PHASE III ARCHEOLOGICAL INVESTIGATIONS OF 18CV491 AND 18CV492 DUNKIRK P ARK AND RIDE CALVERT COUNTY, MARYLAND

PREPARED FOR

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Abstract

Phase III Archeological Data Recovery Investigations were conducted at archeological sites 18Cv491 and 18Cv492 in Calvert County for the Maryland Transit Administration by McCormick Taylor and EAC/Archaeology in Summer – Early Winter 2012.

The undertaking prompting the Phase III investigations of 18Cv491 and 18Cv492 is the Dunkirk Park and Ride Project, which entails the construction of an approximately 500-space commuter bus park and ride lot with three associated stormwater management facilities on approximately 15 acres. The Dunkirk Park and Ride project site, within which 18Cv491 and 18Cv492 are situated, is located on the east side of MD 4, just north of Town Center Boulevard.

The Phase III data recovery investigations of 18Cv491 and 18Cv492 were implemented as a treatment measure to address adverse effects on the sites in accordance with Stipulation I of a Memorandum of Agreement (MOA) amongst the Federal Transit Administration (FTA), the Maryland State Historic Preservation Officer (SHPO), and the Maryland Transit Administration (MTA) for the Dunkirk Park and Ride Project (executed June 9, 2010).

The subject sites of investigation are two National Register-eligible, intact, repeated use, short-term habitation sites. The sites collectively contain occupations that span the Early Archaic though Later Woodland Periods. The sites' most prominent occupations date to the Early Woodland Period.

The studies at 18Cv491 resulted in the identification of a house pattern feature that is represented as a circular configuration of postmold features, and a dense lithic artifact concentration that constitutes the remains of a chipping/work area feature. The house pattern feature and its associated chipping/work feature exhibit evidence of at least four episodes of occupation.

The studies at 18Cv492 revealed that the site contains the remains of a feature cluster that is composed of a hearth and several workstations. The feature cluster exhibits evidence of at least five episodes of occupation.

The discoveries, excavations, and analysis of the sites provide new information about prehistoric habitation and utilization of interior, low order wetland settings of Maryland's Western Shore.

PHASE III ARCHEOLOGICAL INVESTIGATIONS OF
18CV491 AND 18CV492
DUNKIRK PARK AND RIDE
CALVERT COUNTY, MARYLAND

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I. INTRODUCTION

This report presents a discussion of the Phase III Archeological Data Recovery field investigations of archeological sites 18Cv491 (Dunkirk P&R 1 Site) and 18Cv492 (Dunkirk P&R 2 Site), which are located in Dunkirk, Calvert County, Maryland (**Figure 1** through **Figure 10**).

The undertaking prompting the Phase III investigations of 18Cv491 and 18Cv492 is the Dunkirk Park and Ride Project, which entails the construction of an approximately 500-space commuter bus park and ride lot with three associated stormwater management facilities on approximately fifteen (15) acres. The Dunkirk Park and Ride project site, within which 18Cv491 and 18Cv492 are situated, is located on the east side of MD 4, just north of Town Center Boulevard (**Figure 2**).

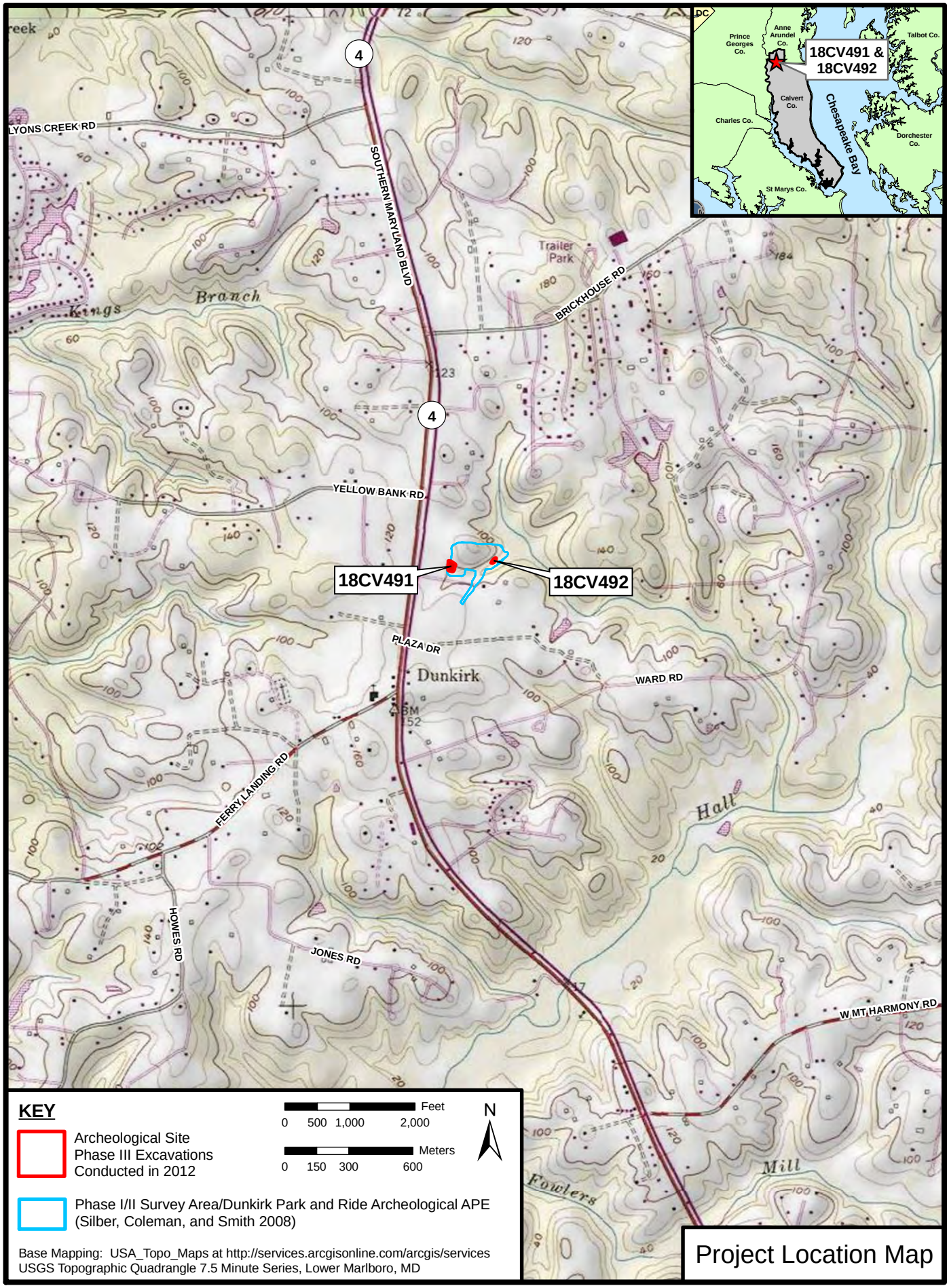
The subject sites of this document are two intact Late Archaic-Late Woodland short-term habitation sites with primary Early Woodland Period occupations. The sites were identified and evaluated during a 2008 Cultural Resources Eligibility and Effects study conducted to fulfill Section 106 compliance requirements for the Dunkirk Park and Ride Project (Silber et al. 2008). The sites have been determined eligible for the National Register of Historic Places (NRHP) by Maryland SHPO Opinion under Criterion D (letter dated 10/21/2008; **Appendix I**).

The Phase III data recovery investigations of 18Cv491 and 18Cv492 were implemented as a treatment measure to address adverse effects on the sites in accordance with Stipulation I of a Memorandum of Agreement (MOA) amongst the Federal Transit Administration (FTA), the Maryland State Historic Preservation Officer (SHPO), and the Maryland Transit Administration (MTA) for the Dunkirk Park and Ride Project (executed June 9, 2010; **Appendix I**).

The Phase III investigations were initiated in Summer 2012 by McCormick Taylor, Inc. for the Maryland Transit Administration (MTA). Fieldwork was completed in Early Winter 2013. Funding for the 2008 Section 106 compliance study and the Phase III Archeological Data Recovery of 18Cv491 and 18Cv492 was provided by the MTA and the FTA.

A. Project Goal

The goal of the Phase III investigations of 18Cv491 and 18Cv492 was to recover and record a sufficient representative sample of the sites' significant archeological data that would otherwise be lost during the construction of the Dunkirk Park and Ride facility and its associated stormwater management facilities.



Project Location Map

FIGURE 1

NOTES:
1. FOR BITUMINOUS AND CONCRETE PAVING LIMITS SEE DRAWING NO. C-1
2. FOR CROSS SECTIONS A-A, B-B, C-C, AND D-D, SEE DRAWING NO. XS-01 AND XS-02
3. FOR TRAFFIC BARRIER END SECTIONS, PAVEMENT SECTIONS AND DETAILS SEE DETAIL DRAWING NO. C-4 AND C-10

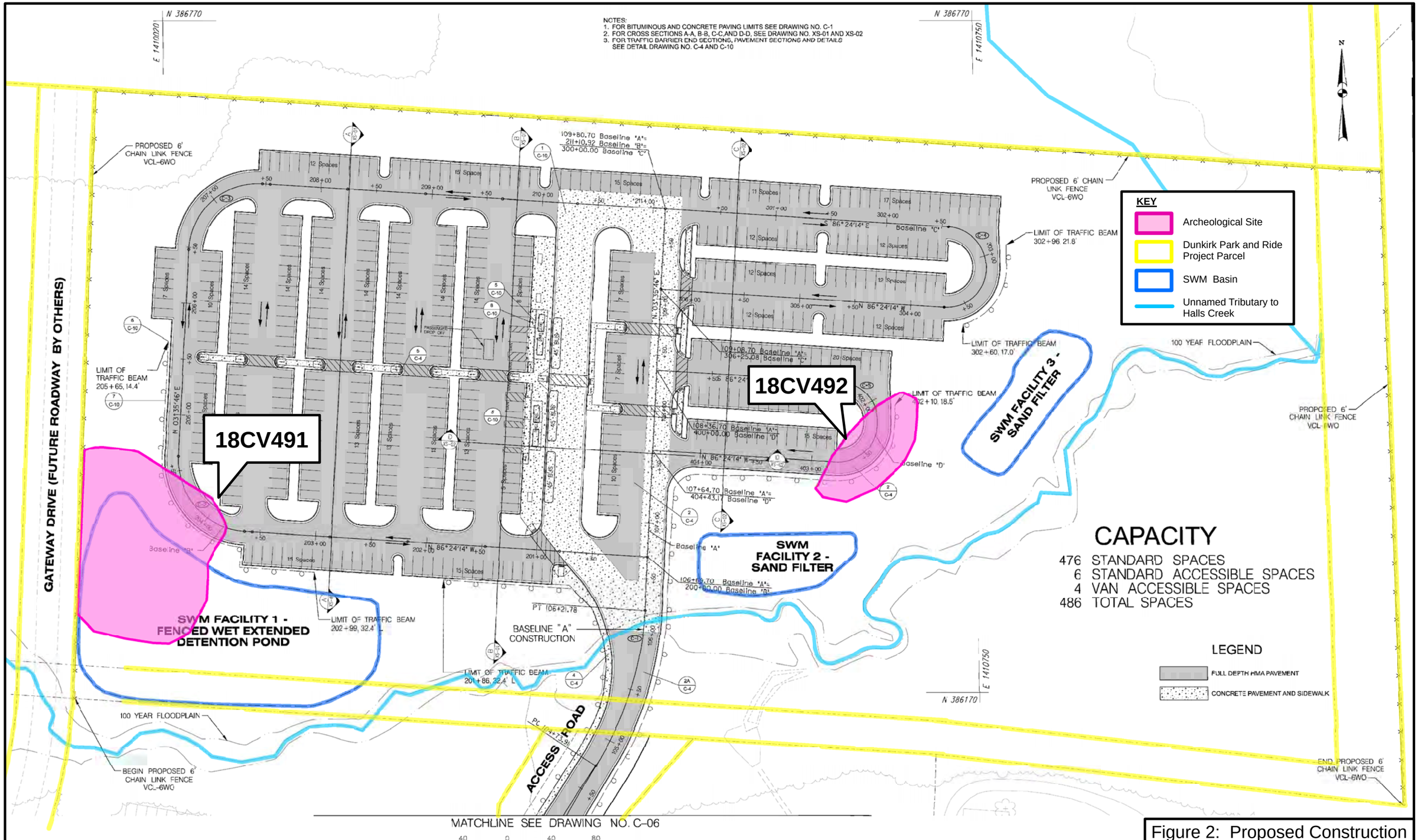


Figure 2: Proposed Construction

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

WALLACE, MONTGOMERY & ASSOCIATES, LLP
CIVIL AND STRUCTURAL ENGINEERS
DMJM HARRIS | AECOM
A Joint Venture

McCormick Taylor
Engineers & Planners Since 1946

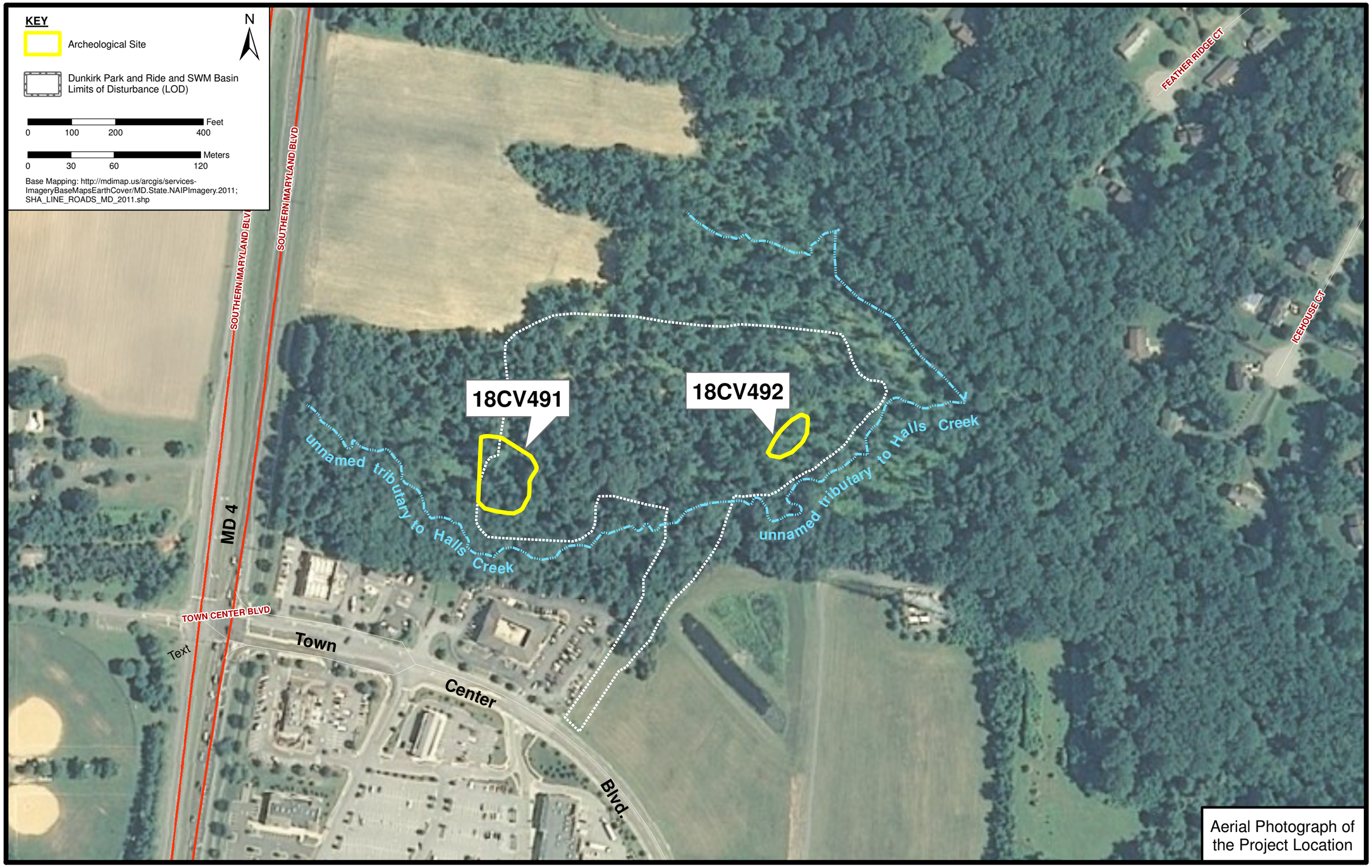
PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
15553 — License No.
October, 2013 — Expiration Date
STATE OF MARYLAND — DANIEL P. KRIEGER — No. 15553 — PROFESSIONAL ENGINEER
6/22/12

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DESIGN TAB
DRAWN SG
CHECK CEU
APPR

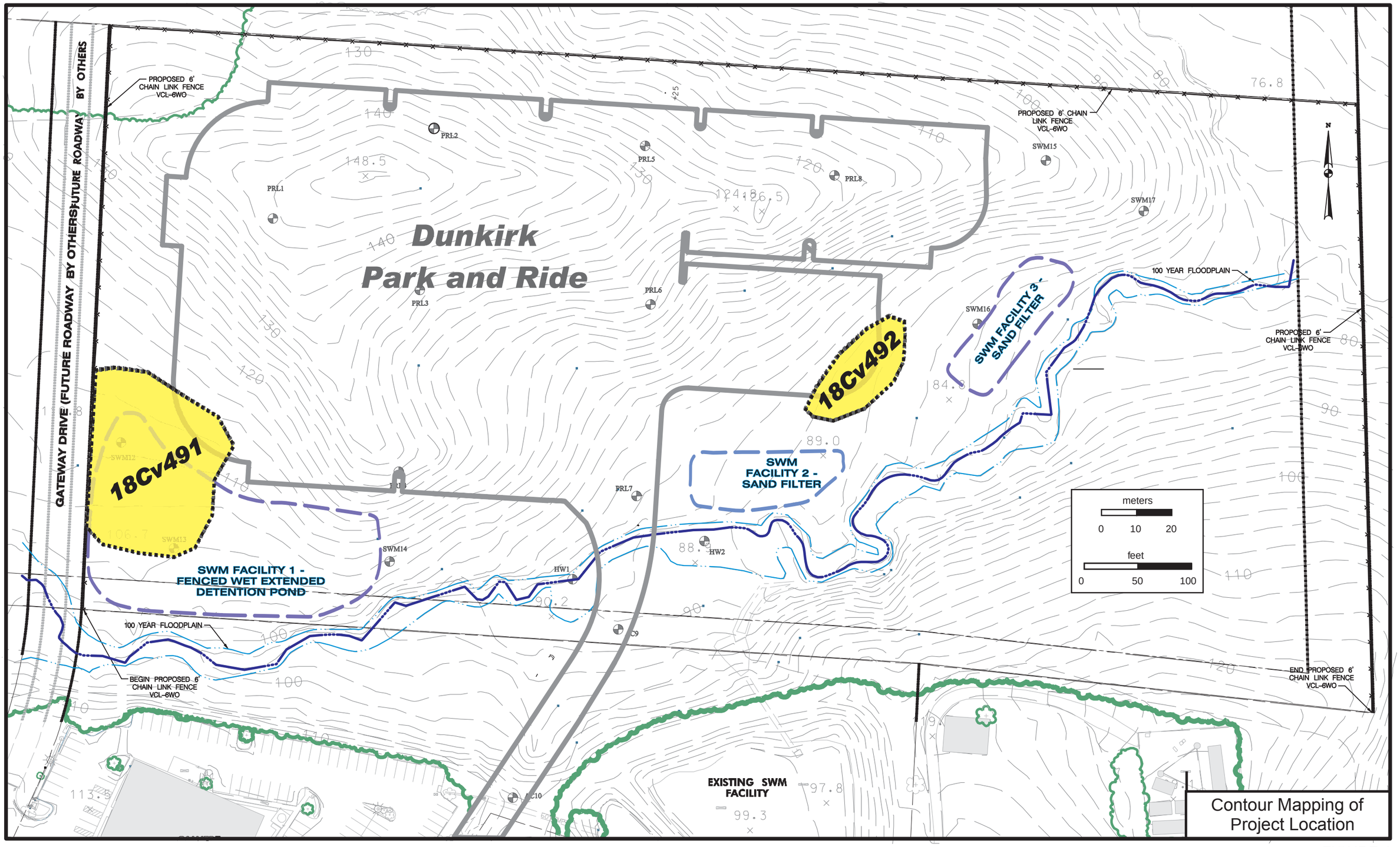
DUNKIRK PARK AND RIDE FACILITY
CALVERT COUNTY, MARYLAND
SITE/PAVING PLAN 1
DATE: JUNE 2012 SCALE: AS SHOWN

CONTRACT NO. T-1035-0140
DRAWING NO. C-05
SHEET NO. 10 OF 82



Aerial Photograph of the Project Location

FIGURE 3



Contour Mapping of Project Location

FIGURE 4

FIGURE 5: View of 18Cv491 during Excavations. Photograph taken facing east.

FIGURE 6: View of 18Cv491 after excavations. Photograph taken facing east.

FIGURE 7: View of 18Cv491 after excavations. Photograph taken facing northwest.

FIGURE 8: View of south face of hill adjacent to 18Cv491 and 18Cv492. Photograph taken from 18Cv491 facing east.

FIGURE 9: View of 18Cv492 during excavations. Photograph taken facing north.

FIGURE 10: View of 18Cv492 after excavations. Photograph taken facing east.

The Phase III investigations of 18Cv491 and 18Cv492 entailed the implementation of a project-specific data recovery plan that was developed in consultation with the Maryland Historical Trust (MHT). This data recovery plan is attached as Exhibit A of the aforementioned MOA and is entitled *Phase III Archaeological Data Recovery Investigations of 18Cv491 (Dunkirk P/R Site 1) and 18Cv492 (Dunkirk P/R Site 2) (Revised April 2009)* **(Appendix I)**. The Phase III investigations of 18Cv491 and 18Cv492 summarized in this document adheres to research design and methodology of the aforementioned work plan.

B. Summary of 18Cv491

Site 18Cv491 (Dunkirk P&R 1 Site) consists of the well-preserved, intact remains of a small multicomponent short-term base camp that was subjected to repeated, intermittent habitation between the Late Archaic and Late Woodland Periods of prehistory.

The site is located in the southwest quadrant of the Dunkirk Park and Ride project parcel approximately 150 meters east of MD 4 and 110 meters north of Town Center Boulevard. The site encompasses approximately 1,664.35 square meters (~0.41 acres, ~0.17 hectares) on a small rise of a stream terrace that overlooks the north side of an unnamed tributary to Halls Creek. The distance between the site and the centerline of the stream bed is approximately 30 meters. The landward (north) side of the stream terrace abuts the toe of slope of a severely-eroded hill. The small rise, upon which the site is situated, is located in the north half of the terrace (**Figure 3** and **Figure 4**).

Although various projectile point types that can be attributed to the Late Archaic Period were recovered from mixed contexts across the site, the most definitive Late Archaic component of 18Cv491 is represented by two small, isolated, low density lithic scatters located at opposite ends of the site. The scatters are contemporaneous, and based on the recovery of a worn Susquehanna broadspear from each scatter, have a projected date range of ca. 2,000 B.C. to ca. 1,500 B.C. The scatters may represent two small work areas of a single occupation, or two different episodes of occupation. The small sizes of the scatters and the limited variation of artifact types within the scatters suggest that between ca. 2,000 B.C. and ca. 1,500 B.C. 18Cv491 was utilized as procurement/processing station rather than as a transient base camp. The Late Archaic component generally runs along the west edge of the site.

The main components of 18Cv491 consist of a series of small Late Archaic-Late Woodland short-term, low capacity, seasonal base camps that are centered on two features in the south central portion of the site. These features are a house pattern feature that is represented as a circular configuration of postmold features, and a dense lithic artifact concentration that constitutes the remains of a chipping/work area feature. The house pattern feature and its associated chipping/work feature exhibit evidence of at least four episodes of occupation.

Point types recovered in association with the house and its work area include one fishtail point, several Piscataway points, several stemmed variants, one teardrop/ovate variant, and

two triangle points. Three ceramic wares, Marcey Creek, Accokeek, and Sullivan Cove Plain were recovered in association with the 18Cv491 base camp area.

While many of the point types recovered at the site span time periods, temporal overlaps of the points and ceramic wares indicate that the more prominent occupations of the 18Cv491 base camp area occurred during the early portion of the Early Woodland Period, specifically between 1,000 B.C. and A.D. 900. The base camp may have also included transitional Late Archaic/Early Woodland and Early Woodland/Middle Woodland occupations but the archeological signatures of these occupations are less pronounced.

Most of the non-diagnostic tool assemblage consists of utilized flakes; however, flake tools, bifaces/biface fragments, core fragments, points, and hammerstones were also recovered. The site also yielded examples of general prehistoric household debris such as fragments of fire-cracked rock, a small number of ceramic sherds, and large quantities of debitage. The majority of the lithic artifacts are made of cobble quartz and quartzite, a local lithic resource that is readily available on site and in the adjacent stream bed. Overall, the assemblage reflects various general resource procurement/processing, toolkit maintenance, and expedient tool production activities, all of which are commonly attributed to base camp sites.

C. Summary of 18Cv492

Site 18Cv492 (Dunkirk P&R 2 Site) is the intact remains of a multicomponent short-term base camp that encompasses an approximate 460 square meter area (~0.11 acres, ~0.05 hectares) on the landward side of a stream terrace along the west side of an unnamed tributary to Halls Creek. The landward side (north/northwest side) of the terrace lies at the toe of slope of a severely-eroded hill and the center of the stream bed is located about 25 meters southeast of 18Cv492. The site is located in the southeast quadrant of the Dunkirk Park and Ride project site, approximately 370 meters east of MD 4 and 250 meters northeast of Town Center Boulevard (**Figure 1** and **Figure 3**).

Site 18Cv492 contains a series of small Early Archaic-Late Woodland occupations with a primary Early Woodland Period occupation. This occupation is associated with over 500 Accokeek ceramic sherds, which suggests that the most intensive episode of site habitation occurred sometime between ca. 900 B.C. to 300 B.C. Other occupations are represented at the site to a lesser degree by datable ceramic wares and projectile points.

The non-diagnostic chipped stone tool assemblage from 18Cv492 contains a diversity of utilized flakes, flake tools, biface/biface fragments, and core fragments, most of which are clearly exhausted discards. Most of the lithic artifacts are also results of cobble reduction and made of the local cobble quartz and quartzite that is readily-available on site and in the adjacent stream bed. The recovery of hammerstones and cobble tools of varying sizes indicates that tool production and resource processing were clearly two of the main activities that occurred on site. Most of the 18Cv492 ceramic assemblage is composed of aforementioned 500+ Accokeek sherds; however, the assemblage also contains a small number of Marcey Creek, Mockley, and Potomac Creek sherds. The diagnostic point

collection contains one Palmer/Amos point, one Savannah River broadspear, two Vernon/Halifax points, a basal notched point, one Piscataway point, and two triangle points. Fragments of two gorgets were also recovered. The recovered assemblage also includes general debris associated with small base camp sites such as debitage and fire-cracked rock. The site does not contain any discrete subsurface pit features; however, activity areas are discernable as subsurface artifact concentrations.

The Late Archaic component of 18Cv492 is best defined by two Vernon/Halifax points (ca. 3,550 B.C. – 2,050 B.C.); however, the point assemblage also contains several other point types with date ranges that include portions of the Late Archaic period (e.g., Savannah River broadspear, Piscataway). While it is possible that use of 18Cv492 as a small seasonal base camp began during Late Archaic Period, the few artifacts that can be directly attributed to the Late Archaic Period suggests that it is more likely that 18Cv492 functioned as a temporary procurement/processing station prior to the Woodland Period. Little is known about Early Archaic site use since this component is represented by a single Palmer/Amos-variant point (ca. 8,000 B.C. – 7,000 B.C.) that was recovered from a mixed temporal context. Nonetheless, the addition of this point to regional site databases does represent another location that can be used to map the movement of Early Archaic groups through southern Calvert County.

D. Historic Significance of 18Cv491 and 18Cv492

Sites 18Cv491 and 18Cv492 are two small, multicomponent, intact prehistoric base camp sites that are eligible for the NRHP under Criterion D.

The significances of 18Cv491 and 18Cv492 lie in their abilities to provide new information about prehistoric habitation and utilization of interior, low order wetland settings of Maryland's Western Shore. It has long been recognized that small, short-term, limited-use habitation sites like 18Cv491 and 18Cv492 were integral parts of regional settlement patterns. While many prehistoric sites like 18Cv491 and 18Cv492 have been recorded along first- and second-order waterways throughout the state, to date, few such sites in southern Maryland have been subjected to intensive-level investigations. Limited artifact assemblages, absences of datable deposits, lacks of discrete spatial patterning, and/or poor physical integrity are only some of the many reasons why these smaller, temporary habitation sites are often dismissed from studies beyond the basic identification/evaluation level.

Both sites possess intact, prehistoric archeological deposits with good subsurface integrity. The deposits are confined to relatively small areas (< 1 acre), and in relatively close proximity to one another. As such, the sites are well-suited for examining site layout and siting. The sites also provide an opportunity to examine use of micro-settings of a single environmental setting. The deposits at 18Cv491 and 18Cv492 are well-preserved beneath a 0.20- to 1.0-meter thick mantle of accumulated colluvium. This colluvial mantle, attributable to footslope positions of the sites, has been instrumental in protecting 18Cv491 and 18Cv492 from common surface disturbances like erosion and recurrent historic plowing that are frequently responsible for compromising the integrity of small sites.

The archeological deposits of 18Cv491 and 18Cv492 contain important archeological data in the forms of datable artifacts, dense artifact concentrations, and cultural features. Importantly, the data retain the levels of horizontal and vertical patterning that are necessary for meaningful differentiation and interpretation of temporal and functional contexts.

The artifact assemblages of 18Cv491 and 18Cv492 are both broad and deep. The lithic assemblages contain finished tools, tools used to make other tools, as well as the by-products of tool production. In addition to providing the datasets that can be used to understand lithic reduction technologies and toolkit maintenance strategies of the sites' former inhabitants, the lithic assemblages also contain use/wear datasets that can be used to understand the purposes for which tools were created. Although artifacts made of local materials (i.e. cobble quartz and quartzite) comprise the majority of the recovered assemblages, other lithic materials are also present. As such, the lithic assemblages obtained from 18Cv491 and 18Cv492 also contain information that shed insight on the regional movement and use of lithic resources.

Ceramic assemblages from the two sites also contain significant datasets. In addition to providing datasets that can be used to establish and verify site-specific and regional chronological sequences, use wear attributes and spatial patterning of these artifacts also provide information about onsite food preparation and storage activities. Comparative analysis of vessel forms, construction methods, and design elements also provides information that can be used to explore the manifestations of cultural traditions, continuity, and change in ceramic production.

Because 18Cv491 and 18Cv492 each contain only a limited number of occupations, the sites provide a unique opportunity to examine shifts in site use and cultural adaptations over time. The fact that the sites also contain occupations that span several time periods also make them well-suited for examining the transitions from one period to another.

The primary occupations of 18Cv491 and 18Cv492 date to the Early Woodland Period, a time period that is marked by increases in gradual trends toward sedentism. Most of the changes consisted of subtle shifts in subsistence-settlement strategies associated with increased usage of stable estuarine and riverine settings, a trend which began during the later portion of the Late Archaic Period (Dent 1995; Custer 1994; Steponaitis 1983). As is apparent by the intact house pattern feature at 18Cv491 and large ceramic assemblage from 18Cv492, both sites are clearly testaments to the rise of more sedentary lifestyles, especially in interior settings, that characterize much of the Early Woodland Period.

The intact Early Woodland house pattern feature of 18Cv491 possesses high research value. While several house pattern features have been documented in Maryland, to date, the majority of these features have been found in association with complex multicomponent village-type sites on major waterways such as those discovered at the Pig Point Site (18An50, Luckenbach 2009), the Winslow Site (18Mo9, Dent 2005), and the Cresaptown Site (18Ag119, Wall 1997). Although ongoing studies indicate that the Pig Point Site (18An50) likely includes house pattern features that date to the Late Archaic period (Luckenbach et al 2010; Luckenbach 2009; Sperling et al. 2010), the majority of the

previously documented house pattern features across the state have been attributed Late Woodland occupations. The pre-Late Woodland house pattern feature at 18Cv491 is a new addition to Maryland's known assemblage of prehistoric house pattern features. This feature provides information about a time period as well as an environmental setting that is not well-represented in the existing databases of Maryland archeological data.

In sum, sites 18Cv491 and 18Cv492 contain significant information that can be used to examine lithic, ceramic, and construction technologies, as well as resource utilization, and general habitation activities of pre-Contact era human groups. The discovery of sites 18Cv491 and 18Cv492, and the analysis of the data contained at them, contribute significant new information about the activities performed, technologies practiced, and subsistence strategies employed at small interior-area prehistoric encampments in Calvert County, southern Maryland, and the Western Shore.

E. Compliance Requirements and Project Team

The Phase I, II, and III technical work at 18Cv491 and 18Cv492, and the documentation of this work, were conducted in compliance with the guidelines, principles, protocols, mandates, and requirements as set forth in:

- the MHT's *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994)*; Technical Update No. 1 Conservation Standards* (July 2005)*; General Guidelines for Compliance-Generated Determinations of Eligibility* (2002)*; and MHT's Office of Research, Survey, and Registration (ORSR) guidelines.*
- *Maryland Historical Trust Act of 1985, as amended, State Finance and Procurement Article §§ 5A-325 and 5A-326 (formerly Article 83B) of the Annotated Code of Maryland;*
- *Archeology and Historic Preservation: The Secretary of the Interior's Standards and Guidelines* (FR 48:44716-44742) (Sept. 1983);
- *Curation of Federally-Owned and Administered Archeological Collections* (36 CFR Part 79*)*
- *Section 106 of the National Historic Preservation Act of 1966 (as amended)* (36 CFR Part 800).
- *Advisory Council on Historic Preservation Implementing Regulations 36 CFR Part 800 – Protection of Historic Properties (as amended)*
- *Federal Aid Highway Act of 1968 (as amended)*
- *Section 4(f) of the U.S. Department of Transportation Act of 1966*
- *Section 101(b)(4) of the National Environmental Policy Act of 1969*
- *Executive Order 11593, Sections 1(3) and 2(b)*

- *Maryland Environmental Policy Act of 1973 (as amended)*
- *Terrestrial Archeological Permit (executed XX/XX/XXXX)* (**Appendix VI**)

All work was conducted by, or performed under the direct supervision of, persons that meet the *Secretary of the Interior's Professional Qualifications and Standards (36 CFR Part 61) for Archaeology, Architectural History, and History*.

The project's research team consisted of two key McCormick Taylor archeologists. Barbara Silber served at the team's Principal Investigator with Macon Coleman as Project Archeologist. Technical assistance with detailed artifact analysis and interpretation was provided by Dawn Cheshaek of EAC/Archaeology and volunteer Keith Doms. General field and laboratory support was provided by archeologists from EAC/Archaeology. A list of project personnel is presented in **Section XII**. Project guidance was provided by MTA liaisons Daniel Reagle and John Newton.

F. Summary of Interagency Project Consultation

Pursuant to the MOA, the project included ongoing consultation with MHT, the Calvert County Department of Planning and Zoning, the Maryland Commission on Indian Affairs, and the Advisory Council on Historic Preservation and Calvert County. Consultation was undertaken through written correspondence, verbal communication, and two interagency field views. On September 25, 2012, a mid-excavation field view (MTA and Calvert County in attendance) was held during which preliminary/anticipated findings were presented. On December 6, 2012, a near-end excavation field view (MTA, MHT, and Calvert County in attendance) was held in accordance with Stipulation I of the MOA to discuss field interpretations and seek agency input on the completion of the Phase III site excavations.

A management summary of the field investigations and preliminary results was submitted to the MTA, the FTA, and the MHT for review and concurrence on completion of the fieldwork component of MOA Stipulation I. Concurrence on the completion of the field work at 18Cv491 and 18Cb492 was issued by the MHT and the FTA on April 12, 2013 and April 25, 2013, respectively (**Appendix I**).

G. Public Outreach

The Phase III data recovery plan for the investigations of 18Cv491 and 18Cv492 also included provisions for a public outreach program. The goal of these activities was to promote awareness of the sites and their importance to regional prehistory, and also to promote public understanding of the measures that are undertaken during the planning of public works projects to locate, identify, and protect cultural resources. The outreach program entailed providing the public with access to project information through MTA's publically-accessible Dunkirk Park and Ride project website (http://mta.maryland.gov/dunkirk-park-and-ride-project). Posted items include:

- an announcement about the archeological excavations of 18Cv491 and 18Cv492.

- the technical Cultural Resources Survey report that describes the methods and results of the Phase I/II archeological survey and historic architectural studies of the Dunkirk Park and Ride project (Silber et al. 2008)

- the Phase III technical report of the archeological data recovery excavations at 18Cv491 and 18Cv492 (Silber, Coleman, and Cheshaek 2013).

- A one-page, non-technical, interpretive public information handout that summarizes the results of the archeological studies of 18Cv491 and 18Cv492.

Electronic copies of the technical reports and public information handout were made accessible via dedicated weblinks. The posted documents were provided in PDF format to allow for online viewing and downloading. The public information handout has also been posted on the Calvert County website (http://www.co.cal.md.us/index.aspx?nid=1252; http://www.co.cal.md.us/DocumentCenter/View/4769). A printed copy of the public information handout is contained in **Appendix II**.

II. ENVIRONMENTAL SETTING

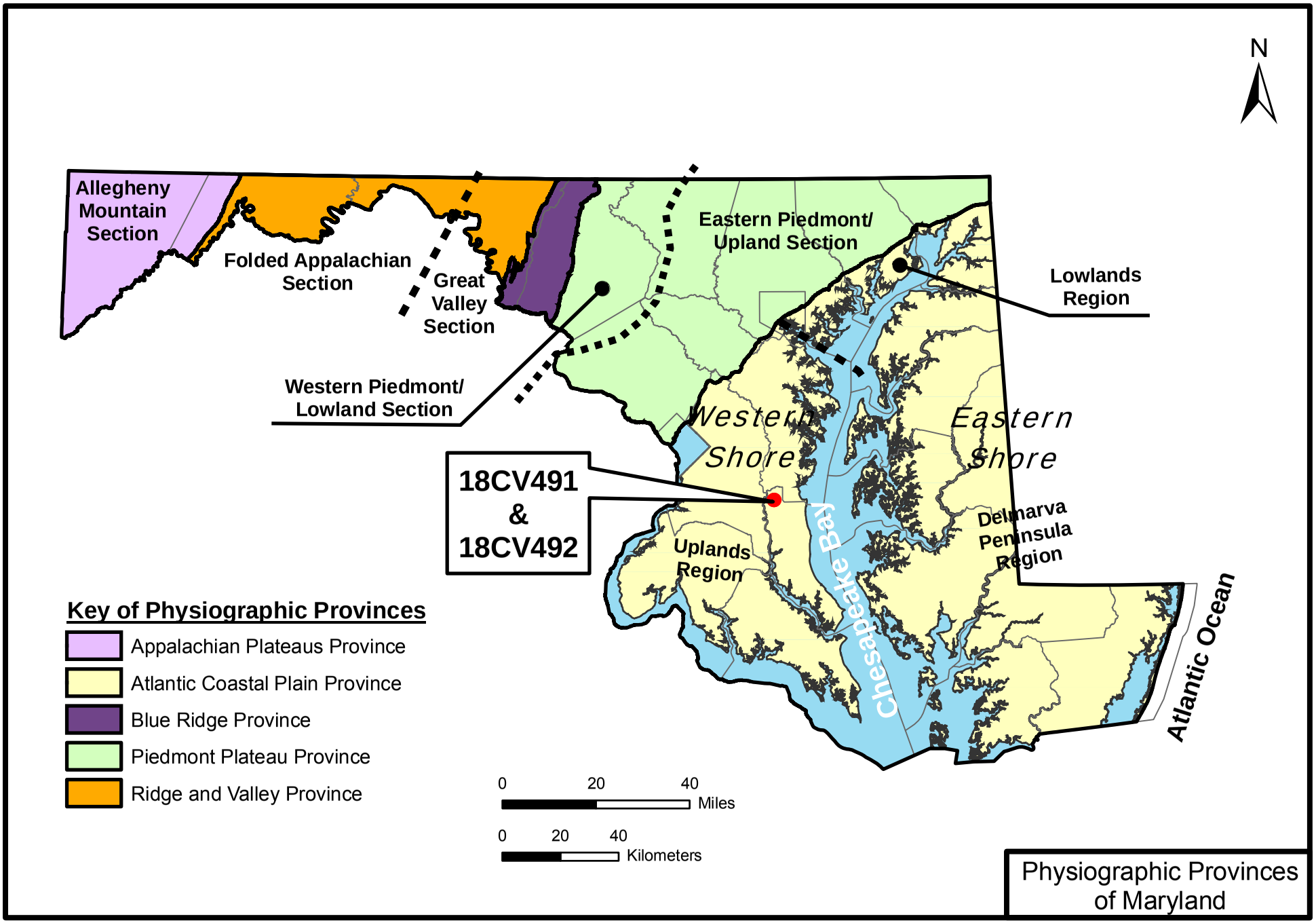
Sites 18Cv491 and 18Cv492 are located on the Western Shore of Maryland and are situated within the Coastal Plain physiographic province (**Figure 11**). The sites are located in Maryland Archeological Research Unit (MARU) 9: Estuarine Patuxent Drainage (**Figure 12**). The sites are located within the Lower Patuxent River watershed (HUC 8) of the Patuxent River basin (HUC 6), specifically in the South River watershed (**Figure 13**).

A. Geological Setting

Bounded by the Atlantic Ocean to the east and foothills of the Appalachian Mountains that define the Piedmont physiographic province to the west, the Coastal Plain encompasses both Maryland's Eastern and Western Shores. The Fall Line marks the boundary between Maryland's Coastal Plan and Piedmont physiographic provinces. In Maryland (and in the neighboring state of Delaware), the general vicinity of the Fall Line closely coincides with the course of I-95. Maryland's Coastal Plain is part of a larger physiographic province, which is divided into various sections. In its entirety, the Coastal Plain spans much of the eastern seaboard of the United States.

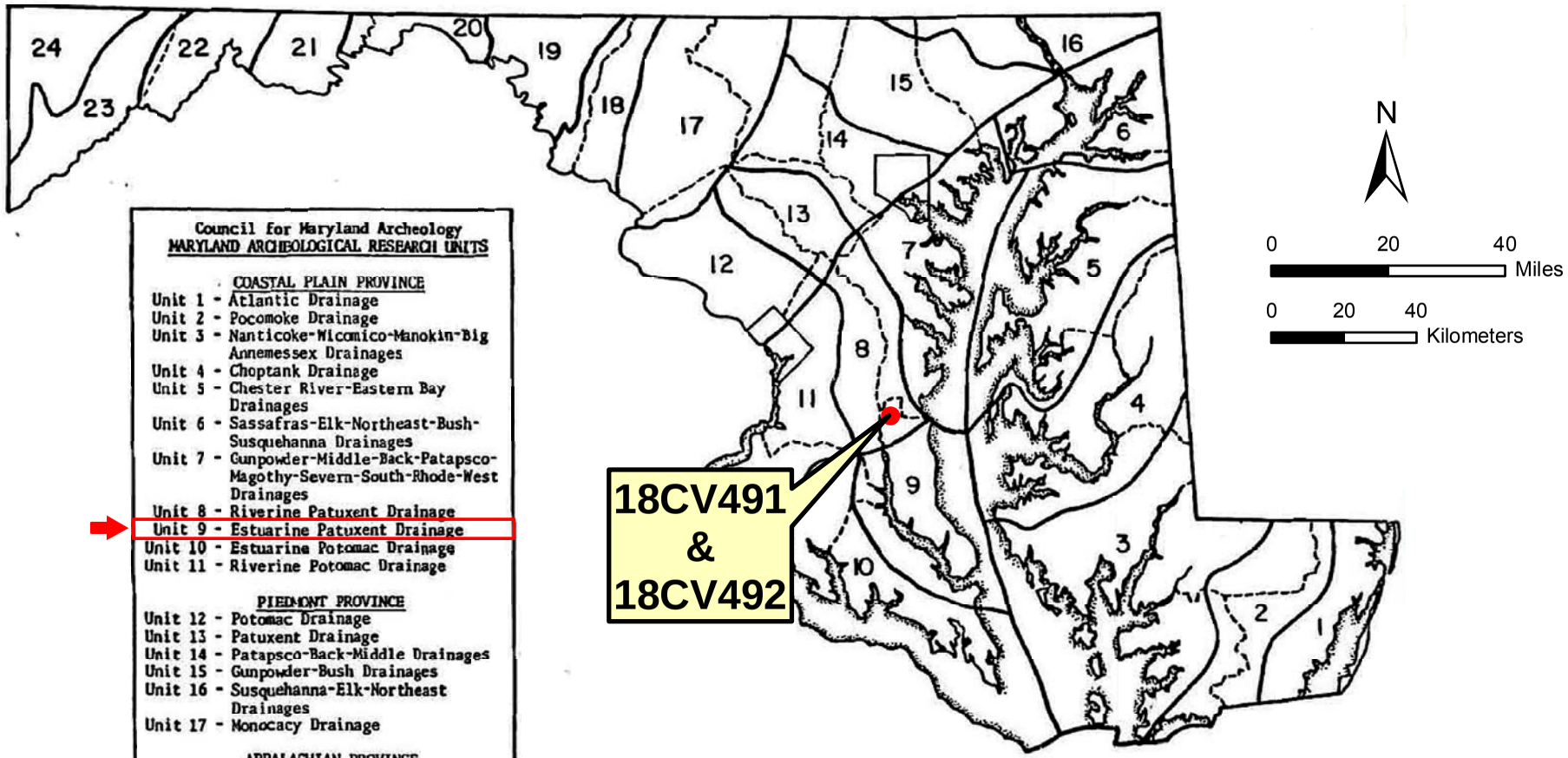
The landscape of Maryland's Coastal Plain is characterized by a low topographic relief that ranges from gently rolling to nearly level sandy plains. Numerous interior tidal freshwater swamps that drain into saltwater marshes toward the shoreline are also present throughout the Coastal Plain. Waterways tend to be low energy and, in general, drainage in the Coastal Plain is relatively poor. Soils of the Coastal Plain consist of fine sands and loams that are underlain by unconsolidated deposits of quarternary, tertiary, and cretaceous silts, sands, clays, and marls (www.mgs.dnr.gov; Widmer 1964). Silty to sandy soils interspersed with large surface deposits of cobbles and gravels are common throughout the province. Although loam, clay, and marl deposits can also be found throughout the Coastal Plain, these deposits tend to be found toward more interior portions of the physiographic province. Consequently, the more inland portions of Maryland's Coastal Plain tend to be more fertile.

