157	sherd					R7/B2	2	
86.14.158	sherd, large					R7/B2	2	
86.14.159	sherd					R7/B3	16	
86.14.160	bipolar					R7/B3	1	
86.14.161	edge mod.					R7/B3	12	
86.14.162	flake, primary					R7/B3	19	
86.14.163	flake, frag					R7/B3	9	
86.14.164	flake, init. red.					R7/B3	2	
86.14.165	point, frag	point fragment	Laurel			R7/B3	1	
86.14.166	daub					R7/B3	3	
86.14.167	cinder					R7/B4	1	
86.14.168	flake, init. red.					R7/B4	5	
86.14.169	flake, frag					R7/B4	18	
86.14.170	bipolar					R7/B4	1	
86.14.171	flake, primary					R7/B4	21	
86.14.172	core					R7/B4	3	
86.14.173	flake, edge mod.					R7/B4	19	
86.14.174	sherd					R7/B5	1	
86.14.175	point, frag	biface fragment	Laurel, HT			R7/B5	1	
86.14.176	bipolar					R7/B5	1	
86.14.177	retouched					R7/B5	1	
86.14.178	flake, init. red.					R7/B5	8	
86.14.179	flake, frag					R7/B5	21	
86.14.180	flake, primary					R7/B5	31	
86.14.181	edge mod.					R7/B5	30	
86.14.182	edge mod.					R8/B1	6	
86.14.183	flake, frag					R8/B1	4	
86.14.184	point, frag	tr.point fragment	Fall Creek			R8/B2	1	
86.14.185	core					R8/B2	1	
86.14.186	bipolar					R8/B2	2	
86.14.187	flake, primary					R8/B2	1	
86.14.188	flake, frag					R8/B2	2	
86.14.189	flake, init. red.					R8/B2	2	
86.14.190	retouched					R8/B3	1	
86.14.191	flake, init. red.					R8/B3	3	
86.14.192	flake, primary					R8/B3	2	
86.14.193	flake, frag					R8/B3	7	
86.14.194	edge mod.					R8/B3	10	
86.14.195	other chipped stone					R8/B4	1	
86.14.196	bipolar					R8/B4	1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.197	core					R8/B4	1	
86.14.198	flake, init. red.					R8/B4	3	
86.14.199	flake, frag					R8/B4	4	
86.14.200	flake, primary					R8/B4	14	
86.14.201	cinder					R8/B4	1	
86.14.202	edge mod.					R8/B4	6	
86.14.203	historic iron star					R8/B5	1	
86.14.204	sherd					R8/B5	2	
86.14.205	point, Madison	tr.point fragment	Laurel, HT			R8/B5	1	
86.14.206	point, frag	point fragment	Laurel, HT			R8/B5	1	
86.14.207	bipolar					R8/B5	1	
86.14.208	flake, init. red.					R8/B5	3	
86.14.209	flake, primary					R8/B5	8	
86.14.210	flake, frag					R8/B5	8	
86.14.211	edge mod.					R8/B5	18	
86.14.212	point, Madison	tr.point fragment	Laurel			R7	1	
86.14.213	flake, init. red.					R9/B1	1	
86.14.214	fragment					R9/B1	2	
86.14.215	core					R9/B1	1	
86.14.216	flake, primary					R9/B1	7	
86.14.217	edge mod.					R9/B1	8	
86.14.218	biface, frag	biface fragment	Laurel			R9/B2	1	
86.14.219	sherd					R9/B2	3	
86.14.220	other chipped stone					R9/B2	1	
86.14.221	flake, init. red.					R9/B2	2	
86.14.222	flake, frag					R9/B2	2	
86.14.223	flake, primary					R9/B2	7	
86.14.224	edge mod.					R9/B2	2	
86.14.225	point, Madison					R9/B3	1	
86.14.226	biface, stage 2	biface, stage 3	Fall Creek			R9/B3	1	
86.14.227	daub					R9/B3	1	
86.14.228	flake, primary					R9/B3	4	
86.14.229	flake, frag					R9/B3	2	
86.14.230	edge mod.					R9/B3	1	
86.14.231	point, Thebes clust	point, unc.E-M Arch	Attica			R9/B4	1	
86.14.232	sherd					R9/B4	2	
86.14.233	perforator	perforator fragment	Fall Creek			R9/B4	1	
86.14.234	flake, init. red.					R9/B4	4	
86.14.235	flake, primary					R9/B4	12	
86.14.236	flake, frag					R9/B4	8	
86.14.237	edge mod.					R9/B4	7	
86.14.238	core					R9/B5	1	
86.14.239	edge mod.					R9/B5	4	
86.14.240	flake, frag					R9/B5	5	
86.14.241	flake, primary					R9/B5	9	
86.14.242	bipolar					R9/B5	3	
86.14.243	flake, init. red.					R9/B5	1	
86.14.244	flake, frag					R10/B1	8	
86.14.245	flake, primary					R10/B1	13	
86.14.246	edge mod.					R10/B1	12	
86.14.247	flake, init. red.					R10/B1	3	
86.14.248	core					R10/B1	1	
86.14.249	sherd					R10/B1	2	
86.14.250	daub					R10/B2	3	
86.14.251	graver					R10/B2	1	
86.14.252	flake, primary					R10/B2	3	
86.14.253	edge mod.					R10/B2	3	
86.14.254	flake, frag					R10/B2	4	
86.14.255	sherd					R10/B3	1	
86.14.256	daub					R10/B3	4	
86.14.257	flake, init. red.	flake, unmod.	Laurel			R10/B3	2	
86.14.258	flake, primary					R10/B3	3	
86.14.259	flake, frag					R10/B3	2	
86.14.260	edge mod.					R10/B3	4	
86.14.261	sherd					R10/B4	1	
86.14.262	flake, primary					R10/B4	3	
86.14.263	edge mod.					R10/B4	5	
86.14.264	flake, frag					R10/B4	7	
86.14.265	bipolar					R10/B4	1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.266	anvil					R10/B5	1	
86.14.267	other chipped stone					R10/B5	1	
86.14.268	sherd					R10/B5	1	
86.14.269	flake, primary					R10/B5	9	
86.14.270	flake, frag					R10/B5	3	
86.14.271	edge mod.					R10/B5	6	
86.14.272	core					R10/B5	1	
86.14.273	flake, init. red.					R10/B5	3	
86.14.274	point, Madison	tr.point fragment	Laurel, HT			R10/B5	1	
86.14.275	anvil					R11/B1	1	
86.14.276	flake, init. red.					R11/B1	2	
86.14.277	edge mod.					R11/B1	14	
86.14.278	flake, primary					R11/B1	6	
86.14.279	block					R11/B1	1	
86.14.280	flake, frag					R11/B1	4	
86.14.281	flake, secondary					R11/B1	1	
86.14.282	sherd					R11/B1	1	
86.14.283	retouched					R11/B2	2	
86.14.284	flake, primary					R11/B2	3	
86.14.285	flake, frag					R11/B2	2	
86.14.286	edge mod.					R11/B2	2	
86.14.287	sherd					R11/B3	1	
86.14.288	flake, init. red.					R11/B3	1	
86.14.289	retouched					R11/B3	1	