The Coastal Plain of Maryland is divided into a northern region and a southern region. The northern region, the Lowlands Region, encompasses the portion of the province north of the Patapsco River. The Uplands Region, within which 18Cv491 and 18Cv492 are located, encompasses the portion of the Coastal Plain south of the Patapsco River. In general, the differences between Maryland's Coastal Plain Lowlands and Uplands are based mainly on geologic history, sedimentary characteristics, and topographic relief. For example, the terrain of the northern Lowlands Region is characterized as gently rolling with broad valleys, whereas the southern Uplands Region is a well-dissected uplands plateau that is fringed by a low, flat plain of varying width (Steponaitis 1983).



Physiographic Provinces of Maryland

FIGURE 11



Council for Maryland Archeology
MARYLAND ARCHEOLOGICAL RESEARCH UNITS

COASTAL PLAIN PROVINCE

Unit 1 - Atlantic Drainage
Unit 2 - Pocomoke Drainage
Unit 3 - Nanticoke-Wicomico-Manokin-Big Annemessex Drainages
Unit 4 - Choptank Drainage
Unit 5 - Chester River-Eastern Bay Drainages
Unit 6 - Sassafras-Elk-Northeast-Bush-Susquehanna Drainages
Unit 7 - Gunpowder-Middle-Back-Patapsco-Magothy-Severn-South-Rhode-West Drainages
Unit 8 - Riverine Patuxent Drainage
Unit 9 - Estuarine Patuxent Drainage
Unit 10 - Estuarine Potomac Drainage
Unit 11 - Riverine Potomac Drainage

PIEDMONT PROVINCE

Unit 12 - Potomac Drainage
Unit 13 - Patuxent Drainage
Unit 14 - Patapsco-Back-Middle Drainages
Unit 15 - Gunpowder-Bush Drainages
Unit 16 - Susquehanna-Elk-Northeast Drainages
Unit 17 - Monocacy Drainage

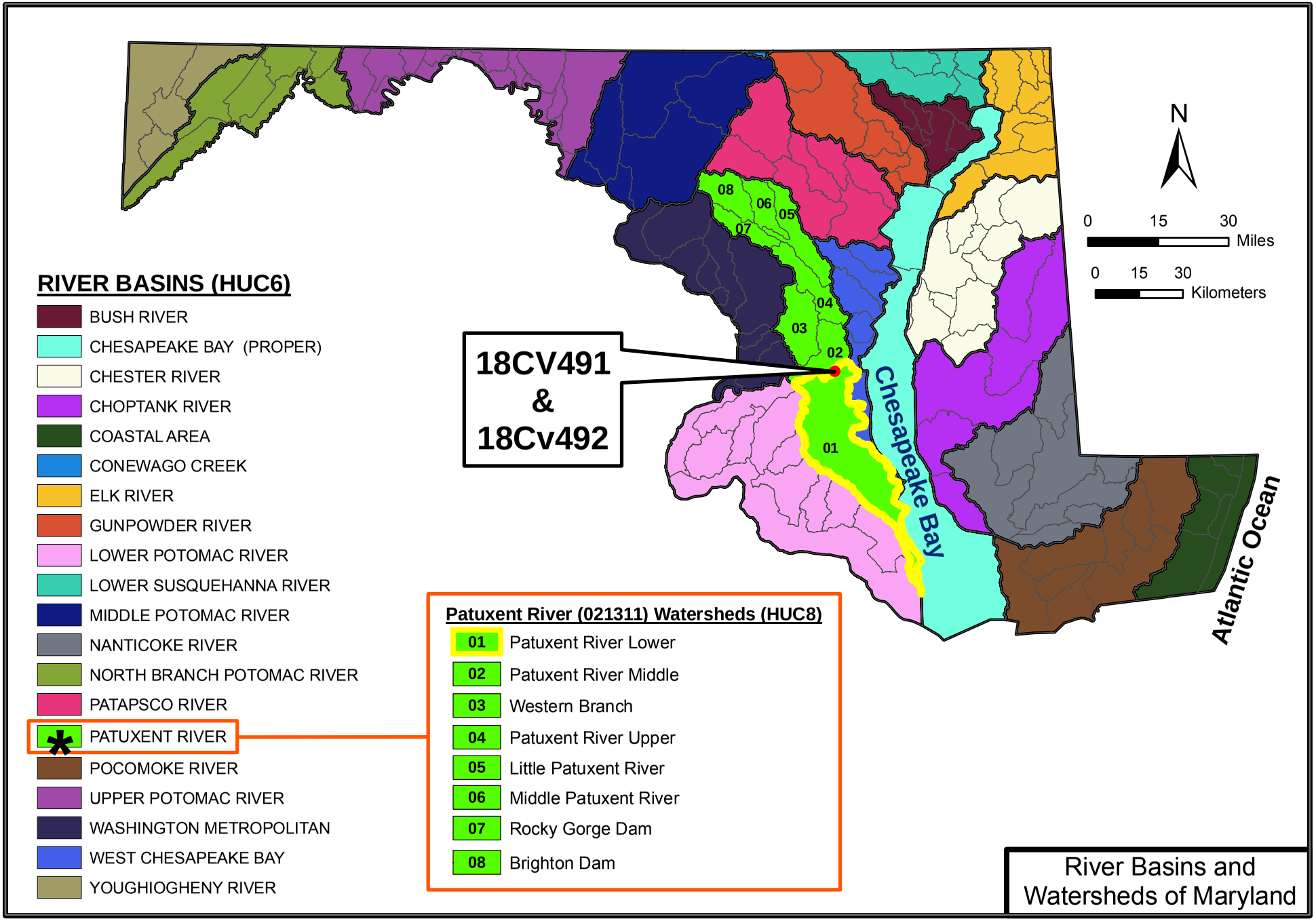
APPALACHIAN PROVINCE

Unit 18 - Catoctin Creek Drainage
Unit 19 - Antietam Creek-Conococheague Creek Drainages
Unit 20 - Licking Creek-Tonoloway Creek-Fifteenmile Creek Drainages
Unit 21 - Town Creek Drainage
Unit 22 - Evitts Creek-Georges Creek Drainages
Unit 23 - Potomac-Savage Drainages
Unit 24 - Youghiogheny-Casselman Drainages

Source: Shaffer and Cole (1994)

Maryland Archeological Research Units (MARU)

FIGURE 12



River Basins and Watersheds of Maryland

FIGURE 13

B. General Soil Descriptions

Figure 14 presents a map of the identified soil map units in and around 18Cv491 and 18Cv492 as recorded in the current United States Department of Agriculture (USDA) - Natural Resources Conservation Service's (NRCS) Soil Survey Geographic database (SSURGO) for Calvert County (USDA/NRCS SSURGO 2.2). A summary listing of the specific soil types by site is presented in **Table 1**.

Table 1:
Soils Mapped by the USDA-NRCS in the Project APE

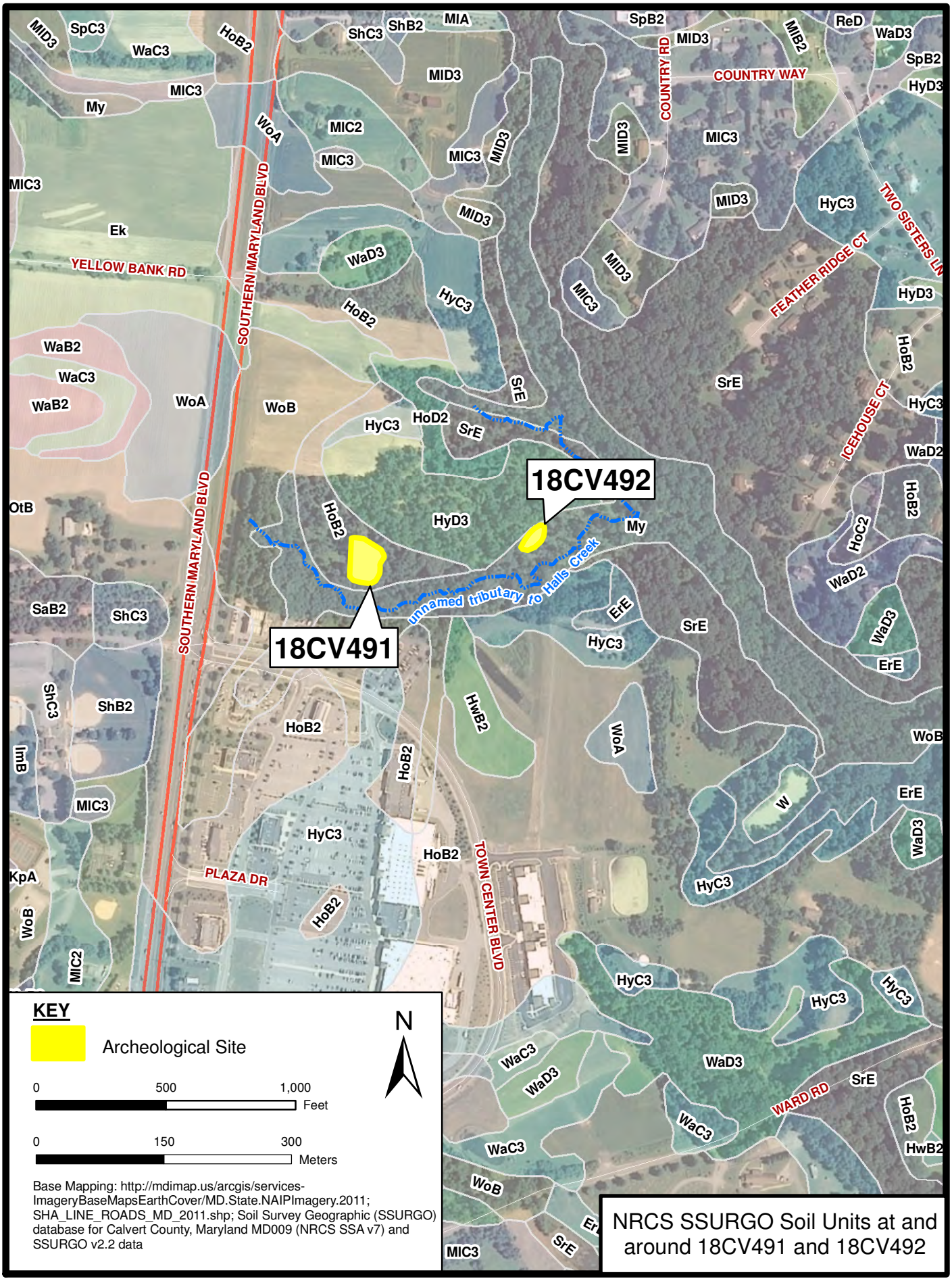
Site	Soil Type	Description	Setting
18Cv491	HoB2	Howell fine sandy loam, 2%-6% slope, moderately eroded	top of stream terrace
18Cv492	My	Mixed Alluvial Land	Site is situated at the landward edge of a stream terrace, which abuts the base of a hillslope. The site coincides with the transition between My and HyD3 soils.
	HyD3	Howell clay loam, 12%-20% slope, severely eroded	

Howell soil variants are the most prevailing soil types within the project woodlot. Overall, soils of the Howell series are associated with upland settings. These soils consist of deep, well-drained, fine-to-medium grained sandy loams that have formed in old, fine-textured sediments. Small amounts of glauconite (greensand) and diatomaceous earth are not uncommon. Surface soils consist of a dark yellowish-brown fine-grained sandy loam atop a sticky, strong-brown, sandy clay loam, clay loams, and silty clays. These soils compose the upper depths of the subsoil. In landscapes that are susceptible to erosion and experience extensive run-off, the upper depths of the profile tends to have a more clayey loam character. The lower subsoil usually lies around sixty inches (1.52 m) below the surface, and consists of pale-olive, clay mottled with brighter colors.

The soil of 18Cv491 is classified as Howell variant HoB2, which is a fine-grained sandy loam that tends to occur in nearly level landscapes such as the stream terrace on which the site is located.

The soils adjacent to the unnamed tributary to Halls Creek, as well as the southern portions of the stream terraces that contain 18Cv491 and 18Cv492, are classified as Mixed Alluvial Land (My), which is not surprising given the nature of the terrain. In Calvert County, this soil type tends to be found in floodplains and along drainages. This soil type is wet, poorly drained, and highly susceptible to flooding. In general, profiles are composed of irregular deposits of accumulated sands, gravel, silts, and clays.

Site 18Cv492 is located along the interior edge of its stream terrace and abuts the base of a steep hillslope. According to SSURGO spatial data, this portion of the terrace has been mapped as Mixed Alluvial Land (My); however, the site itself is located on a slight bench



NRCS SSURGO Soil Units at and around 18CV491 and 18CV492

FIGURE 14

that marks the transition between the mixed floodplain soils to south of the site and the eroded soils of the steep hillslope to the site's north. The soil of the aforementioned hillslope is classified as Howell variant, HyD3. This particular variant is clayey loam with a surface layer that has developed from former subsoils after the original surface has washed away. Although hard when dry, HyD3 soils tend to be sticky and prone to puddling when wet. Soil HyD3 is one of several such Howell variants that occur frequently on steep slopes of dissected landforms.

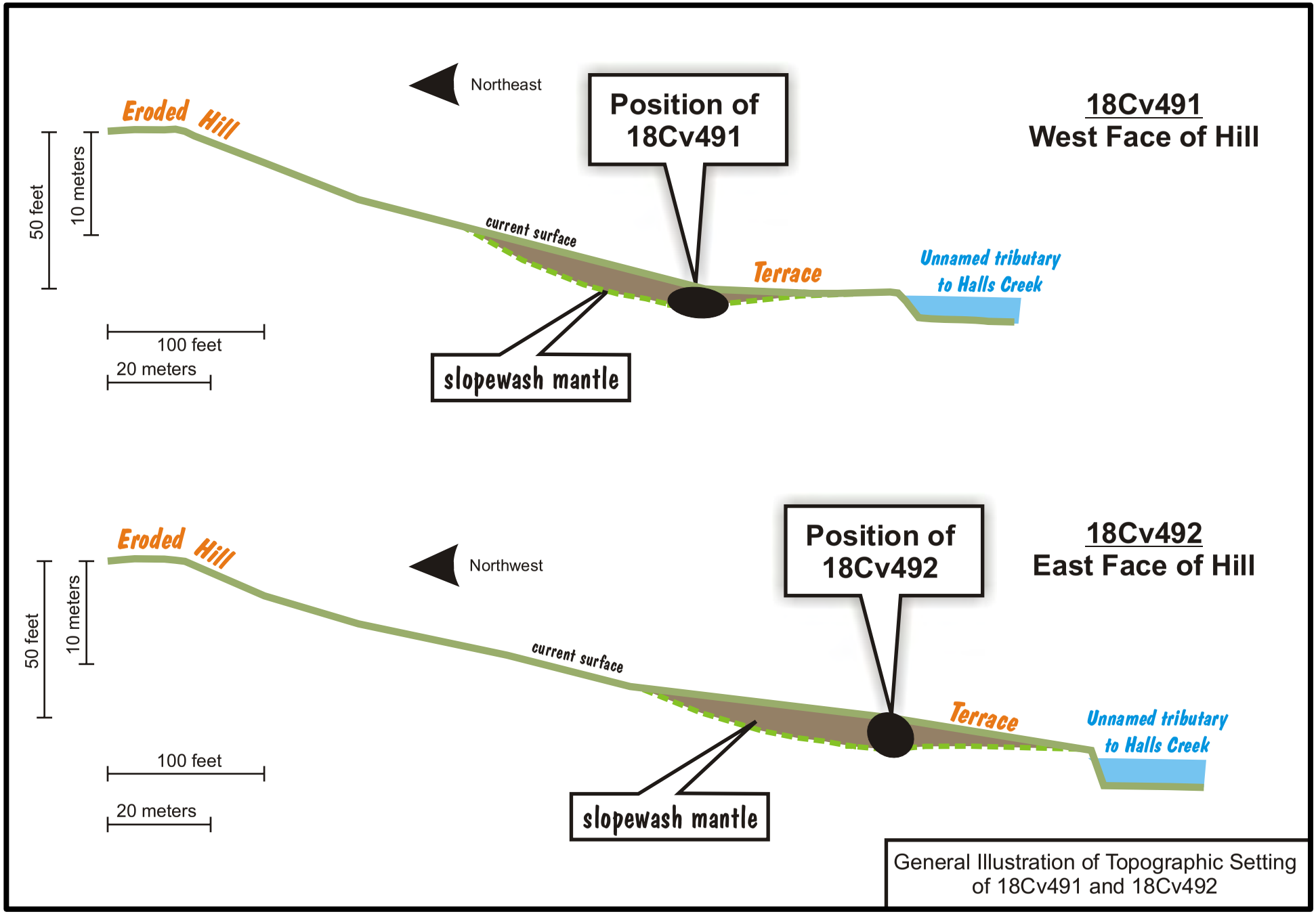
C. Site Settings

Both sites are situated in a wooded lot that is approximately 150 meters east of MD 4 and 110 meters north of Town Center Boulevard. The wooded lot stretches across a landscape with dramatic changes in elevation and topography, which gives it a somewhat undulating character. Most of the changes in terrain are results of natural erosion and flooding processes. The woodlot is forested with a mix of deciduous trees and assorted scrub/shrub species. The vegetation is clearly secondary growth; however, an occasional older tree (>50 years old) can be found therein.

Both sites are located at the bottom of a small dissected hill on the north side of an unnamed tributary to Halls Creek. Steep slopes, the southern face of the hill, rise sharply northward at irregular angles above the terrace. Severe erosion of the hill is quite apparent. Across the hill, bluffs, benches, high plateaus, and small knolls are separated by erosional drainages and gullies. The top of the hill has eroded into a narrow crest. Evidence of past occasional flooding and scouring along the stream is also visible in the exposed faces of the stream channel. Sites 18Cv491 and 18Cv492 occupy similar upland landscapes, which can be generally characterized as gently sloping footslope positions near the bases of much more steeply inclined slopes (**Figure 15**). The terrain of 18Cv491 is slightly more level than that of 18Cv492. Site 18Cv492 is located closer to the base of the hillslope than 18Cv491, and as such, 18Cv492 has a slightly more inclined character. The sites' intact archeological deposits lie beneath remnants of a former plow zone horizon (2Apb) that is capped with colluvial deposits of varying thicknesses.

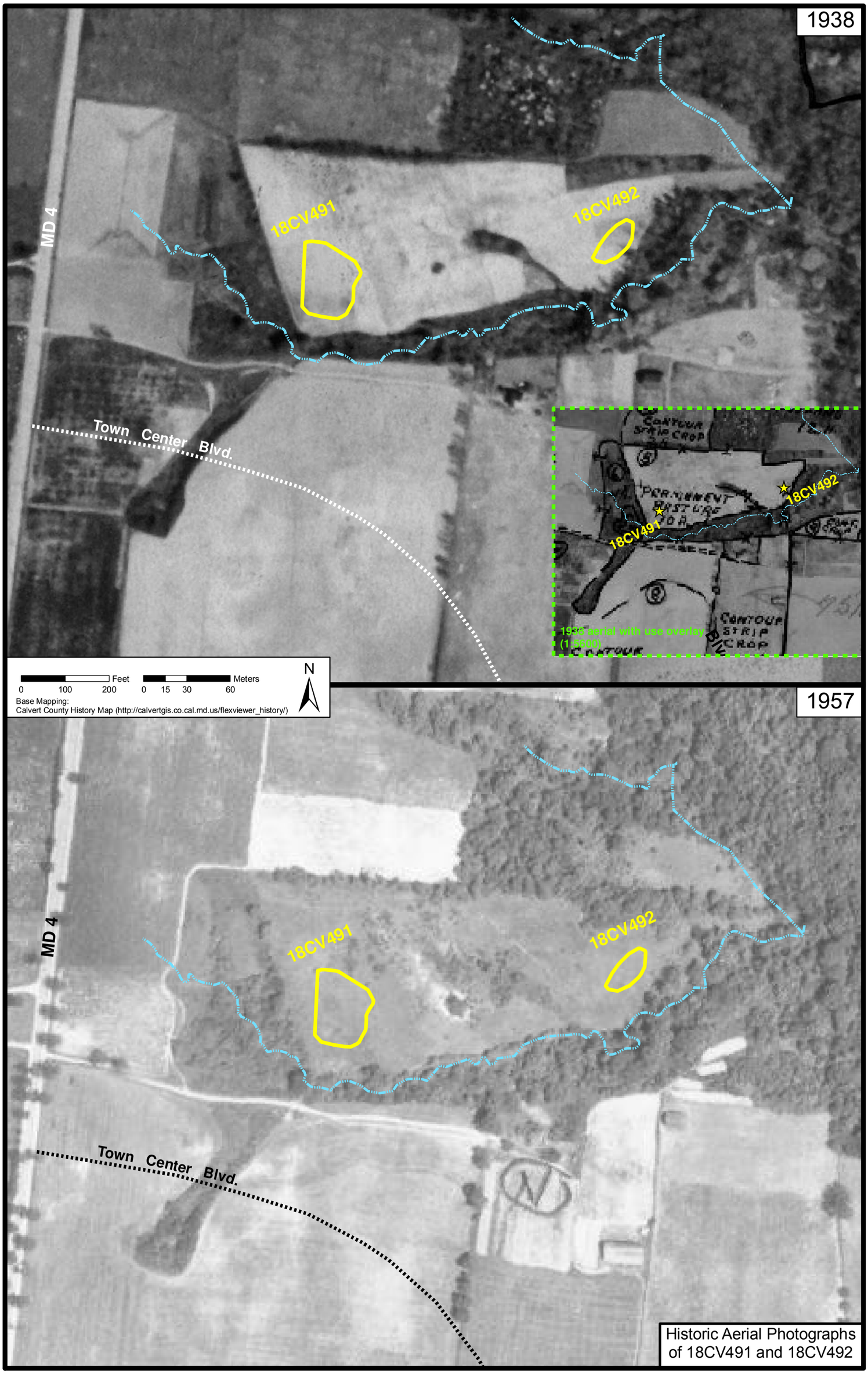
D. Summary of Historic Land Use

Overall, post-Contact Period human activities at 18Cv491 and 18Cv492 have been low. Historic mapping and land use records do not provide any cartographic information to suggest that either site coincides with the locations of any former buildings or other forms of historic construction. Although the land was cleared and repeated historic plowing did occur, agricultural production appears to have been both limited and relatively short-lived. As evident on historic aerial imagery, by the late 1930s, the land was already fallow pasture. Discernable nascent natural succession vegetation that is visible on 1957 aerial photography implies that routine pasture maintenance probably ceased sometime during the 1940s and early 1950s (**Figure 16**). The existing mature forest overstory dates to the 1970s. Although some occasional random dumping has occurred within the woodlot during the twentieth century, these episodes have been infrequent, relatively minimal, and generally confined to small areas.



General Illustration of Topographic Setting of 18Cv491 and 18Cv492

FIGURE 15



Historic Aerial Photographs of 18CV491 and 18CV492

FIGURE 16

III REGIONAL PREHISTORY

The prehistory of the Middle Atlantic region is commonly divided into three time periods; the Paleo-Indian Period (ca. 12,000 B.C. to 8,000 B.C.), the Archaic Period (ca. 8,000 B.C. to 1000 B.C.), and the Woodland Period (ca. 1,000 B.C. to A.D. 1600). Similarities and differences regarding subsistence strategies, settlement patterns, paleoenvironments, and technologies serve as criteria for defining these time periods.

In consideration of these criteria, Early, Middle, and Late sub-periods have frequently been identified within the Archaic and Woodland Periods. Often these sub-periods serve as a basis for better understanding the gradual transition from one time period into another. The following discussion of the regional prehistory of Maryland and its Eastern Shore represents a summary based on current prehistoric archeological research, as well as regional and statewide-established prehistoric research contexts, specifically Custer (1983, 1986, 1989, 1994); Dent (1995); Beckermann (1993); Steponataitis (1983); Wanser (1982); Davidson (1981), and Pogue and Smolek (1985).

While it is important to note that the transition from one time period to another is a gradual process and often varies from one environmental setting to another, the regional prehistory of Maryland is divided into four specific time spans: the Paleo-Indian/Early Archaic Period (ca. 12,000 B.C. to 6,500 B.C.), the Middle Archaic Period (ca. 6,500 B.C. to 3,000 B.C.), the Late Archaic/Early-Middle Woodland Period (ca. 3,000 B.C. to A.D. 1000), and the Late Woodland Period (ca. A.D. 1000 to A.D. 1650). A fifth time period, the Initial European Contact and Settlement Period (A.D. 1600 to A.D. 1645), which focuses on the interaction of Native American Indian populations with arriving European groups, will also be presented in this discussion because it marks the beginning of the decline of prehistoric lifeways in the Middle Atlantic Region. The Initial European Contact and Settlement Period coincides with the beginning of the historic context known as the Contact and Settlement Period (A.D. 1608 to A.D. 1770).

A. Paleo-Indian Period/Early Archaic Period (ca. 12,000 B.C. to 8,000 B.C.)/ (ca. 8,500 B.C. to 6,500 B.C.)

The Paleo-Indian Period marks the beginning of human habitation in the Mid-Atlantic Region. The Paleo-Indian Period began around the end of the Pleistocene and ends with the onset of the Holocene. The transition between the Pleistocene and Holocene is marked by drastic climate changes. These changes consisted of shifts from cold glacially-influenced conditions of the Pleistocene Periods to alternating wet and dry climates, which ushered in the Holocene Period. The adaptations made by human populations to these fluctuating conditions characterize the first part of this time frame, the Paleo-Indian Period. These populations practiced a hunter-gatherer subsistence with animal resources comprising much of their diet. Several cold-weather faunal species such as the now-extinct mastodon, the

since-migrated moose, as well as smaller, still present species, such as white-tailed deer, were supported by the various deciduous, boreal, and grassland environments which were once found throughout the Middle Atlantic region (Custer 1983, 1989; Marshall 1982).

Overall, throughout the time span of the Paleo-Indian/Early Archaic Period, settlement patterns remained relatively constant. Nomadic groups comprised of multiple or single family bands that focused on attractive hunting locales, such as watering holes, have been hypothesized (Custer 1983, 1986, 1989, 1996). Throughout the Middle Atlantic region, identified Paleo-Indian and Early Archaic site types have included quarry sites, hunting sites, base camps, as well as various associated support sites (Custer 1983, 1986, 1989, 1996).

Paleo-Indian tool kits reflect an emphasis on the procurement and processing of animal resources. Preferences for high quality lithic materials, such as chert and jasper, are apparent in lithic artifact assemblages recovered from Paleo-Indian sites. In addition, stone tools in these artifact assemblages show evidence of great care in stone tool maintenance and resharpening. One of the most distinctive artifacts associated with the Paleo-Indian Period is the fluted point, characterized by a channel which is removed from the center of the base to the center, or distal end, of the point.

One of the best known Paleo-Indian sites in the Chesapeake region is the Williamson Site, which is located on the western edge of Virginia's inner Coastal Plain in Dinwiddie County. Since its discovery in 1949, the Williamson Site has been subjected to extensive research (McCary 1983; Callahan 1979; McAvoy 1992; Dent 1995). In addition to debitage, the site has yielded 175 fluted bifaces as well as assorted scrapers, spokeshaves, preforms, drills, gravers, perforators, wedges, denticulates, beaks, hammerstones, and anvils (Callahan 1979; McCary 1983; McAvoy 1992, Dent 1995). The majority of the knapped artifacts are made from Cattail Creek Chalcedony (a chert), a locally available material. Based on the excavation results, it is believed that the site was subjected to recurrent use throughout the Paleo-Indian Period (Dent 1995).

Although fluted points have been recovered throughout Maryland, unfortunately, many of these artifacts tend to represent isolated surface finds (Steponaitis 1983; Dent 1995). Nonetheless, two archeological sites in Maryland's Coastal Plain, the Paw Paw Cove Site Complex and the Higgins Site provide insight on the Paleo-Indian Period of this portion of Maryland, as well the state as a whole.

The Paw Paw Cove Site Complex is located on the eastern shore of Maryland in Talbot County. The complex consists of three main find spots (18Ta211, 18Ta212, and 18Ta213) along a 500-meter stretch of the Chesapeake Bay shoreline. The site complex was once situated in an upland-type setting at the headwaters of two small tributaries; however, the site complex currently lies at the edge of the Chesapeake Bay due to sea level rise and severe erosion (Lowery 1989, 1990, 2002). Although most of the artifacts recovered from the Paw Paw Cove Site Complex were recovered from eroded and surface contexts along the shoreline, recent excavations have revealed that more interior portions of the complex, away from the strand line, still contain intact buried deposits (Lowery 1989, 1990, 2002).

Located in the Inner Coastal Plain on Maryland's Western Shore in Anne Arundel County, the multi-component Higgins Site (18An489) encompasses an upland promontory that rises above two small drainages. Excavations at the Higgins Site have resulted in the identification of intact Paleo-Indian archeological deposits. Artifacts recovered from these deposits include several fluted (Clovis) point fragments, various flake tools, and debitage. It has been concluded that during the Paleo-Indian Period, the Higgins Site served as a small, short-term campsite at which game was processed (Ebright 1994).

A third site, the Pierpoint Site also promises to contribute insightful information on Maryland's Paleo-Indian Period. Excavations and surface collection at this site located at the confluence of the Potomac River and Seneca Creek, have yielded several fluted points. Currently, comprehensive analysis of the site is ongoing (Dent 1995).

Despite the limited data regarding the extent of Paleo-Indian habitation in Maryland, fluted points found throughout the state do indeed indicate use of the region during this early time period (Steponaitis 1983; Custer 1983; Davidson 1981). Archeological research of the Paleo-Indian Period in the Middle Atlantic region has suggested various operational site types for the Paleo-Indian Period. Hypothesized site types range from small hunting camps to large sites associated with lithic material procurement activities (Custer 1983, 1989; Dent 1995; Marshall 1982; Bonfiglio and Cresson 1982).

For the most part, as is apparent by the coincidence of Paleo-Indian and Early Archaic occupations at various sites, Early Archaic sites seem to occur in similar environmental settings and exhibit many characteristics attributed to known Paleo-Indian Period sites (Watson and Custer 1990; Dent 1995). While similarities in the overall tool assemblages are apparent, Early Archaic point assemblages are marked by the introduction of side- and corner-notched projectile points. Regionally, the Early Archaic Period may represent minor adaptive shifts responsive to the rising emergence of Holocene environments toward the end of the Paleo-Indian/Early Archaic Period.

Aside from small occupations at some of the larger multi-component sites, such as the Higgins Site (18An489), few Early Archaic Period occupations in Maryland have been subjected to thorough investigation.

One of the more studied Early Archaic sites of Maryland is the Crane Point Site (18Ta221) in nearby Talbot County (Lowery and Custer 1990). Located on a small point that juts out into the Chesapeake Bay just east of the mouth of a small stream, the site contains several Late Paleo-Indian/Early Archaic occupations. Studies suggest that at the time of its use, the site fell within a more interior, upland knoll-type setting that was flanked with assorted freshwater wetlands. Systematic surface collection along the Crane Point beach line and test excavations at the site have yielded over 500 lithic artifacts. In addition to debitage, these artifacts include various projectile points, bifaces, cores, as well as flake and ground stone tools. Flake tools from the site include a diversity of scrapers, slug-shaped unifaces, gravers, denticulates, and wedges. Point types from the site include assorted Dalton/Hardaway, Amos, Charleston, and Kirk/Palmer notched variants. Flotation samples processed from an eroding hearth feature at the site yielded amaranth and *Chenopodium* seeds, as well as

hickory nut and butternut fragments (Lowery and Custer 1990). Based on the excavation results, the Crane Point Site has been concluded to be the remains of a base camp (Lowery and Custer 1990).

One of the state's notable Early Archaic occupations has been documented at the multi-component Indian Creek V Site (18Pr94), which occupies a broad floodplain adjacent to the confluence of Indian and Beaver Dam Creeks in Prince George's County (Leedecker and Holt 1991). Studies of the Indian Creek V Site (18Pr94) have revealed that the site was repeatedly used as a short-term procurement station during the Early Archaic Period.

B. Middle Archaic Period (6,500 B.C. to 3,000 B.C.)

Several adaptive strategies of prehistoric human populations to the emergence of stable Holocene environments define the Middle Archaic Period. By 6,500 B.C. mesic forests of hemlock and oak flourished in several sections of the Middle Atlantic region, including Maryland's Eastern Shore (Custer 1983). Reduction of open grasslands forced the extinction or migration of many of the cold weather browsing megafauna which were critical to the subsistence of Paleo-Indian/Early Archaic Period groups. In addition, rises in sea level created interior swamp, marsh, and estuarine environments. These new environments supported a wide variety of floral and faunal species such as deer, migratory waterfowl, anadromous fish, and both fresh- and salt-water shellfish (Custer 1983, 1986, 1989). Consequently, Middle Archaic populations began to take advantage of the availability of these various new resources. Overall, the Middle Archaic Period is characterized by a noticeable shift from a hunter-gather strategy to a foraging lifestyle.

Middle Archaic tool kits in the region also reflect a more generalized foraging subsistence. Unlike the specialized hunting Paleo-Indian and Early Archaic tool kits, Middle Archaic tool kits often include plant processing tools, such as mortars and pestles, as well as ground stone tools, including adzes and axes. The appearances of these types of tools are indicative of a greater dependence on plant resources (Custer 1983, 1989). Like their predecessors, Middle Archaic groups were also nomadic; however, these groups migrated throughout the area to take advantage of the broad range of environmental settings and resources on a seasonal basis. Growth and reduction of group size also occurred seasonally.

Common point types of the Middle Archaic Period are bifurcate-based point types such as St. Albans, Le Croy, and Kanawha (Dent 1995; Custer 1984, 1994). Other Middle Archaic projectile points include Stanly, Morrow Mountain, Guilford, and Neville types (Dent 1995; Custer 1983, 1984, 1994).

Over the past decade, various comparative studies have provided new insight into projectile point types of the Middle Archaic Period. Studies such as Custer (1996, 2001) have examined several stemmed point variants, such as Poplar Island, Bare Island, Piney Island, and Pequea points. Throughout the Middle Atlantic region, these stemmed variants often coincide with sites that contain Middle Archaic occupations. In the past, these stemmed variants have been recovered from good subsurface contexts and in clear association with occupations that ranged from the Middle Archaic Period to the Middle Woodland Period. In

the past, these stemmed variants have been regarded as not particularly diagnostic because of their prolonged use. For similar reasons, traditionally, these points have also been attributed to later time periods. However, the results of comparative analyses of the spatial and temporal distribution of these points throughout the Middle Atlantic region indicate that the use of these stemmed variants was more common during the Middle and Late Archaic Periods than originally thought (Custer 1994, 1996, 2001). In addition to reflecting the continuity of cultural traditions, these findings also demonstrate the gradual transition from Middle Archaic to Late Archaic.

Throughout the eastern United States, including Maryland, Middle Archaic sites tend to be found in a variety of riverine, lacustrine, and coastal settings. In Maryland, the Middle Archaic Period also marks notable increases in the use of interior wetland settings, such as upland swamps, interior ridgetops, ponds, marshes, and springheads, and settings near stream junctures and along tributary floodplains (Gardner 1987; Wall 1990; Stewart 1989; Steponaistis 1983; Rappleye and Gardner 1979). These environments often contain a diversity of Middle Archaic site types that range from small processing or procurement sites to base camps of various sizes (Custer 1983, 1989, 1996).

While many of the larger multi-component sites date predominately to later periods, these sites often contain Middle Archaic occupations. Middle Archaic components have been encountered at the aforementioned Higgins Site and at the Surratts Road Site (18Pr404), which is located along Piscataway Creek in Prince George's County (Munford 1993).

Occupations dating to the Middle Archaic Period have also been identified at the Indian Creek V Site (18Pr94) in Prince George's County. Interestingly, by comparison, these occupations date to the earlier part of the Middle Archaic Period and are notably less well-represented at the site than those dating to the Early or Late Archaic time periods. It is believed, for the most part, use of the site was practically abandoned for most of the Middle Archaic Period. It has also been suggested that the disuse of the site during the Middle Archaic Period may be a reflection of changing environmental conditions of the site's setting (Leedecker and Holt 1991).

C. Late Archaic Period/Early-Middle Woodland Period (3,000 B.C. to A.D. 1000)

The Late Archaic/Early-Middle Woodland Period is defined by pronounced environmental alterations occurring throughout the Middle Atlantic region (Custer 1983, 1986, 1989). While the Late Archaic, Early Woodland, and Middle Woodland Periods all possess their own distinguishing characteristics, because of their overall similarities, cumulatively, these three periods have often been regarded as a general time period. For example, in the neighboring state of Delaware, this 4,000-year period of time has been called the Woodland I Period (Custer 1986, 1989, 1994; Watson and Custer 1990; Custer and Silber 1994), and in southeastern Pennsylvania, this time span has been referred to as the Intensive Gathering-Formative Culture Period (Custer 1996).

Locally, on the Coastal Plain of Maryland, this time frame is associated with severe climatic shifts that resulted in warm and dry conditions (Custer 1989). These changes enabled xeric and deciduous forests of oak and hickory to replace mesic forests, as well as the return of grassland areas. Although many of the existing interior wetland settings of the Middle Atlantic region disappeared, the slow but continued rise in sea level resulted in the emergence of new large brackish marshes, especially near the Chesapeake Bay. Stabilization of the climate, environment, and sea level were established by ca. 1,500 B.C. and these conditions were probably relatively similar to present ones (Custer 1983, 1989). This alteration of the environment also caused notable changes in the adaptive strategies of prehistoric populations. Floodplains of major rivers and estuarine swamp/marsh settings supported a broad range of floral and faunal resources. Throughout the Coastal Plain of the Middle Atlantic, large archeological sites, which often contain several different occupations, have been documented in such environmental settings. Similar base camp sites, barring regional variations, have also been identified in these resource-rich environments throughout the Middle Atlantic region.

Smaller base camps are often located along lesser tributaries, near cobble beds, or in coastal areas near shell middens. Small procurement and processing sites are also scattered throughout these environments, as well as along intermittent streams and in interior areas (Custer 1994). Along the southern coastline of the state, marine resources were integral in the subsistence of Late Archaic/Early-Middle Woodland populations. Sites dating to this time period are often found near tidal marshes, in sheltered coves, or in estuarine settings. Especially favored locations would be those that would have supported a diversity of resources such as ocean fish, crabs, and shellfish.

Although small short-term forays, for purposes such as hunting or obtaining raw lithic materials were made, in general, Late Archaic/Early-Middle Woodland Period groups seemed to have practiced a relatively sedentary settlement pattern. Group sizes seem to have ranged anywhere from small individual family units to conglomerations of several of these units dependent on seasonality or environmental setting (Custer 1989, 1994; Custer and Silber 1994).

Significant additions to prehistoric tool kits also appear during the Late Archaic/Early-Middle Woodland Period. Increased use of plant processing tools, such as grinding stones, mortars, and pestles, suggest a trend in efficient and intensive procurement of floral resources. Tools associated with woodworking, such as adzes and celts, become prevalent. More broad-bladed, knife-like processing implements also appear in chipped stone tool assemblages. Overall, procurement of raw lithic material was based on primary and secondary sources; however, often non-local lithic materials are found within Late Archaic/Early-Middle Woodland Period assemblages. The presence of these imported materials suggests emergence of trade and exchange networks among these groups (Custer 1989, 1994).

The addition of stone, followed by ceramic, vessels also reflect a growing efficiency in the use of certain food types. Most of these vessels served as cooking implements. Some of the larger ceramic vessels may have served as storage vessels for surpluses. Storage pits and

house features have been identified at numerous sites dating to this time throughout the Middle Atlantic region (Custer 1989, 1994; Custer and Silber 1994).

This new, relatively sedentary, settlement pattern also caused considerable changes in social organization of populations living in the Middle Atlantic region. A more sedentary lifestyle combined with horticultural plant harvesting would have often yielded occasional surpluses. Consequently, these factors often allowed incipient ranked societies to form. For example, during the Middle Woodland Period, intensified procurement of fish resources is thought to have played a significant role in subsistence strategies within the Abbott Farm National Landmark near Trenton, New Jersey (Stewart 1994). Across the Middle Atlantic region, objects such as polished celts, gorgets, pipes, and tools of non-local materials appear to be manifestations of developing social organization.

The emergence of Adena culture, characterized by its unique material culture and mortuary practices, also occurs during the Early Woodland portion of this time frame. While Adena sites are more prevalent in the American Midlands, a few Adena sites have also been discovered in Maryland. Some of the better known Adena sites of Maryland are the West River Site near Annapolis, the Sandy Hill Site (18Do30) on the Choptank River near Cambridge (Ford 1976; Dent 1995; Custer 1989); and the Nassawango Adena Site (18Wo23) (Wise 1973), which is along a small tributary of the Pocomoke River. In addition to large Adena-type bifaces made of non-local, high quality cryptocrystalline lithic material, some of these sites have also yielded distinctly Adena-type artifacts such as gorgets, pipes, or copper beads (Dent 1995).

Projectile points associated with the Late Archaic/Early-Middle Woodland Periods are quite diverse. For example, the Late Archaic Period marks the introduction of broadspear-type projectile points, which are believed to have functioned in knife-like capacities (Custer 1994). Common broadspear-types of the Mid-Atlantic region include Long/Savannah River, Perkiomen, Susquehanna, and Lehigh/Koens-Crispin types (Custer 1994; Dent 1995). Common non-broadspear points of the Late Archaic Period include Fishtail/Orient, Holmes, Halifax, Piscataway, and Bare Island/Lackawaxen types, as well as various side- and corner-notched Brewerton variants.

Numerous Early-Middle Woodland projectile point types have been noted for the Middle Atlantic region. Generally, most of these types consist of assorted stemmed and notched variants; however, several distinctive point types are also associated with the Early and Middle Woodland period. Rossville, teardrop/ovoid, and Calvert projectile points are typical distinctive Early Woodland point types of the Chesapeake region. Selby Bay/Fox Creek and Jack's Reef variants are regarded as common forms associated with the Middle Woodland Period (Dent 1995).

Early ceramic vessels were modeled in construction and closely resembled the lug-handled, flat-bottom steatite vessels of the early Late Archaic Period. Marcey Creek (ca. 1,200 B.C. - 800 B.C.) ceramic, a steatite-tempered ware, is one of the earliest wares of the Mid-Atlantic region and is often found in association with Fishtail/Orient points (Custer 1989, 1994, 1996b). Later, these flat-bottomed vessels were replaced with conodial-shaped vessels of

coiled construction. While early vessels of this construction were often tempered with steatite (e.g., Selden Island, Bare Island Coiled), eventually, assorted materials that include sand, crushed rock, grit, clay, shell, or various combinations thereof, were used as tempering agents in ceramic manufacturing. For example, Accokeek ceramic, a sand/crushed rock (quartz) tempered ware, is a recurrent ware type that has often been recovered in Early Woodland contexts throughout Maryland's Coastal Plain and into the Piedmont beyond the headwaters of the Patuxent River and into the Patapsco drainage. This ware has also been found throughout the Potomac watershed (Dent 1995).

D. Late Woodland Period (A.D. 1000 to A.D. 1650)

Overall, the Late Woodland Period, also referred to as the Woodland II Period, is characterized by an emergence of pronounced agricultural food production systems (Custer 1984, 1989). The growth of efficient plant food harvesting is a reflection of a continued pattern of sedentism of prehistoric populations. Throughout the Delmarva peninsula, Late Woodland sites are often found in similar environmental settings as Late Archaic, Early and Middle Woodland Period sites. In fact, these sites often contain several occupations that span multiple temporal contexts and these occurrences further illustrate a more sedentary lifestyle.

In the Middle Atlantic Region, significant variability in the subsistence systems, social organization, and community patterns existed among Late Woodland populations. These differences ranged from societies who lived in large villages organized by kinship groups to some of the less complex populations whose lifeways closely resembled those of their Middle Woodland predecessors (Custer 1983, 1989, 1996).

Aside from some modifications in projectile point and ceramic styles, deviations of Late Woodland artifact assemblages from Middle Woodland assemblages are minimal. Lithic assemblages suggest decreases in preference for exotic materials and increases in the use of quartz in tool manufacturing. By comparison, Late Woodland projectile point types are less varied. Although it is becoming widely accepted that triangle points were not exclusive to the Late Woodland Period, triangle points continue to be regarded as a primary diagnostic point type of this period. Late Woodland ceramic assemblages exhibit notable increases in variation, especially the non-shell tempered wares (Wanser 1982). Common Late Woodland ceramic types that have been recovered in Maryland's Coastal Plain include Rappahannock and Townsend wares, both of which are shell-tempered. Other common Late Woodland ceramic types include Sullivan and Potomac Creek pottery, which are shell-tempered and quartz/sand tempered, respectively.

E. Initial European Contact and Settlement Period (A.D. 1600 to A.D. 1645)

This period marks the initial arrival of European groups; predominately English, Dutch, Swedish, and Spanish, to the Middle Atlantic region. Overall, data from the archeological

record of this time period is limited. Often, ethnographic accounts by these first explorers and settlers have been considered valuable supplementary sources of information.

Based on ethnolinguistic and ethnographic accounts, throughout the Late Woodland period, two Native American cultural groups, the Nanticokes and the Piscataway (both Algonquian-speaking groups) were quite active in the region. However, by 1634, the Susquehannocks, an Iroquoian-speaking group based around the southern reaches of the Susquehanna River, had extended their influence southward along Maryland's Eastern and Western Shore. According to historical accounts, during his travels along the Potomac and Anacostia Rivers in 1609, John Smith visited several palisaded Piscataway villages.

IV. RESEARCH DESIGN AND METHODOLOGY

The Phase III archeological data recovery investigations of 18Cv491 and 18Cv492 were performed within a research framework that was designed to record, collect, and analyze data with standardized scientific methods. The following discussion presents a summary of the goals, objectives, project approach, and methodology of the investigations at 18Cv491 and 18Cv492. A copy of the approved Data Recovery Plan (DRP) for the Phase III investigations of 18Cv491 and 18Cv492 is presented in **Appendix I**.

A. General Goal and Objectives of the Phase III Investigation

As discussed previously, the Phase III archeological investigations of 18Cv491 and 18Cv492 were conducted as a treatment measure to mitigate adverse effects that the sites would incur due to the construction of the Dunkirk Park and Ride facility. The goal of the investigations was to recover and record a sufficient representative sample of the sites' significant archeological data, which are their NRHP-defining characteristics and would have otherwise been lost during the earthmoving activities necessary for the construction of the Dunkirk Park and Ride facility.

Two primary objectives were established for the Phase III archeological data recovery investigations of 18Cv491 and 18Cv492. These objectives are basic data description and cultural interpretation of the sites.

1. Data Description

Basic data description was one of the fundamental research objectives of the archeological investigation. The role of the data description objective was to provide a documentary record of the sites and their characteristics. This objective was achieved through various archival, field, and laboratory procedures that were designed to gather data throughout the course of the proposed archeological investigations in a controlled, scientific, and standardized manner. Concerted efforts were made to ensure that the sites' NRHP characteristics, namely the data contained within their intact archeological deposits, were accurately recorded.

Because the archeological excavations of the sites would inevitably result in the disturbance of the physical composition of the sites and the removal of data from their original contexts, considerable attention was given throughout the field investigations to acquire descriptive data that could be used to reconstruct the physical (natural and human) landscapes of each site. Scientific observations were made regarding the physical characteristics of the site areas including topography, natural stratigraphy, landform, vegetation, soil characteristics, deposition of material culture across the landscape, and physical traits of cultural features (e.g., stratigraphic composition, dimensions, elevation, evidence of alteration, construction techniques, and the material culture contained therein).

Thorough descriptive scientific documentation of the sites' physical aspects that cannot be relocated to the laboratory environment were also prepared for the documentary record. Moreover, because the manner in which the archeological data is extracted represents an integral part of archeological inquiry, a scientific account of the methods employed was also prepared for the documentary record. In sum, the role of data description in the field investigations was to provide a scientific, documentary representation of the site environments, the scientific methods employed to study the sites, and most importantly, the archeological context from which sites' data were extracted.

Data description of laboratory analyses entailed the scientific reporting of the methods of and data resulting from laboratory procedures. These efforts included documentation of variables (e.g., quantities, physical character traits, functional types and uses) that were examined and tabulated during artifact/ecofact identification, as well as descriptive recordation of recovered material culture prior to its modification (e.g., weights of processed/culled samples, or condition of artifacts prior to mending/stabilization/conservation). Results from scientific testing, such as statistical scores and tabulated distributions, were also compiled for the documentary record. In sum, the role of basic data description of the laboratory analyses was to provide an account of the analytical data housed at the site for the documentary record.

2. Cultural Interpretation, Research Objectives, Problem Orientation, and Research Approach

Because of its objective nature, basic data description of the site provided the scientific basis for later analytical inferences. While the reporting of “raw” data was indeed an integral part of the investigations, the investigations were also performed with the intent to reconstruct and interpret the cultural and ecological use of 18Cv491 and 18Cv492.

The significance of the sites lie in their ability to provide information that can be used to examine the dynamics of Late Archaic - Woodland Period regional lifeways at interior wetland settings. Both sites were found to possess considerable potential for providing new information from intact, subsurface archeological contexts that could be used to examine lithic technologies, resource procurement and utilization, as well as habitation activities. Site 18Cv492 was also discovered to have a potential for yielding information about prehistoric ceramic technologies.

It has long been recognized that small, short-term procurement/processing sites and small base camps were an integral part of regional settlement patterns (Steponaitis 1979, 1983; Dent 1995; Custer 1983, 1984, 1986, 1989, 1994, 1996). While many sites like 18Cv491 and 18Cv492 have indeed been noted throughout the Middle Atlantic region, to date, thorough analyses of such sites in Calvert County have been limited (Steponaitis 1979, 1983; MHT site files). Examinations of 18Cv491 and 18Cv492 greatly assist in understanding the role of small, limited use sites and base camps in interior wetland settings in this portion of Maryland’s Western Shore.

Given their proximity to one another and more importantly, their locations along the same waterway (as well as general landform), it was clearly recognized during the Phase II studies that 18Cv491 and 18Cv492 may represent segmented remains of what was once a larger site

(Silber et al. 2008). Considering the differences in the Phase I/II artifact assemblages from the two sites, it was concluded that 18Cv491 and 18Cv492 could represent functionally different, discrete activities of a larger site, most of which has since been destroyed due to natural erosion and flooding processes. It was also proposed that 18Cv491 and 18Cv492 represent different occupations of a former, much larger, multi-component site (Silber et. al 2008).

In recognition of the research potential of the collective site data, a research design was developed in a manner to facilitate comparative inter- and intra-site analyses. These analyses were conducted by striving to identify differences and similarities amongst the 18Cv491 and 18Cv492 datasets.

3. Summary of Primary Objectives

Thus, the two primary objectives of the proposed Phase III archeological data recovery of 18Cv491 and 18Cv492 can be summarized as follows:

1. To create an accurate documentary record of the sites and their characteristics, namely those relevant to their NRHP-eligibility.

2. To reconstruct and interpret the cultural use of the sites and their place in regional prehistoric contexts.

B. Research Issues

To achieve the second primary objective, several site-specific research issues were developed for the sites. Overall, the data recovery investigations of the sites strived to address various research issues pertaining to:

- the functional uses of the sites,
- lithic technologies practiced at the sites,
- the role of the sites in regional settlement patterns.

1. Functional Use

One of the key research issues was to determine for what purpose the sites were used, and if the functional use of the resource may have varied over time. To explore the functional uses of 18Cv491 and 18Cv492, the investigations strived to deduce if one or both sites served as locales focused around a specific type of procurement/processing activity or if they served as small, more generalized encampment sites. Pursuant to the results of the Phase II studies, it was expected that each site would yield data that could be used to deduce the types of activities that were performed therein. It was also expected that comparisons of artifact and feature distribution patterns would provide information that could be used to address any spatial and temporal relationships amongst 18Cv491 and 18Cv492.

Examinations of the functional uses of 18Cv491 and 18Cv492 were conducted to support or refute the following basic hypotheses:

H. Although the uses of the sites may have differed, both sites were inhabited for relatively short periods of time.
H. The length of stay at 18Cv492 was probably longer than that of 18Cv491.
H. Site 18Cv491 and 18Cv492 may represent two discrete activity areas of a larger site.
H. The overall functional use of the sites and types of activities performed therein are reflected in their artifact assemblages.
H. Site 18Cv491 served as a procurement/processing locale and/or, at most, a generalized, temporary encampment.
H. Site 18Cv492 was probably used as a small base camp.
H. Site 18Cv492 was subjected to repeated use and at different times, the functional use of the 18Cv492 may have varied.
H. Datable artifact assemblages from 18Cv492 reflect differences and similarities in the functional use of 18Cv492 through time.

For this exercise, the following questions were formulated:

- Do the sites contain discrete activity areas or features (horizontal or vertical)?
- How are the activity areas or features represented in the archeological record?
- What forms of data (e.g., artifacts, structural characteristics, field carbon, floral/faunal remains, stratigraphy, etc.) can be used to determine when and what activities occurred?
- Do the sites contain a broad range of artifact types or are only certain artifact types present?
- What site activities are reflected in the artifact assemblages?
- How are artifacts and features distributed across the site?
- Does the site data suggest that a variety of activities were performed or does it suggest that only a few, highly-specialized activities were conducted?
- Can the represented site activities be attributed to everyday subsistence or are they task-specific?
- How do site distribution patterns (artifact and feature) reflect change in or continuity of site use?
- Which site characteristics provide insight into the length of stay at the sites?
- Which site characteristics suggest use as a procurement/processing locale?
- Which site characteristics suggest use as base camp?

2. Lithic Technologies

Obviously, the recovery of debitage at 18Cv491 and 18Cv492 during the Phase I/II study indicated that lithic reduction was an activity that was performed at both sites. Given the suspected uses of 18Cv491 and 18Cv492 at that time, it was expected that the sites' lithic assemblages would reveal that activities associated with general toolkit curation and the manufacturing of expedient tools were conducted.

Studies of the lithic assemblages from 18Cv491 and 18Cv492 were performed in order to examine the stone toolmaking technologies that were practiced by the sites' past occupants. To explore the lithic technologies represented at the site, the investigations strived to deduce

the methods by which the lithic artifacts were made. Examinations of the lithic technologies of 18Cv491 and 18Cv492 were performed to support the following basic hypotheses:

H. The lithic technologies practiced at the sites are reflected in the lithic assemblages.
H. Methods of lithic reduction are apparent in the site data.
H. Specific reduction stages (e.g., resharpening, early reduction, or late stage reduction) are apparent in the site data.

For this exercise, the following questions were formulated:

- Are the lithic artifacts results of core or biface reduction, or both?
- What stages of lithic reduction are represented in the site assemblage?
- What tool types are found within the assemblage?
- Is there a predominance of expedient tools or highly curated tools, or are both types equally represented?
- Are the artifacts derived from local lithic sources?
- Does the debitage assemblage reflect use of primary or secondary lithic resources? Is use of both types of resources readily apparent? To what extent are non-local lithic source represented at the site?
- Is there a predominance of a single lithic material or are many materials equally represented?
- Are there any apparent differences within or amongst the different lithic material assemblages (e.g. manufacturing technologies, stage of reduction, tool types)?
- Does the lithic assemblage reflect toolkit refurbishing or culling?
- How does the lithic assemblage reflect site usage?

Various examinations were conducted to elucidate information from the sites' lithic assemblages, or any subassemblages thereof, that could be used to address the aforementioned questions. While it was anticipated that examinations would be able to, at some level, differentiate 1) lithic material preferences, 2) debitage that originated from bifaces and debitage that originated from unifacial cores, and 3) tool production/maintenance activities that occurred, it was also expected that these efforts would reveal that a variety of lithic reduction methods were indeed practiced at both sites.

3. Role in Regional Settlement Patterns

Ultimately, it was also expected that the data collected from 18Cv491 and 18Cv492 could be used to address broader patterns of prehistory, and notably, Late Archaic-Late Woodland use of low-order, interior wetland settings.

C. Standard Field and Laboratory Methodology

The Phase III investigations of 18Cv491 and 18Cv492 entailed field investigations, laboratory/data analysis, preparation of project documentation, and public outreach efforts. Standard field and laboratory research methods were developed for, and subsequently implemented during, this project to ensure accurate and consistent data collection. All

research methods were designed to acquire data that could be used to address issues germane to understanding the functional and temporal use of the site, the technologies represented at the site, and the role of the site in regional prehistoric settlement patterns. The final project documentation was prepared to provide a documentary record of the Phase III efforts.

Supplemental documentary research was conducted on an as-needed basis throughout the course of the investigations to assist with interpreting field and laboratory observations, and with understanding the site as it relates to regional contexts. The results of the Phase I/II work completed previously at 18Cv491 and 18Cv492 (Silber et al. 2008) was also integrated into 18Cv491 and 18Cv492 datasets.

1. General Excavation Provisions

In order to maintain horizontal and vertical control, standardized field methods were implemented throughout the course of field investigations. To maintain continuity and consistency with prior site studies, all Phase III archeological work was performed within the transit-established metric-unit, x-y-z grid system established by the 2008 Phase I/II survey.

All test locations, cultural features, and elevations were keyed into the grid system via transit. Provenience information was also recorded with Global Positioning Systems (GPS) technologies.

One-meter by one-meter (1m x 1m) test units, divided into 0.50-meter quadrants, were used as the standard horizontal units of measure.

All test units and features were hand excavated. Contiguous test unit excavations were performed via block excavation. All test unit excavations were conducted by natural and/or arbitrary level depending on the situation. Soils removed during archeological investigations were dry-screened through 1/4-inch mesh.

The humus and plow-disturbed horizons were generally excavated and screened individually as single levels in their entirety within each unit. In select areas, the buried plow zone was excavated in 0.50 meter quadrant excavations for various precautionary purposes. Examples of factors that prompted 0.50m x 0.50m sampling of the buried plow zone included observed increases in artifact density, the discovery of soil characteristics suggesting that subsurface cultural features, and/or needs to acquire control samples.

All sub-plow zone horizons were excavated in arbitrary 10-centimeter levels or by natural levels, whichever occurred first. On occasion, soil excavations were conducted in arbitrary 5-centimeter levels to increase vertical control and to better isolate cultural horizons. These efforts were performed with intent to carefully identify less obvious features, such as activity areas or landscape features. When possible, at least two consecutive 10 centimeter levels of culturally sterile soils were removed from each excavation unit. Representative closing profiles of excavation units were plotted and photographed.

All identified discrete cultural subsurface features were subjected to hand excavation after complete delineation of the feature boundaries and appropriate mapping. All cultural features

were sectioned, plan-viewed, and profiled. In order to acquire control samples, a small number of non-cultural features were also subjected to excavation.

For features extending over large areas, excavations were conducted via contiguous test units within the grid to allow for recordation of profiles at select points across the feature. Following recordation of stratigraphic data, the remainder of the features was excavated through block excavation of contiguous test units. Smaller features, such as postmolds/post holes, were cross-sectioned and excavated in halves to reveal cross-section profiles and ascertain any internal stratification. If internal stratigraphy was noted, the remaining portion of the feature was excavated by natural (cultural) levels. Like the standardized test unit procedure, if a natural level within a feature exceeded 10 centimeters in thickness, the feature excavation was conducted in arbitrary 10-centimeter levels or to natural soil changes, whichever was encountered first. Thorough mapping and photographing of each cultural feature was conducted during the course of archeological excavations.

Throughout the course of the archeological fieldwork, measures were undertaken to ascertain the depositional context of cultural material. Cultural material noted to be *in situ* was mapped, photographed, and recorded accordingly, prior to excavation/removal.

Appropriate test unit sampling of areas contained within post hole patterns were conducted. When warranted, areas amongst other feature cluster types were also subjected to archeological testing.

During the course of excavations, concerted measures were taken to collect acquire meaningful carbon, soil, and flotation samples. Unfortunately, the excavations were unable to acquire a sufficient quantity or quality of field carbon necessary for radio carbon dating. When warranted, one-liter soil samples of features and test units were collected for flotation analyses; however, basic post-field examinations concluded that the collected soil samples have low potentials for providing any meaningful, new information about the sites due to the sites' environmental conditions.

All cultural materials recovered from field excavations were bagged by provenience. During the course of excavations, precautions were taken to facilitate conservation efforts of recovered artifacts.

Throughout the course of field excavations, detailed stratigraphic and plan view mapping of test units and features were recorded on standardized field forms. Representative photographs were captured on black and white 35 mm film and with digital media. Provenience information, north arrow, and scale were included in photographs taken on site. Base line maps of the site were generated and regularly updated throughout the duration of the field investigations. Field journals detailing the progress of field investigations, findings, and initial impressions were maintained by the Principal Investigator.

2. Laboratory/Data Analysis

Laboratory processing consisted of the cleaning, inventorying, and preparation for storage of all artifacts recovered during field excavations. Artifacts were washed, marked, sorted, and

packed for eventual curation at the Maryland Archeological Conservation Laboratory in accordance with procedures developed by the MHT (MHT 2005). A catalog of the artifacts pursuant to systems established by the MHT was also generated.

Reviews of documentary materials were performed as needed to assist with data analysis and site interpretation.

Laboratory analyses of recovered artifacts/ecofacts and field data were used to generate data, which were considered in conjunction with information collected through documentary research, to make analytical inferences of the functional and temporal uses of 18Cv491 and 18Cv492.

Working databases of features, test locations, and structures were constructed from field data. Survey data, field measurements, and provenience information was converted to digital formats. Results of these efforts were used to create digitally-rendered base maps of site areas. Two- and three-dimensional plots of the site were generated to facilitate interpretation of the site layout. Data collected from laboratory and analytical procedures were recorded on standardized forms. Hard and electronic databases of artifact inventories and derived data were maintained. Artifact inventories were organized by provenience.

Following initial inventorying, a systematic tabulation of recovered material culture assemblages was conducted. Distribution and frequency studies of material culture assemblages and appropriate material culture subassemblages of the site were performed. The intent of these exercises was to identify variability, quantity, and trends amongst the tabulated data.

Artifacts with well-established date ranges were used to calculate appropriate “terminus ante quem” (TAQ - date before which) mean, and "terminus post quem" (TPQ - date after which) dates for site areas. These data were applied toward discerning the temporal contexts of the features and activity areas identified at the sites. This information was also used to reconstruct chronological sequences of the sites,

Prehistoric artifacts were sorted by lithic material and formal types. Functional uses of the artifacts were addressed. Site chronologies of site use based on diagnostic artifacts were generated.

Edge-wear analysis of lithic tools was performed using low and medium power magnification.

Contingent upon the data, flake attribute examinations were performed on samples of the debitage assemblages in order to address issues regarding lithic technologies. Lithic raw material, presence/absence of cortex, and size was recorded for all debitage. When applicable, debitage was examined for the number of flake scars, direction of scars, size, platform shape, remnant biface edges, and platform preparation. Refits of cores and fire-cracked rock were also conducted. The analyses of the sites’ lithic assemblages and subassemblages were used to identify activities as well as regional lithic technologies represented at the sites.

Prehistoric ceramic was cataloged by standard cultural-historical types and analyzed for functional variability. If applicable, minimum vessel counts, latex molds of cordage impressions on ceramic sherds, reconstruction, and analysis of surface treatments were performed.

Recovered floral and faunal materials were cataloged to the class, genus, and species level when possible. If feasible, faunal material was also sorted and identified by skeletal element.

Prehistoric artifacts associated with manufacturing processes or production were examined to identify the types of and levels of production technologies that were practiced at the site. Assemblages that were subjected to examination included tools, implements, by-products (e.g., debitage), and objects which have been subjected to modification as part of manufacturing/processing activities (e.g., utilized flakes). Artifacts/ecofacts exhibiting signs of purposeful alteration or modification were examined to assess object re-use or repair techniques.

Recovered historic artifacts were also processed and inventoried. These artifacts were systematically sorted and cataloged based on their material composition (e.g., glass, ceramic, architectural, metal, personal, organic, other). Historic artifacts were also sorted and cataloged by subcategories based on color, decoration, manufacturing process, and function. Additional distinguishing characteristics observed during the cataloging processes were recorded.

During the course of laboratory analyses, appropriate statistical tests (difference-of-proportion, z-scores, t-tests, chi square, confidence intervals) were performed to analyze quantified data during intra-site and inter-site examinations.

Data associated with assemblages, identified activity areas, temporal components, or combinations thereof, were subjected to inter- and intra-site comparative studies. Plotted distributions of appropriate data categories across the site area were created. These data were used, in conjunction with field and documentary data, to identify activity areas and to discern temporal contexts across the site.

3. Geoarcheological Analysis

A geoarcheological analysis of the sites was also conducted. The purpose of this analysis was to assess site formation; the soils and landscapes that would have been available to the precontact occupants of the site; as well as the extent of postcontact impacts accrued therein since the initiation of European settlement. The geoarcheological analysis was also conducted in order to ascertain the maximum depth of the sites' archeological deposits. In addition to detailed pedestrian inspections of the landforms on which the sites are situated, the investigations also included the examinations of subsurface soil profiles exposed by the site excavations and those extracted via hand auger boring, as well as a particle analysis (**Appendix III)**.

V. GENERAL SUMMARY OF ARCHEOLOGICAL FIELD INVESTIGATIONS

The following discussion presents an overview of the Phase III archeological investigations of the collective excavations at 18Cv491 and 18Cv492. As a means for organizing this document, the excavation results of each site are presented separately in **Sections V** through **Section IX.**

A total of 57.5 1-meter by 1-meter test units (1m x 1m TU) were excavated by the Phase III field investigations of 18Cv491 and 18Cv492 (**Figure 17**).

The majority of the test units were excavated contiguously in block formation. Three block excavations, a 4-TU block, a 16-TU block, and a 21.5-TU block, were performed at the Dunkirk Park and Ride sites. The 4-TU block (designated Block 1) and 16-TU block (designated Block 2) were excavated at 18Cv491. The 21.5-TU block was excavated at 18Cv492.

The remaining 14 test units were excavated as peripheral sample units, which were generally excavated at 10-meter intervals around the aforementioned block excavations. Eight peripheral sample units were excavated at 18Cv491. Six peripheral sample units were excavated at 18Cv492.

The Phase III investigations of the Dunkirk Park and Ride sites recovered 3,915 prehistoric artifacts (18Cv491 = 2069, 18Cv492 = 1846). **Table 2** and **Table 3** summarize the collective Phase I/II and Phase III test excavations and artifact recovery at 18Cv491 and 18Cv492**.** Detailed site-specific base mapping, artifact distributions, and artifact inventories of 18Cv491 and 18Cv492 are presented in their respective site-specific sections of this document. Artifact catalogs by provenience and lot numbers are presented in **Appendix IV** (18Cv491) and **Appendix V** (18Cv492). A total of 141 historic artifacts were also recovered during the site excavations (**Table 4**).

Table 2:
General Summary of 18Cv491 and 18Cv492 Phase III Excavations

Site	Phase I/II		Phase III		Total	
	Excavation Units	Artifacts* Recovered	Excavation Units	Artifacts* Recovered	Excavation Units	Artifacts* Recovered*
18Cv491	18 STPs 1 TU	75	29 TUs	2069	***18 STPs*** ***30 TUs***	***2144***
18Cv492	4 STPs 1 TU	39	28.5 TUs	1846	***4 STPs*** ***29.5 TUs***	***1885***
Total	**22 STPs** **2 TUs**	**114**	**57.5 TUs**	**3915**	**22 STPs** **59.5 TUs**	**4029**

*Historic artifacts not included

Table 3:
Abbreviated Summary of Phase III Artifact Assemblage

Site	Lithic Artifacts	Ceramic Artifacts	Other Artifacts*	Ecofacts (Bone/ Shell	Thermally-Altered Rock	Total
18Cv491						
Block 1	669	5	6	0	31	**711**
Block 2	1022	0	12	2	87	**1,123**
Peripheral Sample Units	292	0	2	0	16	**310**
Total 18Cv491	*1,983*	*5*	*20*	*2*	*134*	**2,144**
18Cv492						
Block 1	872	579	29	54	134	**1,668**
Peripheral Sample Units	168	1	3	1	44	**217**
Total 18Cv492	*1,040*	*580*	*32*	*55*	*178*	**1,885**
Total	**3,023**	**585**	**52**	**57**	**312**	**4,029**

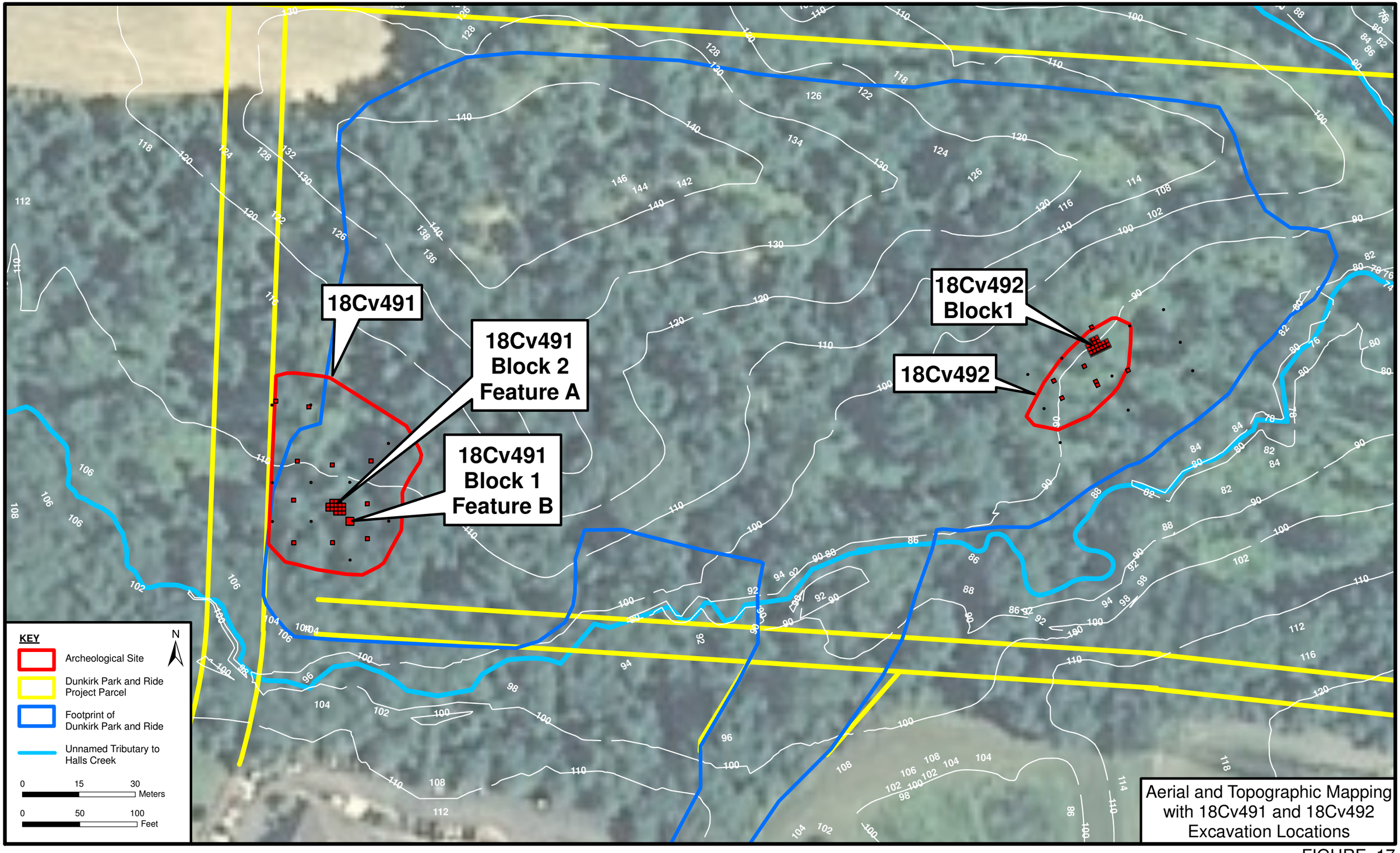
* e.g., unmodified used cobbles (18Cv491), hammerstones (18Cv491 and 18Cv492), gorget (18Cv492)

All excavations were conducted within a site-specific, transit-established metric grid system. Block excavations were conducted within the main, or core, areas of each site. The sites' peripheral areas were subjected to controlled sampling via the recovery of one square meter per ten square meters. Block and periphery excavation patterns were implemented in accordance with the approved data recovery plan, with adjustments made, as warranted, to delineate and recover features and artifact concentrations. All non-feature, sub-plow zone excavations were conducted in 10cm levels and in 0.50m blocks (i.e. test unit quadrants). All field excavations, and the recording of these excavations, were conducted in accordance with the methods outlined in the data recovery plan. GPS recording and standard surveying techniques were both used to record site location information.

The 57.5 Phase III TUs of the Dunkirk Park and Ride sites include 2.5 TUs beyond the 55 TUs that were originally proposed in the data recovery plan (**Appendix I**). These additional 2.5 TUs were excavated as ten 0.50m by 0.50m blocks at site 18Cv492 to mitigate site damage resulting from Hurricane Sandy (October 29-30, 2012).

A. Summary of Near-End Interagency Field View

Prior to the near-end field view, two of the 31 Phase III excavation units that were originally allocated to 18Cv491 were reserved. During the near-end interagency field view, consultation was sought to determine where the two remaining units would best serve to fulfill the data recovery goals. After reviewing both sites' characteristics and artifact distributions, it was agreed that 18Cv491 did not contain any areas, explored or unexplored, where further site excavations would provide any additional new or significant information



Aerial and Topographic Mapping with 18Cv491 and 18Cv492 Excavation Locations

FIGURE 17

about the site beyond that which had already been recovered by the 29 units that had been completed therein. It was subsequently agreed that, in lieu of recovering redundant data at 18Cv491, the project would benefit the most by transferring the two remaining 18Cv491 units to 18Cv492 (which was originally allocated 24 test units). By increasing the number of test units at 18Cv492, the project would be provided with an opportunity to better examine, define, and recover two small concentrations of thermally-altered rock (aka. fire-cracked rock) that had been identified at 18Cv492 prior to the field view.

B. Summary of Geoarcheological Study and Discussion of Site Stratigraphy

The Phase III investigations also included formal geoarcheological studies of 18Cv491 and 18Cv492. A copy of the geoarcheological technical report is presented in **Appendix III**. The purpose of this study was to assess the soils and landscapes available to prehistoric populations, as well as the extent of historic impacts accrued since the initiation of European settlement. Geoarcheological investigations were directed toward examining and analyzing soil and geomorphic features for indications of landscape stability, buried surface levels, deposit types, and environmental conditions relating to human utilization of a landscape (Wagner 2013). This study was conducted by pedologist Dr. Daniel Wagner. The study entailed field examinations of four Phase III excavations units, which included three units at 18Cv491 and one unit at 18Cv492. Soil particle size analyses of one field sample from each site were also performed. The geoarcheological field examinations were conducted during the early stages of the Phase III site excavations in order to provide archeologists with information that would assist with identifying and delineating cultural strata and confirming the depth to culturally sterile soil during the course of the excavations.

The results of the geoarcheological study indicate that although each site possesses its own set of characteristics, overall, the sites' soils and formation processes are similar. Both sites contain typical soils that have formed from sediments of the Calvert Formation.

Most of 18Cv491 and all of 18Cv492 is capped with a thick surficial mantle of tillage-induced slope wash derived from the adjacent higher slope(s)[1]. The slope wash mantle averages approximately 30 cm in thickness; however, the thickness of the mantle varies across the sites depending on distance from the higher slope (Wagner 2013). The maturity of soil development within the slopewash mantle also exhibits some variation across the sites. The thickness of the mantle was observed to range between 20 cm and 80 cm. The modern surface of the colluvium has been plowed.

The original surface (2Apb) lies beneath the slope wash mantle. This buried surface has also been plowed and remains of the buried plow zone are easy to identify. The buried plow zone horizon (2Apb) is approximately 10 centimeters thick, and its thinness implies that plowing (prior to slopewash burial) was probably conducted by animal-drawn equipment (Wagner 2013). Physical evidence to support the contention that past plowing was conducted

[1] In areas that are devoid of the slope wash mantle, specifically, the southern edge of site 18Cv491, the soil profile beneath the current A horizon consists of a former modern plow zone (Ap) atop truncated subsoil (BE).

manually and/or through use of animal power was found at 18Cv491. In several units, project researchers encountered deep, irregular linear plow scars in the underlying subsoil. At 18Cv491, the buried plow zone horizon consists of dark grayish brown (10YR 4/2) and brown (10YR 4/3) fine sandy loam. At 18Cv492, the buried plow zone is characterized as dark brown (10YR 3/3) and dark yellowish brown (10YR 4/4) fine sandy loam (Wagner 2013).

During the excavations, thin transitional horizons were often encountered between the slopewash mantle and the buried plow zone and also between the buried plow zone and underlying subsoil. The former was encountered more frequently at 18Cv492, whereas the latter was encountered at 18Cv491 more often than at 18Cv492.

Historic and prehistoric artifacts were recovered from the buried plow zone at 18Cv491 and 18Cv492; however, the historic artifact density of the buried plow zone of both sites is very low. This low artifact density is compatible with archival photographs/historical information provided by Calvert County (**Figure 16**), which indicate that overall, historic activities of the property within which the sites are located have been limited. That said, the depositional context of the prehistoric material in the buried plow zone horizon has been compromised by the, albeit, limited past plowing, and mixing is apparent.

At both sites, an E horizon or a BE horizon (2Eb or 2BEb) lies beneath the buried plow zone depending on location. The soil of these horizons generally consists of various dark yellowish brown (10YR 4/6, 10YR 4/4), yellowish brown (10YR 5/4), and/or light olive brown (2.5Y5/5) fine sandy loams (Wagner 2013). E Horizons were encountered at both sites in areas closer to the higher slope. Overall, differences in the various 2Eb and 2BEb horizons located beneath the buried plow zone correlate to combinations of past tillage, position on the landscape, and/or thickness of the slope wash mantle. Prehistoric artifacts were recovered throughout the E and BE horizon; however, the majority of the artifacts are confined to the top twenty centimeters of these horizons. These findings coincide with the results of the geoarcheological study which notes that:

> "Because of the Pleistocene age most cultural material should largely be contained below the upper mantle of historic slope wash and near the original surface level (2Apb), although some upward mixing into the historic zone could have occurred during plowing. Some cultural materials are also likely to be present in underlying upper subsoil horizons (2Eb and 2BEb) where they are often readily introduced by natural bioturbational processes." (Wagner 2013)

At both sites, the 2Eb and 2BEb horizons overlie an advanced argillic horizon (2Btb), which pursuant to the results of the geoarcheological study generally marks the depth potential for cultural deposits (Wagner 2013). On average, the argillic horizon was encountered in the core area of 18Cv491 around 40-45 centimeters below the surface. At 18Cv492, the top of the argillic horizon lies at approximately 118 centimeters below the surface.

The geoarcheological soil particle analysis revealed that the portions of the sites' soils profiles below the slope wash mantle (2Eb through 2Btb) exhibit textural progressions of

clay, sand, and silt with depths that are typical of mature soil profile development in upland settings. A significant increase in subsoil clay content marks advanced argillic horizon (2Btb) development. These findings are of archeological interest because they demonstrate that mostly stable landscape conditions have existed at both sites for a period likely reaching well into the Pleistocene and predating even the earliest human inhabitants of the region (Wagner 2013).

C. Summary of Historic Artifacts

The results of the Phase II survey revealed that the Dunkirk Park and Ride property parcel does not contain any historic archeological sites (Silber et al. 2008), and the Phase III site excavations did not recover any information that proves otherwise. That said, the Phase III excavations did recover historic artifacts at both sites. While the prehistoric cultural deposits of 18Cv491 and 18Cv492 were clearly the focus of this project, the authors of this report feel that the reporting of the recovered historic artifacts is warranted in this document.

A total of 141 historic artifacts, 137 artifacts from 18Cv491 and 4 artifacts from 18Cv492, were recovered during the Phase III investigations (**Table 4**).

The 137 historic artifacts from 18Cv491 were recovered from twenty-seven test units and two STPs in various locations across the site. Roughly one-third of the total assemblage was retrieved from TU N45E6 (n=49), which is situated adjacent to a small, shallow refuse pile composed of various bottles, cans, automobile parts, and other items. Surface examination of the refuse therein indicates that the material was likely deposited sometime during the 1960s and/or 1970s. The majority of the historic artifacts from 18Cv491, 118 artifacts, were recovered from the mixed slopewash horizons, which includes the current surface strata and the most recent plow zone horizon. The remaining 19 artifacts were recovered from the original plow zone and the upper depths of the intact subsoil that are capped by the slopewash. The historic assemblage from 18Cv491 contains a random assortment of glass, metal, architectural, personal, and miscellaneous items; however, no particular artifact category or form is better represented than another. A notable proportion of the artifacts are also common examples of general modern refuse such as machine-manufactured beverage bottle glass and plastic. All of the items are small, heavily-worn fragments of commonplace forms. The only artifacts of some archeological interest are five pipe fragments (1 stem, 4 bowls), two pearlware sherds, and three pieces of olive glass. The eight-sherd ceramic assemblage consists of the aforementioned two pearlware sherds, four undecorated whiteware sherds, one American stoneware sherd, and one buff-bodied earthenware sherd.

The four historic artifacts 18Cv492 were recovered from three of the six sample test units and one quadrant in the block excavation. One artifact was recovered from each of the four proveniences. All of these artifacts were recovered from plow-disturbed stratigraphic contexts.

Originally, it was hoped that analysis of historic artifacts would be able to provide information that could be used to explore the brief tillage history of the Dunkirk Park and

Ride property parcel. This topic was of tentative interest since the sites possess multiple and discernable plow zones, the lower levels of which have been spared extensive horizontal and vertical mixing due to the rapid accumulation of slopewash thereon. From a regional perspective, it was hoped that the sites would afford a unique opportunity to examine the earlier time periods of the property's agricultural past.

As was expected, the buried plow zone, and on occasion, the upper depths of the sterile subsoil and natural disturbances (e.g., rodent burrows and tree roots), did yield a small number of artifacts with projected date ranges that predate the early twentieth century. The five pipe fragments (1 stem, 4 bowls,), two pieces of pearlware, and three pieces of olive glass are such examples. The collection of such artifacts is too few in number and too randomly dispersed across the landscape. The assemblage lacks the datasets necessary for any meaningful analyses about the personal lives of the sites' past agriculturalists, or about the horizontal/vertical migration of historic materials across the landscape that results from manual plowing. The assemblage is little more than a collection of isolated finds that were likely originally discarded as field scatter (or lost).

The artifacts in the upper portion of the soil profile are also common examples of field scatter and general refuse. Given their recovery from slopewash deposits and the evidence of dumping, the depositional origin of these artifacts are somewhat questionable, and as such, these artifacts are poorly suited for any comparative analysis of the artifacts contained in the lower plow zone levels.

Table 4:
18CV491 and 18CV492 Historic Artifacts by Unit

	18Cv491																												18Cv492					
ARTIFACTS	STP N50 E30	STP N60 E0	TU N34 E15	TU N29 E20	TU N30 E19	TU N30 E20	TU N35 E14	TU N35 E15	TU N35 E16	TU N34 E14	TU N33 E14	TU N33 E15	TU N33 E16	TU N32 E16	TU N32 E15	TU N33 E17	TU N32 E17	TU N60.5 E0.5	TU N59 E9	TU N45 E6	TU N44 E15	TU N45 E25	TU N35 E5	TU N34 E24	TU N24 E5	TU N24 E15	TU N25 E24	TU N29 E19	SUM 18Cv491	TU N0 E65	TU N5 E74	TU S1 E75	TU Quad B	SUM 18Cv492	Total
GLASS																																			
Container: machine																																			
aqua																			1										**1**						**1**
amber																				2									**2**						**2**
green																				7									**7**						**7**
clear												2						2	2	23									**29**						**29**
unidentified																																			**0**
olive		2																1											**3**						**3**
clear									1				2																**3**						**3**
Unidentified: clear curved											1																		**1**						**1**
melted aqua glass														2															**2**						**2**
ARCHITECTURAL																																			
Window: clear																				1									**1**						**1**
Nails: cut			1						1								1				1	2	1		1	1			**9**			1		***1***	**10**
wire																												2	**2**	1				***1***	**3**
unidentified				3	1				2			1			1						1							1	**10**						**10**
METAL																																			
Can Pop-top													1																**1**						**1**
Can Pull-top																				2									**2**						**2**
Screw Top																				2									**2**						**2**
Can Fragment																				2									**2**						**2**
Pulley																				1									**1**						**1**
Can Key																				1									**1**						**1**
Wire																				1									**1**						**1**
CERAMIC																																			
Stoneware: American					1																								**1**						**1**
Pearlware: undecorated																			1										**1**						**1**
painted:green floral								1																					**1**						**1**
Whiteware: undecorated	1											1								1		1							**4**						**4**
Buff-bodied Refined Earthenware: undecorated																		1											**1**						**1**
MISCELLANEOUS																																			
Coal and By-Products: coal				3	4	1			3	1			1		4	2	1	4						1			3	1	**29**		1		1	***2***	**31**
Tobacco Pipes - White																																			**0**
stem undecorated															1														**1**						**1**
bowl decorated					4																								**4**						**4**
Personal: toy																																			**0**
Plastic gun handle							1																						**1**						**1**
Barrette Bead																				1									**1**						**1**
Miscellaneous																																			**0**
Plastic									1										7	4									**12**						**12**
Vinyl																				1									**1**						**1**
SUM HISTORIC	**1**	**2**	**1**	**6**	**10**	**1**	**1**	**1**	**8**	**1**	**1**	**4**	**4**	**2**	**6**	**2**	**2**	**8**	**11**	**49**	**2**	**3**	**1**	**1**	**1**	**1**	**3**	**4**	**137**	**1**	**1**	**1**	**1**	***4***	**141**

VI. EXCAVATION RESULTS OF 18CV491

The following discussion presents the basic excavation results and raw site data of the Phase III Data Recovery Investigations of 18Cv491. The interpretation of the site and its data are in subsequent sections of this document. The results of the artifacts analysis are detailed in **Section VII**.

As noted earlier, 18Cv491 is situated on a near-level to slightly-sloped stream terrace on the north side of an unnamed tributary of Halls Creek. The center of the stream bed is located about 30 meters south of the site. The landward side of the terrace lies at the toe of slope of a severely-eroded hill. A smaller deflated hill is also situated in the southwest quadrant of the site. The site encompasses approximately 1,500-square meters. The terrain of the site is wooded and ground covering consists of a mix of deciduous trees and scrub/shrub vegetation. The site is relatively well-drained, but highly susceptible to water retention. Heavy ground seepage and long periods of water retention due to rises in the water table are not uncommon during wet seasons (**Figure 18**)[2].

A. Overview of Site Excavations and Delineation of Core Area

A total of 29 1m x 1m test units (TU) were excavated by the Phase III excavations at 18Cv491. The locations of all test excavations are presented in **Figure 19**. These excavations yielded a total of 2,049 prehistoric artifacts, which constitute approximately 96.47% of the combined Phase I, II, and III 18Cv491 assemblage (n = 2144) (**Tables 3** and **Table 5**). From this point forth, all artifact discussions will pertain to the combined Phase I/II/III prehistoric artifact assemblage.

The core area of 18Cv491 has been redefined from that which was estimated by the 2008 Phase II evaluation survey (Silber et al. 2008). In 2008, it was generally recognized that the most intensive area of site use was located in the southern portion of the site. Consequently, the 30-meter by 30-meter (900 sq. m) region between transects N50 and N20 was established as the preliminary core area of the site and identified as the key target area for the Phase III investigations (**Figure 19**).

[2] Post Hurricane Sandy (October 29-30, 2012) water retention and ground seepage were recorded and monitored at the site intermittently for several weeks. On November 1, 2012, water within a 1m x 1m x 0.5m TU was observed to rise at a rate of approximately 4.98 cm per hour. Several of the excavations units continued to retain water as early as February 2013.

All photographs of N25 E24
taken facing south

N25 E24 after bailing
November 1, 2014; 12:48 pm

N25 E24
November 1, 2014; 1:58 pm

N25 E24
November 1, 2014; 3:09 pm

Post Hurricane Sandy (October 29-30, 2012) water retention and ground seepage were recorded and monitored intermittently for several weeks after Hurricane Sandy.

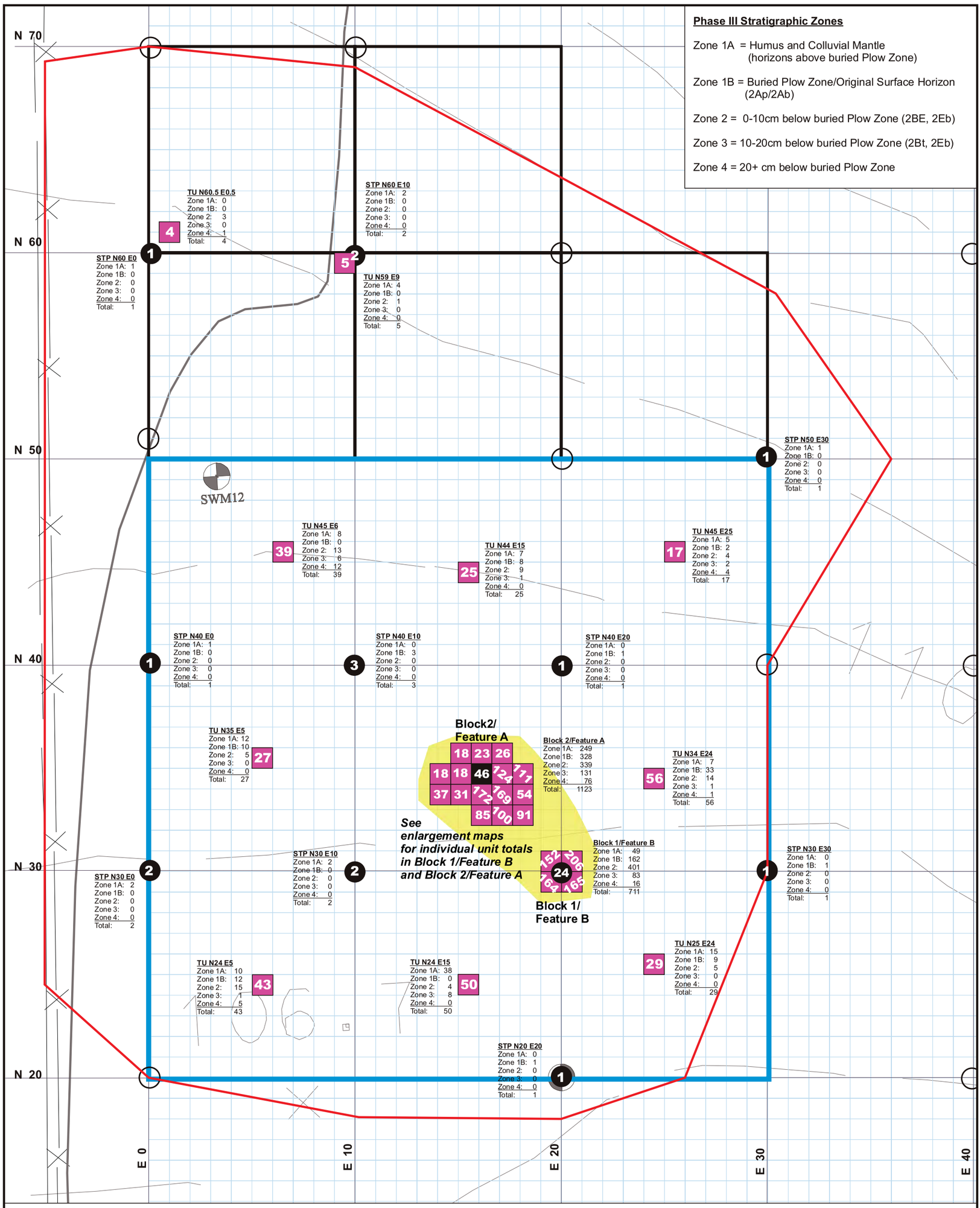
On November 1, 2012, the rate of water rise within a 1m x 1m x 0.5m TU was observed at 4.98 cm per hour.