86.14.290	block					R11/B3	1	
86.14.291	flake, primary					R11/B3	2	
86.14.292	point, Madison	tr.point fragment	Laurel, HT			R11/B3	1	
86.14.293	flake, frag					R11/B3	5	
86.14.294	flake, secondary					R11/B3	1	
86.14.295	edge mod.					R11/B3	4	
86.14.296	primary					R11/B4	6	
86.14.297	edge mod.					R11/B4	9	
86.14.298	flake, frag					R11/B4	3	
86.14.299	retouched					R11/B4	1	
86.14.300	core					R11/B4	1	
86.14.301	point, frag	point fragment	Laurel			R11/B4	1	
86.14.302	tooth					R11/B4	1	
86.14.303	flake, primary					R11/B5	28	
86.14.304	edge mod.					R11/B5	13	
86.14.305	flake, secondary					R11/B5	1	
86.14.306	init. red.					R11/B5	1	
86.14.307	sherd					R11/B5	2	
86.14.308	flake, frag					R11/B5	13	
86.14.309	flake, frag					R12/B1	2	
86.14.310	other chipped stone					R12/B1	1	
86.14.311	point, Madison	tr.pnt fr; unif.resh	Fall Creek			R12/B1	1	
86.14.312	flake, primary					R12/B1	5	
86.14.313	graver	flake, edge mod.	Laurel			R12/B1	1	
86.14.314	flake, edge mod.					R12/B1	2	
86.14.315	point, basal frag	St.Charles fragment	Flint Rid			R12/B2	1	
86.14.316	retouched					R12/B2	1	
86.14.317	flake, edge mod.					R12/B2	4	
86.14.318	flake, init. red.					R12/B3	1	
86.14.319	flake, frag					R12/B3	2	
86.14.320	flake, primary					R12/B3	3	
86.14.321	flake, frag					R12/B4	3	
86.14.322	retouched					R12/B4	1	
86.14.323	flake, frag					R12/B4	7	
86.14.324	flake, edge mod.					R12/B4	8	
86.14.325	block					R12/B4	1	
86.14.326	point, frag	Riverton pt. frag	Laurel, HT			R12/B4	2	
86.14.327	point, Madison					R12/B4	1	
86.14.328	sherd					R12/B4	1	
86.14.329	flake, init. red.					R12/B4	1	
86.14.330	flake, primary					R12/B4	3	
86.14.331	perforator	perforator fragment	Laurel, HT			R12/B5	1	
86.14.332	graver	flake, edge mod.	Fall Creek			R12/B5	1	
86.14.333	biface, stage 2	see Appendix G-1				R12/B5	2	
86.14.334	bipolar					R12/B5	1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.335	point, Madison	point fragment	Fall Creek			R12/B5	2	
86.14.336	point, frag					R12/B5	1	
86.14.337	flake, primary					R12/B5	18	
86.14.338	flake, edge mod.					R12/B5	9	
86.14.339	flake, frag					R12/B5	9	
86.14.340	cinder					R12/B5	1	
86.14.341	sherd					R12/B5	8	
86.14.342	bone					R12/B5	1	
86.14.343	flake, init. red.					R12/B5	2	
86.14.344	retouched					R12/B5	2	
86.14.345	flake, secondary					R12/B5	1	
86.14.346	sherd					R12/B5a	2	
86.14.347	flake, frag					R12/B5a	2	
86.14.348	edge mod.					R12/B5a	1	
86.14.349	hammerstone					R13/B1	1	
86.14.350	flake, primary					R13/B1	12	
86.14.351	sherd					R13/B1	1	
86.14.352	flake, block					R13/B1	1	
86.14.353	flake, secondary					R13/B1	3	
86.14.354	edge mod.					R13/B1	4	
86.14.355	graver					R13/B1	1	
86.14.356	flake, frag					R13/B1	5	
86.14.357	daub					R13/B2	3	
86.14.358	core					R13/B2	1	
86.14.359	burned bone					R13/B2	2	
86.14.360	flake, primary					R13/B2	1	
86.14.361	flake, init. red.					R13/B2	1	
86.14.362	edge mod.					R13/B2	8	
86.14.363	flake, frag					R13/B2	5	
86.14.364	flake, primary					R13/B3	1	
86.14.365	sherd					R13/B3	1	
86.14.366	edge mod.					R13/B3	2	
86.14.367	sherd					R13/B4	1	
86.14.368	flake, secondary					R13/B4	1	
86.14.369	flake, frag					R13/B4	2	
86.14.370	edge mod.					R13/B4	4	
86.14.371	flake, primary					R13/B4	2	
86.14.372	bone					R13/B5	3	
86.14.373	point, Madison					R13/B5	1	
86.14.374	flake, primary					R13/B5	4	
86.14.375	edge mod.					R13/B5	8	
86.14.376	flake, init. red.					R13/B5	2	
86.14.377	flake, frag					R13/B5	4	
86.14.378	sherd					R13/B5	2	
86.14.379	core					R13/B5	2	
86.14.380	biface, stage 2					R13/B5a	1	
86.14.381	daub					R14/B1	2	
86.14.382	edge mod.					R14/B1	5	
86.14.383	flake, primary					R14/B1	7	
86.14.384	flake, frag					R14/B1	7	
86.14.385	core					R14/B1	1	
86.14.386	flake, init. red.					R14/B1	2	
86.14.387	bipolar					R14/B1	1	
86.14.388	edge mod.					R14/B2	4	
86.14.389	burned shell					R14/B2	1	
86.14.390	flake, init. red.					R14/B2	1	
86.14.391	flake, primary					R14/B2	2	
86.14.392	block					R14/B2	1	
86.14.393	core					R14/B2	1	
86.14.394	flake, edge mod.					R14/B3	1	
86.14.395	flake, secondary					R14/B3	1	
86.14.396	daub					R14/B3	40	
86.14.397	flake, primary					R14/B3	1	
86.14.398	bipolar					R14/B4	2	
86.14.399	flake, primary					R14/B4	2	
86.14.400	flake, frag					R14/B4	2	
86.14.401	flake, edge mod.					R14/B4	4	
86.14.402	point, frag	point fragment	Laurel			R14/B5	1	
86.14.403	bone					R14/B5	1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.404	sherd					R14/B5	2	
86.14.405	edge mod.					R14/B5	6	
86.14.406	flake, init. red.					R14/B5	1	
86.14.407	flake, primary					R14/B5	11	
86.14.408	flake, frag					R14/B5	8	
86.14.409	point frag, Madison					R14/B5a	1	
86.14.410	point, frag	point fragment	Laurel			R15/B1	1	
86.14.411	biface					R15/B1	1	
86.14.412	flake, frag					R15/B1	2	
86.14.413	flake, primary					R15/B1	3	
86.14.414	edge mod.					R15/B2	3	
86.14.415	retouched					R15/B3	1	
86.14.416	point, frag					R15/B3	1	
86.14.417	bipolar					R15/B2	1	
86.14.418	other chipped stone					R15/B2	1	
86.14.419	sherd					R15/B3	1	
86.14.420	flake, primary					R15/B3	1	