Several of the excavations units continued to retain water as early February 2013.

LEFT: View of of accumulated ground and rain water in TUs surrounding N34E15 (Block 2) on November 1, 2012. Photograph taken facing west.

Photographs Illustrating
Water Retention at 18Cv491

FIGURE 18



18Cv491 Base Map with Artifact Distributions

FIGURE 19

Table 5:
18Cv491 - Summary Artifact Catalog

	Block 1/Feature B Centered Around N30 E20			Block 2/Feature A Centered Around N34 E15			Sample Units Non-Block Site Areas			
ARTIFACTS	**Phase I/II**	**Phase III**	***subtotal***	**Phase I/II**	**Phase III**	***subtotal***	**Phase I/II**	**Phase III**	***subtotal***	**TOTAL**
Lithic Artifacts (Chipped Stone)										
Flakes	13	577	*590*	31	744	*775*	15	158	*173*	**1538**
Utilized Flakes		32	*32*		135	*135*		69	*69*	**236**
Flake Tools		8	*8*		25	*25*		15	*15*	**48**
Misc. Chipped Stone Tools		1	*1*		9	*9*		6	*6*	**16**
Projectile Points - diagnostic		3	*3*		9	*9*		3	*3*	**15**
Point Fragments - non-diagnostic		2	*2*		11	*11*		3	*3*	**16**
Early Stage Biface Reject		2	*2*	1	10	*11*		7	*7*	**20**
Late Stage Biface Reject		1	*1*		1	*1*			*0*	**2**
Biface Fragments		11	*11*		12	*12*		8	*8*	**31**
Worked Stone/Tested Cobble	1	2	*3*	1	4	*5*			*0*	**8**
Cores/Core Fragments		3	*3*		2	*2*		3	*3*	**8**
Shatter		13	*13*		27	*27*		5	*5*	**45**
Other Stone Artifacts										
Hammerstone		1	*1*		4	*4*			*0*	**5**
Fire-Cracked Rock - Count		31	*31*	13	74	*87*		16	*16*	**134**
Cortex Spall/Possible Flake			*0*		7	*7*			*0*	**7**
Cobble Tool		1	*1*			*0*			*0*	**1**
Cobble/Cobble Fragment		1	*1*			*0*		2	*2*	**3**
Slate Fragment		3	*3*		1	*1*			*0*	**4**
Ceramic										
Ceramic - steatite/soapstone Marcey Creek		1	*1*			*0*			*0*	**1**
Ceramic - shell/grit - Sullivan Cove		1	*1*			*0*			*0*	**1**
Ceramic - crushed quartz/grit - Accokeek		3	*3*			*0*			*0*	**3**
Ecofacts										
Bone			*0*		2	*2*			*0*	**2**
Shell Fragment			*0*			*0*			*0*	**0**
TOTAL	**14**	**697**	***711***	**46**	**1077**	***1123***	**15**	**295**	***310***	**2144**

While the Phase III investigations did confirm that the archeological deposits that best characterize the site are indeed located within the aforementioned 30m by 30m square area, the Phase III investigations also revealed that the primary activity area is situated in the south central portion of the site, specifically between transects N37 and N29 (**Figure 19**). Based on the collective site investigations, the core area of 18Cv491 has been redefined as 10-meter by 5-meter oval-shaped area that encompasses approximately 30 square meters.

The long axis of the core area is oriented northwest-southeast along a line connecting N34E15 and N30E20. Transects N37, N29, E13 and E22 generally mark the north, south, west and east boundaries of the core area, respectively. Although a few small artifact concentrations suggestive of secondary activity areas were identified outside to the south and east of these points, overall the combined Phase I/II and Phase III excavations revealed that artifact densities decline substantially as one radiates further away from the redefined core area.

The combined Phase I, II, and III excavation efforts has resulted in the recovery of an approximate twenty-seven percent (27%) sample from the total area of 18Cv491 and a sixty-seven percent (67%) sample from 30-square meter target area defined by the core area.

1. Summary of Excavations in 18Cv491 Core Area

The core area of the site was excavated via two block excavations, a 16-unit block centered around N34E15 and a 4-unit block excavated around N30E20 (**Figure 5, 6, 19**). The 16-unit and 4-unit blocks were designated Block 2 and Block 1, respectively. The artifact recovery from Block 1 and Block 2 were 711 and 1123 prehistoric artifacts, respectively (**Table 5 and Table 6**).

Table 6:
18Cv491 - Summary of Distribution of Artifacts by Site Area

By Site Section		Sum	%
site core	Block 1 (Feature B - chipping feature)	711	19.44%
	Block 2 (Feature A - house feature)	1123	26.46%
Peripheries	Sample Units	310	37.81%
	Sum	**2,144**	100.00%

The core area of 18Cv491 is capped with slopewash and was found to contain well preserved, intact features in sub-plow zone stratigraphic contexts. The redefined core area generally corresponds to the site's main activity area, which is centered around a house feature with an associated work area. The house feature, designated Feature A, was identified in Block 2 and is represented in the archeological record as a collection of small postmold features and dense lithic artifact concentrations. The work area, designated Feature B, was encountered in Block 1 and is expressed in the archeological record as a discrete dense concentration of lithic artifacts.

It is estimated that 100 percent of the portions of the core area that best represents the site's characteristics, namely Feature A and Feature B, was recovered by the excavations.

2. Summary of Excavations in 18Cv491 Non-Core Area

Eight individual TUs, one TU per 10-meter grid block, were excavated to acquire representative samples of the site's peripheries (**Figure 19**). A total of 295 prehistoric artifacts were recovered from the peripheral sample units (**Table 5 and Table 6**).

The Phase III peripheral sample units were excavated in various positions on the landscape to acquire data for use in discerning temporal or functional differences in landscape use (i.e. siting and site layout). While several of the sample units did yield prehistoric artifacts from both plowzone and sub-plow zone contexts, these assemblages are not nearly as diverse as those collected from the core area. Aside from three projectile points, all of which were recovered from compromised or questionable subsurface contexts, these assemblages also do not contain any particularly unique collections of artifact types. No substantial artifact concentrations or discrete subsurface features were encountered in sub plow zone stratigraphic contexts in any of the sample units. Although the small artifact scatters encountered in the sample units are not significant on their own, they do, nonetheless, provide supplemental information about site usage outside of the core area. The few tools that were recovered suggest that some of these artifact scatters may represent remains of small work areas.

The data recovered by the combined Phase I, II, and Phase III investigations has resulted in the acquisition of an accurate representative sample of the site's peripheries.

B. Summary of Site Stratigraphy

Site 18Cv491 spans several local, micro-positions within its general footslope location, and as noted earlier, most of the site is capped with accumulated colluvium that has migrated from the higher slope. Typical soil profiles beneath the colluvium mantle consist of a buried plow zone horizon (2Apb) atop a slightly truncated, BE subsoil horizon (2BE); however, in some areas, the buried plow zone and (buried) BE horizon are separated by a (buried) E Horizon (2Eb). The preceding (buried) E Horizon is more frequent along the northeast edge of the site, where the original surface (2Ab) seems to have been buried prior to having been plowed (Wagner 2013).

Remnants of a thin, transitional horizon between the buried plow zone and 2BE horizon are present in some areas of the site. This transitional horizon is patchy and inconsistent in thickness. During the excavations, the transitional horizon was encountered most often in the core area of the site, specifically in Block 1 (Feature B) and in the southern half of Block 2 (Feature A). This transitional horizon was often preempted with an increase in artifact content of the overlying the plow zone. When encountered, the transitional horizon was excavated as a single level in 0.50 m quadrants.

The colluvial overburden is absent in some areas of the site. These areas include a small deflated hill located in the southwest quadrant of the site and a few areas along the southern edge of the site. In areas that are devoid of the colluvial overburden, the profile consists of a former plow zone (Ap) atop a truncated BE subsoil horizon.

Representative soil profiles of 18Cv491 are presented in **Figure 20** through **Figure 34**, as well as in Wagner (2013) (**Appendix III**).

Researchers found that the site's best-preserved prehistoric deposits were located in portions of the site that contained a buried plow zone capped with slope wash. During excavations, the highest concentrations of artifacts in a given test unit were repeatedly recovered from the buried plow zone (2Apb) and the first ten centimeters of the underlying E/BE horizon (2Eb/2BEb). Although artifacts were recovered throughout the soil profile, artifact densities were observed to decrease sharply at depths greater than twenty centimeters beneath the buried plow zone.

Based on the results of the geoarcheological study, analysis of soil profiles, excavation data, and artifact densities, project researchers divided the soil profile into four basic stratigraphic contexts, or zones, germane to the horizontal and vertical distribution of artifacts across 18Cv491. From the surface downward, these zones were classified as Zones 1A, 1B, 2, 3, and 4.

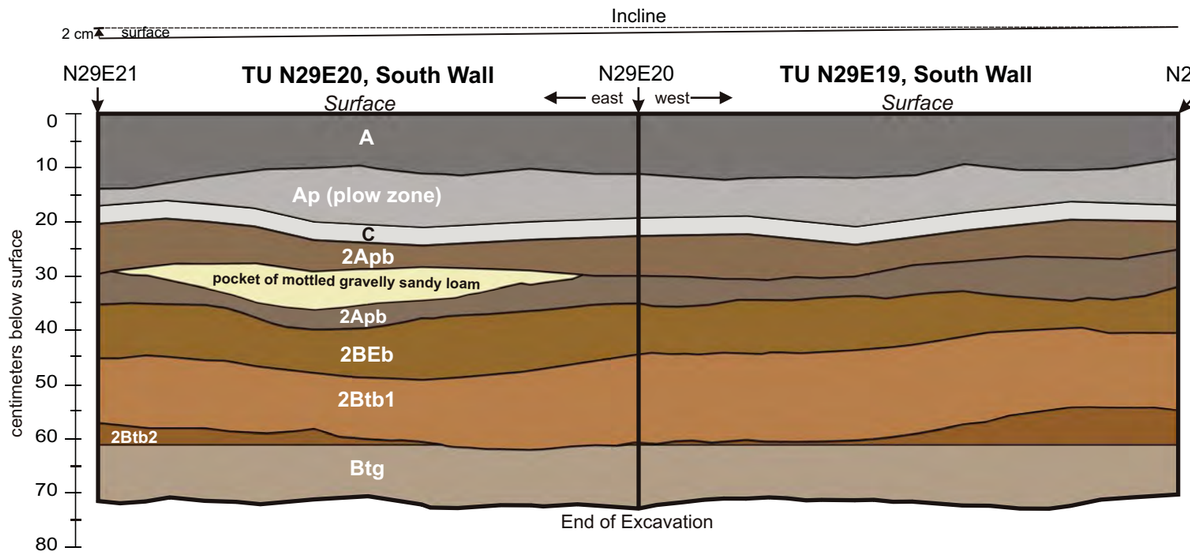
1. Zone 1A

This stratigraphic zone corresponds to the colluvial mantle composed of historic agricultural slopewash. In the southern and southwestern portions of the site that do not contain a slopewash mantle, Zone 1A was defined as the existing humus (A Horizon) and the leached portion of the most recent plow zone horizon (**Figures 25, 26, 27, 39, and 32**). Zone 1A ranges in thickness across the site, depending on the distance away from the higher slope. Zone 1A was noted to become substantially thicker approximately ten meters north the core area of 18Cv49, specifically from transect N44 northward. Substrata encountered during the removal of Zone 1A were excavated in natural levels.

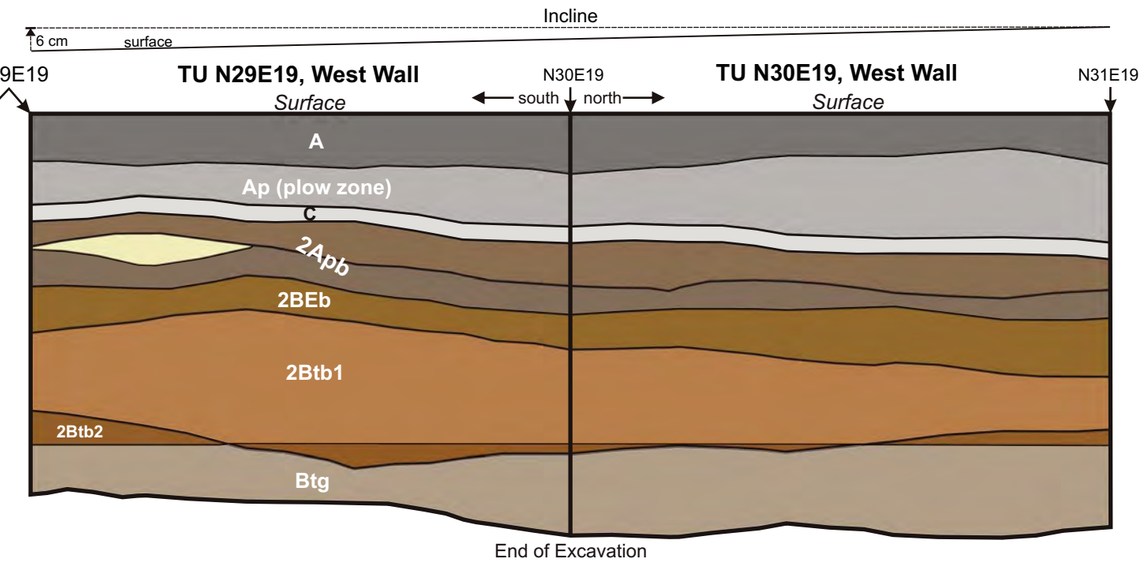
The denser and more robust sub-plow zone artifact concentrations at 18Cv491 were discovered in areas where Zone 1A ranges between 20 and 30 centimeters in thickness. This finding was somewhat surprising only in that it was originally anticipated that areas with thicker deposits of slopewash (i.e. a thicker Zone 1A) would be more apt to contain better preserved cultural deposits, if any such deposits existed. One such example is TU N45E25, a peripheral unit located approximately ten meters northeast of the core area (**Figure 19 and Figure 13**). At the onset of the excavations, TU N45E25 was identified as having high archeological potential due to its 80-centimeter thick slopewash mantle; seemingly unplowed buried surface (2Ab); and intact 2Eb horizon (Wagner 2013). While the 2Eb horizon did yield prehistoric artifacts and even possessed some charcoal flecking, TU N45E25 did not yield an artifact assemblage of any qualitative or quantitative substance. In fact, the 17-artifact assemblage from TU N45E25 is one of the smaller unit assemblages recovered from the site.

A total of 413 artifacts were recovered from Zone 1A.

Block 1 South Wall



Block 1 West Wall



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brownfine sandy loam. (10YR 4/6).

2Apb
Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) and dark gray-brown brown (10YR 4/2) fine sandy loam mottled with pockets of strong brown/orange-brown (7.5YR 4/6) sandy loam. Lower half of buried plow zone is more organic than upper half.

Pocket of mottled yellow-brown to grey-brown gravelly sandy loam. (More pronounced in south wall)

2BEb
SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

2Btb1
SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/"orange-brown" (7.5YR 5/6) heavy loam. Denser and blockier than overlying soil. Has a "slighty sticky" character.

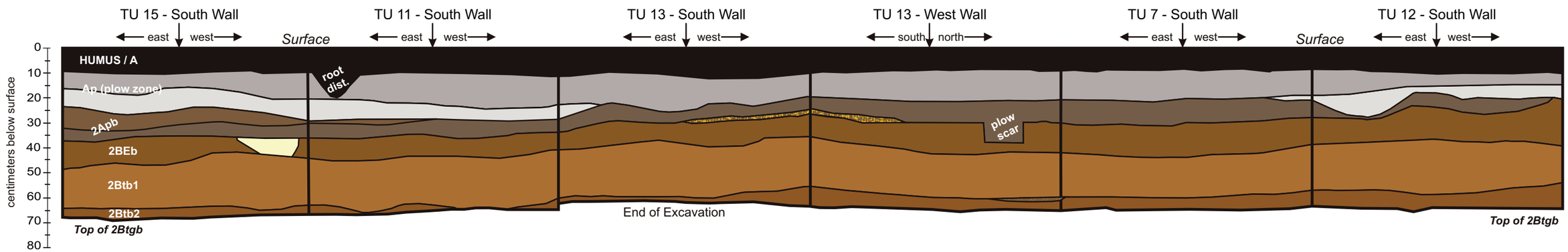
2Btb2
SUBSOIL: 2Btb2 Horizon
Strong brown/"orange-brown" to brown (7.5YR 4/6) clay loam to silty clay loam. Mottled with light brown-gray (10YR 6/2) clay loam. More dense, blocky, and "sticky" than overlying soil, but less so than underlying soil.

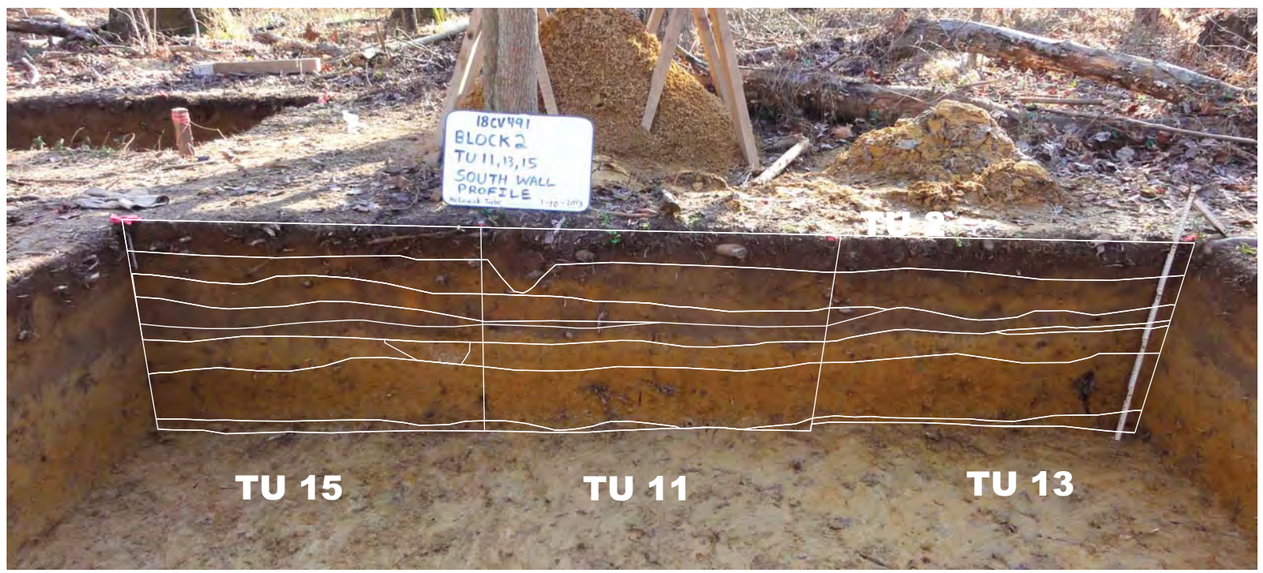
Btg
SUBSOIL: 2Btgb Horizon
Light brownish-gray (10YR 6/2) clay loam to silty clay loam. Heavily mottled with strong brown (orange-brown to brown, 10 YR 4/6) clay loam/silty clay loam. More dense, blocky, and "sticky" than overlying soil.

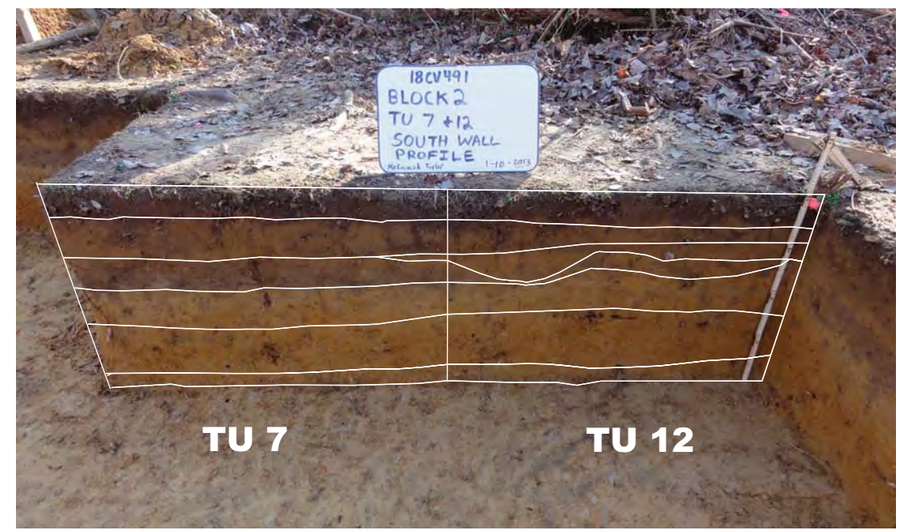
18Cv491, Block 1
Closing Profiles of
North and West Walls

FIGURE 20

Block 2 South Wall







SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brownfine sandy loam. (10YR 4/6).

2Apb
Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) to dark gray-brown brown (10YR 4/2) fine sandy loam mottled with pockets of strong brown/orange-brown (7.5YR 4/6) sandy loam. Lower portion of buried plow zone is slightly darker, more grey (10YR 4/2) and more organic than upper portion.

Transitional Horizon
Very mottled, mix of underlying and overlying soil.

2BEb
SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

2Btb1
SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/"orange-brown" (7.5YR 5/6) heavy loam.
Denser and blockier than overlying soil. Has a "slighty sticky" character.

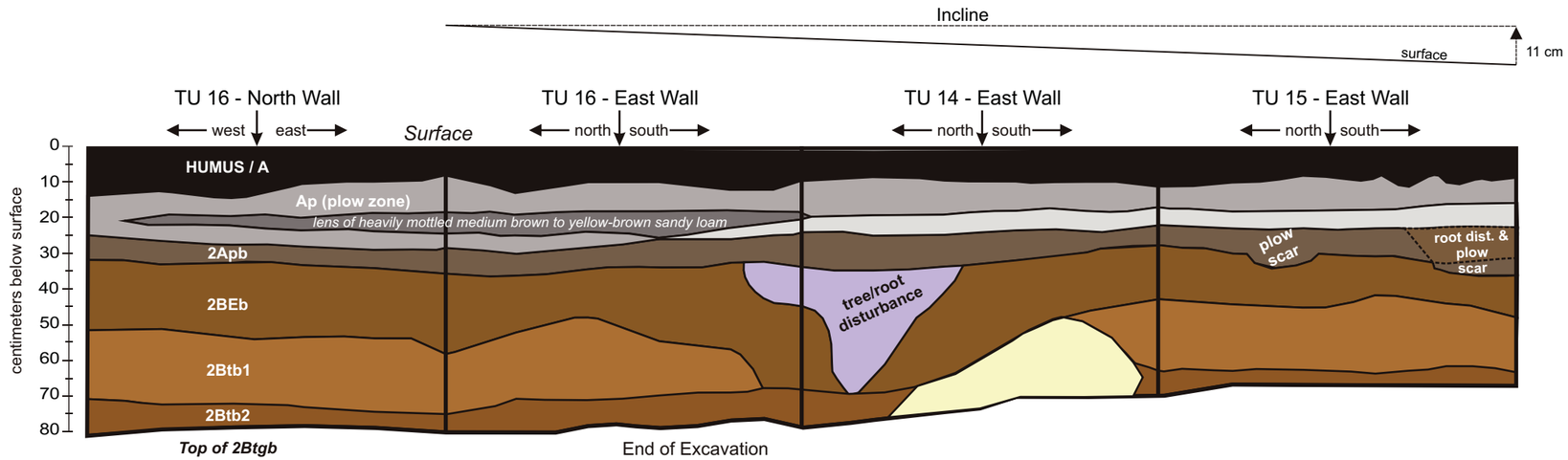
2Btb2
SUBSOIL: 2Btb2 Horizon
Strong brown/"orange-brown" to brown (7.5YR 4/6) clay loam to silty clay loam.
Mottled with light brown-gray (10YR 6/2) clay loam.
Becomes more mottled, dense, blocky, and "sticky" with depth.

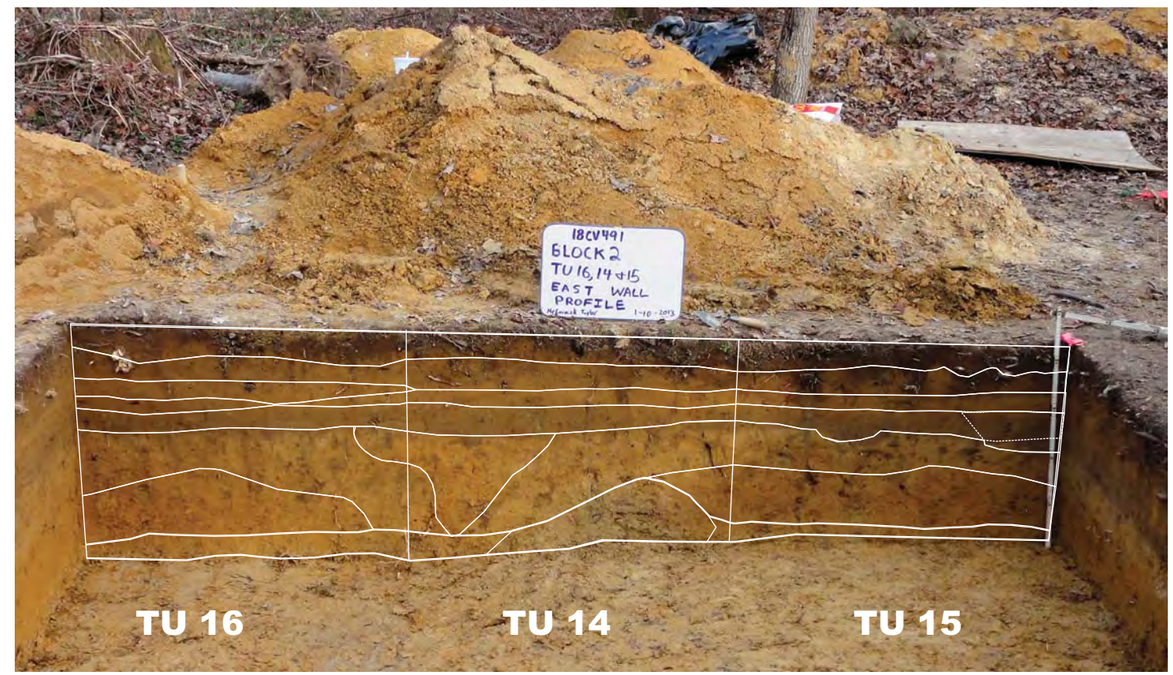
Pocket of mottled yellow-brown to grey-brown gravelly sandy loam.

18Cv491, Block 2
South Wall
Closing Profile

FIGURE 21

Block 2 East Wall





SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brownfine sandy loam. (10YR 4/6).

2Apb

Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) to dark gray-brown brown (10YR 4/2) fine sandy loam mottled with pockets of strong brown/orange-brown (7.5YR 4/6) sandy loam.
Lower portion of buried plow zone is slightly darker, more grey (10YR 4/3) and more organic than upper portion.

Pocket of mottled yellow-brown to grey-brown gravelly sandy loam.

2BEb

SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

2Btb1

SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/"orange-brown" (7.5YR 5/6) heavy loam.
Denser and blockier than overlying soil. Has a "slighty sticky" character.

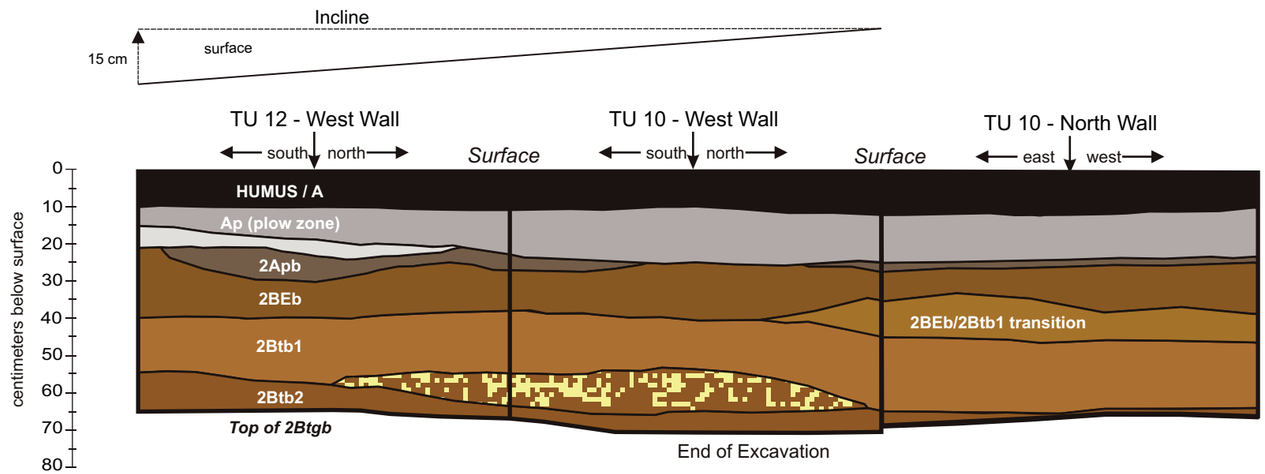
2Btb2

SUBSOIL: 2Btb2 Horizon
Strong brown/"orange-brown" to brown (7.5YR 4/6) clay loam to silty clay loam.
Mottled with light brown-gray (10YR 6/2) clay loam.
Becomes more mottled, dense, blocky, and "sticky" with depth.

18Cv491, Block 2
East Wall
Closing Profile

FIGURE 22

Block 2 West Wall



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brownfine sandy loam. (10YR 4/6).

2Apb

Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) to dark gray-brown brown (10YR 4/2) fine sandy loam mottled with pockets of strong brown/orange-brown (7.5YR 4/6) sandy loam. Lower portion of buried plow zone is slightly darker, more grey (10YR 4/3) and more organic than upper portion.

2BEb

SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

2Btb1

SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/"orange-brown" (7.5YR 5/6) heavy loam.
Denser and blockier than overlying soil. Has a "slighty sticky" character.

2Btb2

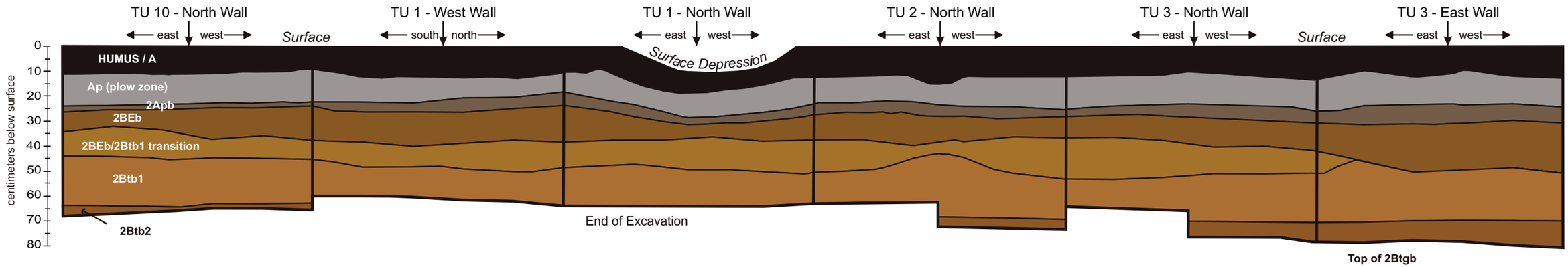
SUBSOIL: 2Btb2 Horizon
Strong brown/"orange-brown" to brown (7.5YR 4/6) clay loam to silty clay loam.
Mottled with light brown-grey (10YR 6/2) clay loam.
Becomes more mottled, dense, blocky, and "sticky" with depth.

Pocket of mottled orange-brown to yellow-brown fine sandy loam.

18Cv491, Block 2
West Wall
Closing Profile

FIGURE 23

Block 2 North Wall



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

2Apb

Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) to dark gray-brown brown (10YR 4/2) fine sandy loam mottled with pockets of strong brown/orange-brown (7.5YR 4/6) sandy loam. Lower portion of buried plow zone is slightly darker, more grey (10YR 4/2) and more organic than upper portion.

2BEb

SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

SUBSOIL: 2BEb/2Btb1 Transition
Yellow-brown to strong brown/"orange-brown" loam (10YR 4/6 - 7.5YR 4/6) loam. More clayey and darker than overlying soil but less red (i.e., less orange) and less clayey than underlying soil.

2Btb1

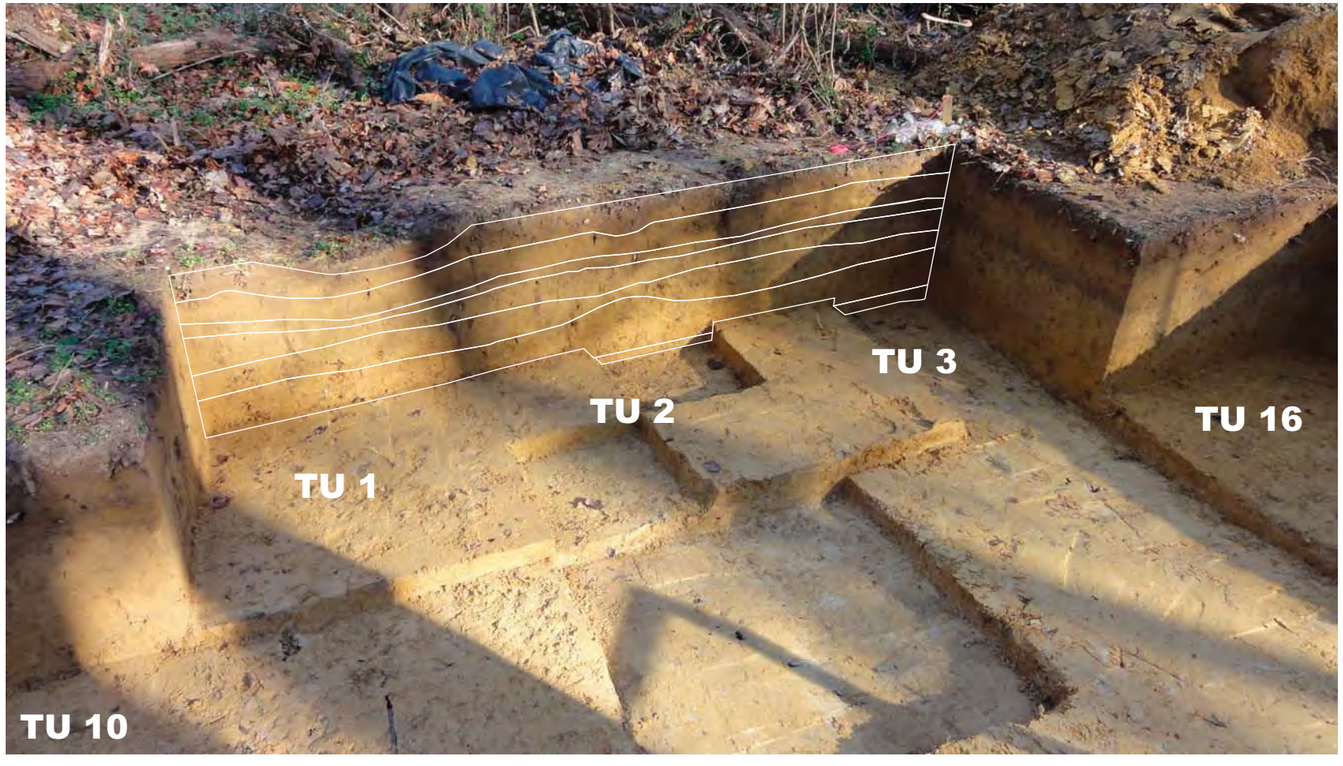
SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/"orange-brown" (7.5YR 5/6) heavy loam. Denser and blockier than overlying soil. Has a "slighty sticky" character.

2Btb2

SUBSOIL: 2Btb2 Horizon
Strong brown/"orange-brown" to brown (7.5YR 4/6) clay loam to silty clay loam. Mottled with light brown-gray (10YR 6/2) clay loam. Becomes more mottled, dense, blocky, and "sticky" with depth.

2Btgb

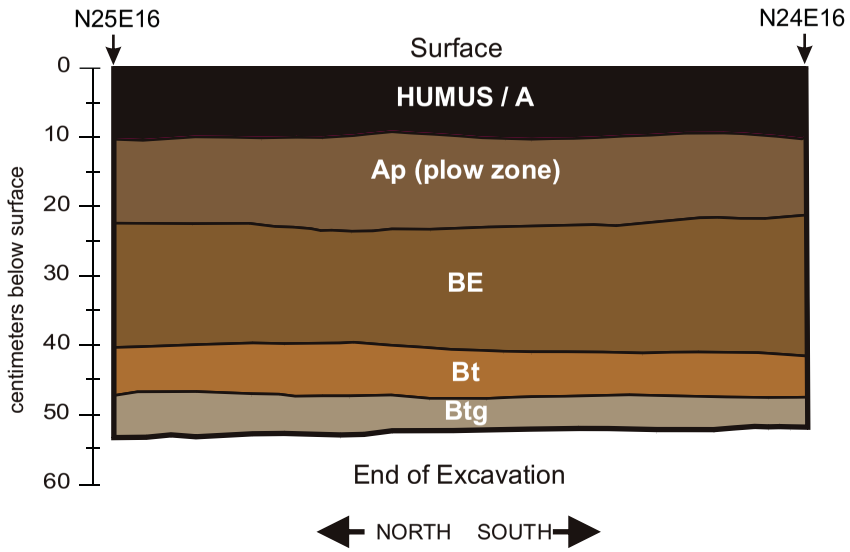
SUBSOIL: 2Btgb Horizon
Light brownish-gray (10YR 6/2) clay loam to silty clay loam. Heavily mottled with strong brown (orange-brown to brown, 10 YR 4/6) clay loam/silty clay loam. More dense, blocky, and "sticky" than overlying soil.



18Cv491, Block 2
North Wall
Closing Profile

FIGURE 24

TU N24E15
East Wall - Closing Profile



SOIL DESCRIPTIONS

Humus (A Horizon)
Very dark grey-brown (10YR 3/2) sandy loam.

Plow Zone (Ap Horizon)
Brown to dark yellow-brown (10YR 4/3 - 10YR 4/4) fine sandy loam with strong-brown ("orange-brown") mottles.

Subsoil (BE Horizon)
Dark yellow-brown (10YR 4/4 - 10YR4/6) fine sandy loam.

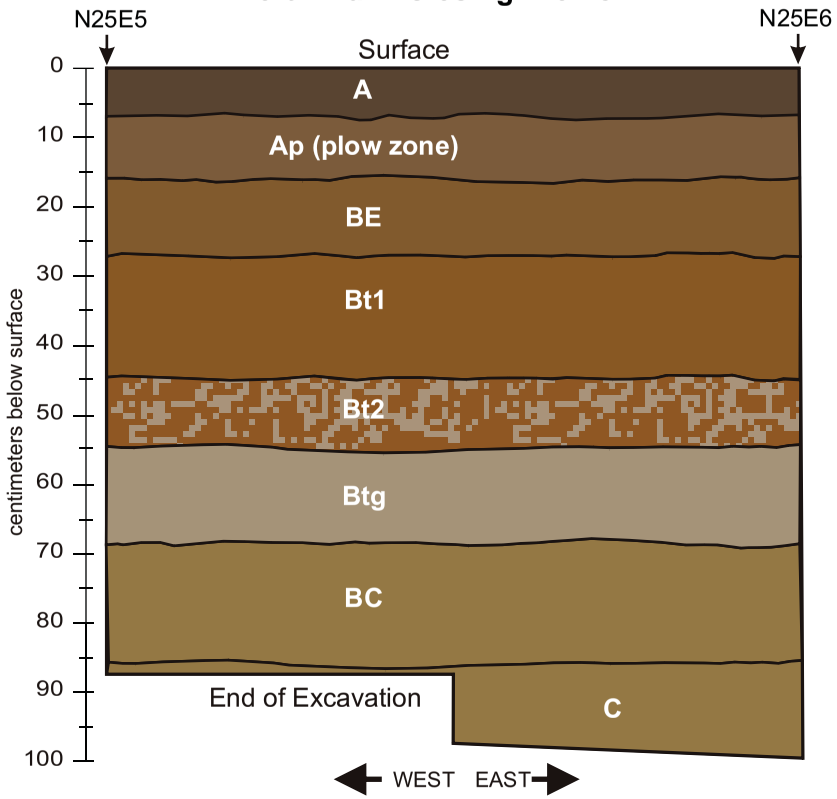
Subsoil (Bt Horizon)
Dark yellow-brown to strong brown/"orange-brown" (7.5YR 4/6- 7.5YR 5/6) clay loam to silty clay loam.

Subsoil (Btg Horizon)
Light brown-grey (2.5Y 6/2) sandy clay loam with strong brown/"orange-brown" (7.5YR 4/6) mottles.

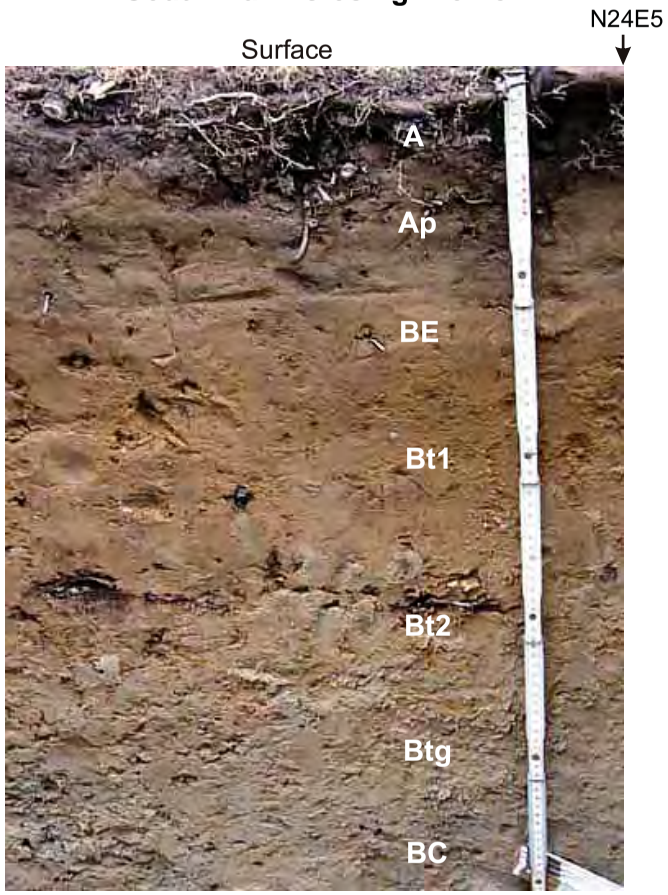
18Cv491, TU N24E15
East Wall, Closing Profile

FIGURE 25

TU N24E5
North Wall - Closing Profile



TU N24E5
South Wall - Closing Profile



Photograph from Wagner (2012)

SOIL DESCRIPTIONS

Humus (A Horizon)
Very dark grey-brown (10YR 3/2) sandy loam.

Plow Zone (Ap Horizon)
Brown to dark yellow-brown (10YR 4/3 - 10YR 4/4) fine sandy loam with strong-brown (”orange-brown”) mottles.

Subsoil (BE Horizon)
Dark yellow-brown (10YR 4/4 - 10YR4/6) fine sandy loam.

Bt1/Bt2
Btg

Subsoil (Bt Horizons)
Bt1 - Dark yellow-brown sandy loam (10YR 4/6).
Bt2 - Dark yellow-brown (10YR 4/6) heavy loam with light brown-grey (10YR 6/2) mottles.
Btg - Light brown-grey (2.5Y 6/2) sandy clay loam with strong brown (”orange-brown” 7.5YR 4/6) mottles.

BC

Subsoil (BC Horizon)
Light olive-brown (2.5Y 5/4) loamy fine sand with light brown-grey mottles. (blocky)

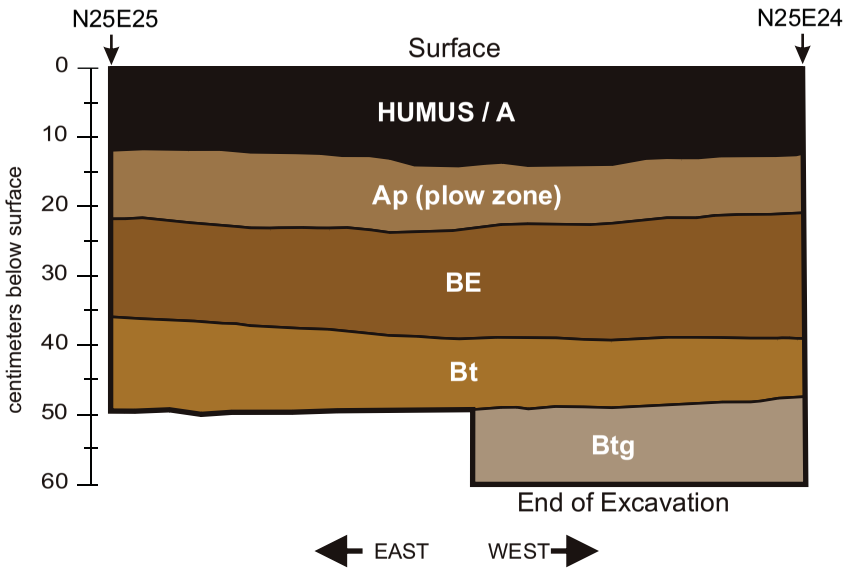
C

Subsoil (C Horizon)
Light olive-brown (2.5Y 5/4) loamy fine sand with coarse light brown-grey mottles. (structureless and massive)

18Cv491, TU N24E5
North Wall, Closing Profile

FIGURE 26

TU N25E24
South Wall - Closing Profile



SOIL DESCRIPTIONS

Humus (A Horizon)
Very dark grey-brown (10YR 3/4) sandy loam.