86.14.421	flake, frag					R15/B3	1	
86.14.422	flake, init. red.					R15/B3	1	
86.14.423	other chipped stone					R15/B3	2	
86.14.424	sherd					R15/B4	3	
86.14.425	flake, primary					R15/B4	2	
86.14.426	other chipped stone					R15/B4	1	
86.14.427	point, Madison	biface, stage 4	Laurel			R15/B4	2	
86.14.428	flake, frag					R15/B4	2	
86.14.429	edge mod.					R15/B4	7	
86.14.430	sherd					R15/B5	3	
86.14.431	flake, primary					R15/B5	5	
86.14.432	flake, frag					R15/B5	4	
86.14.433	burned bone					R15/B5	1	
86.14.434	point, frag	tr.point fragment	Laurel			R15/B5	1	
86.14.435	flake, edge mod.					R15/B5	11	
86.14.436	sherd					R16/B1	2	
86.14.437	flake, primary					R16/B1	2	
86.14.438	flake, frag					R16/B1	5	
86.14.439	edge mod.					R16/B1	2	
86.14.440	block					R16/B1	1	
86.14.441	flake, init. red.					R16/B1	1	
86.14.442	edge mod.					R16/B2	5	
86.14.443	flake, frag					R16/B2	3	
86.14.444	denticulate					R16/B2	1	
86.14.445	flake, primary					R16/B2	4	
86.14.446	edge mod.					R16/B3	2	
86.14.447	flake, primary					R16/B3	2	
86.14.448	flake, frag					R16/B3	2	
86.14.449	point frag, Madison	point fragment	Laurel			R16/B4	1	
86.14.450	flake, edge mod.					R16/B4	5	
86.14.451	flake, frag					R16/B4	6	
86.14.452	flake, primary					R16/B4	5	
86.14.453	sherd					R16/B5	1	
86.14.454	flake, retouched					R16/B5	1	
86.14.455	flake, frag					R16/B5	2	
86.14.456	graver	flake, unmodified	Laurel, HD			R16/B5	1	
86.14.457	bipolar					R16/B5	1	
86.14.458	flake, primary					R16/B5	7	
86.14.459	block					R16/B5	2	
86.14.460	flake, edge mod.					R16/B5	15	
86.14.461	sherd					R17/B1	2	
86.14.462	retouched					R17/B1	1	
86.14.463	flake, edge mod.					R17/B1	6	
86.14.464	flake, primary					R17/B1	8	
86.14.465	core					R17/B1	1	
86.14.466	flake, frag					R17/B1	5	
86.14.467	sherd					R17/B2	2	
86.14.468	block					R17/B2	1	
86.14.469	flake, frag					R17/B2	4	
86.14.470	flake, primary					R17/B2	5	
86.14.471	edge mod.					R17/B2	9	
86.14.472	bone					R17/B3	2	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.473	flake, primary					R17/B3	2	
86.14.474	flake, frag					R17/B3	5	
86.14.475	edge mod.					R17/B3	3	
86.14.476	sherd					R17/B4	1	
86.14.477	flake, primary					R17/B4	5	
86.14.478	flake, frag					R17/B4	12	
86.14.479	edge mod.					R17/B4	2	
86.14.480	flake, init. red.					R17/B4	1	
86.14.481	sherd					R17/B5	3	
86.14.482	flake, frag					R17/B5	4	
86.14.483	retouched					R17/B5	1	
86.14.484	edge mod.					R17/B5	8	
86.14.485	flake, primary					R17/B5	7	
86.14.486	point. Madison					R17/B4	1	
86.14.487	point, frag					R18/B1	1	
86.14.488	flake, frag					R18/B1	7	
86.14.489	retouched					R18/B1	2	
86.14.490	core					R18/B1	1	
86.14.491	flake, init. red.					R18/B1	2	
86.14.492	flake, primary					R18/B1	17	
86.14.493	edge mod.					R18/B1	8	
86.14.494	sherd					R18/B2	1	
86.14.495	flake, primary					R18/B2	17	
86.14.496	edge mod.					R18/B2	8	
86.14.497	flake, frag					R18/B2	12	
86.14.498	edge mod.					R18/B3	10	
86.14.499	bipolar					R18/B3	1	
86.14.500	burned bone					R18/B3	4	
86.14.501	flake, init. red.					R18/B3	2	
86.14.502	flake, primary					R18/B3	8	
86.14.503	flake, frag					R18/B3	11	
86.14.504	sherd					R18/B4	1	
86.14.505	point, frag	tr.point fragment	Fall Creek			R18/B4	1	
86.14.506	other chipped stone					R18/B4	1	
86.14.507	flake, init. red.					R18/B4	1	
86.14.508	flake, secondary					R18/B4	1	
86.14.509	retouched					R18/B4	1	
86.14.510	flake, primary					R18/B4	16	
86.14.511	flake, frag					R18/B4	16	
86.14.512	edge mod.					R18/B4	13	
86.14.513	point, Madison	tr.point frag; resh	Laurel			R18/B5	1	
86.14.514	sherd					R18/B5	1	
86.14.515	other chipped stone					R18/B5	1	
86.14.516	biface, frag	tr.point fragment	Laurel, HT			R18/B5	1	
86.14.517	point, Madison	tr.point fragment	Laurel			R18/B5	2	
86.14.518	point, frag	see Appendix G-1				R18/B5	2	
86.14.519	flake, secondary					R18/B5	1	
86.14.520	flake, init. red.					R18/B5	1	
86.14.521	edge mod.					R18/B5	7	
86.14.522	flake, frag					R18/B5	21	
86.14.523	flake, primary					R18/B5	20	
86.14.524	sherd					R19/B1	2	
86.14.525	flake, edge mod.					R19/B1	15	
86.14.526	flake, secondary					R19/B1	1	
86.14.527	cinder					R19/B1	1	
86.14.528	flake, frag					R19/B1	6	
86.14.529	flake, init. red.					R19/B1	4	
86.14.530	flake, primary					R19/B1	14	
86.14.531	point, Madison	biface frag, stage 4	Laurel			R19/B2	1	
86.14.532	graver					R19/B2	1	
86.14.533	flake, init. red.					R19/B2	1	
86.14.534	flake, secondary					R19/B2	1	
86.14.535	sherd					R19/B2	4	
86.14.536	cinder					R19/B2	2	
86.14.537	flake, edge mod.					R19/B2	22	
86.14.538	flake, frag					R19/B2	26	
86.14.539	flake, primary					R19/B2	43	
86.14.540	block					R19/B3	1	
86.14.541	flake, init. red.					R19/B3	3	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.542	flake, frag					R19/B3	11	
86.14.543	flake, primary					R19/B3	19	
86.14.544	flake, edge mod.					R19/B3	8	
86.14.545	sherd					R19/B4	3	
86.14.546	flake, primary					R19/B4	15	
86.14.547	flake, frag					R19/B4	14	
86.14.548	flake, edge mod.					R19/B4	13	
86.14.549	point, frag	see Appendix G-1				R19/B5	2	