Plow Zone (Ap Horizon)
Dark brown to dark yellow-brown (10YR 5/3 - 10YR 5/4) fine sandy loam with medium brown, grey-brown, and orange-brown mottles.

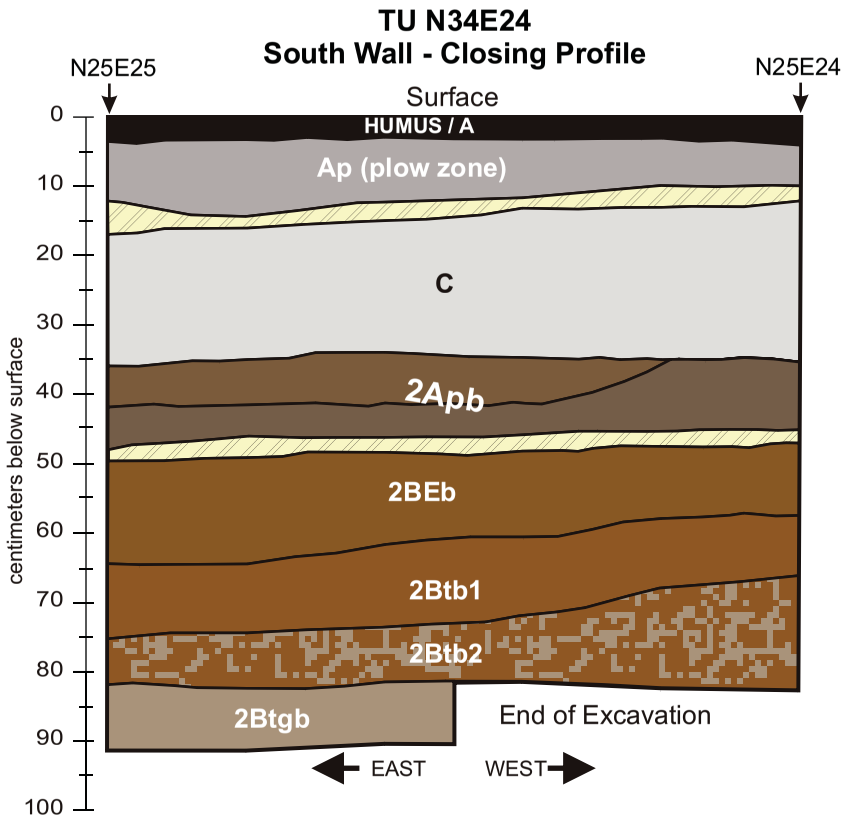
Subsoil (BE Horizon)
Medium yellow-brown to orange-brown (10YR 4/6- 10YR 5/6) sandy clay loam. Slightly mottled with orange and greys snady loams and silty clay loams.

Subsoil (Bt Horizons)
Strong brown/orange-brown (10YR 5/6) to slightly grey-brown clay loam to silty clay loam. More streaked and mottled than overlying soil.

Subsoil (Btg Horizon)
Grey-brown (10YR 6/2) to strong-brown/orange (5YR 5/8) silty clay loam. Heavily-mottled and streaked with grey, orange, and red-brown sandy loam and clay loam. Becomes notably more grey and denser with depth.

18Cv491, TU N25E24
South Wall, Closing Profile

FIGURE 27



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brown fine sandy loam. (10YR 4/6).

Buried Plow Zone (2Apb Horizon)
Brown (10YR 4/3) and dark gray-brown brown (10YR 4/2) fine sandy loam mottled with strong brown/orange-brown (7.5YR 4/6) sandy loam.
Lower half of buried plow zone is darker and more organic than upper half.

SUBSOIL: 2BEb Horizon
Dark yellow-brown (10YR4/6) fine sandy loam.

SUBSOIL: 2Btb1 Horizon
Strong brown to yellow-brown/orange brown (7.5YR 4/6) heavy loam to silty clay loam. Denser and blockier than overlying soil. Consistency is “slighty sticky”.

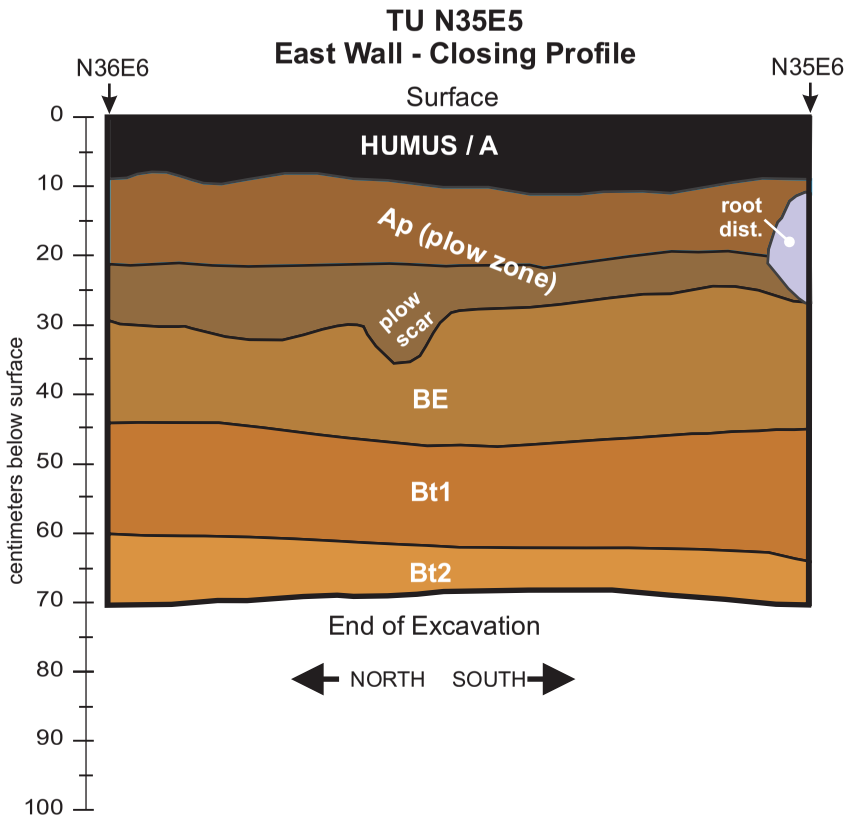
SUBSOIL: 2Btb2 Horizon
Strong brown/orange-brown to brown (7.5YR 4/6) clay loam to silty clay loam. Mottled with light brown-grey (10YR 6/2) clay loam. More dense, blocky, and “sticky” than overlying soil.

SUBSOIL: 2Btgb Horizon
Light brownish-gray (10YR 6/2) clay loam to silty clay loam. Heavily mottled with strong brown/orange-brown to brown (10 YR 4/6) clay loam and silty clay loam.

TRANSITIONAL HORIZON

18Cv491, TU N34E24
South Wall, Closing Profile

FIGURE 28



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 4/2).

Plow Zone (Ap Horizon)
Dark brown to medium brown (10YR 4/4 - 4/6) sandy loam.
Lower portion of plow zone is mottled with grey-brown sandy loam and more organic, darker, and more grey than upper portion . (10YR 4/3)

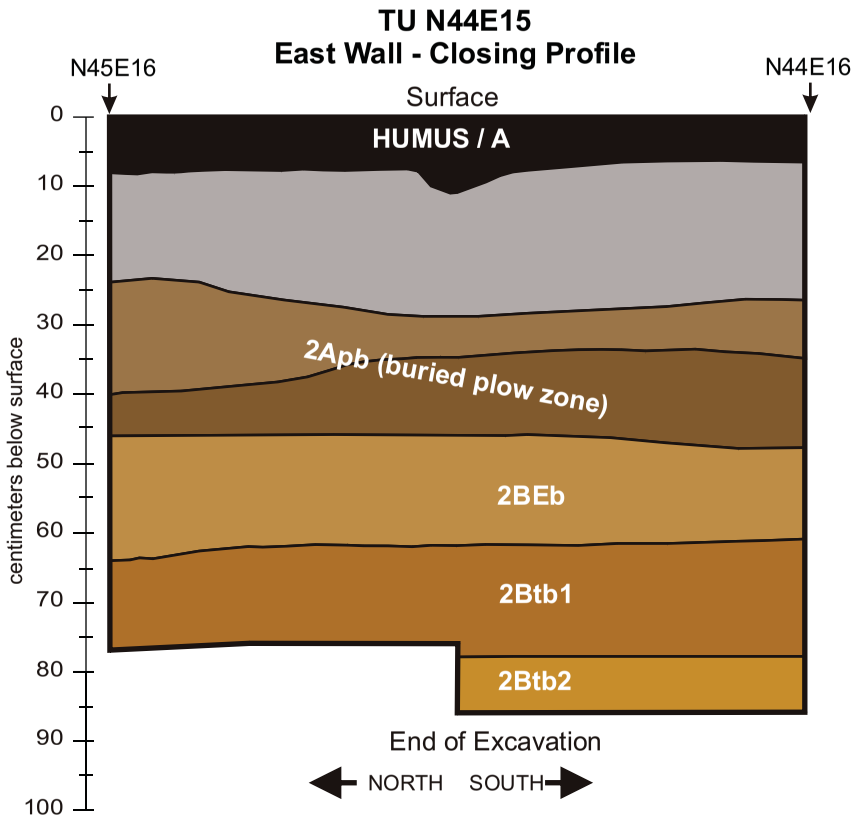
SUBSOIL: BE Horizon
Medium brown to dark yellow-brown (10YR 10YR 5/4 - 10YR 5/6) medium- to fine-grained sandy loam.

SUBSOIL: Bt1 Horizon
Orange-brown to yellow-brown (7.5YR 5/8), moderately compacted silty clay loam. Mottled with grey-brown and grey clayey loam. Mottles increase with depth.

SUBSOIL: Bt2 Horizon
Orange-brown (7.5YR 6/8) very compact, silty clay loam. Heavily mottled grey/grey-brown (10YR 5/4) clayey loam.

18Cv491, TU N35E5
East Wall, Closing Profile

FIGURE 29



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 4/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

2Apb

Buried Plow Zone (2Apb Horizon)
Dark brown to medium brown (10YR 5/4) sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion (10YR 4/3 - 4/4).

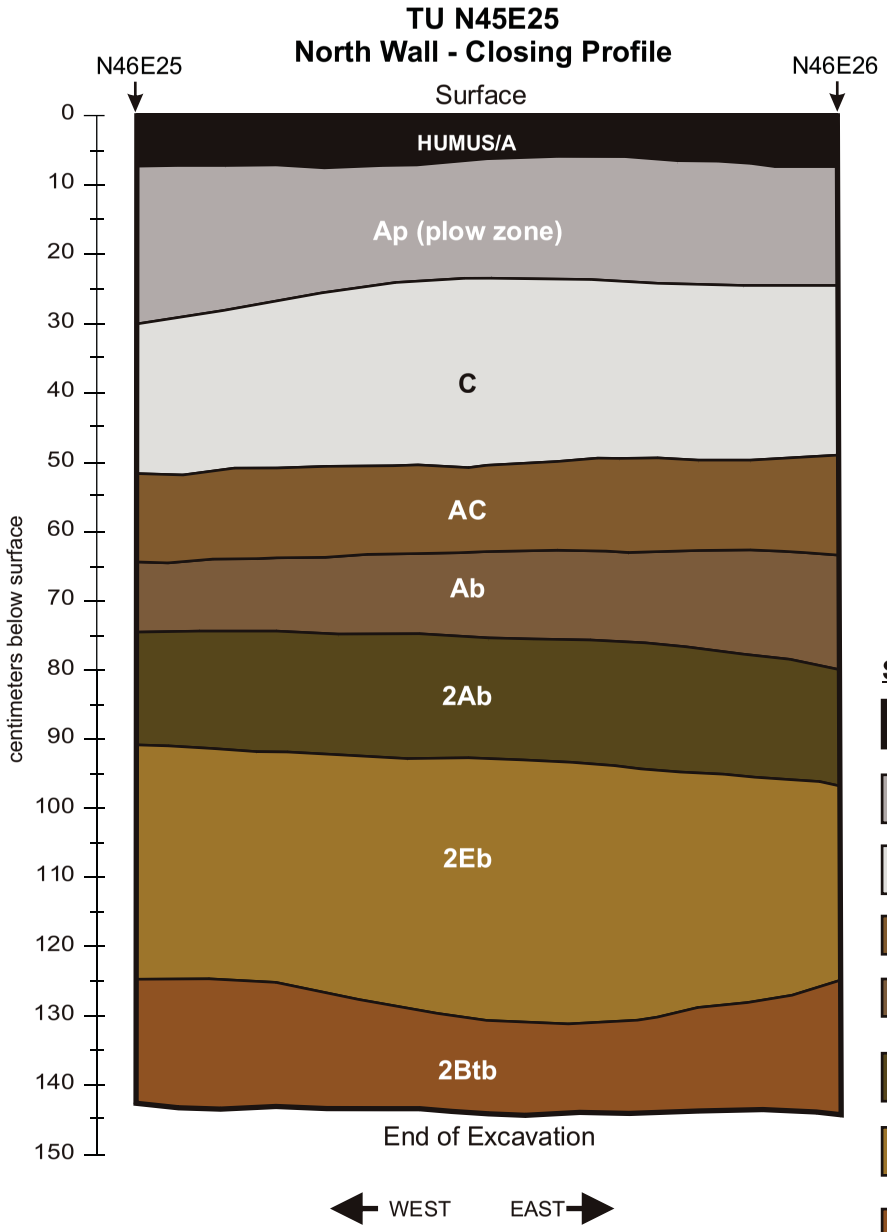
SUBSOIL: 2BEb Horizon
Medium yellow-brown to light strong brown (10YR 6/6) fine-grained sandy loam.

SUBSOIL: 2Btb1 Horizon
Yellow-brown to orange-brown (10YR 5/8), moderately compacted silty clay loam. Has a “sticky” consistency.

SUBSOIL: 2Btb2 Horizon
Orange-brown (10YR 6/8) very compact, silty clay loam mottled with grey and yellow-brown (10YR 5/4) clayey loam.

18Cv491, TU N44E15
East Wall, Closing Profile

FIGURE 30



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM: Plow Zone (Ap Horizon)
Brown to dark yellow brown fine sandy loam (10YR 4/3 - 10YR 4/4).

COLLUVIUM: C Horizon
Dark yellow-brownfine sandy loam. (10YR 4/6).

COLLUVIUM: AC Horizon
Dark yellow-brown to brown (10YR 4/4 - 10YR 4/3) fine sandy loam.

COLLUVIUM: Ab Horizon
Brown (10YR 4/3) fine sandy loam.

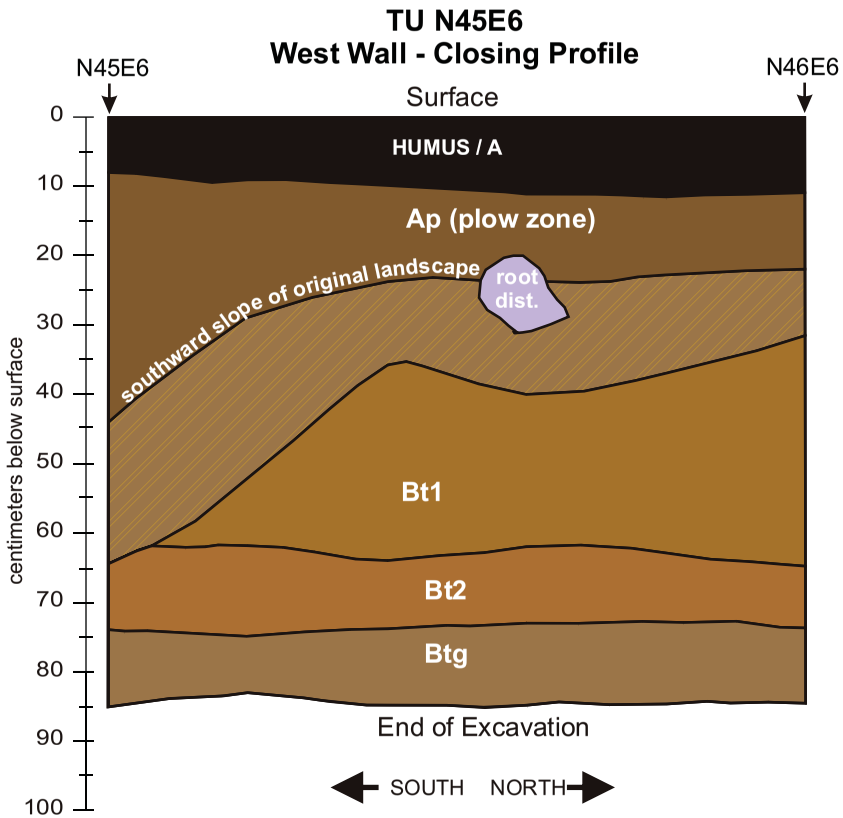
ORIGINAL SURFACE: 2Ab Horizon
Very dark grey-brown (10YR3/2) loam. Was likely buried before plowing.

SUBSOIL: 2Eb Horizon
Light olive-brown (2.5Y 5/5) very fine sandy loam.

SUBSOIL: 2Bt Horizon
Strong brown to yellow-brown/orange brown (7.5YR 4/6) loam. Becomes more red, clayey and more compact with depth.

18Cv491, TU N45E25
North Wall, Closing Profile

FIGURE 31



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 4/2).

Plow Zone (Ap Horizon)
Medium brown to dark brown (10YR 4/4) sandy loam. Becomes mottled with depth.

Transitional Horizon (BE Horizon)
Medium brown to yellow-brown sandy loam. Horizon is a mix of overlying and underlying horizons and moderately compacted. Heavily mottled with yellow-brown and orange-brown sandy loam.

SUBSOIL: Bt1 Horizon
Dark yellow-brown to orange-brown (10YR 5/4 - 10YR 5/6) medium- to fine-grained sandy loam.

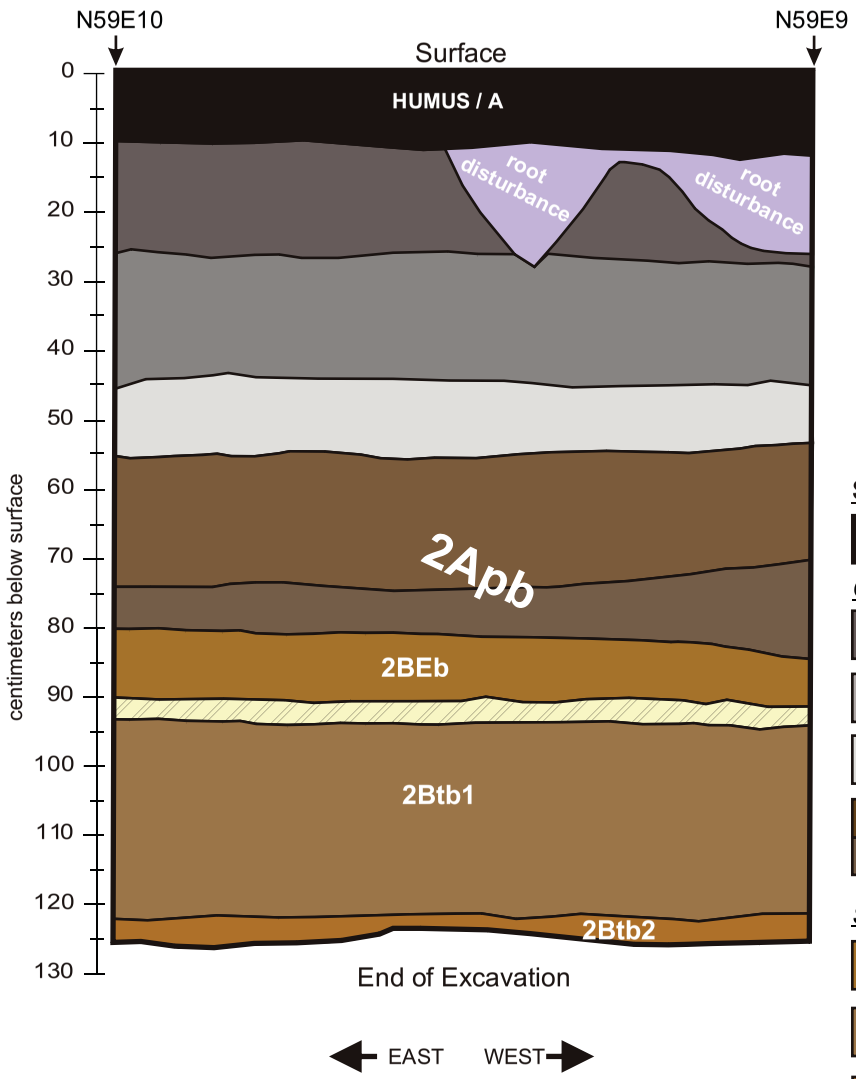
SUBSOIL: Bt2 Horizon
Orange-brown to yellow-brown (7.5YR 5/8) silty clay loam. Moderately compacted. Contains various grey-brown and grey mottles and concretions.

SUBSOIL: Btg Horizon
Grey-brown to yellow-brown (10YR 5/4) loosely compacted, medium-grained sandy loam. Clay content increases with depth.

18Cv491, TU N45E6
West Wall, Closing Profile

FIGURE 32

TU N59E9
South Wall - Closing Profile



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark brown sandy loam (10YR 3/2). Heavy root-disturbance.

COLLUVIUM

Medium yellow-brown to medium brown fine sandy loam (10YR 4/6 - 10YR 5/6).

Medium yellow-brown to light brown (10YR 4/4 - 10YR 4/6) coarse-grained sandy loam.

Medium brown to light brown (10YR 4/4 -10YR 4/6) fine- to medium-grained sandy loam.

2Apb — **BURIED PLOW ZONE: 2Apb Horizon**
Dark brown to dark gray-brown brown (10YR 3/4 - 4/3) fine sandy loam. Lower portion of buried plow zone (10YR 4/3) is more organic than upper portion.

SUBSOIL: B Horizons

2BEb — Strong brown/orange-brown to dark brown (10YR 5/4 - 5/6) sandy loam. Mottled with orange-brown and red-brown (7.5YR 5/6) sandy loam.

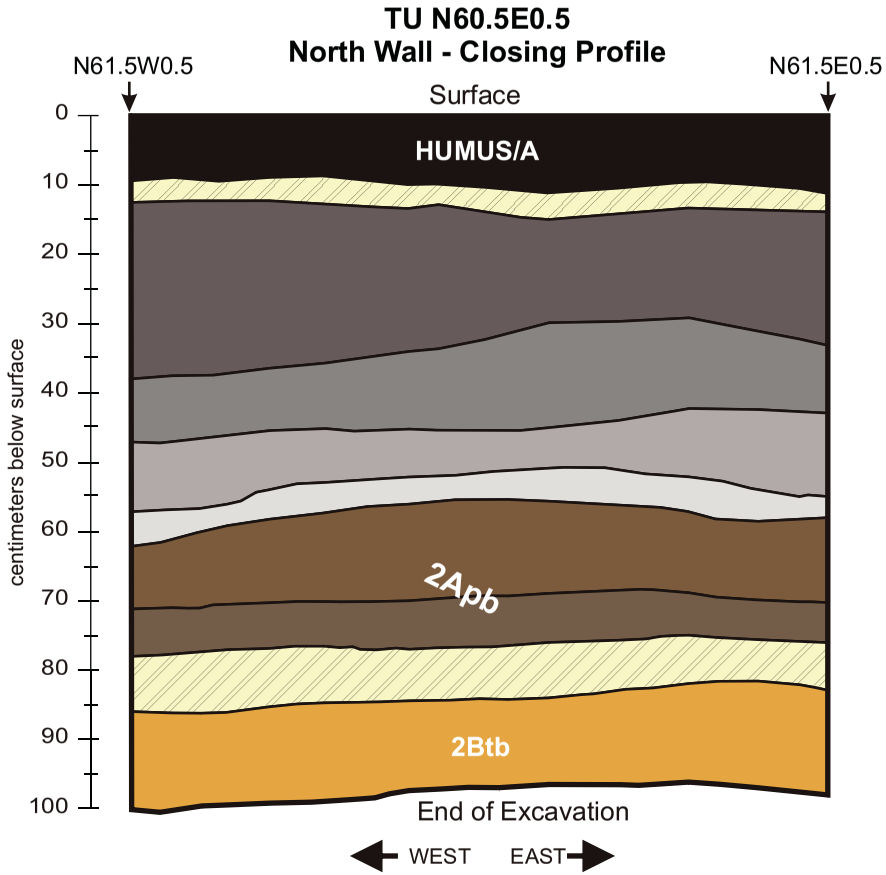
2Btb1 — Light yellow-brown to light grey-brown/white (10YR 5/4) sandy loam. Becomes more orange-brown and compacted with depth.

2Btb2 — Medium brown to strong-brown (10YR 5/8) compacted clay loam.

TRANSITIONAL HORIZON

18Cv491, TU N59E9
South Wall, Closing Profile

FIGURE 33



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown loam (10YR 3/2).

COLLUVIUM

Medium yellow-brown to medium brown fine sandy loam (10YR 4/3 - 10YR 4/4).

Medium yellow-brown to light brown (10YR 4/4 - 10YR 4/6) sandy loam. Sand is fine to medium-grained.

Medium yellow-brown to light brown (10YR 4/4 -10YR 4/6) fine sandy loam. Similar in color to overlying soil, but notably heavier (more "sticky"). High organic content and slightly mottled with light brown and yellow sandy loam.

Medium yellow-brown to light brown (10YR 4/4 -10YR 4/6), very mottled, fine sandy loam.

2Apb

BURIED PLOW ZONE: 2Apb Horizon
Dark brown to dark gray-brown brown (10YR 4/3 - 4/2) fine sandy loam. Lower portion of buried plow zone has a higher organic content than upper portion.

TRANSITIONAL HORIZON

SUBSOIL: 2Btb Horizon
Light yellow-brown to slightly light grey-brown (10YR 7/8) very fine, compacted sandy loam.

18Cv491, TU N60.5E0.5
North Wall, Closing Profile

FIGURE 34

2. Zone 1B

In areas capped with a colluvial mantle, Zone 1B corresponds to the buried plow zone (2Apb)/original surface (2Ab) horizon. In the southernmost portions of the site that are devoid of a slopewash mantle (from transect N24 southward), this zone corresponds to the lower depths of the plow zone (Ap) horizon, specifically the approximate five centimeters above the truncated, intact subsoil. This portion of the plow zone was usually discernable by a noted change in color and increase in organic content.

Although vertical and horizontal mixing of prehistoric cultural material has occurred in areas that have been plowed, the migration of artifacts in the lower depths of the buried plow zone has been somewhat less due to a combination of a rapid accumulation of slopewash and a brief history of tillage, which was performed via human/animal power. Zone 1B was most often excavated in its entirety as a single 1m x 1m excavation level; however, 0.5m quadrant excavations were occasionally implemented depending on observed artifact densities. Excavation of Zone 1B in 0.5m quadrants was also performed as precautionary measure when 1) it was suspected that the past plowing had not occurred (i.e. TU N45E25); 2) irregularities in the thickness of the buried plow zone were noted; or 3) the presence of a transitional horizon between Zone 1B and Zone 2 was encountered/suspected.

A total of 570 artifacts were recovered from Zone 1B.

3. Zone 2

Zone 2 corresponds to the first 10 centimeters of the natural subsoil horizon beneath the buried plow zone (2Apb)/original surface (2Ab) horizon. In the core area of the site, Zone 2 corresponds with a 2BEb Horizon. North and south of the site core, Zone 2 corresponds with a 2Eb horizon and a BE horizon, respectively. Zone 2 was uniformly excavated in 50cm quadrants across the site as a 10-cm excavation level (i.e. 0.5m quadrants within units).

A total of 813 artifacts were recovered from Zone 2.

4. Zone 3

Zone 3 is the second 10 centimeters of the original subsoil horizon, specifically 10cm - 20cm below Zone 1B (2Apb/2Ab). In the core area of the site, Zone 3 corresponds with a 2Btb1 Horizon. North and south of the site core, Zone 3 corresponds with the lower depths of the 2Eb horizon and a Bt horizon, respectively. Zone 3 was excavated in 50cm quadrants as a single 10-cm excavation level across the site.

A total of 233 artifacts were recovered from Zone 3.

5. Zone 4

Zone 4 corresponds to the remainder of the soil profile excavated below Zone 3, specifically depths of 20+ centimeters beneath buried plow zone (Zone 1B). Zone 4 marks the vertical approach towards cultural sterile subsoil. Substantial decreases in artifact content were noted between 25 and 30 centimeters below Zone 1B. The deposition of most of the artifacts recovered from the Zone 4 excavation levels can be attributed to bioturbation, especially those recovered 30 centimeters or deeper below Zone 1B. Zone 4 was removed in arbitrary

10-centimeter excavation levels in 50cm quadrants. Excavations of Zone 4 were terminated after the removal of two culturally sterile levels.

A total of 115 artifacts were recovered from Zone 4.

C. General Summary of Artifact Recovery

As a means for organizing the discussion and minimizing redundancy throughout the report, the following discussion presents general overviews of the artifact assemblages. Detailed discussions pertaining to area-, type-, and temporal-specific distributions, as well as the implications of these distributions in regard to site use and function, are presented in later sections of this document.

The purpose of this section is to provide the reader with basic information about the artifact yields of the four stratigraphic zones within Block 1, Block 2, and amongst the peripheral sample units.

The vertical and general horizontal distributions of the 2,144 prehistoric artifacts recovered from 18Cv491 are summarized and depicted in various formats in **Tables 7-9,** and in **Figures 19, 35, 36, 37, and 38**. Summary artifact catalogs for individual test locations are provided in **Tables 10-12**.

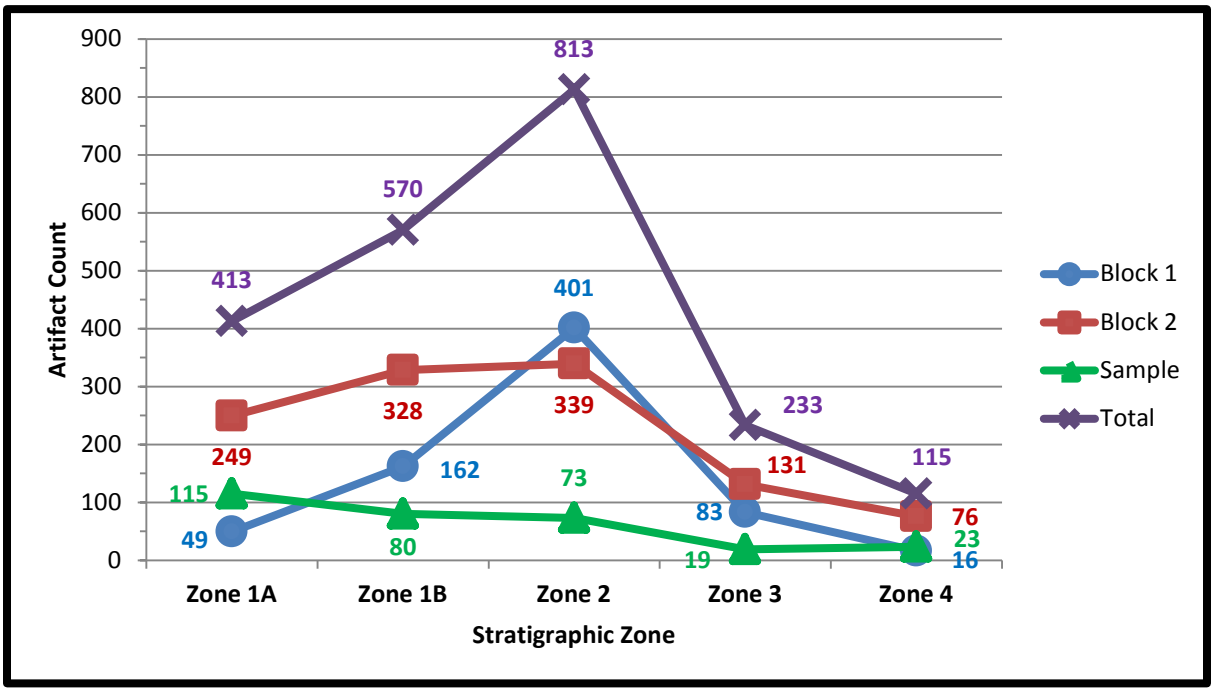


Figure 35: 18Cv491, Composite Summary of Artifact Distribution by Zone

Table 7:
18Cv491 - Summary of Vertical Distribution of Artifacts

All Areas		Sum	%	
plow disturbed	Zone 1A: colluvial mantle (and youngest plow zone)	413	19.26%	*45.85%*
	Zone 1B: buried plow zone/surface	570	26.59%	
intact subsoil	Zone 2: 0cm -10cm below buried plow zone/surface	813	37.92%	*54.15%*
	Zone 3: 10cm -20cm below buried plow zone/surface	233	10.87%	
	Zone 4: 20+ cm below buried plow zone/surface	115	5.36%	
	Sum	**2144**	100.00%	

Block 1 (Feature B)		Sum	%	
plow disturbed	Zone 1A: colluvial mantle (and youngest plow zone)	49	6.89%	*29.68%*
	Zone 1B: buried plow zone/surface	162	22.78%	
intact subsoil	Zone 2: 0cm -10cm below buried plow zone/surface	401	56.40%	*70.32%*
	Zone 3: 10cm -20cm below buried plow zone/surface	83	11.67%	
	Zone 4: 20+ cm below buried plow zone/surface	16	2.25%	
	Sum	**711**	100.00%	

Block 2 (Feature A)		Sum	%	
plow disturbed	Zone 1A: colluvial mantle (and youngest plow zone)	249	22.17%	*51.38%*
	Zone 1B: buried plow zone/surface	328	29.21%	
intact subsoil	Zone 2: 0cm -10cm below buried plow zone/surface	339	30.19%	*48.62%*
	Zone 3: 10cm -20cm below buried plow zone/surface	131	11.67%	
	Zone 4: 20+ cm below buried plow zone/surface	76	6.77%	
	Sum	**1123**	100.00%	

Sample Units		Sum	%	
plow disturbed	Zone 1A: colluvial mantle (and youngest plow zone)	115	37.10%	*62.90%*
	Zone 1B: buried plow zone/surface	80	25.81%	
intact subsoil	Zone 2: 0cm -10cm below buried plow zone/surface	73	23.55%	*37.10%*
	Zone 3: 10cm -20cm below buried plow zone/surface	19	6.13%	
	Zone 4: 20+ cm below buried plow zone/surface	23	7.42%	
	Sum	**310**	100.00%	

Table 8:
18Cv491 - Summary of Vertical Distribution of Artifacts by Provenience

Provenience	Zone 1A	Zone 1B	Zone 2	Zone 3	Zone 4	TOTAL
Block 2						
TU 1	10	6	2			**18**
TU 2	12	7	2	2		**23**
TU 3	16	2	5	3		**26**
TU 4	7	3	4	3	1	**18**
TU 5/N34 E15	9	19	8	6	4	**46**
TU 6	16	15	45	40	8	**124**
TU 7	9	14	5	3		**31**
TU 8	19	56	68	21	8	**172**
TU 9	21	29	84	18	17	**169**
TU 10	11	2	4	1		**18**
TU 11	8	33	47	6	6	**100**
TU 12	10	11	9	4	3	**37**
TU 13	2	51	12	10	10	**85**
TU 14	7	22	10	7	8	**54**
TU 15	23	40	21	4	3	**91**
TU 16	69	18	13	3	8	**111**
Block 1						
N29 E19	6	32	114	12		**164**
N29 E20	13	60	78	14		**165**
N30 E19	15	20	105	12		**152**
N30 E20 STP	5	9				**14**
N30 E20	6	35	104	45	16	**206**
Floor Scraping/Clean-Up	4	6				**10**
Sample Units						
N20 E20 STP		1				**1**
N24 E15	38		4	8		**50**
N24 E5	10	12	15	1	5	**43**
N25 E24	15	9	5			**29**
N30 E0 STP	2					**2**
N30 E10 STP	2					**2**
N30 E30 STP		1				**1**
N34 E24	7	33	14	1	1	**56**
N35 E5	12	10	5			**27**
N40 E0 STP	1					**1**
N40 E10 STP		3				**3**
N40 E20 STP		1				**1**
N44 E15	7	8	9	1		**25**
N45 E25	5	2	4	2	4	**17**
N45 E6	8		13	6	12	**39**
N50 E30 STP	1					**1**
N59 E9	4		1			**5**
N60 E0 STP	1					**1**
N60 E10 STP	2					**2**
N60.5 E0.5			3		1	**4**
TOTAL	**413**	**570**	**813**	**233**	**115**	**2144**

Table 9:

18Cv491 - Summary Artifact Catalog by Section and Stratigraphic Zone

	Zone 1A				Zone 1B				Zone 2				Zone 3				Zone 4				
	Horizons above Buried Plow Zone				Buried Plow Zone				0cm - 10cm below Buried Plow Zone				10cm - 20cm below buried Plow Zone				20cm+ below buried Plow Zone				
ARTIFACTS	Block 1	Block 2	Sample Units	Subtotal	Block 1	Block 2	Sample Units	Subtotal	Block 1	Block 2	Sample Units	Subtotal	Block 1	Block 2	Sample Units	Subtotal	Block 1	Block 2	Sample Units	Subtotal	**TOTAL**
Lithic Artifacts (Chipped Stone)																					
Flakes	36	154	66	*256*	133	209	49	*391*	338	246	40	*624*	73	103	7	*183*	10	63	11	*84*	**1538**
Utilized Flakes	3	37	24	*64*	8	52	13	*73*	18	28	18	*64*	1	15	7	*23*	2	3	7	*12*	**236**
Flake Tools		4	7	*11*	2	12	3	*17*	4	7	2	*13*	2	1	2	*5*		1	1	*2*	**48**
Misc. Chipped Stone Tools		2	2	*4*	1	4	1	*6*		3	2	*5*				*0*			1	*1*	**16**
Projectile Points - diagnostic	1	4	2	*7*	1	3		*4*	1	1		*2*				*0*		1	1	*2*	**15**
Point Fragments - non-diagnostic		2	1	*3*		3	1	*4*	1	2	1	*4*	1	2		*3*		2		*2*	**16**
Early Stage Biface Reject	1	4	3	*8*		5	3	*8*	1	2		*3*				*0*			1	*1*	**20**
Late Stage Biface Reject				*0*				*0*	1	1		*2*				*0*				*0*	**2**
Biface Fragments	2	4	3	*9*	3	2	2	*7*	6	2	1	*9*		2	2	*4*		2		*2*	**31**
Worked Stone/Tested Cobble	1	2		*3*	1	1		*2*	1	2		*3*				*0*				*0*	**8**
Cores/Core Fragments		1	1	*2*	1		1	*2*	1	1		*2*				*0*	1		1	*2*	**8**
Shatter	1	3		*4*	2	8	1	*11*	8	10	3	*21*	2	4	1	*7*		2		*2*	**45**
Other Stone Artifacts																					
Hammerstone		1		*1*				*0*		2		*2*	1	1		*2*				*0*	**5**
Fire-Cracked Rock - Count	2	24	6	*32*	7	28	6	*41*	16	32	4	*52*	3	1		*4*	3	2		*5*	**134**
Cortex Spall/Possible Flake		7		*7*				*0*				*0*				*0*				*0*	**7**
Cobble Tool	1			*1*				*0*				*0*				*0*				*0*	**1**
Cobble/Cobble Fragment				*0*				*0*	1		2	*3*				*0*				*0*	**3**
Slate Fragment				*0*	3	1		*4*				*0*				*0*				*0*	**4**
Ceramic																					
Ceramic -steatite/soapstone - Marcey Creek				*0*				*0*	1			*1*				*0*				*0*	**1**
Ceramic - shell/grit -Sullivan Cove	1			*1*				*0*				*0*				*0*				*0*	**1**
Ceramic - crushed quartz/grit - Accokeek				*0*				*0*	3			*3*				*0*				*0*	**3**
Ecofacts																					
Bone				*0*				*0*				*0*		2		*2*				*0*	**2**
Shell Fragment				*0*				*0*				*0*				*0*				*0*	**0**
TOTAL	**49**	**249**	**115**	***413***	**162**	**328**	**80**	***570***	**401**	**339**	**73**	***813***	**83**	**131**	**19**	***233***	**16**	**76**	**23**	***115***	**2144**

Table 10:

18Cv491 - Summary Artifact Catalog of Block 1 by Provenience

ARTIFACTS	N29 E19	N29 E20	N30 E19	N30 E20 STP	N30 E20	Floor Scraping/ Clean-Up	TOTAL
Lithic Artifacts (Chipped Stone)							
Flakes	148	137	118	13	169	5	**590**
Utilized Flakes	4	9	7		7	5	**32**
Flake Tools		2	2		4		**8**
Misc. Chipped Stone Tools			1				**1**
Projectile Points - diagnostic			3				**3**
Point Fragments - non-diagnostic	1				1		**2**
Early Stage Biface Reject			1		1		**2**
Late Stage Biface Reject	1						**1**
Biface Fragments	2	4	1		4		**11**
Worked Stone/Tested Cobble		2		1			**3**
Cores/Core Fragments	1		1		1		**3**
Shatter	2	6	1		4		**13**
Other Stone Artifacts							
Hammerstone			1				**1**
Fire-Cracked Rock - Count	2	4	11		14		**31**
Cortex Spall/Possible Flake							**0**
Cobble Tool		1					**1**
Cobble/Cobble Fragment			1				**1**
Slate Fragment	3						**3**
Ceramic							
Ceramic -steatite/soapstone - Marcey Creek					1		**1**
Ceramic - shell/grit -Sullivan Cove			1				**1**
Ceramic - crushed quartz/grit - Accokeek			3				**3**
Ecofacts							
Bone							**0**
Shell Fragment							**0**
TOTAL	**164**	**165**	**152**	**14**	**206**	**10**	**711**

Table 11:

18Cv491 - Summary Artifact Catalog of Block 2 by Provenience

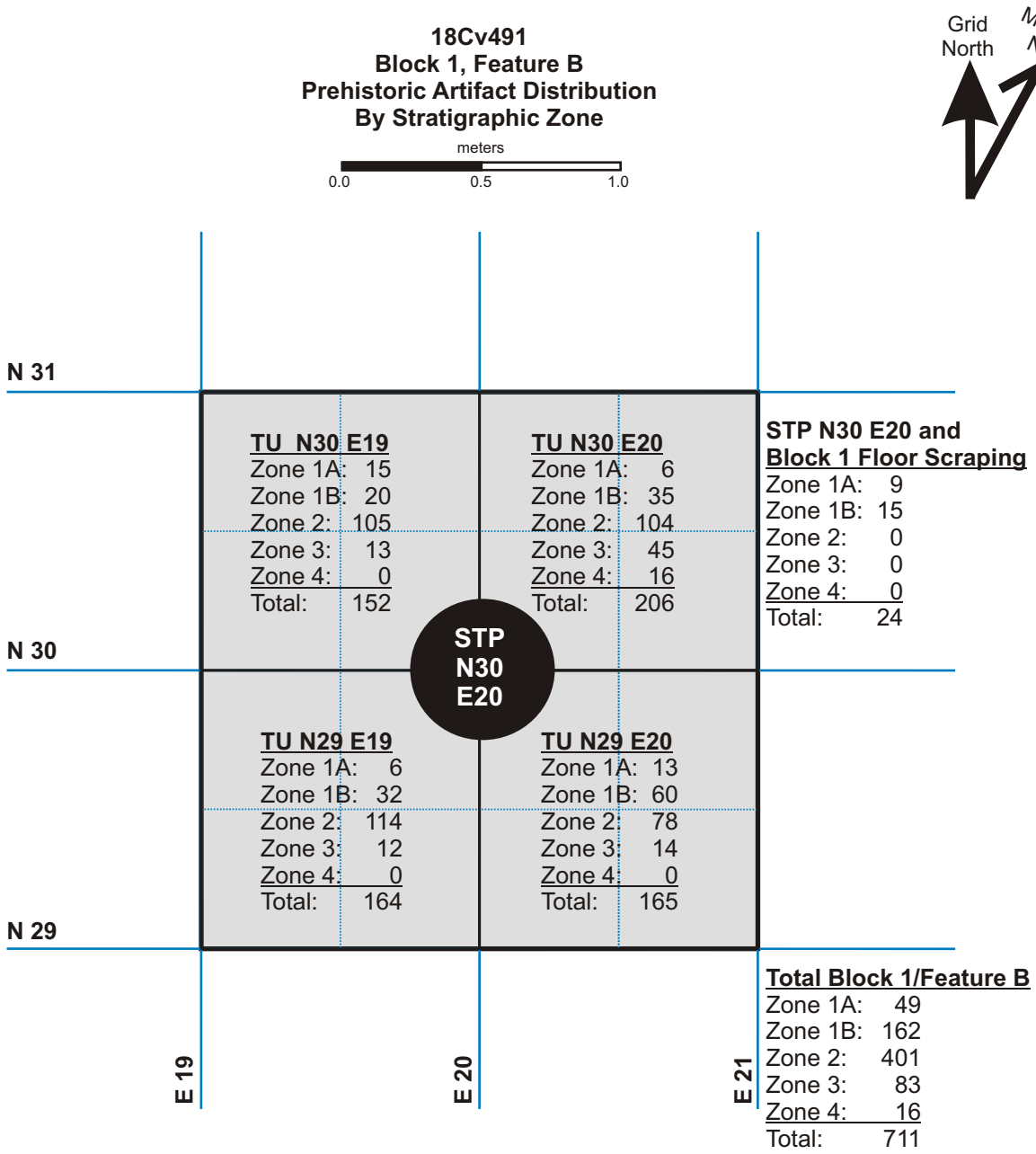
ARTIFACTS	TU 1	TU 2	TU 3	TU 4	TU 5/ N34 E15	TU 6	TU 7	TU 8	TU 9	TU 10	TU 11	TU 12	TU 13	TU 14	TU 15	TU 16	TOTAL
Lithic Artifacts (Chipped Stone)																	
Flakes	13	13	17	11	31	84	18	123	122	14	79	24	57	37	64	68	**775**
Utilized Flakes	2	7	3	2		16	6	18	19	3	7	5	14	8	13	12	**135**
Flake Tools						1	1	5	1		2		3		5	7	**25**
Misc. Chipped Stone Tools				2		1		1	1			2			2		**9**
Projectile Points - diagnostic				1		1		2	1				1	1	1	1	**9**
Point Fragments - non-diagnostic	1					1		3	2			1	1		1	1	**11**
Early Stage Biface Reject					1			1	3		1		1	1	1	2	**11**
Late Stage Biface Reject											1						**1**
Biface Fragments			1				1	2	2		2	2				2	**12**
Worked Stone/Tested Cobble		1	1		1		2										**5**
Cores/Core Fragments							1		1								**2**
Shatter		2	1			13		2	3			1	5				**27**
Other Stone Artifacts																	
Hammerstone	2											1	1				**4**
Fire-Cracked Rock - Count			3		13	7	2	15	14	1	8	1	2	7	3	11	**87**
Cortex Spall/Possible Flake																7	**7**
Cobble Tool																	**0**
Cobble/Cobble Fragment																	**0**
Slate Fragment															1		**1**
Ceramic																	
Ceramic -steatite/soapstone - Marcey Creek																	**0**
Ceramic - shell/grit -Sullivan Cove																	**0**
Ceramic - crushed quartz/grit - Accokeek																	**0**
Ecofacts																	
Bone				2													**2**
Shell Fragment																	**0**
TOTAL	**18**	**23**	**26**	**18**	**46**	**124**	**31**	**172**	**169**	**18**	**100**	**37**	**85**	**54**	**91**	**111**	**1123**

Table 12:

18Cv491 - Summary Artifact Catalog of Sample Units by Provenience

ARTIFACTS	N20 E20 STP	N24 E15	N24 E5	N25 E24	N30 E0 STP	N30 E10 STP	N30 E30 STP	N34 E24	N35 E5	N40 E0 STP	N40 E10 STP	N40 E20 STP	N44 E15	N45 E25	N45 E6	N50 E30 STP	N59 E9	N60 E0 STP	N60 E10 STP	N60.5 E0.5	TOTAL
Lithic Artifacts (Chipped Stone)																					
Flakes	1	31	20	14	2	2	1	38	9	1	3	1	15	9	21	1	1	1	2		**173**
Utilized Flakes		6	8	12				3	12				7	4	13		3			1	**69**
Flake Tools		2	3	1				1	2				1	1	4						**15**
Misc. Chipped Stone Tools			1	1				3							1						**6**
Projectile Points - diagnostic			1					1									1				**3**
Point Fragments - non-diagnostic		1	1					1													**3**
Early Stage Biface Reject			3					3						1							**7**
Late Stage Biface Reject																					**0**
Biface Fragments		3		1				1	2											1	**8**
Worked Stone/Tested Cobble																					**0**
Cores/Core Fragments		1	1											1							**3**
Shatter		1	2					1	1												**5**
Other Stone Artifacts																					
Hammerstone																					**0**
Fire-Cracked Rock - Count		4	3					4					2	1						2	**16**
Cortex Spall/Possible Flake																					**0**
Cobble Tool																					**0**
Cobble/Cobble Fragment		1							1												**2**
Slate Fragment																					**0**
Ceramic																					
Ceramic -steatite/soapstone - Marcey Creek																					**0**
Ceramic - shell/grit -Sullivan Cove																					**0**
Ceramic - crushed quartz/grit - Accokeek																					**0**
Ecofacts																					
Bone																					**0**
Shell Fragment																					**0**
TOTAL	**1**	**50**	**43**	**29**	**2**	**2**	**1**	**56**	**27**	**1**	**3**	**1**	**25**	**17**	**39**	**1**	**5**	**1**	**2**	**4**	**310**

18Cv491
Block 1, Feature B
Prehistoric Artifact Distribution
By Stratigraphic Zone



Phase III Stratigraphic Zones

Zone 1A = Horizons Above Buried Plow Zone

Zone 1B = Buried Plow Zone

Zone 2 = 0 - 10cm Below Buried Plow Zone

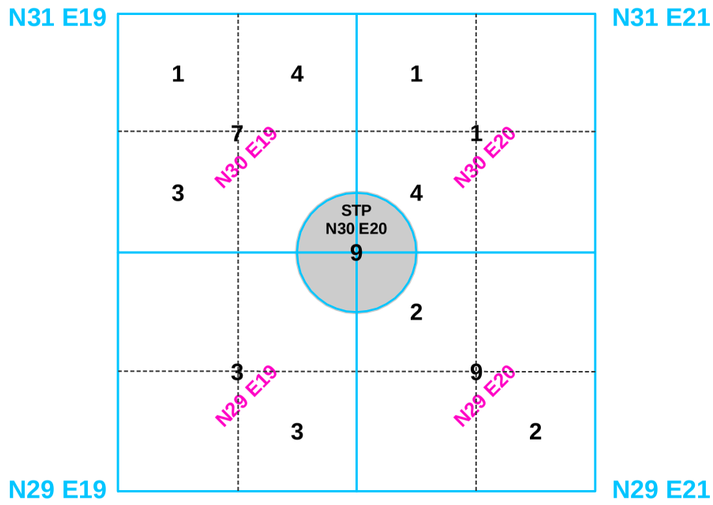
Zone 3 = 10 - 20cm Below Buried Plow Zone

Zone 4 = 20+ cm Below Buried Plow Zone

18Cv491 - Block 1/Feature B
Stratigraphic Distribution
of Prehistoric Artifacts

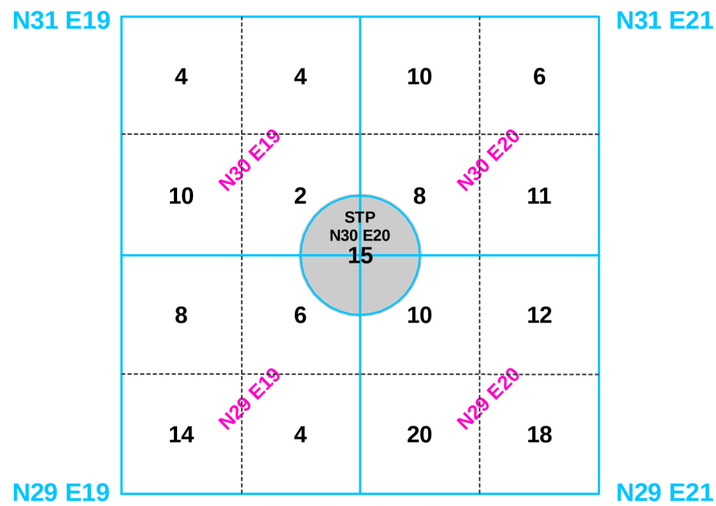
FIGURE 36

Block 1, Feature B
Artifact Distribution
Zone 1A: horizons above buried plow zone (above 2Apb)



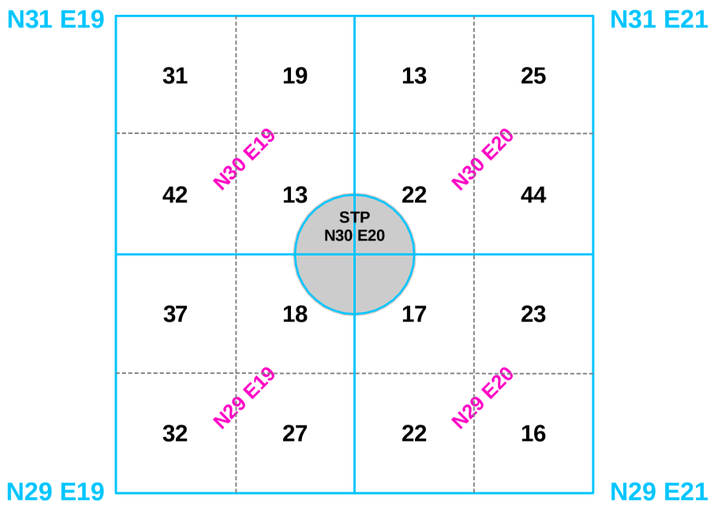
All Prehistoric Artifacts

Block 1, Feature B
Artifact Distribution
Zone 1B: buried plow zone (2Apb)



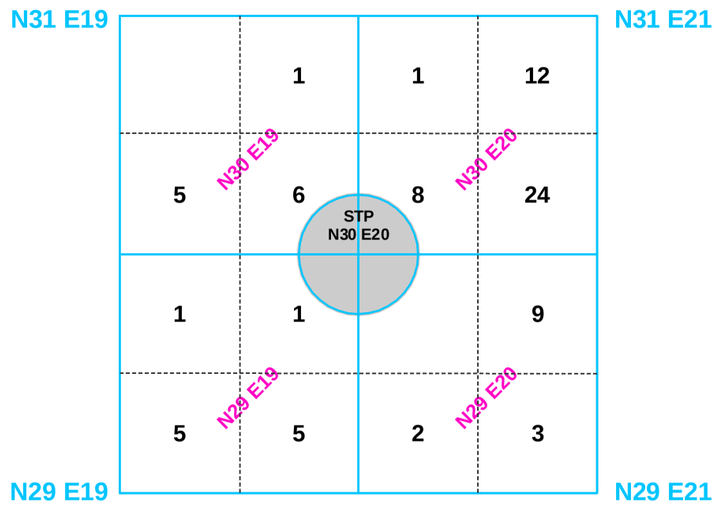
All Prehistoric Artifacts

Block 1, Feature B
Artifact Distribution - Subsoil
Zone 2: 0 cm - 10 cm below 2Apb Horizon

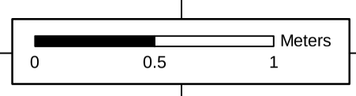


All Prehistoric Artifacts

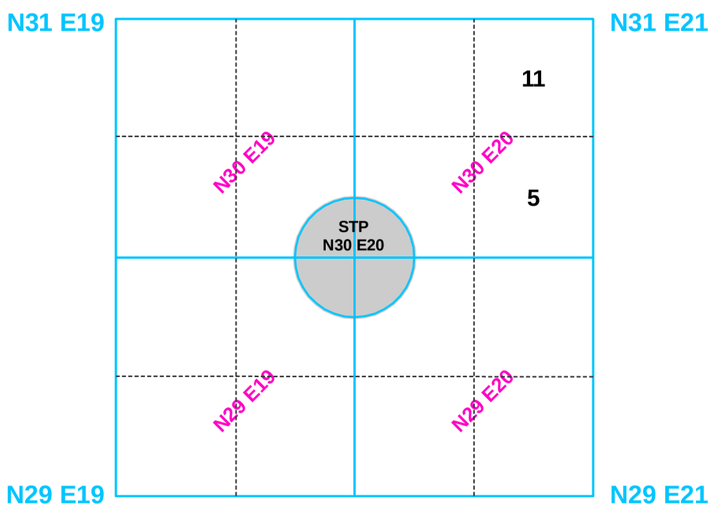
Block 1, Feature B
Artifact Distribution - Subsoil
Zone 3: 10 cm - 20 cm below 2Apb Horizon



All Prehistoric Artifacts

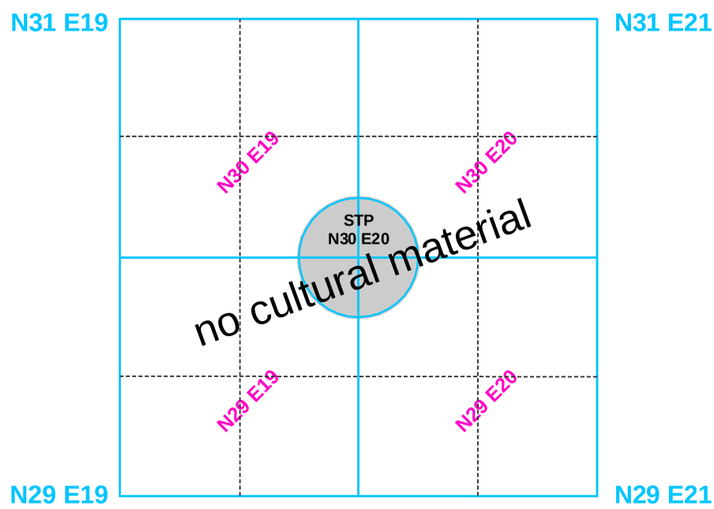


Block 1, Feature B
Artifact Distribution - Subsoil
Zone 4A: 20 cm - 30 cm below 2Apb Horizon



All Prehistoric Artifacts

Block 1, Feature B
Artifact Distribution - Subsoil
Zone 4: 30+ cm below 2Apb Horizon



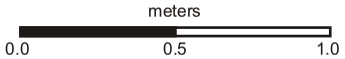
All Prehistoric Artifacts

Note:: Quantities shown in center of Block were recovered from STP N30 E20 and from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 1, Feature B
Artifact Distribution Map by Zone

FIGURE 37

18Cv491
Block 2, Feature A
Prehistoric Artifact Distribution
By Stratigraphic Zone



1

TU 1 (N35E14)

Zone 1A:	10
Zone 1B:	6
Zone 2:	2
Zone 3:	0
Zone 4:	0
Total:	18

2

TU 2 (N35E15)

Zone 1A:	12
Zone 1B:	7
Zone 2:	2
Zone 3:	2
Zone 4:	0
Total:	23

3

TU 3 (N35E16)

Zone 1A:	16
Zone 1B:	2
Zone 2:	5
Zone 3:	3
Zone 4:	0
Total:	26

10

TU 10 (N34E13)

Zone 1A:	11
Zone 1B:	2
Zone 2:	4
Zone 3:	1
Zone 4:	0
Total:	18

4

TU 4 (N34E14)

Zone 1A:	7
Zone 1B:	3
Zone 2:	4
Zone 3:	3
Zone 4:	1
Total:	18

5

TU 5 (N34E15)

Zone 1A:	9
Zone 1B:	19
Zone 2:	8
Zone 3:	6
Zone 4:	4
Total:	46

6

TU 6 (N34E16)

Zone 1A:	16
Zone 1B:	15
Zone 2:	45
Zone 3:	40
Zone 4:	8
Total:	124

16

TU 16 (N34E17)

Zone 1A:	69
Zone 1B:	18
Zone 2:	13
Zone 3:	3
Zone 4:	8
Total:	111

12

TU 12 (N33E13)

Zone 1A:	10
Zone 1B:	11
Zone 2:	9
Zone 3:	4
Zone 4:	3
Total:	37

7

TU 7 (N33E14)

Zone 1A:	9
Zone 1B:	14
Zone 2:	5
Zone 3:	3
Zone 4:	0
Total:	31

8

TU 8 (N33E15)

Zone 1A:	19
Zone 1B:	56
Zone 2:	68
Zone 3:	21
Zone 4:	8
Total:	172

9

TU 9 (N33E16)

Zone 1A:	21
Zone 1B:	29
Zone 2:	84
Zone 3:	18
Zone 4:	17
Total:	169

14

TU 14 (N33E17)

Zone 1A:	7
Zone 1B:	22
Zone 2:	10
Zone 3:	7
Zone 4:	8
Total:	54

13

TU 13 (N32E15)

Zone 1A:	2
Zone 1B:	51
Zone 2:	12
Zone 3:	10
Zone 4:	10
Total:	85

11

TU 11(N32E16)

Zone 1A:	8
Zone 1B:	33
Zone 2:	47
Zone 3:	6
Zone 4:	6
Total:	100

15

TU 15 (N32E17)

Zone 1A:	23
Zone 1B:	40
Zone 2:	21
Zone 3:	4
Zone 4:	3
Total:	91

Block 2/Feature A

Zone 1A:	249
Zone 1B:	328
Zone 2:	339
Zone 3:	131
Zone 4:	76
Total:	1123

Phase III Stratigraphic Zones

Zone 1A = Horizons Above Buried Plow Zone

Zone 1B = Buried Plow Zone

Zone 2 = 0 - 10cm Below Buried Plow Zone

Zone 3 = 10 - 20cm Below Buried Plow Zone

Zone 4 = 20+ cm Below Buried Plow Zone

18Cv491, Block 2 Stratigraphic Distribution of Prehistoric Artifacts

FIGURE 38

1. Summary of Zone 1A and Zone 1B Artifact Recovery

Slightly less than half of the total assemblage, 983 artifacts (45.85%), were recovered from the plowed and/or historically disturbed stratigraphic contexts of Zone 1A (slopewash mantle) and Zone 1B (2Apb/2Ab Horizon). Zone 1A and Zone 1B yielded 413 and 570 artifacts, respectively (**Table 7 – Table 9**). The Zone 1A and Zone 1B assemblages comprise 19.26% and 26.59% of the total 18Cv491 assemblage, respectively.

The majority of the Zone 1A assemblage was recovered from the lower substrata of this zone, a circumstance that is easily explained by simply recognizing that most of the slopewash that constitutes Zone 1A lies well above, and isolated from, the pre-Contact era surface. In this regard, the Zone 1A assemblage is essentially an extracted subset of Zone 1B.

While the lack of artifacts in the upper portions of Zone 1A does not completely dismiss post-depositional migration of artifacts to, across, and from the site, it does:

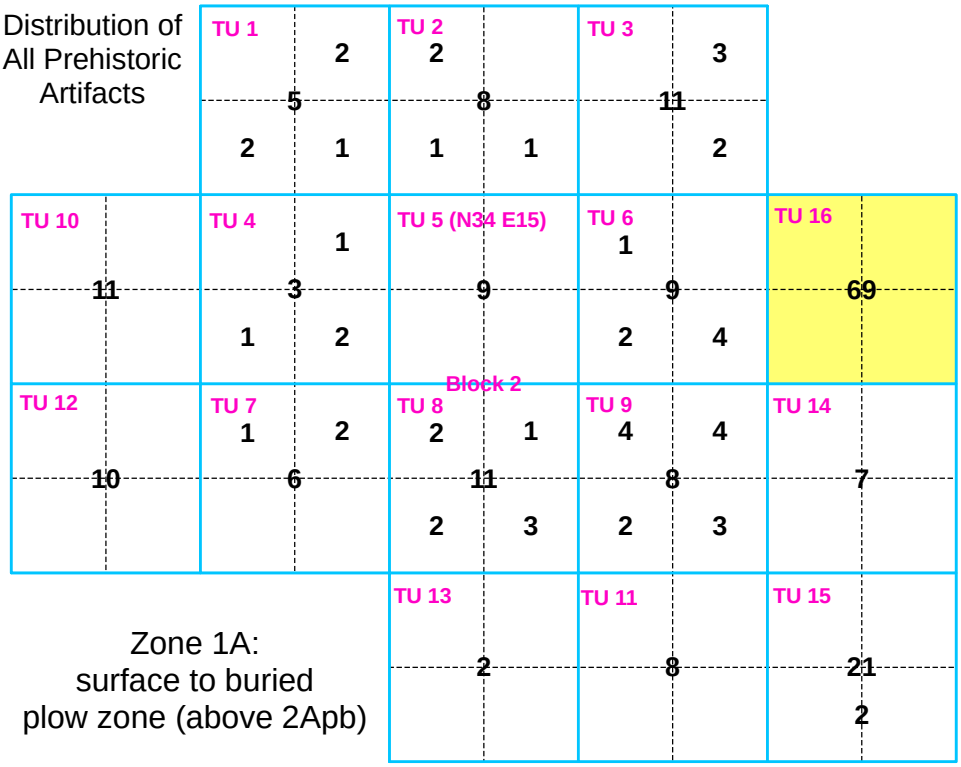
- provide archeological validation of the geoarcheological results noting that the 2Apb/2Ab surface was subjected to only limited plowing prior to rapid/deep burial (Wagner 2013);
- imply that the overall post-depositional vertical and horizontal displacement of cultural material via colluvial forces or historic plowing within Zone 1B has been minimal and;
- imply that horizontal artifact patterns reflected in the buried plow zone (2Apb, Zone 1B) can be regarded with higher levels of confidence than that which is generally afforded to more "traditional plow zone" assemblages.

Zone 1A – Zone 1B artifact distributions vary amongst and within the excavation areas.

In Block 1, excavations encountered a substantial increase in artifact content from Zone 1A to Zone 1B. Zone 1B yielded 162 artifacts, over three times the amount of the 49 artifacts that were collected from the overlying Zone 1A. All four test units of Block 1, as well as the Phase I STP, recovered more artifacts from Zone 1B than from Zone 1A (**Figure 36-37**; **Table 8-9**). This consistency suggests that overall, vertical mixing/migration of cultural material between Zone 1A and Zone 1B through plowing has not been too severe. The Zone 1A test unit artifact counts of Block 1 range from five to fifteen artifacts. The Zone 1B test unit assemblages of Block 1 range from twenty to sixty artifacts.

The Block 2 Zone 1A and Zone 1B artifact yields are 249 artifacts and 328 artifacts, respectively. Nine of the sixteen test units in Block 2 recovered more artifacts from Zone 1B than Zone 1A. The other seven units recovered more artifacts from Zone 1A than Zone 1B. Overall, the vertical distribution of artifacts between Zone 1A and Zone 1B is somewhat random, but trending increases and also decreases in artifact content are evident amongst groupings of units when the other stratigraphic zones are taken into account (**Table 8-9; Figure 38-39**).

Distribution of All Prehistoric Artifacts



Zone 1A:
surface to buried
plow zone (above 2Apb)

Zone 1A
Prehistoric Artifact Totals

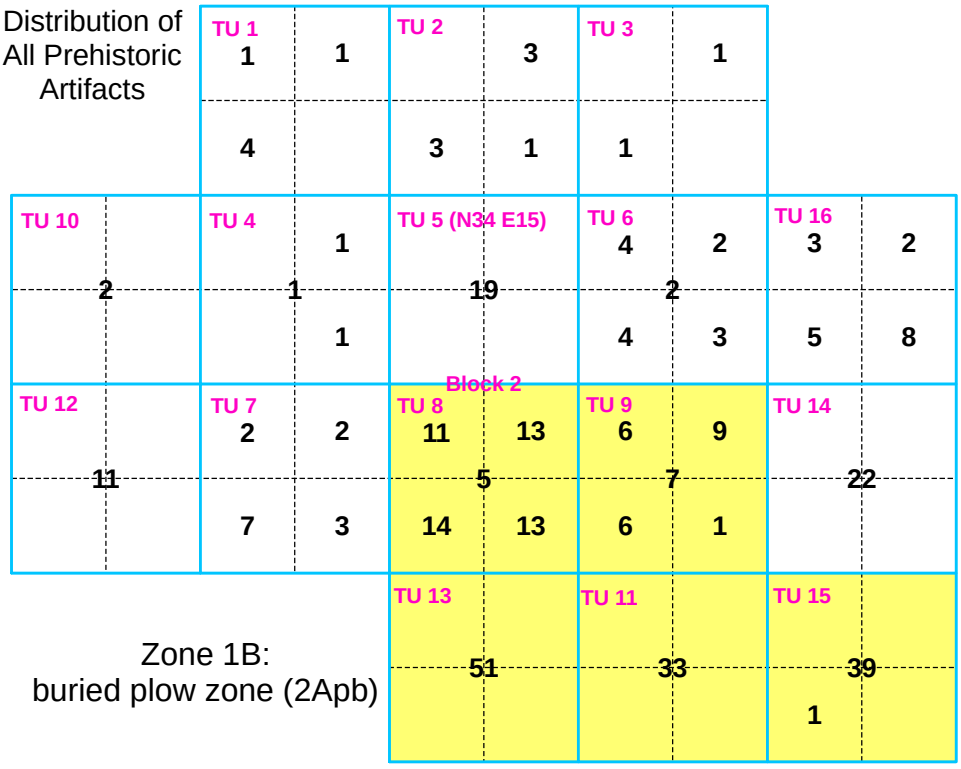
TU	Zone 1A
1	10
2	12
3	16
4	7
5	9
6	16
7	9
8	19
9	21
10	11
11	8
12	10
13	2
14	7
15	23
16	69
Sum	**249**

Prehistoric Artifact Concentration

N

0 0.5 1
Meters

Distribution of All Prehistoric Artifacts



Zone 1B:
buried plow zone (2Apb)

Zone 1B
Prehistoric Artifact Totals

TU	Zone 1B
1	6
2	7
3	2
4	3
5	19
6	15
7	14
8	56
9	29
10	2
11	33
12	11
13	51
14	22
15	40
16	18
Sum	**328**

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 2, Feature A
Plow Zone Artifact Distribution

FIGURE 39

The Zone 1A and Zone 1B assemblages of the peripheral sample units contain 115 and 80 artifacts, respectively (**Table 7**). Zone 1A assemblage sizes amongst the units range between no artifacts and 38 artifacts in size. Zone 1B assemblages amongst these units range between no artifacts and 33 artifacts in size. Two units, TU N24E15 and TU N45E6, contained artifacts in Zone 1A but no artifacts in Zone 1B. No cultural material was recovered from Zone 1A and Zone 1B in TU N60.5E0.5 (**Figure 19, Table 8**).

In Block 1, most of Block 2, and some of the peripheral sample units, the Zone 1A/Zone 1B distributions of individual units generally show higher artifact yields from Zone 1B (2Apb/2Ab) than from Zone 1A (slopewash mantle). Notable substantial increases in the transition from Zone 1A to Zone IB are exhibited in Block 1/TU N29E19 (1A = 6, 1B = 32), Block 1/TU N29E20 (1A = 13, 1B = 60), Block 2/TU 13 (1A = 2, 1B = 51) and Sample Unit/TU N34E24 (1A = 7, 1B = 33) (**Table 8**).

Only two test units distinctly reflect a decrease in artifact density from Zone 1A to Zone 1B. One unit is Block 2 TU 16, which recovered 69 artifacts from Zone 1A and 18 artifacts from Zone 1B. The other unit is Sample Unit TU N24E15, which yielded 38 artifacts from Zone 1A but no artifacts from Zone 1B. These two units also have the distinction of possessing the two largest Zone 1A unit assemblages (**Table 8**). The disproportionate number of Zone 1A artifacts in TU 16 can attributed to natural disturbances associated with large tree roots that were observed to extend through much of the unit profile and, as such can be regarded as an anomaly.

The high proportion of Zone 1A artifacts in TU N24E15 is also, in part, due to bioturbation, but the Zone 1A/Zone 1B artifact distribution in this unit is of interest from a site preservation perspective. This particular unit is located in a portion of the site that lacks a slopewash mantle. The soil profile in this portion of the site consists of a plow zone atop truncated subsoils. The plow zone is uniform and has managed to maintain most of its historic thickness (**Figure 25**). In total, TU N24E15 yielded 38 artifacts from Zone 1A (which in this case corresponds to the portion of the plow zone above its subsoil interface), no artifacts from Zone 1B, and 12 artifacts from the two subsequent zones (Zones 2-3) (**Table 7**). While the unit's assemblage is not one of scholarly interest, its lack of Zone 1B artifacts and the low Zone 2-4 artifact densities of the unit clearly illustrate the extent to which the slopewash mantle has prevented the cultural material of Zone 1B and Zone 2 from becoming mixed via plowing.

In all three excavation areas, the majority of the cultural material that was recovered from Zone 1A and Zone 1B consists of unmodified debitage. In addition to 647 flakes (1A=256, 1B=391), 15 pieces of shatter (1A= 4, 1B=11), the collective Zone 1A/Zone 1B assemblage also contains a diversity of other lithic artifacts. The non-diagnostic chipped tool assemblage contains 137 (unmodified) utilized flakes (1A=64, 1B=73), 28 flake tools (1A=11, 1B=17), 4 core/core fragments (1A=2, 1B=2), 15 early-mid biface rejects/fragments (1A=8, 1B=7), 16 fragments from finished/ nearly completed bifaces (1A= 9, 1B=7), 5 worked/tested cobbles (1A=3, 1B=2), 10 miscellaneous chipped stone tools (1A=4, 1B=6), and 7 non-diagnostic point fragments (1A = 3, 1B = 4) (**Table 9**). Other artifacts include one hammerstone and one cobble tool, both of which were recovered from Zone 1A.

Twelve diagnostic artifacts, eleven projectile points and one Sullivan Cove Plain ceramic sherd, were recovered from Zone 1A/Zone 1B. Three of the points, a contracting stem variant (1A), a triangle point (1B), and the Sullivan Cove Plain sherd (1A) were recovered from Block 1 TU N30E19. Seven of the Zone 1A/Zone 1B points were extracted from seven different units in Block 2. The Block 2, Zone 1A/Zone 1B point assemblage is composed of one fishtail point (TU 13/1B), one Piney Island variant stemmed point (TU 16/1A), three Piscataway points (TU 15/1A, TU 6/1B, TU 9/1B), one convex base (teardrop/ovate) point (TU 8/1A), and one triangle point (TU 4/1A). The remaining two points, a Susquehanna Broadspear and a Piscataway point, were recovered from peripheral sample units TU N59E9 (1A) and TU N34E24 (1A), respectively.

Given that both stratigraphic zones were plowed, albeit limited, the mixed temporal contexts of these artifacts is not surprising. That said, and as will be discussed later, some horizontal differentiation is discernable in the horizontal distribution of the aforementioned eleven points and one ceramic sherd across the site.

2. Summary of Subsoil Artifact Recovery

A total of 1,161 prehistoric artifacts were recovered from the intact sub-plow zone stratigraphic contexts of Zone 2, Zone 3, and Zone 4. The subsoil artifacts comprise 54.15% of the total 18Cv491 prehistoric assemblage.

Zone 2. The densest concentrations of sub-plow zone artifacts were recovered from Zone 2, which corresponds to the first 10cm of the subsoil (2BEb/2Eb). The excavations recovered a total of 813 artifacts, approximately one-third of the total 18Cv491 assemblage, from Zone 2. Most of the Zone 2 assemblage was collected from the core area of the site.

Over half of the Zone 2 artifacts, 401 artifacts, were recovered from the four units of Block 1. The three highest Zone 2 unit assemblages are also Block 1 units. In order of assemblage size, these units are TU N29E18 (n=114), TU N30E19 (n=105), and TU N30E20 (n=104). The fourth Block 1 unit, TU N29E20, contained the fifth largest Zone 2 assemblage (n=78) (**Table 8-9; Figure 36-37)**.

The collective total of the sixteen unit assemblages from Block 2 consists of 339 artifacts, which represent approximately 41.6% of the site's total Zone 2 assemblage. The sixteen Zone 2 unit assemblages range from two artifacts to eighty-four artifacts in size. The largest Block 2, Zone 2 unit assemblage was collected from TU 9, which contains 84 artifacts, was the fourth highest Zone 2 assemblage recovered from a single unit at the site (**Table 8-9; Figures 38, 40)**.

A total of 73 artifacts were recovered in Zone 2 by the peripheral sample units. The Zone 2 assemblage from the peripheral sample units comprises 8.97% of the artifacts recovered from Zone 2 at 18Cv491. The highest number of artifacts that were recovered from Zone 2 in a peripheral sample unit was 15 artifacts (TU N24E5) (**Table 7-9**).

Artifact type distributions within Zone 2 are compatible to those obtained in Zone 1A/Zone 1B. In addition to 645 unmodified pieces of debitage (flakes = 624; shatter = 21) and 45

pieces of fire-cracked rock, the non-diagnostic Zone 2 assemblage contains 64 (unmodified) utilized flakes, 13 flake tools, 2 core/core fragments, 9 early-mid biface rejects/fragments, 9 fragments from finished/ nearly completed bifaces, 3 worked/tested cobbles, 5 miscellaneous chipped stone tools, 2 hammerstones, and 4 undatable projectile point fragments (**Table 9**).

The Zone 2 assemblage also contains four diagnostic artifacts, specifically two projectile points and four ceramic sherds (**Table 9**). The diagnostic projectile points consist of one contracting stem form from Block 2 TU 18 and one Piscataway projectile point from Block 2 TU N30E19. All four ceramic sherds were recovered from Block 1. These sherds consist of one Marcey Creek (TU N30E20) sherd and three Accokeek sherds (TU N30E19).

Zone 3. A total of 233 artifacts were recovered from Zone 3, which corresponds to the second 10cm level of the subsoil (i.e. 10-20 cm below 2Apb/2Ab). The Zone 3 artifact assemblage is approximately 10.87% of the total 18Cv491 assemblage. Zone 3 coincides with a substantial decrease in artifact density across the site (**Figure 35**).

Seventy-three (83) artifacts were recovered from Zone 3 in Block 1. Over half of these artifacts, forty-five artifacts, were recovered from TU N30E20. The remaining artifacts are distributed relatively evenly amongst TU N29E20 (n=14), TU N29E19 (n=12), and TU N30E19 (n=12) (**Table 8-9, Figure 36-37**).

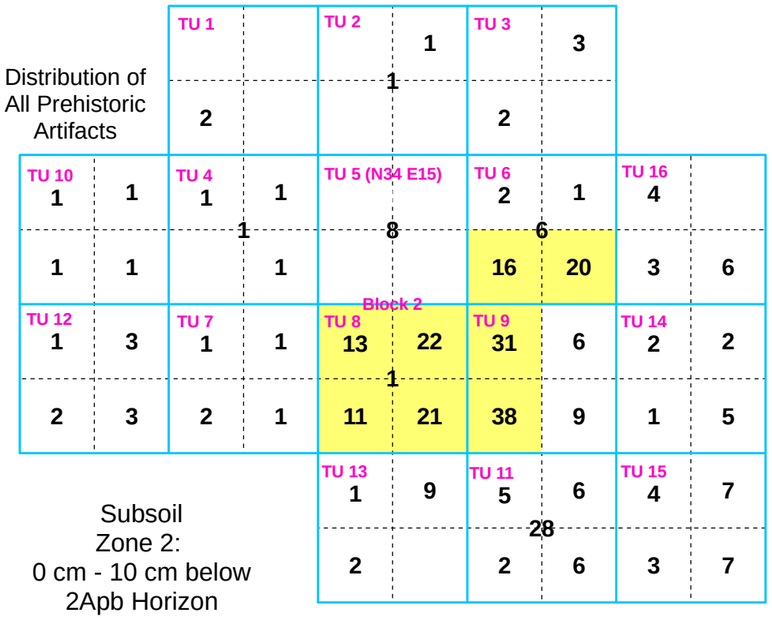
The Zone 3 assemblage of Block 2 is composed of 131 artifacts from fifteen of the Block 2 test units. TU 6 possesses the largest Zone 3 assemblage with a total of forty artifacts. The assemblage sizes of the other fourteen units range between 2 and 21 artifacts. No artifacts were recovered from Zone 3 in TU 1 (**Table 8-9; Figures 38, 40**).

Nineteen artifacts were recovered by the peripheral unit sampling that was performed outside of the core area. These artifacts were collected from six of the peripheral sample units. The Zone 3 artifact yields of the peripheral units range between one artifact and eight artifacts (**Table 8-9; Figure 19**).

No distinctly datable artifacts were recovered from Zone 3 at 18Cv491. The closest artifact to a diagnostic artifact is a base fragment of a stemmed point variant. The total Zone 3 assemblage contains 183 flakes, seven pieces of shatter, twenty-three utilized flakes, five flake tools, three point fragments (including the aforementioned stem fragment), four biface fragments, two hammerstones, three pieces of fire-cracked rock, and two mammal bone fragments. The bone fragments are calcined and too small to identify species via standard laboratory methods.

Zone 4. One-hundred and fifteen (115) artifacts were recovered from Zone 4, which corresponds to excavation levels situated twenty or more centimeters below the 2Apb/2Ab horizon. Most of the artifacts in this assemblage were recovered in the portion of the soil profile situated between twenty and forty centimeters below 2ApB/2Ab horizon (excavated as two 10cm levels). The Zone 4 excavations represent the approach to culturally sterile subsoil (2Btgb). The Zone 4 artifact assemblage is approximately 5.36 percent of the total 18Cv491 assemblage.

Distribution of All Prehistoric Artifacts

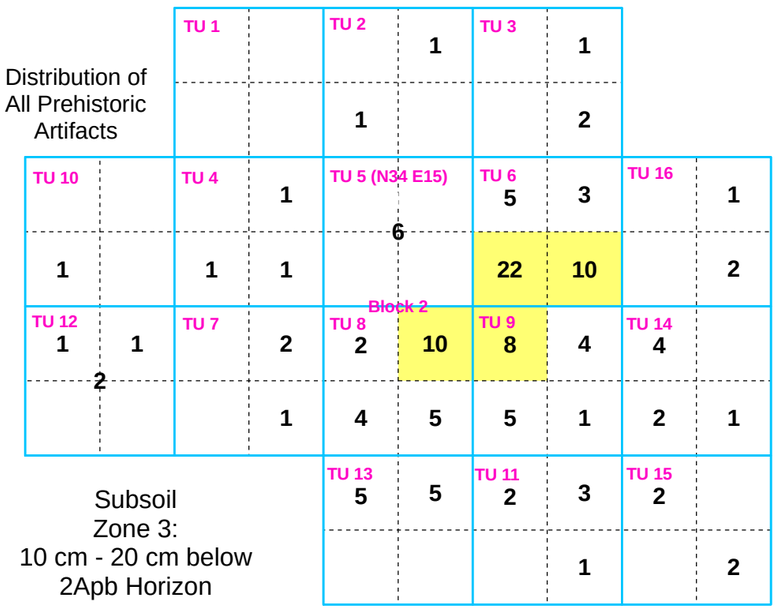


Subsoil Zone 2: 0 cm - 10 cm below 2Apb Horizon

Zone 2 Prehistoric Artifact Totals

TU	Zone 2
1	2
2	2
3	5
4	4
5	8
6	45
7	5
8	68
9	84
10	4
11	47
12	9
13	12
14	10
15	21
16	13
Sum	339

Distribution of All Prehistoric Artifacts



Subsoil Zone 3: 10 cm - 20 cm below 2Apb Horizon

Zone 3 Prehistoric Artifact Totals

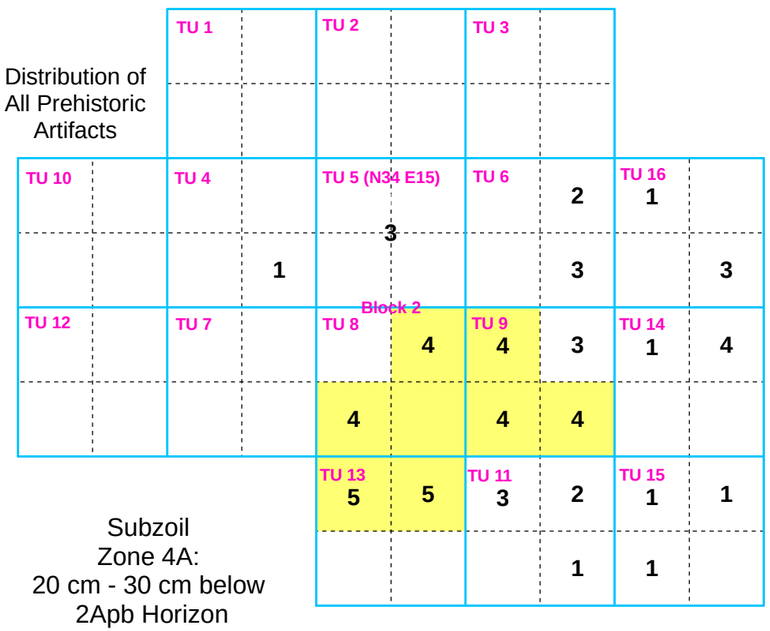
TU	Zone 3
1	0
2	2
3	3
4	3
5	6
6	40
7	3
8	21
9	18
10	1
11	6
12	4
13	10
14	7
15	4
16	3
Sum	131

Prehistoric Artifact Concentration

N

0 0.5 1 Meters

Distribution of All Prehistoric Artifacts

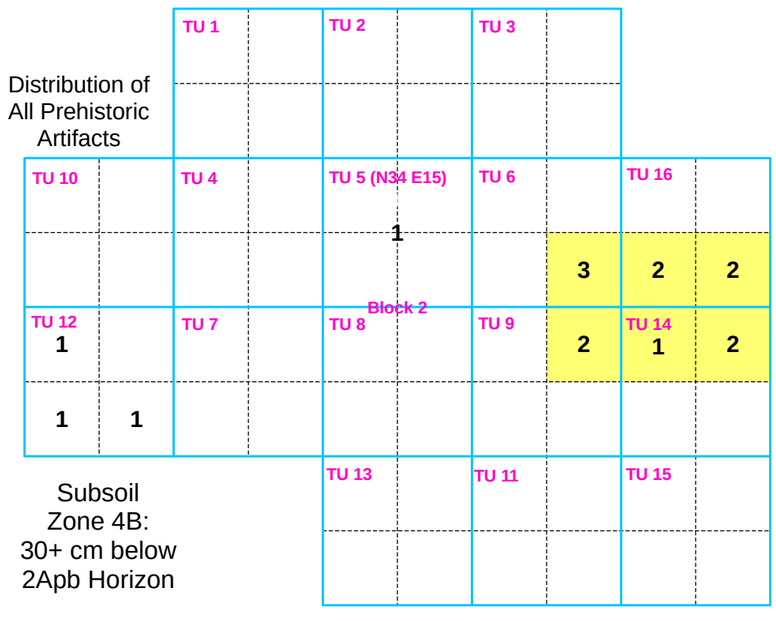


Subzoil Zone 4A: 20 cm - 30 cm below 2Apb Horizon

Zone 4A Prehistoric Artifact Totals

TU	Zone 4A
1	0
2	0
3	0
4	1
5	3
6	5
7	0
8	8
9	15
10	0
11	6
12	0
13	10
14	5
15	3
16	4
Sum	60

Distribution of All Prehistoric Artifacts



Subsoil Zone 4B: 30+ cm below 2Apb Horizon

Zone 4B Prehistoric Artifact Totals

TU	Zone 4B
1	0
2	0
3	0
4	0
5	1
6	3
7	0
8	0
9	2
10	0
11	0
12	3
13	0
14	3
15	0
16	4
Sum	16

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 2, Feature A
Subsoil Artifact Distributions

FIGURE 40

The Block 1 Zone 4 assemblages contains sixteen artifacts, all of which were recovered TU N30E20 (**Tables 8-9; Figure 36 and Figure 37**).

The Zone 4 assemblage of Block 2 contains seventy-six artifacts. These artifacts were recovered from eleven of the Block 2 test units. The highest number of artifacts recovered from Zone 4 within a single unit is seventeen artifacts (**Tables 8-9; Figure 38 and Figure 40**).

The peripheral sampling outside of the core Block 1/Block 2 area recovered twenty-three from Zone 4. These artifacts were obtained from five peripheral sample units. Over half of the twenty-three artifacts were collected from peripheral sample unit TU N45E6 (**Tables 8-9, Figure 19**). This sample unit contained twelve artifacts in Zone 4.

The total 18Cv491 Zone 4 assemblage contains eighty-four flakes, twelve utilized flakes, two flake tools, one miscellaneous chipped stone tool, two non-diagnostic point fragments, one early-mid stage biface reject/fragment, two biface fragments, two worked cobbles, two pieces of shatter, four fire-cracked rock fragments, and two projectile points.

The points consist of one Piscataway point from Block 2 TU 14 and one Susquehanna broadspear that was recovered from sample unit TU N24E5.

The Piscataway point from Block 2 TU 14 was recovered from a unit that required the removal of two consecutive ten centimeter levels below Zone 3 in order to reach culturally sterile subsoil. The point is one of ten artifacts collected by these efforts and was recovered from Zone 4A, the upper of the two excavation levels beneath Zone 3.

The Susquehanna broadspear from TU N24E5 was recovered in association with four other artifacts approximately fifty-five to sixty-nine centimeters below the surface well into an argillic horizon (Btg). After the recovery of artifacts, especially the broadspear, it became a concern that this small assemblage could be indicative of an intact deeply buried cultural horizon. Consequently, the project's geomorphologist was enlisted to assist with ascertaining the maximum depth to which cultural deposits could be expected in this somewhat unusual unit. After analysis, it was concluded that the argillic horizon, based on its advanced degree of development, predates the age of the broadspear by a factor of at least three and probably four or more. Because of location of the artifacts well into the horizon, it was further concluded that artifacts should be viewed as something of an anomaly (Wagner 2013).

D. General Summary of Excavated Artifacts

The following discussion presents a summary of the prehistoric artifact types that were recovered from the site. **Figure 41** presents graphic representations of the breakdown of artifact types within the assemblage and also by excavation area.

1. Lithic Artifacts (Chipped Artifacts)

Over ninety percent (92.49%) of the recovered prehistoric assemblage is composed of chipped lithic artifacts. This subassemblage contains 1,983 artifacts. The excavations of Block 1, Block 2, and the sample units recovered 669, 1,022, and 292 lithic artifacts, respectively (**Figure 41**).

Unsurprisingly, most of the lithic assemblage is unmodified debitage. This assemblage is composed of 1,538 flakes and forty-five pieces of shatter[3]. Debitage constitutes approximately 79.82 percent of the site's lithic artifacts and approximately 73.83 percent of the entire 18Cv491 assemblage. The debitage totals of the Block 1, Block 2, and sample unit assemblages are 603 (flakes = 577, shatter = 13), 802 (flakes = 775, shatter = 27), and 178 (flakes = 173, shatter = 5) pieces, respectively (**Table 13**).

The lithic assemblage includes several tool types (**Table 13**). Most of the tools are non-diagnostic expedient forms such as utilized (unmodified) flakes (n=236), flake tools (n =48), and other miscellaneous chipped stone tools (n =16); however, the assemblage also includes several small (non-diagnostic) biface fragments[4] (n=47), discernable early and late stage biface rejects (ESBR and LSBR) (n =22), point fragments[5] (n=16), as well as a small number of cores (n =8) and tested/worked cobbles (n = 8).