86.14.550	sherd					R19/B5	1	
86.14.551	flake, primary					R19/B5	23	
86.14.552	flake, edge mod.					R19/B5	21	
86.14.553	flake, frag					R19/B5	15	
86.14.554	flake, init. red.					R19/B5	4	
86.14.555	biface, frag	biface frag, st 4	F.Creek,HT			R19/B5	1	
86.14.556	sherd					R20/B1	4	
86.14.557	flake, edge mod.					R20/B1	21	
86.14.558	flake, primary					R20/B1	23	
86.14.559	other chiped stone					R20/B1	1	
86.14.560	bipolar					R20/B1	1	
86.14.561	biface, frag	biface fragment	Laurel			R20/B1	1	
86.14.562	flake, secondary					R20/B1	1	
86.14.563	core					R20/B1	1	
86.14.564	flake, init. red.					R20/B1	4	
86.14.565	flake, frag					R20/B1	8	
86.14.566	point, frag	see Appendix G-1				R20/B2	3	
86.14.567	sherd					R20/B2	2	
86.14.568	flake, primary					R20/B2	27	
86.14.569	flake, retouched					R20/B2	1	
86.14.570	flake, edge mod.					R20/B2	36	
86.14.571	flake, init. red.					R20/B2	1	
86.14.572	block					R20/B2	1	
86.14.573	flake, frag					R20/B2	19	
86.14.574	sherd					R20/B3	1	
86.14.575	flake, init. red.					R20/B3	2	
86.14.576	flake, secondary					R20/B3	2	
86.14.577	flake, frag					R20/B3	15	
86.14.578	flake, primary					R20/B3	13	
86.14.579	flake, edge mod.					R20/B3	13	
86.14.580	flake, secondary					R20/B4	1	
86.14.581	flake, frag					R20/B4	14	
86.14.582	flake, primary					R20/B4	9	
86.14.583	flake, edge mod.					R20/B4	12	
86.14.584	Madison/perforator	perforator fragment	F.Creek,HT			R20/B5	1	
86.14.585	blade, frag	flake, unmod.	F.Creek,HT			R20/B5	1	
86.14.586	point, frag	see Appendix G-1				R20/B5	2	
86.14.587	point, Madison	tr.point fragment	Laurel			R20/B5	2	
86.14.588	sherd					R20/B5	6	
86.14.589	flake, secondary					R20/B5	1	
86.14.590	cinder					R20/B5	1	
86.14.591	burned bone					R20/B5	4	
86.14.592	block					R20/B5	1	
86.14.593	flake, retouched					R20/B5	1	
86.14.594	flake, frag					R20/B5	18	
86.14.595	bipolar					R20/B5	1	
86.14.596	flake, primary					R20/B5	14	
86.14.597	flake, edge mod.					R20/B5	23	
86.14.598	flake, init. red.					R20/B5	6	
86.14.599	point, frag	tr.point fragment	Fall Creek			R21/B1	1	
86.14.600	biface, frag	biface fragment	Fall Creek			R21/B1	1	
86.14.601	flake, primary					R21/B1	16	
86.14.602	flake, frag					R21/B1	11	
86.14.603	flake, edge mod.					R21/B1	20	
86.14.604	sherd					R21/B2	4	
86.14.605	flake, frag					R21/B2	12	
86.14.606	flake, primary					R21/B2	15	
86.14.607	flake, edge mod.					R21/B2	12	
86.14.608	flake, secondary					R21/B2	1	
86.14.609	flake, init. red.					R21/B2	3	
86.14.610	core					R21/B2	2	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.611	cinder					R21/B2	2	
86.14.612	point, frag	point fragment	Fall Creek			R21/B3	1	
86.14.613	sherd					R21/B3	2	
86.14.614	flake, edge mod.					R21/B3	11	
86.14.615	flake, primary					R21/B3	6	
86.14.616	block					R21/B3	1	
86.14.617	flake, frag					R21/B3	8	
86.14.618	bone					R21/B3	1	
86.14.619	other chipped stone					R21/B3	1	
86.14.620	sherd					R21/B4	6	
86.14.621	point, frag	point fragment	Laurel			R21/B4	2	
86.14.622	perforator	perforator fragment	Fall Creek			R21/B4	1	
86.14.623	flake, primary					R21/B4	20	
86.14.624	flake, frag					R21/B4	20	
86.14.625	flake, edge mod.					R21/B4	25	
86.14.626	flake, secondary					R21/B4	1	
86.14.627	flake, init. red.					R21/B4	5	
86.14.628	core					R21/B4	1	
86.14.629	point, Madison	tr.point fragment	Fall Creek			R21/B5	1	
86.14.630	flake, edge mod.					R21/B5	10	
86.14.631	flake, init. red.					R21/B5	1	
86.14.632	biface, frag	see Appendix G-1				R21/B5	2	
86.14.633	flake, frag					R21/B5	18	
86.14.634	flake, primary					R21/B5	17	
86.14.635	sherd					R22/B1	1	
86.14.636	flake, primary					R22/B1	18	
86.14.637	flake, frag					R22/B1	11	
86.14.638	biface, frag	tr.point fragment	Laurel, HT			R22/B1	1	
86.14.639	flake, edge mod.					R22/B1	13	
86.14.640	core					R22/B1	1	
86.14.641	sherd					R22/B2	7	
86.14.642	point, Madison	tr.point fragment	Laurel, HT			R22/B2	1	
86.14.643	point, frag	see Appendix G-1				R22/B2	5	
86.14.644	flake, frag					R22/B2	32	
86.14.645	flake, edge mod.					R22/B2	11	
86.14.646	flake, primary					R22/B2	24	
86.14.647	cinder					R22/B2	3	
86.14.648	flake, retouched					R22/B2	1	
86.14.649	flake, init. red.					R22/B2	1	
86.14.650	flake, secondary					R22/B2	1	
86.14.651	other chipped stone					R22/B2	1	
86.14.652	sherd					R22/B3	4	
86.14.653	graver					R22/B3	1	
86.14.654	flake, init. red.					R22/B3	2	
86.14.655	flake, edge mod.					R22/B3	11	
86.14.656	flake, frag					R22/B3	6	
86.14.657	flake, primary					R22/B3	8	
86.14.658	cinder					R22/B3	1	
86.14.659	sherd					R22/B4	6	
86.14.660	point, Madison	tr.point fragment	Laurel			R22/B4	1	
86.14.661	point, frag	tr.point fragment	Laurel			R22/B4	1	
86.14.662	bipolar					R22/B4	1	
86.14.663	flake, init. red.					R22/B4	1	
86.14.664	flake, frag					R22/B4	5	
86.14.665	flake, primary					R22/B4	15	
86.14.666	flake, edge mod.					R22/B4	15	
86.14.667	point, frag	point fragment	Fall Creek			R22/B5	2	
86.14.668	flake, primary					R22/B5	22	
86.14.669	flake, frag					R22/B5	16	
86.14.670	flake, edge mod.					R22/B5	9	
86.14.671	biface, frag	biface fragment	Laurel			R22/B5	1	
86.14.672	bipolar					R22/B5	1	
86.14.673	flake, init. red.					R22/B5	1	
86.14.674	burned bone					R22/B5	1	
86.14.675	biface, frag	see Appendix G-1				R23/B1	2	
86.14.676	sherd					R23/B1	2	
86.14.677	flake, edge mod.					R23/B1	9	
86.14.678	flake, init. red.					R23/B1	1	
86.14.679	flake, primary					R23/B1	15	

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.680	flake, frag					R23/B1	8	
86.14.681	point, side-notched	Brewerton point	Laurel			R23/B2	1	
86.14.682	flake, frag					R23/B2	7	
86.14.683	flake, primary					R23/B2	9	
86.14.684	flake, edge mod.					R23/B2	7	
86.14.685	core					R23/B2	1	
86.14.686	flake, retouched					R23/B2	1	
86.14.687	flake, primary					R23/B3	3	
86.14.688	flake, init. red.					R23/B3	2	
86.14.689	biface, frag	biface fragment	Fall Creek			R23/B3	1	
86.14.690	sherd					R23/B4	1	
86.14.691	point, frag	point fragment	Unknown,HD			R23/B4	1	
86.14.692	core					R23/B4	1	
86.14.693	flake, init. red.					R23/B4	3	
86.14.694	flake, primary					R23/B4	19	
86.14.695	flake, frag					R23/B4	8	
86.14.696	flake, edge mod.					R23/B4	7	
86.14.697	flake, frag					R23/B5	12	
86.14.698	flake, primary					R23/B5	15	
86.14.699	flake, secondary					R23/B5	1	
86.14.700	flake, edge mod.					R23/B5	13	
86.14.701	core					R23/B5	2	
86.14.702	burned bone					R23/B5	2	
86.14.703	point, Madison	see Appendix G-1				R23/B5	3	
86.14.704	point	Jack's Reef point	Flint Rid			R23/B5	1	
86.14.705	sherd					R23/B5	1	
86.14.706	cinder					R23/B5	1	
86.14.707	flake, frag					R24/B1	1	
86.14.708	flake, edge mod.					R24/B1	2	
86.14.709	flake, primary					R24/B2	2	
86.14.710	flake, frag					R24/B2	2	
86.14.711	flake, edge mod.					R24/B2	3	
86.14.712	sherd					R24/B3	2	
86.14.713	flake, retouched					R24/B3	1	
86.14.714	flake, init. red.					R24/B3	4	
86.14.715	flake, primary					R24/B3	5	
86.14.716	hammerstone					R24/B3	1	
86.14.717	flake, edge mod.					R24/B3	5	
86.14.718	flake, frag					R24/B3	3	
86.14.719	block					R24/B3	1	
86.14.720	graver					R24/B4	1	
86.14.721	point, frag	point fragment	Laurel			R24/B4	1	
86.14.722	point, Madison	biface, stage 4	Fall Creek			R24/B4	1	
86.14.723	flake, init. red.					R24/B4	3	
86.14.724	flake, primary					R24/B4	16	
86.14.725	flake, edge mod.					R24/B4	14	
86.14.726	flake, frag					R24/B4	13	
86.14.727	burned bone					R24/B4	1	
86.14.728	sherd					R24/B5	4	
86.14.729	graver					R24/B5	2	
86.14.730	flake, primary					R24/B5	12	
86.14.731	flake, frag					R24/B5	8	
86.14.732	flake, edge mod.					R24/B5	15	
86.14.733	burned bone					R24/B5	1	
86.14.734	cinder					R24/B5	2	
86.14.735	flake, init. red.					R25/B1	1	
86.14.736	flake, edge mod.					R25/B1	1	
86.14.737	flake, primary					R25/B1	2	
86.14.738	flake, edge mod.					R25/B2	10	
86.14.739	flake, frag					R25/B2	1	
86.14.740	flake, init. red.					R25/B2	1	
86.14.741	cinder					R25/B2	1	
86.14.742	sherd					R25/B3	1	
86.14.743	flake, retouched					R25/B3	1	
86.14.744	flake, edge mod.					R25/B3	2	
86.14.745	flake, frag					R25/B3	6	
86.14.746	flake, primary					R25/B3	6	
86.14.747	point, frag	tr.point fragment	Laurel, HT			R25/B4	1	
86.14.748	flake, init. red.					R25/B4	2	

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.749	flake, frag					R25/B4	5	
86.14.750	flake, primary					R25/B4	9	
86.14.751	flake, edge mod.					R25/B4	10	
86.14.752	other chipped stone					R25/B4	1	
86.14.753	sherd					R25/B5	1	
86.14.754	point, frag	point fragment	Laurel, HD			R25/B5	1	
86.14.755	secondary frag					R25/B5	1	
86.14.756	core					R25/B5	1	
86.14.757	flake, frag					R25/B5	10	
86.14.758	flake, primary					R25/B5	12	
86.14.759	flake, edge mod.					R25/B5	10	
86.14.760	flake, frag					R26/B1	3	
86.14.761	flake, primary					R26/B1	11	
86.14.762	flake, init. red.					R26/B1	1	
86.14.763	flake, edge mod.					R26/B1	3	
86.14.764	bipolar					R26/B2	1	
86.14.765	flake, frag					R26/B2	2	
86.14.766	flake, primary					R26/B2	3	
86.14.767	flake, edge mod.					R26/B2	5	
86.14.768	flake, frag					R26/B3	1	
86.14.769	flake, init. red.					R26/B3	1	
86.14.770	flake, primary					R26/B3	2	
86.14.771	flake, edge mod.					R26/B3	8	
86.14.772	flake, frag					R26/B4	3	
86.14.773	flake, edge mod.					R26/B4	3	
86.14.774	flake, primary					R26/B4	8	
86.14.775	point, Madison	point fragment	F.Creek,HT			R26/B5	1	
86.14.776	flake, edge mod.					R26/B5	13	
86.14.777	cinder					R26/B5	1	
86.14.778	graver					R26/B5	2	
86.14.779	flake, frag					R26/B5	5	
86.14.780	flake, retouched					R26/B5	1	
86.14.781	flake, init. red.					R26/B5	1	
86.14.782	flake, primary					R26/B5	2	
86.14.783	biface, frag	see Appendix G-1				R27/B1	2	
86.14.784	bipolar					R27/B1	1	
86.14.785	other chipped stone					R27/B1	1	
86.14.786	flake, frag					R27/B1	4	
86.14.787	flake, edge mod.					R27/B1	10	
86.14.788	flake, primary					R27/B1	6	
86.14.789	flake, frag					R27/B2	2	
86.14.790	flake, primary					R27/B2	1	
86.14.791	flake, edge mod.					R27/B3	4	
86.14.792	flake, primary					R27/B3	4	
86.14.793	flake, edge mod.					R27/B4	1	
86.14.794	flake, primary					R27/B4	2	
86.14.795	cinder					R27/B4	1	