Nearly all of the non-diagnostic tools are heavily-worn and/or broken specimens. Of the aforementioned tool types, the only types that were not recovered from all three excavation areas (i.e., Block 1, Block 2, and peripheral sample units) are late stage biface rejects and tested/worked cobbles. These two tool types were not recovered from any of the peripheral test sample units.

Site excavations yielded fifteen datable projectile points. This assemblage contains two Susquehanna broadspears, one fishtail/orient point, one Piney Island variant stemmed point, two contracting stemmed points, six Piscataway point forms, a base of an ovate/teardrop form, and two triangle points. Both broadspears and one Piscataway point were recovered in the peripheral sample units. The remaining points were recovered from the excavations conducted in the core area of the site (i.e. Block 1 and Block 2). All of the points are, like most of the non-diagnostic tools, heavily-worn and/or broken.

2. Ceramic Artifacts

The recovered ceramic assemblage contains five sherds, all of which were recovered from Block 1/Feature B in the core area of the site. These artifacts are one Marcey Creek sherd (N30E20, Zone 2), three Accokeek sherds (N30E20, Zone 2), and one Sullivan Cove Plain sherd (N30E19, Zone 1A). All of the sherds are small, heavily-weathered body fragments that are less than 25mm in maximum dimension.

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[3] Debitage that does not exhibit characteristics of flaking or distinct evidence of thermal shock like common fire-cracked rock was classified as shatter.

[4] Artifacts that exhibit bifacial cross sections and are clearly pieces of bifaces. The production stage/form of the biface from which these fragments originated cannot be deduced from the extant fragment.

[5] Fragments for which types cannot be deducted from the extant fragment such as tips and medial sections.

Total Assemblage

Artifact Type	Sum	%
Lithic Artifacts (Chipped)	1983	92.49%
Ceramic	5	0.23%
Hammerstone	5	0.23%
Fire-Cracked Rock	134	6.25%
Bone Fragment	2	0.09%
Cobble Tool (large)	1	0.05%
Cobble / Cobble Fragment	3	0.14%
Slate Fragment	4	0.19%
Cortex Spall/Possible Flake	7	0.33%
Sum	**2144**	100.00%

Distribution - Block 1

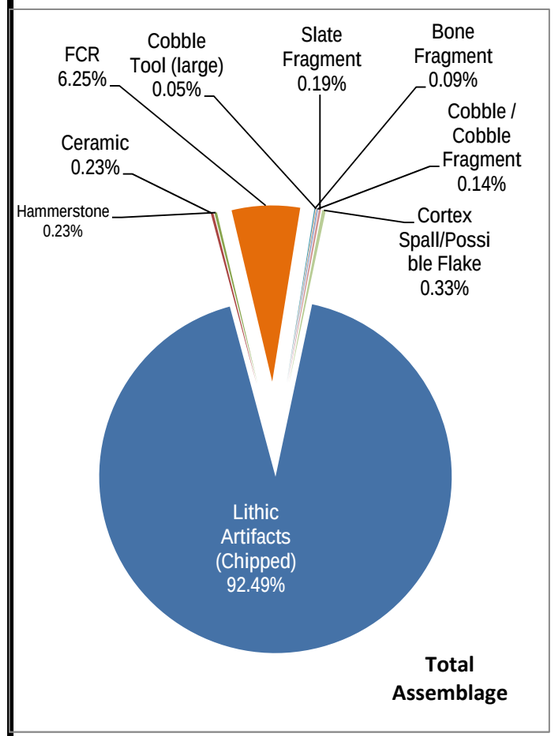
Artifact Type	Sum	% within	% *of total*
Lithic Artifacts (Chipped)	669	94.09%	*33.74%*
Ceramic	5	0.70%	*100.00%*
Hammerstone	1	0.14%	*20.00%*
Fire-Cracked Rock	31	4.36%	*23.13%*
Bone Fragment	0	0.00%	*0.00%*
Cobble Tool (large)	1	0.14%	*100.00%*
Cobble / Cobble Fragment	1	0.14%	*33.33%*
Slate Fragment	3	0.42%	*75.00%*
Cortex Spall/Possible Flake	0	0.00%	*0.00%*
Sum	**711**	100.00%	***33.16%***

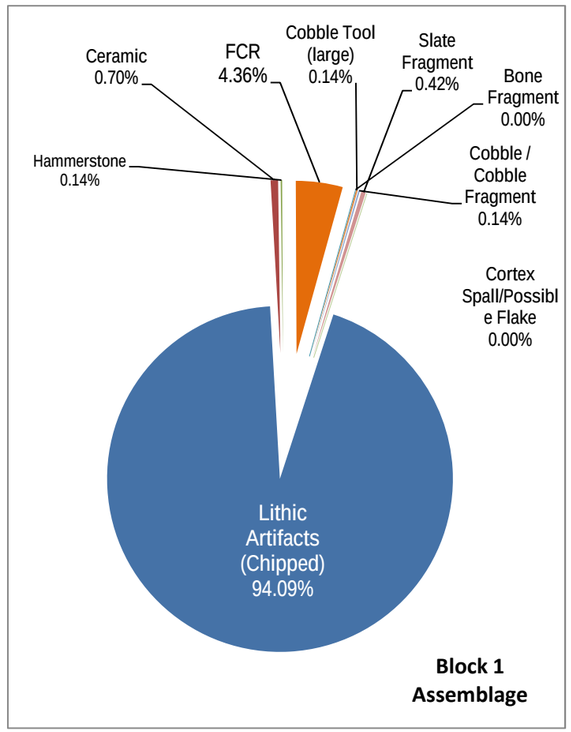
Distribution - Block 2

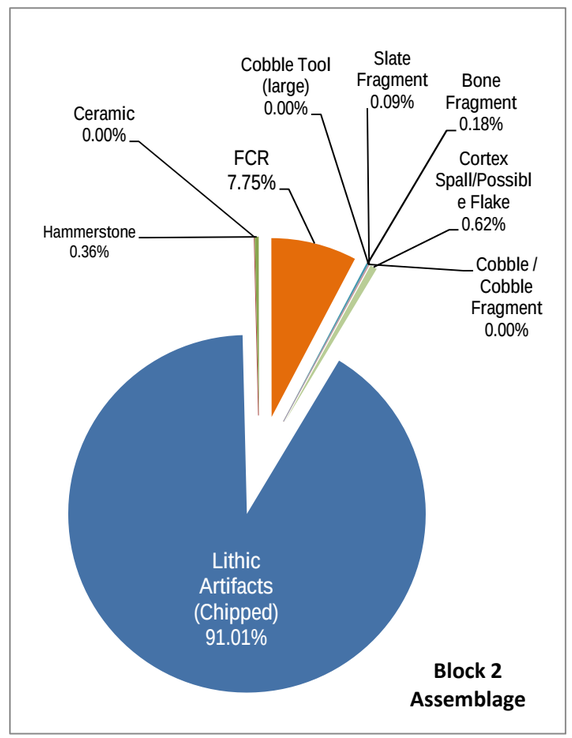
Artifact Type	Sum	% within	% *of total*
Lithic Artifacts (Chipped)	1022	91.01%	*51.54%*
Ceramic	0	0.00%	*0.00%*
Hammerstone	4	0.36%	*80.00%*
Fire-Cracked Rock	87	7.75%	*64.93%*
Bone Fragment	2	0.18%	*100.00%*
Cobble Tool (large)	0	0.00%	*0.00%*
Cobble / Cobble Fragment	0	0.00%	*0.00%*
Slate Fragment	1	0.09%	*25.00%*
Cortex Spall/Possible Flake	7	0.62%	*100.00%*
Sum	**1123**	100.00%	***52.38%***

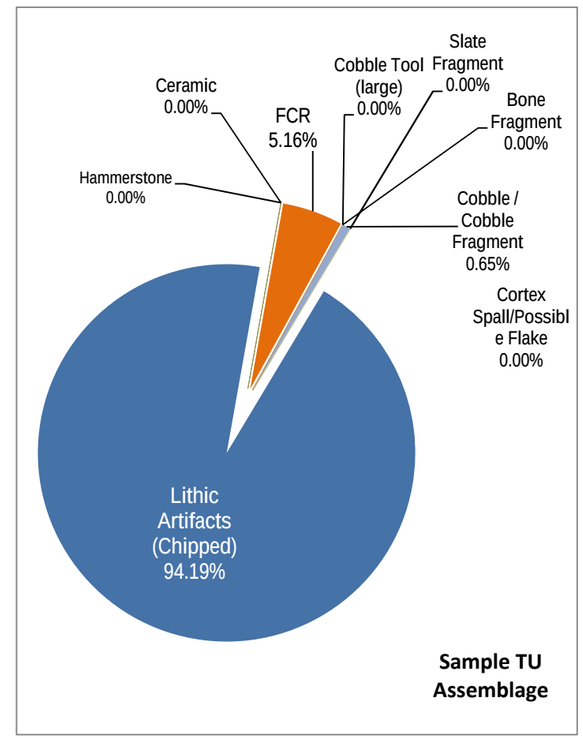
Distribution - Sample Units

Artifact Type	Sum	% within	% *of total*
Lithic Artifacts (Chipped)	292	94.19%	*14.73%*
Ceramic	0	0.00%	*0.00%*
Hammerstone	0	0.00%	*0.00%*
Fire-Cracked Rock	16	5.16%	*11.94%*
Bone Fragment	0	0.00%	*0.00%*
Cobble Tool (large)	0	0.00%	*0.00%*
Cobble / Cobble Fragment	2	0.65%	*66.67%*
Slate Fragment	0	0.00%	*0.00%*
Cortex Spall/Possible Flake	0	0.00%	*0.00%*
Sum	**310**	100.00%	***14.46%***









18Cv491 Artifact Type Percentages within Assemblage

FIGURE 41

Table 13:
18Cv491 - Summary Catalog of Lithic Artifact Types and Material Types

18Cv491 Block 1/Feature B: Centered around N30 E20

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	237 (46)	314 (38)	5		34				**590** (84)
Utilized Flakes	9 (3)	23 (9)							**32** (12)
Flake Tools	2 (2)	5 (3)			1				**8** (5)
Miscellaneous Stone Tools	1								**1**
Projectile Points - diagnostic	1	2							**3**
Point Fragment - non-diagnostic	1	1							**2**
Early Stage Biface Rejects	1	1 (1)							**2** (1)
Late Stage Biface Rejects		1							**1**
Biface Fragments	3 (1)	7 (1)			1				**11** (2)
Worked Stone/Tested Cobble	1 (1)	2 (2)							**3** (3)
Cores	3 (1)								**3** (1)
Shatter	1	12 (3)							**13** (3)
TOTAL	**260 (54)**	**368 (57)**	**5**		**36**				**669 (111)**

18Cv491 Block 2/Feature A: Centered around N34 E15

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	303 (74)	382 (59)	17 (8)	4 (2)	69				**775** (143)
Utilized Flakes	33 (13)	100 (20)			2				**135** (33)
Flake Tools	8 (7)	17 (7)							**25** (14)
Miscellaneous Stone Tools	4 (1)	4 (1)			1				**9** (2)
Projectile Points - diagnostic	6	3							**9**
Point Fragment - non-diagnostic	5	6							**11**
Early Stage Biface Rejects	6 (1)	5 (2)							**11** (3)
Late Stage Biface Rejects	1								**1**
Biface Fragments	2	9			1				**12**
Worked Stone/Tested Cobble	2 (2)	3 (3)							**5** (5)
Cores	1 (1)	1							**2** (1)
Shatter	17 (5)	6	4 (2)						**27** (7)
TOTAL	**388 (104)**	**536 (92)**	**21 (10)**	**4 (2)**	**73**				**1022 (208)**

18Cv491 Sample Units: 10m-Interval Units and STPs in Non-Block Areas

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	72 (22)	72 (19)	5 (3)	1 (1)	22		1		**173** (45)
Utilized Flakes	4 (1)	65 (21)							**69** (22)
Flake Tools	4 (4)	10 (8)	1 (1)						**15** (13)
Miscellaneous Stone Tools	2 (2)	4 (2)							**6** (4)
Projectile Points - diagnostic	1				2				**3**
Point Fragment - non-diagnostic	2	1							**3**
Early Stage Biface Rejects	4	3							**7**
Late Stage Biface Rejects									**0**
Biface Fragments	1	6	1						**8**
Worked Stone/Tested Cobble									**0**
Cores	2 (2)	1 (1)							**3** (3)
Shatter	2 (1)	3							**5** (1)
TOTAL	**94 (32)**	**165 (51)**	**7 (4)**	**1 (1)**	**24**		**1**		**292 (88)**

18Cv491 Total Assemblage

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	612 (142)	768 (116)	27 (11)	5 (3)	125		1		**1538** (272)
Utilized Flakes	46 (17)	188 (50)			2				**236** (67)
Flake Tools	14 (13)	32 (18)	1 (1)		1				**48** (32)
Miscellaneous Stone Tools	7 (3)	8 (3)			1				**16** (6)
Projectile Points - diagnostic	8	5			2				**15**
Point Fragment - non-diagnostic	8	8							**16**
Early Stage Biface Rejects	11 (1)	9 (3)							**20** (4)
Late Stage Biface Rejects	1	1							**2**
Biface Fragments	6 (1)	22 (1)	1		2				**31** (2)
Worked Stone/Tested Cobble	3 (3)	5 (5)							**8** (8)
Cores	6 (4)	2 (1)							**8** (5)
Shatter	20 (6)	21 (3)	4 (2)						**45** (11)
TOTAL	**742 (190)**	**1069 (200)**	**33 (14)**	**5 (3)**	**133**		**1**		**1983 (407)**

3. Other Stone Artifacts (Non-Chipped)

The 18Cv491 assemblage contains five hammerstones. These hammerstones were recovered from the core area of the site. One hammerstone was recovered from Block 1 (N29E20). The other four of the hammerstones were recovered from three test units in Block 2 (TU 1, TU 12, and TU 13).

Other stone items include seven cortex spalls, two cobble fragments, and seven slate fragments. The cortex spalls and cobble fragments are likely non-cultural but were retained due to their recovery in close association with artifacts made of similar material. The seven slate fragments are likely early historic artifacts that were plowed under prior to the burial of the site.

4. Fire-Cracked Rock

One-hundred and thirty-four pieces of fire-cracked rock with a total weight of 6,096.75 grams were recovered from various locations at the site. Fire-cracked rock quantities for Block 1, Block 2, and the sample units are 31 (1,629.99g), 87 (3,906.90g), and 16 (559.86g) pieces, respectively.

5. Ecofacts

Two small bone fragments were recovered from Block 2/Feature A (TU 5, Zone 3). Both pieces are less than one centimeter in maximum dimension and heavily deteriorated. Neither species nor anatomical position identification is feasible using standard laboratory procedures; however, based visual inspections, it is believed that one of the specimens may be an antler fragment.

E. Summary of Excavated Features

Two primary features were identified and excavated in the core area of 18Cv491. These features have been designated Block 2/Feature A (hereafter referred to as Feature A) and Block1/Feature B (hereafter referred to as Feature B). A small number of secondary features were also identified by the peripheral sample unit excavations.

F. Summary of Feature A (Block 2)

Feature A is the partial remains of house pattern that was discovered in Block 2 of the core area of site. The house pattern is represented by a series of postmold features and several associated artifact concentrations. The house feature was identified, delineated, and investigated via block excavation of sixteen contiguous 1m x 1m test units. The block excavation started with eight test units centered around TU N34E15, the Phase I/II 18Cv491 sample unit (Silber et. al 2008). The eight-unit block was expanded into its final sixteen-unit configuration by adding units as needed during the course of the investigations (**Figures 19, 38** and **42**).

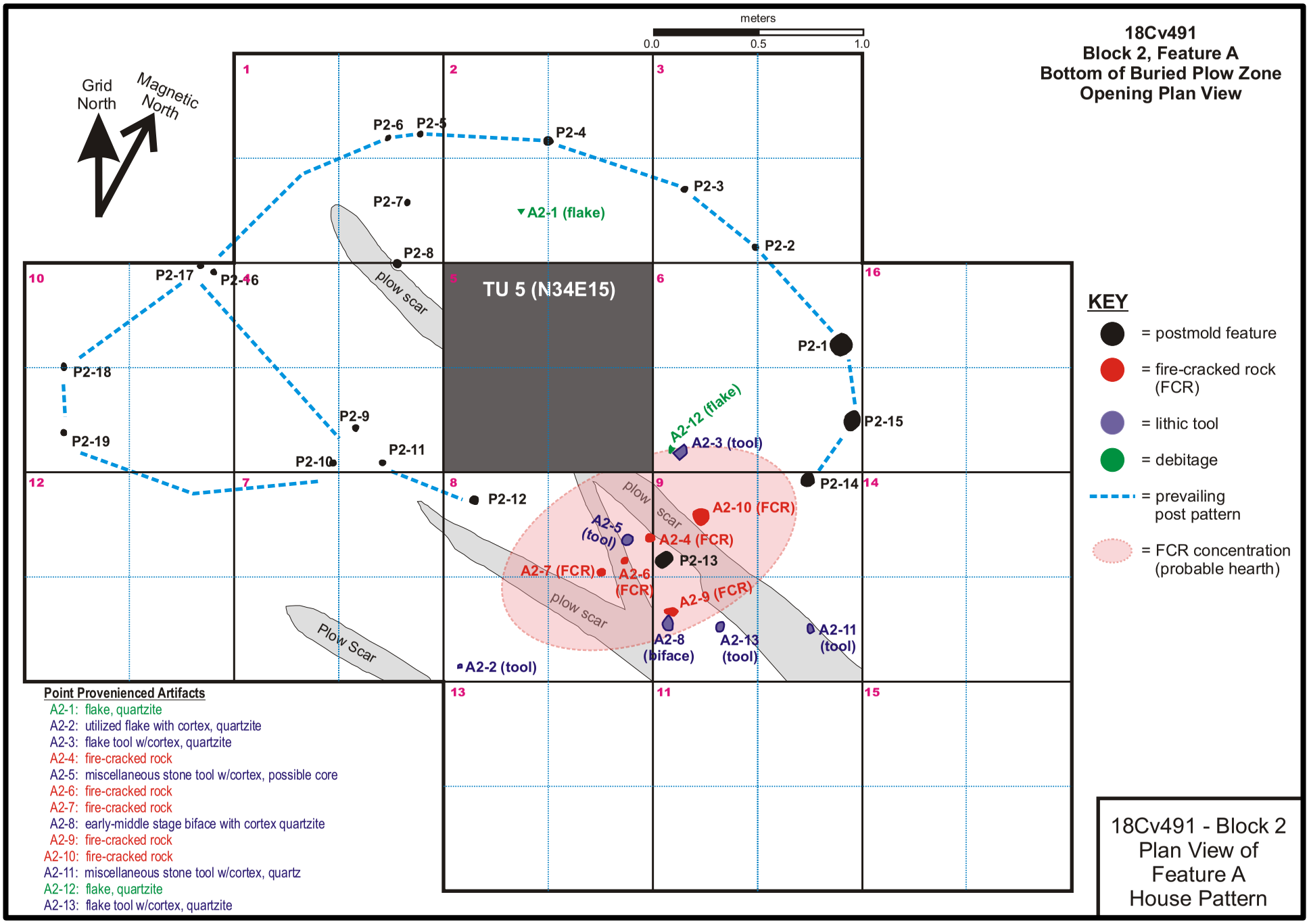

18Cv491
Block 2, Feature A
Bottom of Buried Plow Zone
Opening Plan View
meters
0.0
0.5
1.0
Grid North
Magnetic North
TU 5 (N34E15)
plow scar
Plow Scar
P2-1
P2-2
P2-3
P2-4
P2-5
P2-6
P2-7
P2-8
P2-9
P2-10
P2-11
P2-12
P2-13
P2-14
P2-15
P2-16
P2-17
P2-18
P2-19
A2-1 (flake)
A2-2 (tool)
A2-3 (tool)
A2-4 (FCR)
A2-5 (tool)
A2-6 (FCR)
A2-7 (FCR)
A2-8 (biface)
A2-9 (FCR)
A2-10 (FCR)
A2-11 (tool)
A2-12 (flake)
A2-13 (tool)
KEY
= postmold feature
= fire-cracked rock (FCR)
= lithic tool
= debitage
= prevailing post pattern
= FCR concentration (probable hearth)
Point Provenienced Artifacts
A2-1: flake, quartzite
A2-2: utilized flake with cortex, quartzite
A2-3: flake tool w/cortex, quartzite
A2-4: fire-cracked rock
A2-5: miscellaneous stone tool w/cortex, possible core
A2-6: fire-cracked rock
A2-7: fire-cracked rock
A2-8: early-middle stage biface with cortex quartzite
A2-9: fire-cracked rock
A2-10: fire-cracked rock
A2-11: miscellaneous stone tool w/cortex, quartz
A2-12: flake, quartzite
A2-13: flake tool w/cortex, quartzite
18Cv491 - Block 2
Plan View of
Feature A
House Pattern

FIGURE 42

Cultural material associated with Block 2/Feature A was recovered from the slopewash mantle (Zone 1A), the buried plow zone (Zone 1B, 2APb), and from the underlying truncated subsoil (Zone 2-Zone 4; 2BEb). The top of the subsoil was situated at approximately 20 centimeters below the surface. The cultural material within the subsoil was found to be intact, but not stratified. The more robust intact cultural deposits ranged between thirty centimeters to forty centimeters in thickness (i.e., Zone 2 –Zone 4B). The thickest deposits tended to be located in the southern and eastern portions of the feature block. The intact cultural material was generally confined to the buried BE horizon (2BEb2); however, in some places, researchers encountered artifacts that had migrated into the upper depths of the argillic horizon (2Btb) through bioturbation. The top of culturally sterile subsoil in Block 2/Feature A was encountered anywhere between 45 and 65 centimeters below the surface depending on location.

Evidence of Feature A was first encountered at the bottom of Zone 1A (slopewash mantle) as a faint, but discernable, slightly circular soil discoloration within the Zone 1B (buried) plow zone (i.e. 2Apb Horizon). In plan view, this soil discoloration extended across TUs 1, 2, 4, and 5, and into portions of TUs 6, 7, 8, and 9 (**Figure 43**). The discolored soil was noted to be more mottled and have a slightly higher organic content than the surrounding plow zone matrix. The discolored plow zone soil was discovered to be a lens about five centimeters in thickness and much like the lower portions of the buried plow zone. The discolored plow zone lens and the rest of the plow zone were excavated as substrata of Zone 1B. The fact that physical evidence of Feature A could still be seen within the buried plow zone horizon can no doubt be attributed to the short span and irregularity of manual plowing that had occurred at the site.

During the excavation of Zone 1B, the artifact content was noted to gradually increase with depth (**Figure 39**). Artifact increases were more substantial in the southern units of Block 2, specifically TUs 7, 8, and 9. At the time, the increases were somewhat unexpected since the discolored plow zone lens was more prominent in the northern units of the block. In recognition that the artifact increases could be an indicator of truncated features below, the shift from shovel to trowel was implemented approximately three centimeters above the bottom of the buried plow zone[6].

During surface trowelling, thirteen artifacts were discovered, and subsequently point provenienced, in situ at the interface between the buried plow zone and underlying subsoil (i.e. Zone 1B/Zone 2 interface). Twelve of these interface artifacts were recovered from TU 6 (n = 2), TU 8 (n = 5), and TU 9 (n = 5), which are adjacent to one another. The thirteenth artifact was recovered from TU 2, which is located to the north of TUs 6, 8, and 9 (**Figure 46**). The interface artifacts consist of two flakes, one utilized flake, two flake tools, one early-middle stage biface, two miscellaneous stone tools, and five pieces of fire-cracked rock (**Figures 42, 44, and 46**). The only non-quartzite artifact is one of the flake tools, which is quartz (**Figure 46**). The proveniences of the thirteen interface artifacts are listed below.

[6] The exposed profile of the pre-excavated TU N34E15 in the center of the block was used to monitor vertical control during the removal of the Zone 1A/Zone 1B overburden.

FIGURE 43: View of 18Cv491, Block 1 after excavation of Zone 1A showing soil discoloration in the northeast quadrant. Photograph taken facing east.

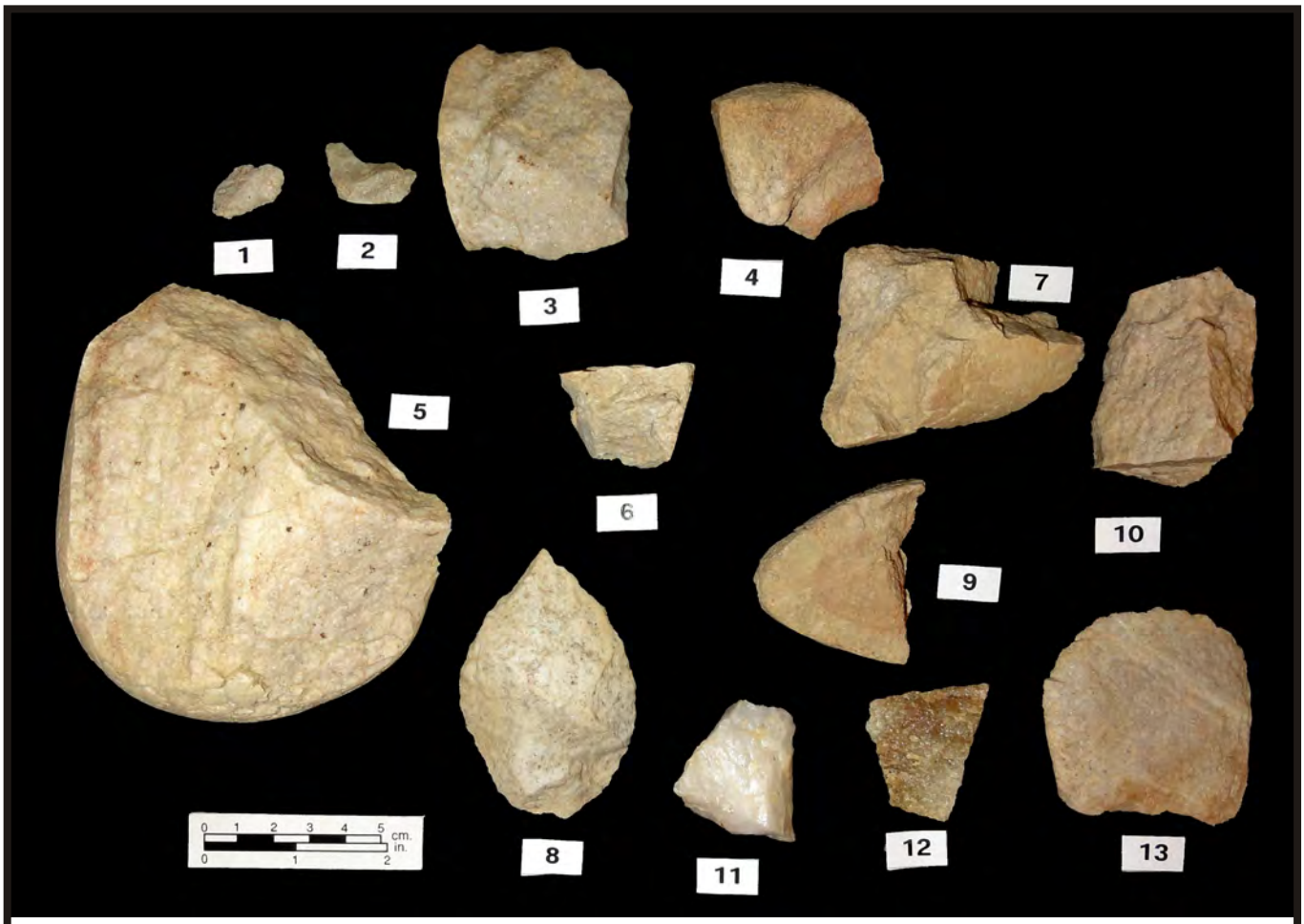
FIGURE 44: View of 18Cv491, Block 1 after excavation of Zone 1B. Photograph taken facing east.

View of 18Cv491, Block 2/Feature A showing biface in situ at the Zone 1A/Zone 2 interface in TU 9. Photograph taken facing west.

View of 18Cv491, Block 2/Feature A showing tool in situ at the Zone 1A/Zone 2 interface in TU 9. Photograph taken facing west.

18Cv491, Block 2/Feature A
Photographs of Interface Artifacts in Situ

FIGURE 45



1: flake, quartzite, TU 2, SW quad (#307)
2: utilized flake with cortex, quartzite, TU 8, SW quad (#307)
3: flake tool w/cortex, quartzite, TU 6, SW quad (#307)
4: fire-cracked rock, TU 8, NE quad (#307)
5: miscellaneous stone tool w/cortex, quartzite, possible core, TU 8, NE quad (#307)
6: fire-cracked rock, TU 8, NE quad (#307)
7: fire-cracked rock, TU 8, NE quad (#307)
8: early-middle stage biface w/cortex, quartzite, TU 9, SW quad (#307)
9: fire-cracked rock, TU 9, SW quad (#307)
10: fire-cracked rock, TU 9, NW quad (#307)
11: miscellaneous stone tool w/cortex, quartz, TU 9, SE quad (#307)
12: flake, quartzite, TU 6, SW quad (#307)
13: flake tool w/cortex, quartzite, TU 9, SW quad (#307)

18Cv491, Block 2, Feature A
Artifacts Recorded In Situ at
Zone 1B/Zone 2 Interface

FIGURE 46

- TU 6 = 1 flake tool, 1 flake
- TU 8 = 1 utilized flake, 1 miscellaneous stone tool, 3 pieces of fire-cracked rock
- TU 9 = 1 flake tool (quartz), 1 miscellaneous stone tool, 1 early-middle stage biface, 2 pieces of fire-cracked rock
- TU 2 = 1 flake

The postmold features of Feature A were also identified during the surface trowelling of the buried plow zone/subsoil interface (2Apb, Zone 1B). After their discovery, the initial eight-unit block around N34E15 was expanded to the west, south and east in order to accurately define the horizontal extent of the postmold pattern. Seven expansion units, designated TU 7 through TU 16, were added to the block. The locations of the expansion units were selected based on the configuration of the postmold features and the distribution of artifacts across it.

1. Feature A Postmold Features

In opening plan view, the postmold features consisted of various small circular/oval stains within the intact subsoil (2BEb, top of Zone 2) (**Figure 42, 47, 48, and 49**). The stains were positioned at sixty to seventy centimeter intervals along a continuous arc. The recorded opening diameters of the features range between four and eleven centimeters (**Table 14**).

A total of nineteen candidate postmold features were identified in Block 2. While several of the candidate features were strongly suspected to be non-cultural, it was deemed prudent to systematically examine all nineteen candidate features to ensure the recovery of an accurate, unbiased sample. Each candidate feature was mapped, recorded, and photographed prior to excavation. All of the candidate features were bisected and excavated in halves to expose profiles. In addition to standard depth and diameter measurements, any tilt of the feature shaft was also recorded. The excavated features were recorded to extend anywhere between 2.5 and eight centimeters into the subsoil (**Figure 49)**. Representative photographs of the examined posts are presented in **Figure 50**. Although many of the features were found to be intact, several features were discovered to possess poor subsurface integrity.

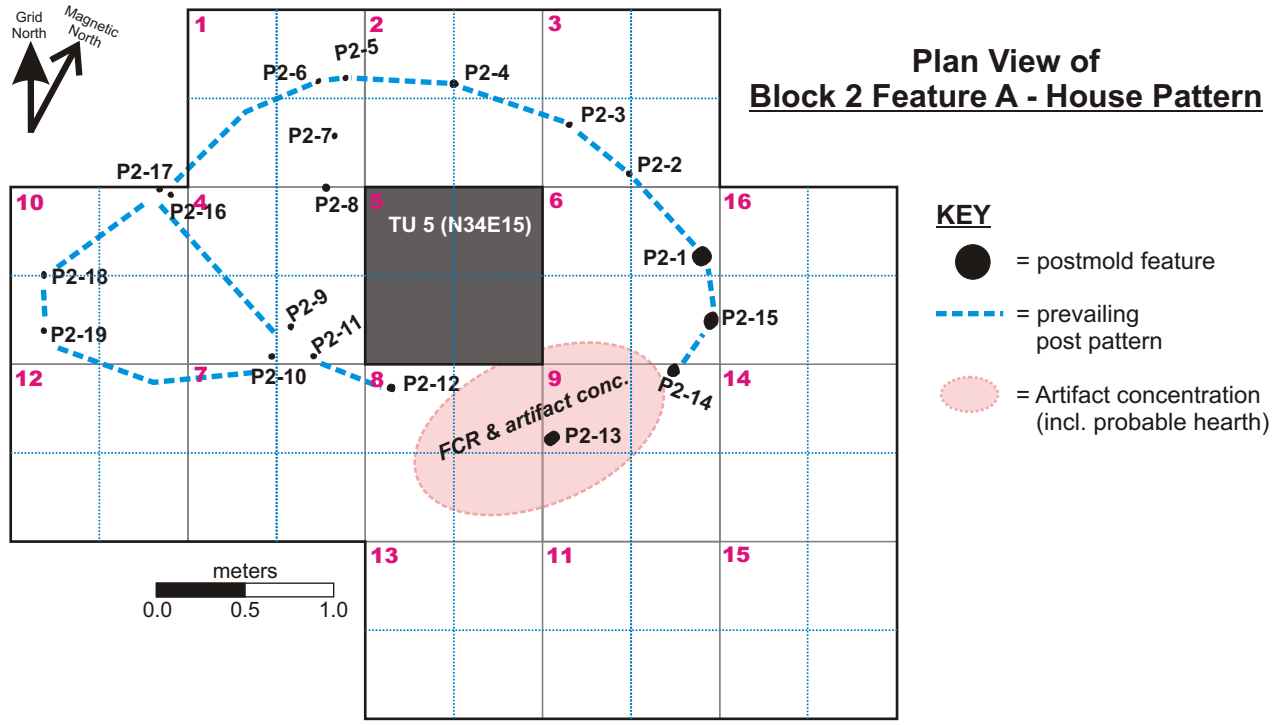
During the excavations, the candidate postmold features were divided into three classifications: Rank 1, Rank 2, and Rank 3 (**Table 14**). The classification of the features was based on similarities to documented postmold data from other regional sites (e.g., 26Ch674, Silber et al. 2003; 36La207 – Custer, Hoseth, et al. 1997; 7NC-A-17 – Custer and Hodny 1989).

Rank 1 and Rank 2 features were those that were concluded to be postmold and probable postmold features, respectively. These two classifications were differentiated by the level of subsurface integrity. Twelve of the postmold features were found to be intact and classified as Rank 1 features. These features were P2-1, P2-2, P2-3, P2-4, P2-5, P2-10, P2-11, P2-14, P2-16, P2-17, P2-18, and P2-19 (**Table 14**).

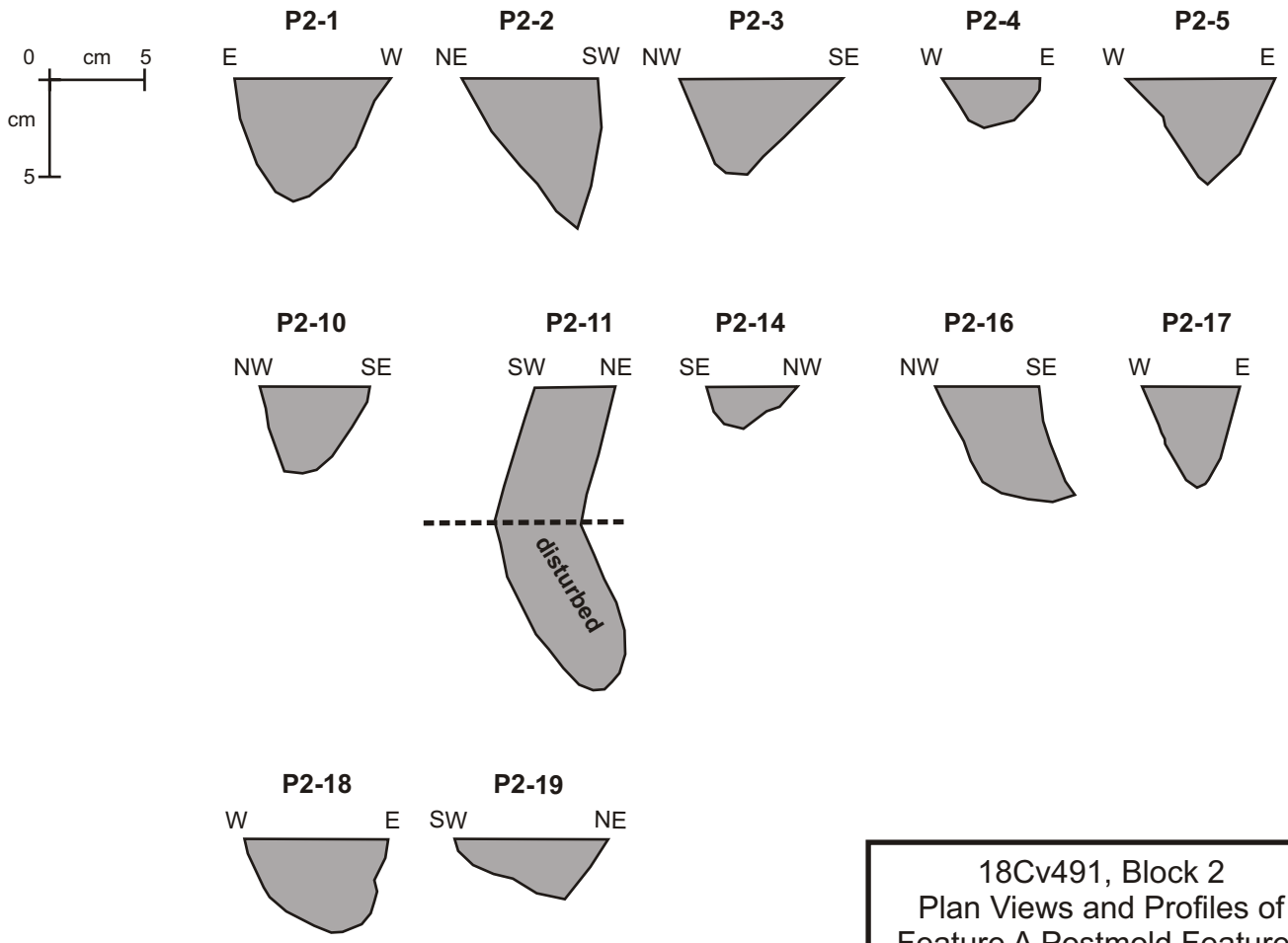
Rank 2 features consisted of probable postmold features. These features were those that were well-aligned with the overall pattern and possessed uniform opening forms, but had poor profiles. These features include severely truncated features and features that have been

FIGURE 47: Opening view of 18CV491, Block 1/Feature A postmold pattern. Locations of postmold features are marked with flagging. Photograph taken facing southeast.

FIGURE 48: Opening View of Postmolds P2-2 and P2-3 at 18CV491, Block 1/Feature A.



Representative Profiles of Block 2, Feature A Postmold Features

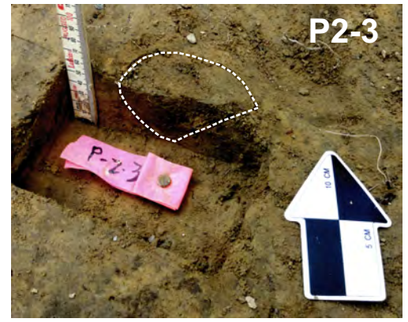


18Cv491, Block 2
Plan Views and Profiles of
Feature A Postmold Features

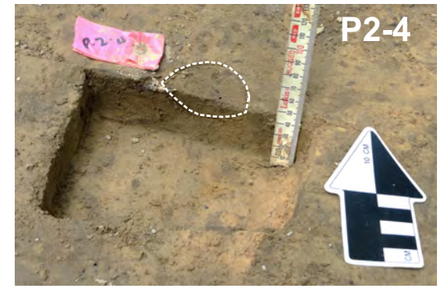
FIGURE 49

P2-1, mid-excavation

P2-2, excavated

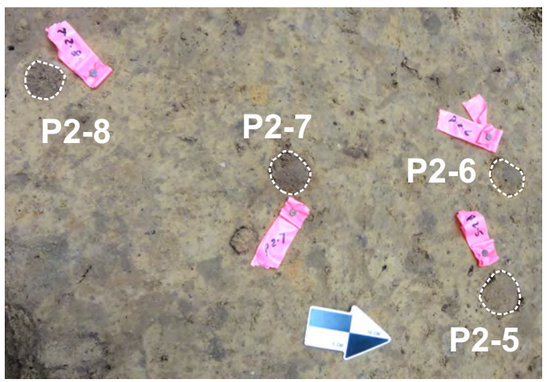


P2-3, mid-excavation

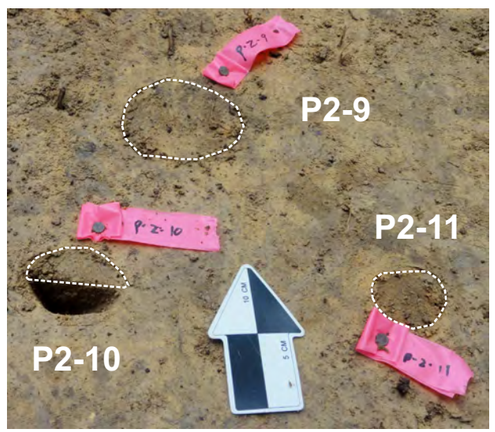


P2-4, mid-excavation

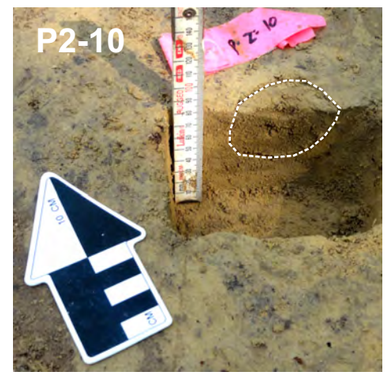
P2-5, mid-excavation



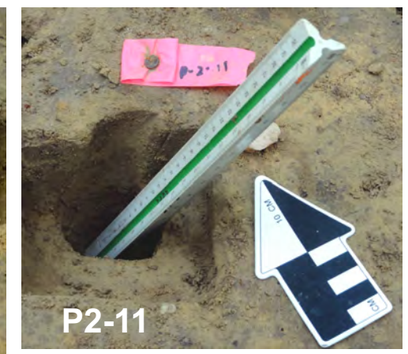
P2-5, P2-6, P2-7, and P2-8, opening plan view



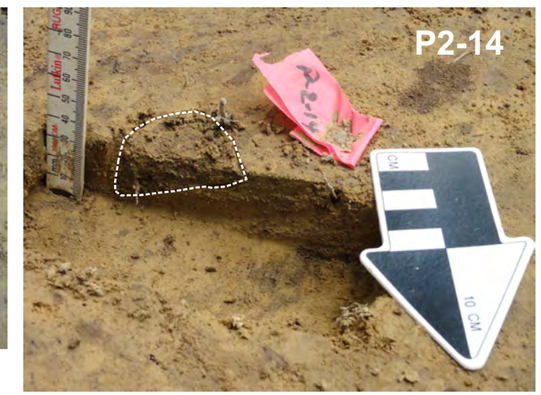
P2-9, opening plan view



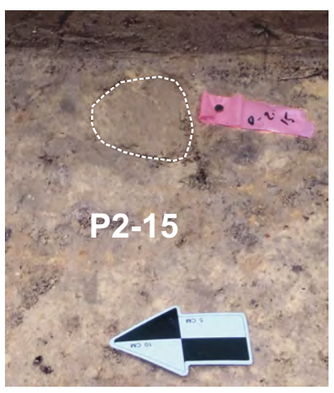
P2-10, mid-excavation



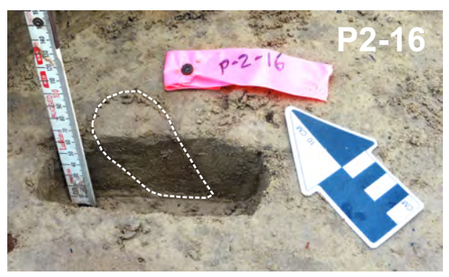
P2-11, excavated



P2-14, mid-excavation



P2-15, opening plan view



P2-16, mid-excavation

P2-17, mid-excavation

P2-18, mid-excavation

P2-19, mid-excavation

18Cv491, Block 2, Feature A
Representative Photographs
of Postmold Features

FIGURE 50

Table 14:
18Cv491: Summary Table of Identified Potential Postmold Features of Feature A

List of Postmold Features

POST	UNIT	RANK*	TILT**	DIMENSIONS (cm) ~dia.	DIMENSIONS (cm) depth***
P2- 1	6	1	none	8.0	6.5
P2- 2	3 & 6	1	SW-NE	7.0	8.0
P2- 3	3	1	none	8.0	5.0
P2- 4	2	1	W-E	5.0	5.0
P2- 5	1	1	W-E	8.0	5.5
P2- 6	1	2	E-W	5.0	<2.5
P2- 7	1	2	none	7.0	<2.5
P2- 8	4	2	none	4.5	<2.5
P2- 9	4	2	N-S	9.5	<2.5
P2- 10	4	1	W-E	6.5	4.5
P2- 11	4	1	W-E	4.0	7.0
P2- 12	8	2	W-E	11.0	compromised
P2- 13	8 & 9	3	none	7.0	disturbed
P2- 14	6	1	SE-NW	5.0	2.5
P2- 15	6	2	?	9.0	compromised
P2- 16	10	1	SE-NW	5.0	6.0
P2- 17	10	1	none	5.0	5.0
P2- 18	10	1	E-W	8.0	5.0
P2- 19	10	1	NE-SW	8.0	3.0

19 potential postmold features initially identified

Rank Proportions

Rank	#	%
1	12	63.16%
2	6	31.58%
3	1	5.26%
	19	100.00%

Rank	#	%
1 & 2	18	94.74%
3	1	5.26%
	19	100.00%

***Rank**

1 = postmold feature - intact

2 = probable postmold feature - compromised
feature is either < 2.5 cm deep
and/or bottom is heavily compromised
(e.g., root, rodent, plow disturbances)

3 = non-cultural feature or former postmolds
that are no longer discernable
due to severe disturbance

* Tilt: bottom - top

** Depth: depth below bottom of plow zone

Averages and Standard Deviation of Dimensions

Dimension	max	min	ave	*st.dev.*
Diameter	11.00	4.00	6.87	1.87
Depth	8.00	2.50	5.25	*1.54*

compromised by natural intrusions to a point where the exact depth/tilt of the post shaft could not be accurately, or objectively, delineated in profile. Six postmold candidates were classified as Rank 2 features (**Table 14**). Four of these features, P2-6 through P2-9 were located in areas where evidence of deep plowing was apparent and upon excavation, were found to extend less than 2.5 centimeters into the subsoil. The other two Rank 2 features, P2-12 and P2-15 were found to be cross cut by root/rodent disturbances.