86.14.796	flake, init. red.					R27/B5	1	
86.14.797	flake, edge mod.					R27/B5	3	
86.14.798	flake, frag					R27/B5	4	
86.14.799	flake, primary					R27/B5	1	
86.14.800	biface	biface fragment	Laurel, HT			N of 1 lin	1	
86.14.801	sherd					by RR	1	
86.14.802	point, Madison	triangular point	Fall Creek			R1/NE end	1	
86.14.803	point, side-notched	Lamoka point	Unknown			R2/N end	1	
86.14.804	hammerstone					R2/N end	1	
86.14.805	other chipped stone					R2/N end	2	
86.14.806	biface, stage 4	Adena point	Laurel			R2/N end	1	
86.14.807	other chipped stone					R3	1	
86.14.808	point, side-notched					R4	1	
86.14.809	blade, frag	blade fragment	Fall Creek			R5/S end	1	
86.14.810	comissary knife	perforator	Laurel			R5/S end	1	
86.14.811	point, Madison	tr.point fragment	Laurel			R6	1	
86.14.812	perforator	perforator fragment	Laurel			R6	1	
86.14.813	Madison, basal frag	perforator fragment	Attica			R6	1	
86.14.814	Late Archaic	unclassified point	Wyandotte			R7/W edge	1	
86.14.815	point, frag	point fragment	Wyandotte			R7/W edge	1	
86.14.816	perforator	perforator	Fall Creek			R7/W edge	1	
86.14.817	point, Madison	see Appendix G-1				R7/E edge	2	

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Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.818	biface, frag	biface fragment	Laurel			R7/E edge	1	
86.14.819	core					R7/E edge	1	
86.14.820	flake, retouched					R7/E edge	1	
86.14.821	point, Madison	biface, stage 4	Unknown			R9	1	
86.14.822	point frag, Madison	biface, stage 4	Fall Creek			R10	1	
86.14.823	point, Madison	triangular point	Fall Creek			R19/B1	1	
86.14.824	point, Madison	triangular point	Laurel			R23/B2	1	
86.14.825	point, Madison	biface frag, stage 4	F.Creek,HT			R29/B4	1	
86.14.826	perforator	see Appendix G-1				surface	3	
86.14.827	point, Madison	biface, stage 4	F.Creek,HT			surface	1	
86.14.828	point, frag	see Appendix G-1				surface	5	
12Hn25-1	core	see Appendix G-1				surface	11	
12Hn25-2	nut stone	see Appendix G-1				surface	1	
12Hn25-3	chopped slate disc	see Appendix G-1				surface	1	
12Hn25-4	sherd, grit-temp.	see Appendix G-1				surface	1	
12Hn25-5	chipped/pecked	celt/adze fragment	slate			surface	1	
12Hn25-6	biface, stage 4	chipped stone adze	F.Crk, HT			surface	1	
12Hn25-7	biface, stage 3	biface, stage 3	Laurel			surface	1	
12Hn25-8	biface, frag	biface fragment	Laurel			surface	2	
12Hn25-9	perforator, frag	perforator fragment	Laurel			surface	1	
12Hn25-10	point frag, blade	see Appendix G-1				surface	2	
12Hn25-11	utilized	see Appendix G-1				surface	29	
12Hn25-12	secondary	see Appendix G-1				surface	14	
12Hn25-13	point, Levanna-like	Tr.Point fragment	F.Crk, HT			surface	1	
12Hn25-14	point, corner-not.	see Appendix G-1				surface	1	
12Hn25-15	point, Madison	see Appendix G-1				surface	8	
12Hn25-16	retouched	see Appendix G-1				surface	6	
12Hn25-17	flake, frag	see Appendix G-1				surface	9	
12Hn25-18	primary	see Appendix G-1				surface	24	
12Hn-25-1	Point frag, Madison	see Appendix G-1					1	
12Hn25-2	biface, stage 6	see Appendix G-1					1	
12Hn25-3	flake, primary	see Appendix G-1					1	
12Hn25-4	flake, frag	see Appendix G-1					1	
12Hn25-14	gr.stone frag, unid.	see Appendix G-1					1	
98.17.1.3.1	Triangular point fr		Attica			surface co		
98.17.1.3.2	Point fragment		Laurel			sc, 1986		
98.17.1.3.3	Biface fragment		Fall Creek			sc, 1986		
98.17.1.3.4	Biface fragment		Laurel			sc, 1986		
98.17.1.3.5	Biface fragment, sta		Laurel			sc, 1986		
98.17.1.3.6	Biface fragment, sta		Unknown			sc, 1986		
98.17.1.3.7	Bipolar		Flint Ridg			sc, 1986		
98.17.1.3.8	Bipolar		Glacial			sc, 1986		
98.17.1.3.9	Bipolar		Laurel			sc, 1986		
98.17.1.3.10	Bipolar		Laurel, HT			sc, 1986		
98.17.1.3.11	Init.red. flake, unm		Fall Creek			sc, 1986		
98.17.1.3.12	Init.red. flake, unm		Fall Creek			sc, 1986		
98.17.1.3.13	Init.red. flake, unm		Laurel			sc, 1986		
98.17.1.3.14	Init.red. flake, unm		Laurel, HT			sc, 1986		
98.17.1.3.15	Init.red.flake, edge		Fall Creek			sc, 1986		
98.17.1.3.16	Init.red.flake, edge		Laurel			sc, 1986	1	
98.17.1.3.17	Init.red.flake, edge		Laurel, HT			sc, 1986		
98.17.1.3.18	Init.red.flake, edge		Unknown			sc, 1986		
98.17.1.3.19	Primary flake, unm.		Fall Creek			sc, 1986	1	
98.17.1.3.20	Primary flake, unm.		Fall Creek			sc, 1986		
98.17.1.3.21	Primary flake, unm.		Fall Creek			sc, 1986		
98.17.1.3.22	Primary flake, unm.		Flint Ridg			sc, 1986		
98.17.1.3.23	Primary flake, unm.		Flint Ridg			sc, 1986		
98.17.1.3.24	Primary flake, unm.		Laurel			sc, 1986	5	
98.17.1.3.25	Primary flake, unm.		Laurel, HT			sc, 1986	1	
98.17.1.3.26	Primary flake, unm.		Quartzite			sc, 1986		
98.17.1.3.27	Primary flake, unm.		Unknown			sc, 1986		
98.17.1.3.28	Primary flake, unm.		Unknown, H			sc, 1986		
98.17.1.3.29	Primary flake, edge-		Fall Creek			sc, 1986		
98.17.1.3.30	Primary flake, edge-		Fall Creek			sc, 1986		
98.17.1.3.31	Primary flake, edge-		Laurel			sc, 1986		
98.17.1.3.32	Secondary flake,edge		Laurel			sc, 1986		
98.17.1.3.33	Secondary flake,edge		Laurel, HT			sc, 1986		
98.17.1.3.34	Flake, unm.		Fall Creek			sc, 1986		
98.17.1.3.35	Flake, edge-mod.		Fall Creek			sc, 1986	1	

Appendix G
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
98.17.1.3.36	Flake, edge-mod.		Fall Creek			sc, 1986		
98.17.1.3.37	Flake, edge-mod.		Flint Ridg			sc, 1986		
98.17.1.3.38	Flake, edge-mod.		Flint Ridg			sc, 1986		
98.17.1.3.39	Flake, edge-mod.		Laurel			sc, 1986	1	
98.17.1.3.40	Flake, edge-mod.		Laurel, HT			sc, 1986		
98.17.1.3.41	Flake, edge-mod.		Unknown, H			sc, 1986		
98.17.1.3.42	Broken flake, unm.		Fall Creek			sc, 1986	1	
98.17.1.3.43	Broken flake, unm.		Fall Creek			sc, 1986		
98.17.1.3.44	Broken flake, unm.		Fall Creek			sc, 1986		
98.17.1.3.45	Broken flake, unm.		Flint Ridg			sc, 1986		
98.17.1.3.46	Broken flake, unm.		Glacial, H			sc, 1986		
98.17.1.3.47	Broken flake, unm.		Laurel			sc, 1986	3	
98.17.1.3.48	Broken flake, unm.		Laurel, HT			sc, 1986		
98.17.1.3.49	Broken flake, unm.		Unknown			sc, 1986		
98.17.1.3.50	Broken flake, unm.		Unknown, H			sc, 1986		
98.17.1.3.51	Broken flake, edge-m		Fall Creek			sc, 1986		
98.17.1.3.52	Broken flake, edge-m		Laurel			sc, 1986	1	
98.17.1.3.53	Broken flake, edge-m		Laurel, HT			sc, 1986		
98.17.1.3.54	Core		Fall Creek			sc, 1986		
98.17.1.3.55	Core		Flint Ridg			sc, 1986		
98.17.1.3.56	Core		Laurel			sc, 1986		
98.17.1.3.57	Core		Laurel, HT			sc, 1986		
98.17.1.3.58	Chert					sc, 1968?		
98.17.1.3.59	Sherd, body		cord marke			sc, 1986		
98.17.1.3.60	Flake, unm.		Fall Creek			sc, 1968?		
98.17.1.3.61	Flake, unm.		Fall Creek			excavated		
98.17.1.3.62	Flake, unm.		Fall Creek			excavated		
98.17.1.3.63	Flake, unm.		Laurel			excavated		
98.17.1.3.64	Flake, edge-mod.		Laurel			excavated		
98.17.1.3.65	Flake, edge-mod.		Unknown, H			excavated		
98.17.1.3.66	Block flake		Fall Creek			excavated		
98.17.1.3.67	Core		Laurel			excavated		
98.17.1.3.68	Core		Laurel, HT			excavated		
98.17.1.3.69	Chert					excavated	2	
98.17.1.3.70	Carbon					excavated		
98.17.1.3.71	Carbon			E1/S15	24"			
98.17.1.3.72	Wood			S1/E16				
98.17.1.3.73	Shell, snail					surface co	2	
98.17.1.3.74	Shell, mussel					surface co		
98.17.1.3.75	Seed			E1/S18	30"	in rodent		
98.17.1.3.76	Flake, edge-mod.		Laurel			surface co		
98.17.1.3.77	Bone, unm.			W9/S16	random			
98.17.1.3.78	Awl fragment			W9/S16	random			
98.17.1.3.79	Mandible fragment, R		rodent			excavated		
98.17.1.3.80	Sherd, rim		impr/cord			excavated		
98.17.1.3.81	Sherd, rim		eroded/gri			excavated		
98.17.1.3.82	Sherd, rim		exfoliated			excavated		
98.17.1.3.83	Sherd, neck		cord marke			excavated		
98.17.1.3.84	Sherd, body		fabric imp			excavated		
98.17.1.3.85	Sherd, body		cord marke			excavated	4	
98.17.1.3.86	Sherd, body		exfoliated			excavated	12	
98.17.1.3.87	Sherd		exfoliated			excavated	3	
98.17.1.3.88	FCR					excavated		3.3g
98.17.1.3.89	Sandstone					excavated		0.7g
98.17.1.3.90	Carbon					plowed fea		

Appendix G

Catalog No. Key

27F-7 = 1967
37F-4 = 1968
49F = 1969
57F = 1971 and 1972
86.14 = 1986
12Hn25 = 1982 and 1990
98.17 = uncatalogued material all years

Appendix G-1
Artifacts from Previous Investigations at Van Nuys

Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
27F-7- ?	unknown	point fragment	F.Crk, HT				1	
27F-7-?	unknown	point fragment	Laurel				1	
37F-4-1	sherds	body; cord-marked	grit				16	
37F-4-1	sherds	body; indeterm	grit				5	
37F-4-1	sherds	exfoliated	grit				23	
37F-4-10?	point fragment	flake, unmod.	Fall Creek				3	
37F-4-10?	point fragment	flake, unmod.	Laurel				2	
37F-4-10?	point fragment	flake, unmod.	Laurel, HT				1	
37F-4-10?	point fragment	flake, edge mod.	Laurel				2	
37F-4-10?	point fragment	chert					19	
37F-4-10?	point fragment	rock					3	
37F-4-10?	point fragment	sherd; cord-marked	grit				1	
37F-4-10?	point fragment	sherd; exfoliated	grit				3	
37F-4-10?	point fragment	l.bone frag., unmod.					5	
37F-4-10?	point fragment	l.bone frag., unmod.	burned				5	
37F-4-10	point fragment	bone, unmod.	burned				5	
37F-4-10?	point fragment	wood					1	
37F-4-10?	point fragment	charcoal					1	
37F-4-18	bone	l.bone frag., RGM					3	
37F-4-18	bone	l.bone fr,RGM,polish					1	
37F-4-22	sherd	body; cord-marked	grit				1	
37F-4-22	sherd	body; exfoliated	grit				1	
37F-4-23	sherd	body; cord-marked	grit				1	
37F-4-23	sherd	body; exfoliated	grit				1	
37F-4-24	bone	fragment, unmod.					1	
37F-4-24	bone	astagulus, unmod.	deer				1	
37F-4-26	bone, chert, shell	flake, unmod.	Fall Creek				2	
37F-4-26	bone, chert, shell	flake, unmod.	Laurel				1	
37F-4-26	bone, chert, shell	flake, unmod.	Laurel, HT				2	
37F-4-22?	sherd	flake, unmod.	Laurel				2	
37F-4-26	bone, chert, shell	flake, edge mod.	Laurel, HT				1	
37F-4-26	bone, chert, shell	chert					10	
37F-4-26	bone, chert, shell	rock					1	
37F-4-26	bone, chert, shell	body; cord-marked	grit				1	
37F-4-26	bone, chert, shell	exfoliated	grit				1	
37F-4-26	bone, chert, shell	l.bone frag, unmod.					5	
37F-4-26	bone, chert, shell	l.bone frag, RGM					1	
37F-4-26	bone, chert, shell	l.bone frag, unmod.	burned				4	
37F-4-26	bone, chert, shell	snail shell fragment					1	
37F-4-22?	sherd	block flake	F.Creek,HT				1	
37F-4-27	scraper	l.bone frag, unmod.					2	
37F-4-27	scraper	snail shell fragment					9	
49F-2-18	chert core/rock	core	Glacial,HT				1	
49F-2-18	chert core/rock	hammerstone					1	
49F-2-28	sherds	body, plain	grit				1	
49F-2-28?	sherds	body; cord-marked	grit				1	
49F-2-47	pnt/bif frag st 3	biface, stage 3	Laurel				1	
49F-2-52	sherd, rim	body; cord-marked	grit				1	
49F-2-?	unknown	flake, unmod.	Laurel				1	
57F-14	bone	bone, unmod.					2	
57F-14	bone	bone, unmod.	burned				1	
57F-14	bone	t. carapace frag.					2	
57F-17	flake	flake, unmod.	Fall Creek				2	
57F-17	flake	flake, unmod.	Laurel				1	
57F-17	flake	flake, unmod.	Laurel, HT				1	
57F-18	bone	bone, unmod.					2	
57F-18	bone	bone, unmod.	burned				1	
57F-19	flake	flake, unmod.	Fall Creek				2	
57F-19	flake	flake, unmod.	F.Creek,HT				2	
57F-19	flake	flake, unmod.	Laurel				6	
57F-19	flake	flake, edge mod.	F.Creek,HT				2	
57F-19	flake	flake, edge mod.	Laurel				3	
57F-19	flake	flake, edge mod.	Laurel, HT				3	
57F-21	flake	point fragment	Fall Creek				1	
57F-21	flake	flake, unmod.	Fall Creek				2	
57F-21	flake	flake, edge mod.	Fall Creek				4	
57F-21	flake	flake, edge mod.	Laurel				1	
57F-21	flake	flake, edge mod.	Laurel, HT				1	
57F-21	flake	broken flake, unmod.	F.CR,HT/HD				1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
57F-21	flake	chert					1	
57F-22	sherd	body; exfoliated	grit				2	
57F-25	flake	biface fragment	Fall Creek				1	
57F-25	flake	flake, unmod.	Allens Crk				1	
57F-25	flake	flake, unmod.	A.Crk, HT				1	
57F-25	flake	flake, unmod.	Fall Creek				4	
57F-25	flake	flake, unmod.	F.Creek,HT				1	
57F-25	flake	flake, unmod.	Fl int Rid				2	
57F-25	flake	flake, unmod.	Laurel				4	
57F-25	flake	flake, unmod.	Laurel, HT				2	
57F-25	flake	flake, edge mod.	Fall Creek				1	
57F-25	flake	flake, edge mod.	F.Creek,HT				2	
57F-25	flake	flake, edge mod.	Laurel				1	
57F-25	flake	chert					5	
57F-26	flake, utilized	core	Fall Creek				1	
57F-26	flake, utilized	flake, edge mod.	Fall Creek				2	
57F-26	flake, utilized	flake, edge mod.	F.Creek,HT				1	
57F-26	flake, utilized	flake, edge mod.	Laurel				3	
57F-26	flake, utilized	flake, edge mod.	Laurel, HT				1	
57F-26	flake, utilized	flake, edge mod.	Zaleski				1	
57F-29	flake	core	Fall Creek				1	
57F-29	flake	core	Laurel				3	
57F-29	flake	flake, edge mod.	Fall Creek				3	
57F-29	flake	flake, edge mod.	Laurel, HT				2	
57F-33	flake	flake, unmod.	Fall Creek				1	
57F-33	flake	flake, unmod.	Laurel				5	
57F-33	flake	flake, edge-mod.	Fall Creek				1	
57F-33	flake	flake, edge mod.	Laurel				1	
57F-34	sherd	body; exfoliated	grit				1	
57F-34	sherd	exfoliated	grit				1	
57F-35	flake	core	Fall Creek				2	
57F-35	flake	flake, unmod.	Laurel				1	
57F-35	flake	flake, edge mod.	Fall Creek				1	
57F-35	flake	flake, edge mod.	Laurel				1	
57F-35	flake	flake, edge mod.	Laurel, HT				1	
57F-37	flake, utilized	core	Laurel				1	
57F-37	flake, utilized	flake, edge mod.	Laurel				1	
57F-37	flake, utilzed	flake, edge mod.	Laurel, HT				2	
57F-37	flake, utilized	flake, edge mod.	Wyandotte				1	
57F-38	flake	flake, unmod.	Laurel				2	
57F-38	flake	broken flake, unm.	Laurel				2	
57F-38	flake	chert					1	
57F-42	flake	flake, unmod.	Fall Creek				2	
57F-42	flake	flake, unmod.	F.Creek,HT				2	
57F-43	flake	flake, unmod.	Fall Creek				2	
57F-43	flake	flake, unmod.	Laurel, HT				1	
57F-43	flake	chert					1	
57F-46	flake	flake, unmod.	Fall Creek				1	
57F-46	flake	chert					1	
49F-2-47	pnt/bif frag st 3	core	Zaleski				1	
57F-?	unknown	flake, unmod.	Fall Creek				1	
57F-?	unknown	flake, unmod.	F.Creek,HD				1	
57F-?	unknown	flake, edge mod.	Laurel, HT				1	
57F-?	unknown	bone frag, unmod.					5	
57F-?	unknown	bone frag, unmod.	burned				2	
12Hn25-1	point frag, Madison	tr. point fragment	Laurel				1	
12Hn25-1	core?	biface fragment	Fall Creek				1	
12Hn25-1	core?	biface fragment	F.Creek,HT				2	
12Hn25-1	core?	biface fragment	Laurel				2	
12Hn25-1	core	core	Fall Creek				2	
12Hn25-1	core	core	Laurel				2	
12Hn25-1	core?	flake, unmod.	Unknown				1	
12Hn25-1	core?	flake, edge mod.	Laurel				1	
12Hn25-2	biface, stage 6	point, unident.	Unknown,HT				1	
12Hn25-2	nut stone	anvil					1	
12Hn25-3	chopped slate disc	chipped slate disc					1	
12Hn25-3	flake, primary	flake, edge mod.	Laurel				1	
12Hn25-4	flake, frag	flake, unmod.	Laurel				1	
12Hn25-4	sherd, grit-temp.	body,cord-marked,exf	grit				1	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
12Hn25-10	point frag, blade	point fragment	Fall Creek				1	
12Hn25-10	point frag, blade	point fragment	Flint Rid				1	
12Hn25-11	utilized	flake, unmod.	Fall Creek				2	
12Hn25-11	utilized	flake, unmod.	Laurel				4	
12Hn25-11	utilized	flake, edge mod.	Fall Creek				6	
12Hn25-11	utilized	flake, edge mod.	F.Creek,HT				1	
12Hn25-11	utilized	flake, edge mod.	Flint Rid				1	
12Hn25-11	utilized	flake, edge mod.	Laurel				13	
12Hn25-11	utilized	flake, edge mod.	Laurel, HT				1	
12Hn25-11	utilized	flake, edge mod.	Unknown,HD				1	
12Hn25-12	secondary	flake, unmod.	Fall Creek				1	
12Hn25-12	secondary	flake, unmod.	F.Creek,HT				1	
12Hn25-12	secondary	flake, unmod.	Laurel				5	
12Hn25-12	secondary	flake, edge mod.	Fall Creek				1	
12Hn25-12	secondary	flake, edge mod.	Laurel				4	
12Hn25-12	secondary	flake, edge mod.	Laurel, HT				2	
12Hn25-14	point, corner-not	Riverton point	Unknown,HT				1	
12Hn25-14	gr.stone frag, unid.	bannerstone/gorget?	Slate				1	
12Hn25-15	point, Madison	tr.point fragment	Fall Creek				2	
12Hn25-15	point, Madison	tr.point frag; mod?	Fall Creek				1	
12Hn25-15	point, Madison	tr.point fragment	Laurel				3	
12Hn25-15	point, Madison	point fragment	Laurel, HT				1	
12Hn25-15	point, Madison	tr.point/perf. frag	Laurel, HT				1	
12Hn25-16	retouched	flake, unmod.	Fall Creek				2	
12Hn25-16	retouched	flake, unmod.	F.Creek,HT				1	
12Hn25-16	retouched	flake, edge mod.	Fall Creek				2	
12Hn25-16	retouched	flake, edge mod.	Laurel				1	
12Hn25-17	flake, frag	flake, unmod.	Fall Creek				1	
12Hn25-17	flake, frag	flake, unmod.	F.Creek,HT				1	
12Hn25-17	flake, frag	flake, unmod.	Laurel				1	
12Hn25-17	flake, frag	flake, edge mod.	Fall Creek				1	
12Hn25-17	flake, frag	flake, edge mod.	Laurel				3	
12Hn25-17	flake, frag	flake, edge mod.	Laurel, HT				2	
12Hn25-18	primary	flake, unmod.	Fall Creek				3	
12Hn25-18	primary	flake, unmod.	F.Creek,HT				1	
12Hn25-18	primary	flake, unmod.	Laurel				9	
12Hn25-18	primary	flake, unmod.	Laurel, HT				1	
12Hn25-18	primary	flake, edge mod.	Fall Creek				3	
12Hn25-18	primary	flake, edge mod.	Laurel				5	
12Hn25-18	primary	flake, edge mod.	Laurel, HT				2	
86.14.135	point, frag	biface fragment	Laurel				1	
86.14.135	point, frag	flake, unmod.	Laurel				1	
86.14.333	biface, st 2	biface, stage 2	Fall Creek				1	
86.14.333	biface, st 2	biface, stage 3	Laurel				1	
86.14.518	point, frag	point fragment	Laurel				1	
86.14.518	point, frag	biface fragment	Laurel, HD				1	
86.14.566	point, frag	point fragment	Laurel				1	
86.14.566	point, frag	tr.point fragment	Laurel				1	
86.14.566	point, frag	tr.point fragment	Laurel, HT				1	
86.14.586	point, frag	point fragment	Fall Creek				1	
86.14.586	point, frag	point fragment	Unknown,HD				1	
86.14.632	biface, frag	tr.point fragment	Fall Creek				1	
86.14.632	biface, frag	point fragment	Laurel, HT				1	
86.14.643	point, frag	point fragment	A.Crk, HT				1	
86.14.643	point, frag	point fragment	Fall Creek				1	
86.14.643	point, frag	point fragment	Laurel				1	
86.14.643	point, frag	point fragment	Unknown				1	
86.14.643	point, frag	biface frag, stage 4	Fall Creek				1	
86.14.675	biface, frag	biface fragment	F.Creek,HT				1	
86.14.675	biface, frag	biface fragment	F.Creek,HD				1	
86.14.703	point, Madison	tr.point fragment	Fall Creek				1	
86.14.703	point, Madison	tr.point fragment	Laurel				1	
86.14.703	point, Madison	tr.point fragment	Laurel, HT				1	
86.14.783	biface, frag	biface fragment	Laurel				1	
86.14.783	biface, frag	flake, unmod.	Laurel				1	
86.14.817	point, Madison	tr.point fragment	Fall Creek				1	
86.14.817	point, Madison	biface, stage 4	Laurel				1	
86.14.826	perforator	perforator	Fall Creek				1	
86.14.826	perforator	perforator	Laurel				2	

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Catalog No.	Identification	Reanalysis	Material	XU	Level	Provenience	No.	Weight
86.14.828	point, frag	tr.point fragment	Fall Creek				1	
86.14.828	point, frag	point fragment	Laurel				1	
86.14.828	point, frag	tr.point fragment	Laurel				1	
86.14.828	point, frag	tr.point fragment	Laurel, HT				1	
86.14.828	point, frag	flake, edge mod.	Laurel				1	
86.14.549	point, frag	point fragment	Fall Creek				1	
86.14.549	point, frag	point fragment	F.Creek,HT				1	