Features determined to be non-cultural during the early stage of excavation, but still within alignment with the overall pattern, were classified as Rank 3. One feature, P2-13, was classified as a Rank 3 feature. This feature was identified amidst several root/rodent disturbances and in an area where plowing had been deep. While P2-13 was concluded to be non-cultural, it has also been given the benefit of doubt. Given its location, P2-13 could very well represent a former postmold that is no longer discernable as such due to the severity of past trauma.

No artifacts were recovered from the fill of any of the postmold features.

The tilt and horizontal configurations of the postmolds reflect a prevailing house pattern, but also suggests the feature area has been subjected to repeated use. The prevailing house feature of Feature A is oval in shape, and approximately three meters long by two meters wide. Beginning from TU 6, the approximated perimeter of the prevailing pattern crosses units TUs 6, 3, 2, 1, 10, 4, 8, and 9. The long axis of the house feature is oriented northwest-southeast. Two breaks in the postmold pattern, one break between P2-11 and P2-14 (omitting P2-13) and a break in the (larger) arc between P2-19 and P2-14, suggest that the house was probably accessed from its south side. The vicinity of Features P2-5 through P2-8 may represent a series of replacement posts. It is also possible that P2-7 and P2-8 are remains of internal support posts. The configuration of P2-9, P2-10, P2-11, also suggest installation of replacement or support posts (**Figure 42** and **Figure 49**).

2. Artifact Distributions of Feature A

In order to minimize redundancy in this discussion, the reader is advised to consult **Figures 38-40**, **Tables 8-9**, and **Appendix IV** for detailed enumerations of the artifacts recovered by individual proveniences. That said, some reiteration of the artifact distribution data presented earlier in this document is necessary for the purposes of this discussion. **Figure 51** and **Figure 52** present a series of composite maps with the outline of the house pattern and distributions of select artifact classes.

As noted earlier, a total of 1,123 prehistoric artifacts were recovered from Block 2/Feature A. Artifacts were recovered from all sixteen test units within the block.

The recovered assemblage contains 775 flakes, 135 utilized flakes, twenty-five flake tools, nine miscellaneous chipped stone tools, nine projectile points, eleven point fragments, eleven early-mid stage bifaces/biface rejects (ESBR), one late stage biface reject (LSBR), twelve biface fragments, five worked/test cobbles, two core fragments, twenty-seven pieces of shatter, four hammerstones, eighty-seven pieces of fire-cracked rock, and two small bone

fragments. The assemblage also contains seven cortex spalls that are possible flakes and one piece of (non-local) slate. The slate is likely a historic manuport.

The individual unit assemblages range from eighteen artifacts to 172 artifacts in size (**Table 8 and Table 11**). The test units that yielded the five largest artifact assemblages are TU 8 (n=172), TU 9 (n=169), TU 6 (n=124), TU 16 (n=111), and TU 15 (n=91). TU 9 also yielded the largest subsoil assemblage (i.e. Zone 2 – Zone 4) with a total of 119 artifacts (**Figures 38-40**).

3. Distribution of Diagnostic Artifacts in Block 2/Feature A

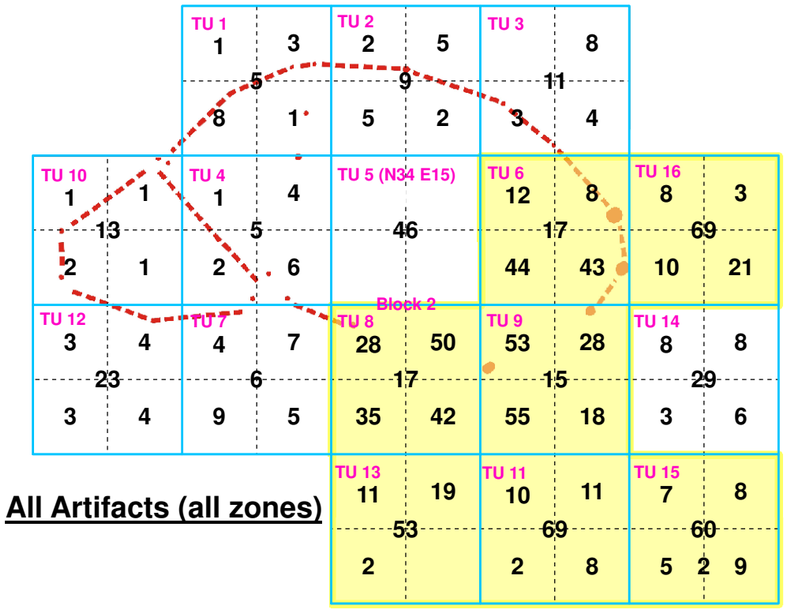
The nine diagnostic points were recovered from eight units in Block 2. These points consist of one quartzite fishtail/orient point (TU 13), one Piney Island variant stemmed point (TU 16), one contracting stemmed point (TU 8), four Piscataway points (TU 6, TU 9, TU 14, and TU 15,), one ovate/teardrop form base (TU 8), and one small triangle point (TU 4) (**Figure 51**).

Three of the points, two Piscataway points (TU 6 and TU 14) and the triangle point (TU 4), are quartz. The other points are quartzite. The ovate/teardrop base is larger than the recovered Piscataway points, and as such, may be a base from a Rossville point. The contacting stem variant from TU 8 is a crudely made, generalized form that appears to be towards the end stages of manufacture. Although it is becoming widely accepted that triangle points were not exclusive to Late Woodland Period, the TU 4 triangle has been conservatively attributed to the Late Woodland Period. The recovery of the TU 4 triangle from a mixed stratum in the upper depths of the profile and broken condition of the point provide little to no analytical evidence to support otherwise since the identification of pre-Late Woodland triangle points is still heavily-dependent on contextual data. The extant specimen is also too broken and too worn to assign it a subtype.

Only two points were recovered from proveniences that are clearly inside the perimeter of the house pattern. These points are a quartzite Piscataway point from the northwest quadrant of TU 6 and the quartz triangle point from TU 4. Both points were extracted from the compromised horizons above the intact subsoil. The Piscataway point was recovered from Zone 1B, the buried plow zone horizon. The triangle was recovered from Zone 1A, the slopewash mantle.

Only two of the Block 2/Feature A points were recovered from intact subsoil contexts; that is to say, from Zone 2 or lower. These points are the quartzite contracting stemmed point, which was obtained from Zone 2 in the southeast quadrant of TU 8, and a quartzite Piscataway point, which was recovered from Zone 4B (30-40 cm below 2Apb2) in the northeast quadrant of TU 14. The excavation proveniences of TU 14's contracting stem point and TU 8's Piscataway point are located approximately ten centimeters south and fifty centimeters east of the house pattern perimeter, respectively.

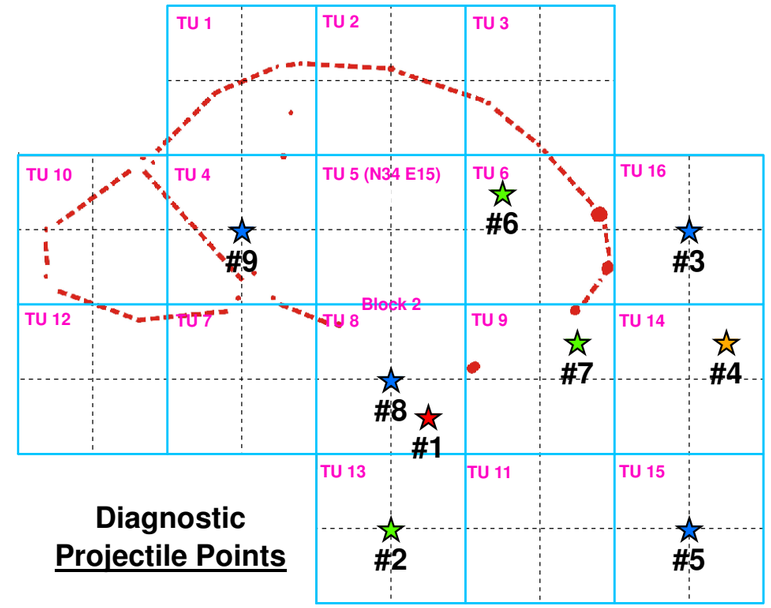
Although the contracting stemmed point from TU 8 was not precisely recovered inside the house pattern perimeter, its close proximity to the pattern and recovery in association with several intact subsoil artifact concentrations that straddle the perimeter indicate that the point



All Artifacts (all zones)

Artifact Totals

TU	sum
1	18
2	23
3	26
4	18
5	46
6	124
7	31
8	172
9	169
10	18
11	100
12	37
13	85
14	54
15	91
16	111
Sum	1123



Diagnostic Projectile Points

Recovered Points

Point	type	TU	quad	Zone
#1	contracting stem variant	8	SE	2
#2	fishtail/ orient	13	-	1B
#3	Piney Island	16	-	1A
#4	Piscataway	14	NE	4B
#5	Piscataway	15	-	1A
#6	Piscataway	6	NW	1B
#7	Piscataway	9	NE	1B
#8	teardrop/ovate (Rossville)	8	-	1A
#9	triangle	4	-	1A

★ Zone 1A (slopewash)

★ Zone 1B (buried plow zone)

★ Zone 2 (intact subsoil)

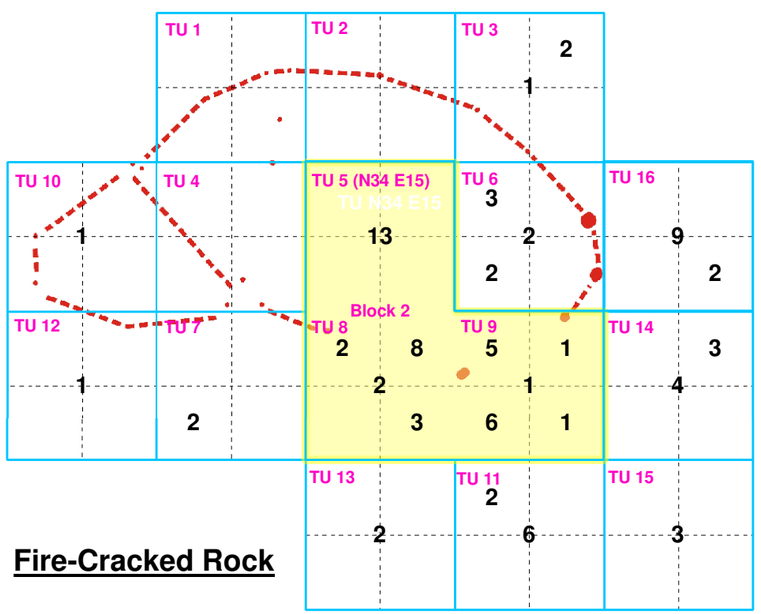
★ Zone 4B (intact subsoil)

N

0 0.5 1
Meters

artifact concentration

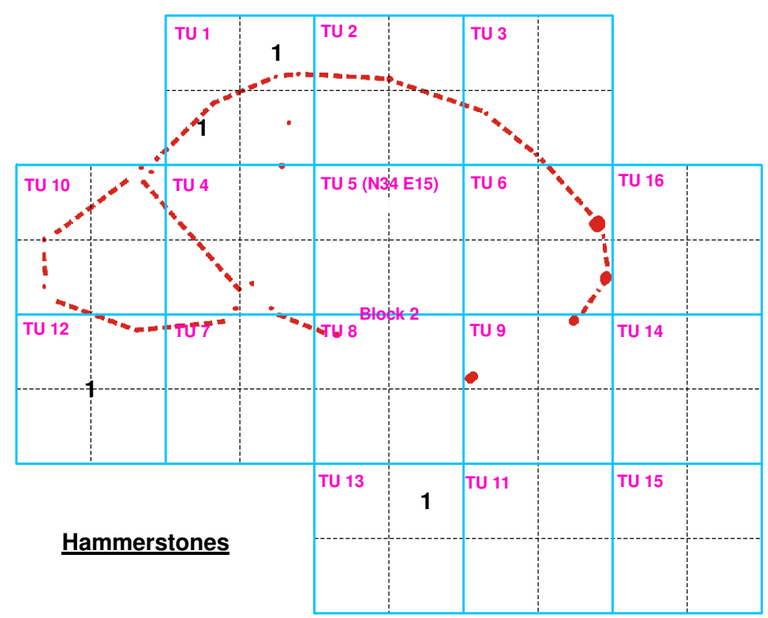
Feature A Post Mold Pattern



Fire-Cracked Rock

Fire-Cracked Rock Totals

TU	FCR
1	0
2	0
3	3
4	0
5	13
6	7
7	2
8	15
9	14
10	1
11	8
12	1
13	2
14	7
15	3
16	11
Sum	87

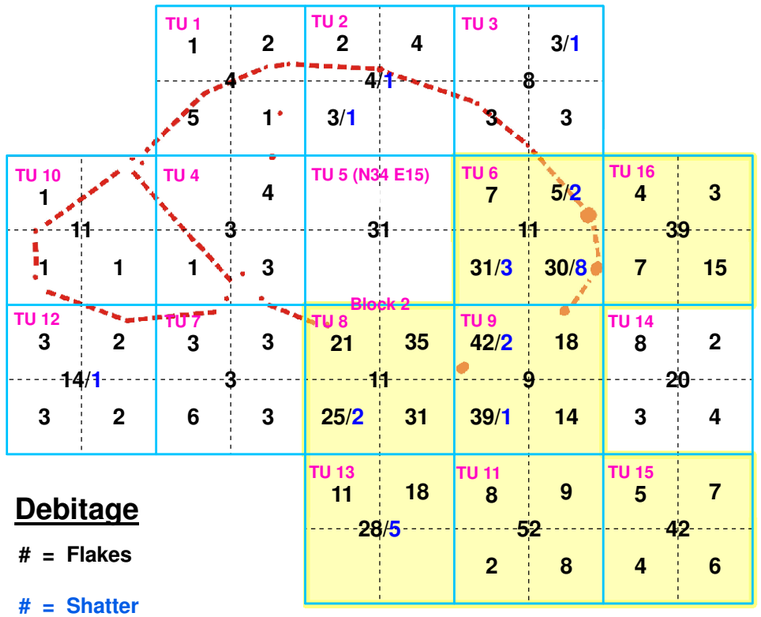


Hammerstones

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 2, Feature A Distribution of Total Assemblage, Points, FCR, and Hammerstones

FIGURE 51



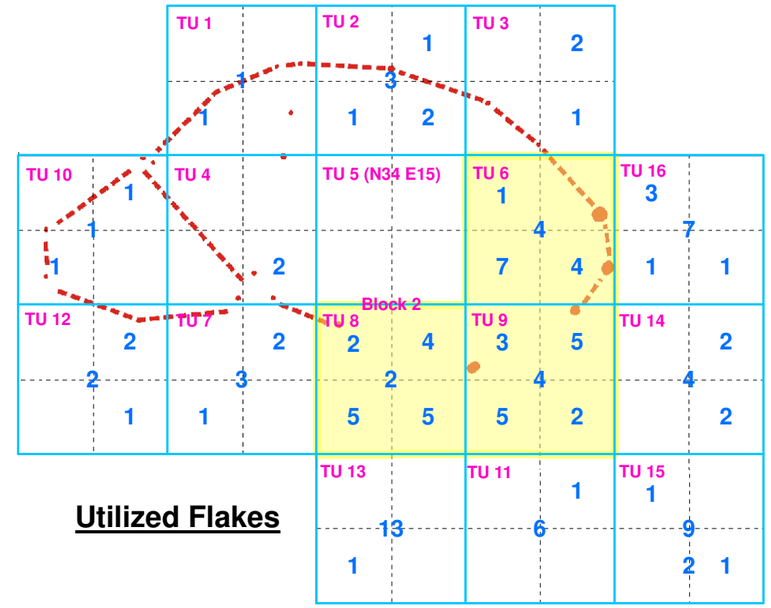
Debitage

= Flakes

= Shatter

Debitage Totals

TU	Flakes	Shatter	Sum
1	13	0	**13**
2	13	2	**15**
3	17	1	**18**
4	11	0	**11**
5	31	0	**31**
6	84	13	**97**
7	18	0	**18**
8	123	2	**125**
9	122	3	**125**
10	14	0	**14**
11	79	0	**79**
12	24	1	**25**
13	57	5	**62**
14	37	0	**37**
15	64	0	**64**
16	68	0	**68**
Sum	**775**	**27**	**802**



Utilized Flakes

Utilized Flake Totals

TU	Total
1	2
2	7
3	3
4	2
5	0
6	16
7	6
8	18
9	19
10	3
11	7
12	5
13	14
14	8
15	13
16	12
Sum	**135**

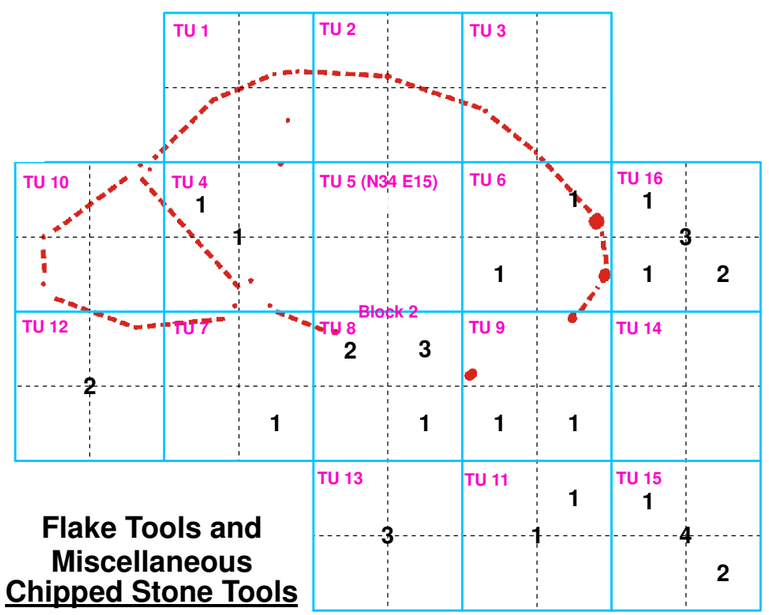
N

0 0.5 1

Meters

artifact concentration

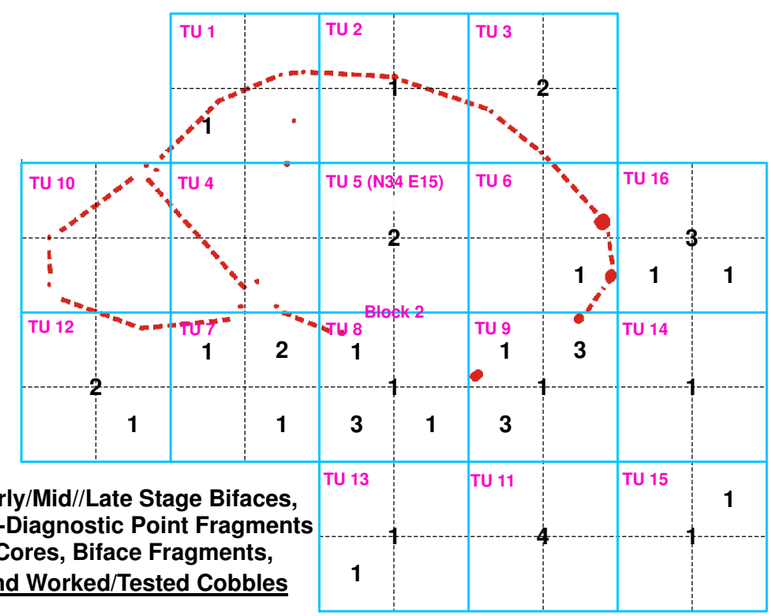
Feature A Post Mold Pattern



Flake Tools and Miscellaneous Chipped Stone Tools

Flake Tools & Misc. Tools Totals

TU	Flake Tools	Misc. Chipped Stone Tools	Sum
1	0	0	**0**
2	0	0	**0**
3	0	0	**0**
4	0	2	**2**
5	0	0	**0**
6	1	1	**2**
7	1	0	**1**
8	5	1	**6**
9	1	1	**2**
10	0	0	**0**
11	2	0	**2**
12	0	2	**2**
13	3	0	**3**
14	0	0	**0**
15	5	2	**7**
16	7	0	**7**
Sum	**25**	**9**	**34**



Early/Mid//Late Stage Bifaces, Non-Diagnostic Point Fragments Cores, Biface Fragments, and Worked/Tested Cobbles

Bifaces, Point Fragments & Cores

TU	Point Fragments (non-diagnostic)	Early-Mid Stage Bifaces	Late Stage Bifaces	Biface Fragments	Cores/Core Fragments	Worked Stone/ Tested Cobble	Sum
1	1	0	0	0	0	0	**1**
2	0	0	0	0	0	1	**1**
3	0	0	0	1	0	1	**2**
4	0	0	0	0	0	0	**0**
5	0	1	0	0	0	1	**2**
6	1	0	0	0	0	0	**1**
7	0	0	0	1	1	2	**4**
8	3	1	0	2	0	0	**6**
9	2	3	0	2	1	0	**8**
10	0	0	0	0	0	0	**0**
11	0	1	1	2	0	0	**4**
12	1	0	0	2	0	0	**3**
13	1	1	0	0	0	0	**2**
14	0	1	0	0	0	0	**1**
15	1	1	0	0	0	0	**2**
16	1	2	0	2	0	0	**5**
Sum	**11**	**11**	**1**	**12**	**2**	**5**	**42**

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 2, Feature A
Lithic Artifact Distributions

FIGURE 52

is clearly within the immediate catchment area of the house (**Figure 51 and Figure 52**). Similar remarks are also applicable the rest of the artifacts from TUs 8 and 9, which include the teardrop/ovate/Rossville base from Zone 1A of TU 8 and the Piscataway point from Zone 1B of the northeast quad of TU 9. Given the series of northwesterly-southeasterly plow scars that transect the house pattern and the break in the postmold pattern between TUs 8 and 9, it likely that both TU 8 and TU 9 are located in a portion of the house where the boundary was either less defined, such as an access, or has been disturbed beyond recognition (**Figure 42**).

The sub-plowzone feature fill of Block 2/Feature A was discovered to be intact, but not stratified enough to allow for dating or vertical definition of individual occupations. While the ca. 4050 B.C. - 50 B.C. Piscataway point (Steponaitis 1980; http://www.jefpat.org/ diagnostic/Maryland_Projectile_Points/index-projectilepoints.html) from TU 14, Zone 4B is slightly more diagnostic than the generalized contracting stem point (5000 B.C. and A.D. 800 (Custer 1996, 2001) from TU 8/Zone 2, neither point is particularly diagnostic since both span the Archaic through Middle Woodland periods. At best, the Piscataway point indicates that the intact deposits postdate 4050 B.C. Of the points that were recovered in Block 2/Feature A, the only point that they could predate is the presumed Late Woodland triangle from TU 4.

Little else can be said about these points other than that their attributed date ranges overlap with the fishtail/orient point (ca. 1500 B.C. – 750 B.C. (Steponaitis 1980; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html), the Rossville point (ca. 730 B.C. – A.D. 640,), the Piney Island point (general ca. 3000 B.C. – 500 A.D.; 1000 B.C. –A.D. 500 for <50mm; Custer 1996, 2001), as well as the other Piscataway points that were recovered from Zone 1A/Zone 1B. Collectively, the date ranges of these points span the Late Archaic through Middle Woodland Periods, but the best concurrent overlap of all of the individual types appears to coincide with the Early Woodland Period.

Late Woodland use of the Feature B area is demonstrated by the triangle point (A.D. 950 – A.D. 1600; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html).

4. Distribution of Fire-Cracked Rock in Block 2/Feature A

Eighty-seven fragments of fire-cracked rock were recovered from Block 2/Feature A. With the exception of one fragment from Zone 3, the fire-cracked rock assemblage is relatively evenly divided amongst Zone 1A (n=24), Zone 1B (n=28), and Zone C (n=32).

Slightly less than half of the assemblage, 42 fragments, were recovered from TUs 5, 8, and 9. These three contiguous units in the southeastern section of the house pattern recovered thirteen, fifteen, and fourteen pieces of fire-cracked rock, respectively. Based on the horizontal and vertical distributions of fire-cracked rock, it is believed that the concentration of fire-cracked rock in TUs 5, 8, and 9 represents the remains of a shallow hearth. A small concentration of 11 pieces of fire-cracked rock in TU 16 along the east side of the pattern may represent the remains of another hearth feature (**Figure 42** and **Figure 51; Table 9** and **Table 12**).

5. Distribution of Lithic Artifacts in Block 2/Feature A

A total of 1,013 non-diagnostic chipped lithic artifacts were recovered from Block 2/Feature A.

Seven hundred and seventy-five (775) of the chipped lithic artifacts are unmodified flakes. Approximately one third of these flakes, 31.16 percent, were recovered from TU 8 (n= 123) and TU 9 (n=122). The debitage assemblage also contains twenty-seven pieces of shatter, thirteen of which were recovered from TU 6. Although debitage was recovered from all of the Block 2/Feature A units, these artifacts are concentrated in the southeast half of the feature block (**Figure 55**).

The non-diagnostic lithic assemblage contains 211 tools, most of which are expedient forms. The tool assemblage is composed of 135 utilized flakes, twenty-five flake tools, nine miscellaneous stone tools, eleven non-diagnostic point fragments, eleven early-mid stage biface rejects/fragments (ESBR), one late stage biface reject/fragment (LSBR), twelve biface fragments, five worked/tested cobbles, and two cores/core fragments.

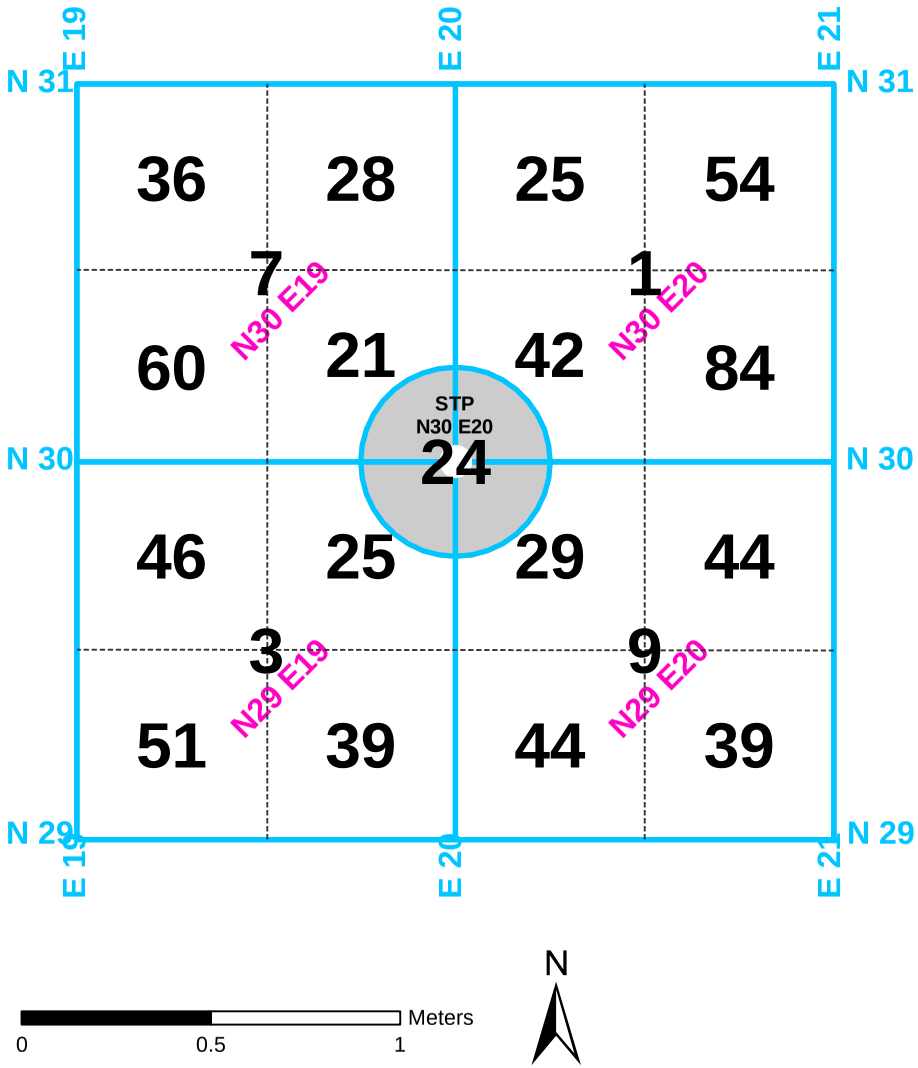
As evident from the artifact totals presented above, over half of non-diagnostic tools are utilized flakes. These expediently-made disposable tools comprise 63.98 percent of the non-diagnostic tool assemblage. Utilized flakes were recovered routinely throughout the profile and across Block 2/Feature 1, but higher percentages of these artifacts were recovered from the remnants of the buried plow zone that were excavated as Zone 1B. Zone IB excavations produced fifty-two utilized flakes, nearly 1.5 times the amount collected from the overlying Zone 1A slopewash (n=37) and almost double the amount that was collected in the underlying Zone 2 subsoil (n=28). An additional eighteen utilized flakes, fifteen from Zone 3, and three from Zone 4, were recovered from the lower depths of the intact subsoil. TUs 9 (n=19), 8 (n=18), and 6 (n=16) yielded the three largest utilized flake assemblages amongst the units crossed by, or adjacent to, the house pattern perimeter. Like the flakes, the utilized flakes are concentrated mostly in the southeast half of the feature (**Figure 55**).

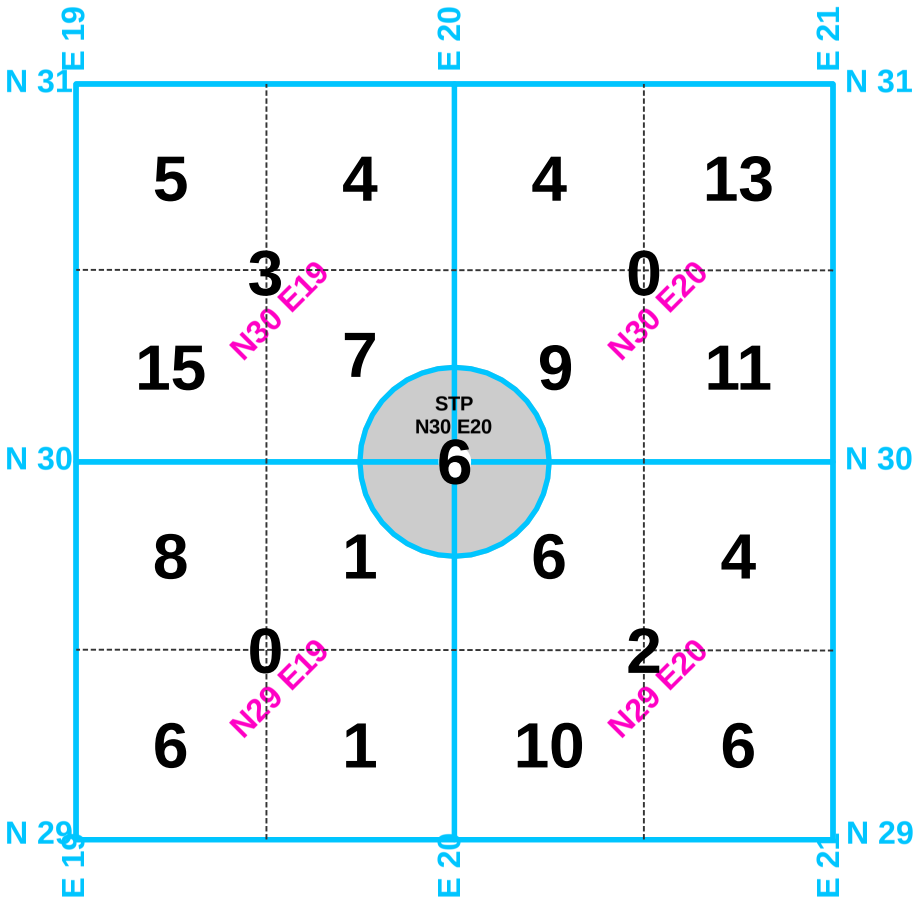
The flake tools (n=25) and miscellaneous chipped stone tools (n=9) generally mimic the distribution patterns exhibited by the utilized flakes. Most of these tools were also recovered from the southeastern units. The distribution of these artifacts is interesting in that it is somewhat oriented along a northwesterly-easterly axis that transects Feature A and Feature B. Two small collections of flake tools, five each, were recovered from TU 8 and TU 15. Although these ten flake tools were recovered randomly from Zone 1A through Zone 2 in their units, they are interesting as small subassemblages.

Collectively, the bifaces (early-mid = 11, late =1), biface fragments (n=12), worked/test cobbles (n=5), and cores (n=2) exhibit an interesting distribution pattern. While these artifacts are also concentrated in the southeastern half of the feature block they are tightly clustered along the southern arc of the house pattern perimeter. Aside from a few examples that could represent “lost” items, most of these artifacts are exhausted, small fragments, and/or severely damaged.

FIGURE 53: View of Block 1/Feature B after removal of Zones 1A and Zones 1B showing remains of Phase I STP N30E20 and root disturbances. Photograph taken facing north.

FIGURE 54: View of Block 1/Feature B and Block 2/Feature B after excavation. Block 1/Feature B is on right side of photograph. Photograph taken facing southwest.





Note:: Quantities shown in center of Block were recovered from STP N30 E20 and from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 1, Feature B
Artifact Distribution by Quadrant

FIGURE 55

As is apparent in **Figure 52**, the artifacts associated with Feature A are clearly concentrated in and oriented to the southeast. The overlapping concentrations of fire-cracked rock, various tool classes, and general debris (e.g., exhausted/rejected tools and debitage) are strong indications that southeastern portion of the house feature functioned as the primary work/activity area for various daily activities.

The four hammerstones from Block 2/Feature A were collected from random locations around the peripheries of the Block 2/Feature A house pattern (**Tables 5, 9, 11** and **13**). Aside from their recovery "outside" of the house patterns, these artifacts do not exhibit any notable trends in their horizontal or vertical distribution. They also do not distinctly coincide with any particular tool type.

G. Summary of Feature B (Block 1)

Block 1/Feature B encompasses the remains of a small work area/chipping station. The feature is represented in the archeological record as a dense lithic artifact concentration. The feature encompasses a four square meter area that is situated approximately two meters southeast of the Block 2/Feature A house feature.

The excavation of Block 1/Feature B was conducted via a 4-unit block centered around shovel test pit (STP) N30E20, which was excavated during the 2008 Phase I/II survey (Silber et al. 2008) (**Figure 19, 36, 37** and **53**). Cultural material associated with Block 1/Feature B was recovered from the slopewash mantle (Zone 1A), the buried plow zone (Zone 1B, 2APb), and from the underlying truncated subsoil (Zone 2-Zone 4; 2BEb). The top of the subsoil was situated at between thirty-five and forty (35-40) centimeters below the surface. Overall, Feature B was observed to possess good sub-plow zone physical integrity, and the cultural material within the subsoil was found to be intact, but not stratified. The best preserved deposits in the intact subsoil averaged twenty centimeters in thickness, meaning that they were located in excavation Zones 2 and 3. The intact cultural material was generally confined to the buried BE horizon (2BEb2); however, in some places, researchers discovered that some cultural material had migrated into the upper depths of the argillic horizon (2Btb) through bioturbation. The top of culturally sterile subsoil marked the bottom of the feature. The top of culturally sterile soil was reached at approximately sixty-six centimeters below the surface.

Portions of the soil profile along the east side of the feature were discovered to have been compromised by an invasive tree. Root disturbances were most severe in the two northeasternmost 50cm quadrants of the feature. During the excavation of these quadrants, project archeologists continued to retrieve artifacts in the vicinity of the tree root mass for an additional ten to fifteen centimeters below Zone 3 before reaching sterile subsoil. The test unit that encompasses these quadrants, TU N30E20, was the only test unit of the feature block that retrieved cultural material from Zone 4. In these quadrants, the top of sterile subsoil was recorded at approximately seventy-six centimeters below the surface (**Figures 37** and **53**).

In order to minimize redundancy in this discussion, the reader is advised to consult **Figures 36** and **37**; **Tables 5, 8, 9** and **10**; as well as **Appendix IV** for detailed inventories of the artifacts recovered from the individual proveniences of Block 1/Feature B. That said, some reiteration of the artifact distribution data presented earlier in this document is necessary for the purposes of this discussion. **Figure 55** and **Figure 56** present a series of composite maps that provide distributions of select artifact classes across the feature block.

A total of 711 artifacts were recovered from Block 1/Feature B (**Figures 36** and **37; Tables 5, 8, 9** and **10**). The highest number of artifacts retrieved from a single unit was 206. This assemblage was recovered from TU N30E20. TUs N29E19, N29E20, N30E19, yielded 164, 165, and 152 artifacts, respectively. Twenty-four artifacts were randomly recovered from the prior Phase I STP at N30E20 and through general block floor/wall scraping.

The cultural material of Feature B was discovered to be mostly concentrated in the buried plow zone horizon (Zone 1B; 2Apb2) and in the first ten centimeters of the underlying subsoil (Zone 2; 2BEb). Of the 711 artifacts that were recovered from the Block 1/Feature B, only ninety-nine artifacts were not collected from Zones 1A, 1B, or 2 (**Figures 36** and **37**). Most of the Zone 3 artifacts, forty-five artifacts, as well as all of the Zone 4 artifacts were recovered from N30E20 amidst the root mass of the aforementioned tree located in the northeast corner of the feature block. Twelve, fourteen, and twelve artifacts were recovered from Zone 3 in TUs N29E19, N29E20, and N30E19, respectively.

The Block 1/Feature B artifact assemblage contains 590 flakes, thirteen pieces of shatter, thirty-two utilized flakes, eight flake tools, one miscellaneous stone tool, three diagnostic projectile points, two non-diagnostic projectile point fragments, two early-mid stage biface rejects/fragments, one late stage biface reject/fragment, eleven biface fragments, three worked/tested cobbles, three core/core fragments, four ceramic sherds, one hammerstone, one cobble tool, and thirty-one pieces of fire-cracked rock.

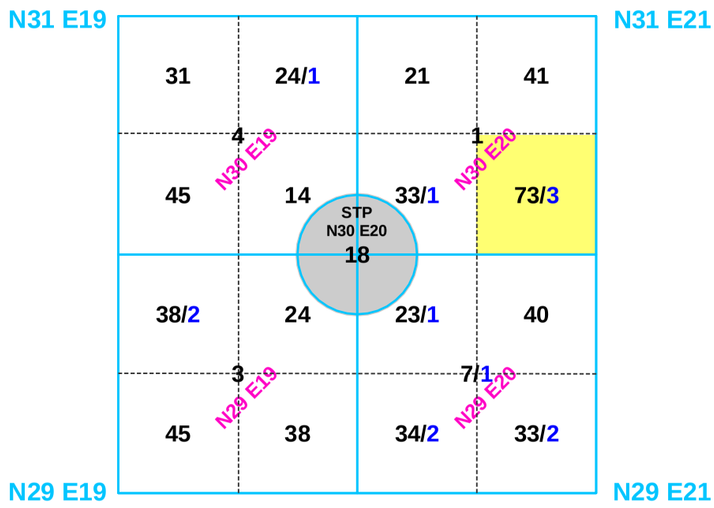
The assemblage also includes one cobble fragment with physical characteristics suggestive of human use and three pieces of (non-local) slate. The deposition of the slate is believed to be historical.

1. Diagnostic Artifacts from Block 1/Feature B

The diagnostic artifact assemblage of Block 1/Feature B contains eight artifacts, three projectile points and five ceramic sherds.

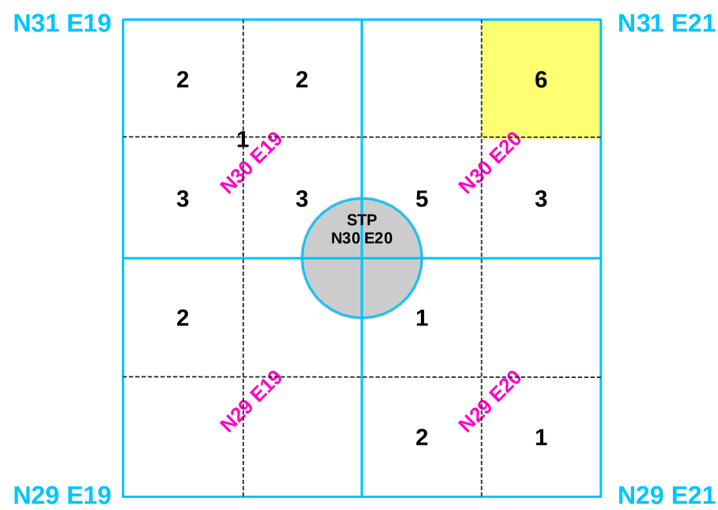
All three of the projectile points were recovered from TU N30E19. These points are one quartz contracting stem variant from Zone 1A, one quartzite Piscataway base from Zone 2, and one quartz triangle from Zone 1B. The contracting stem point is small, heavily-worn and has a fractured base. The point is a generalized form and does not particularly resemble any established regional stemmed types. Although it is becoming widely accepted that triangle points were not exclusive to Late Woodland Period, the TU N30E19 triangle has been conservatively attributed to the Late Woodland Period. The recovery of the TU N30E19 triangle from a mixed stratum in the upper depths of the profile and broken condition of the

Debitage



= Flakes # = Shatter

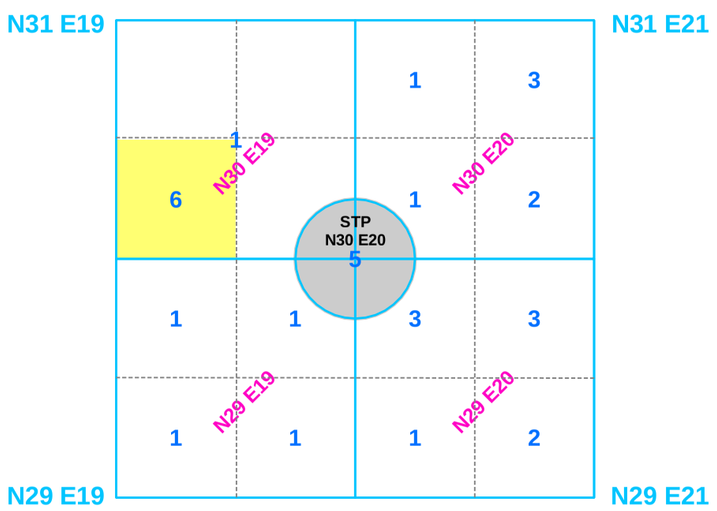
Fire-Cracked Rock



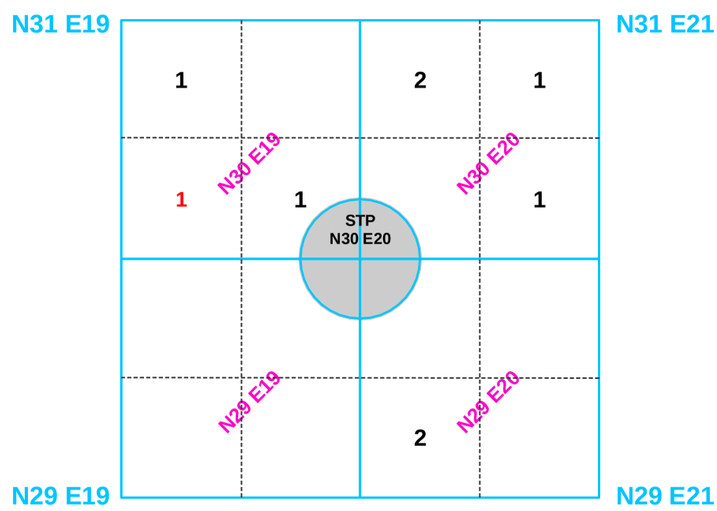
N

artifact concentration (if any)

Utilized Flakes



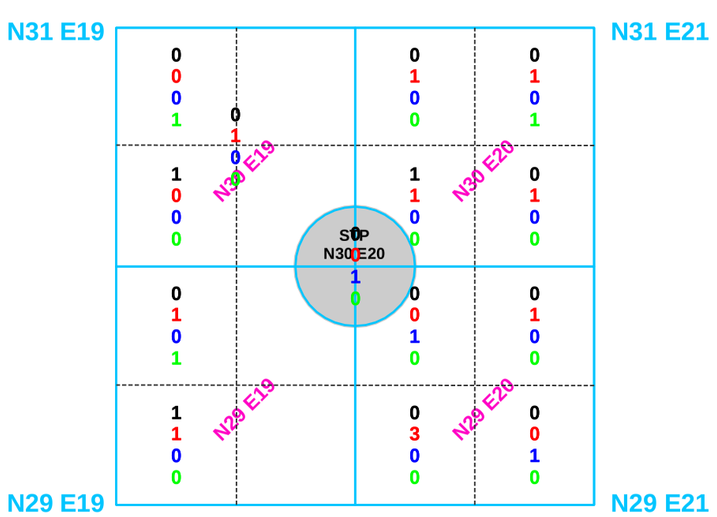
Flake Tools and Miscellaneous Chipped Stone Tools



= Flake Tools # = Miscellaneous Chipped Stone Tools

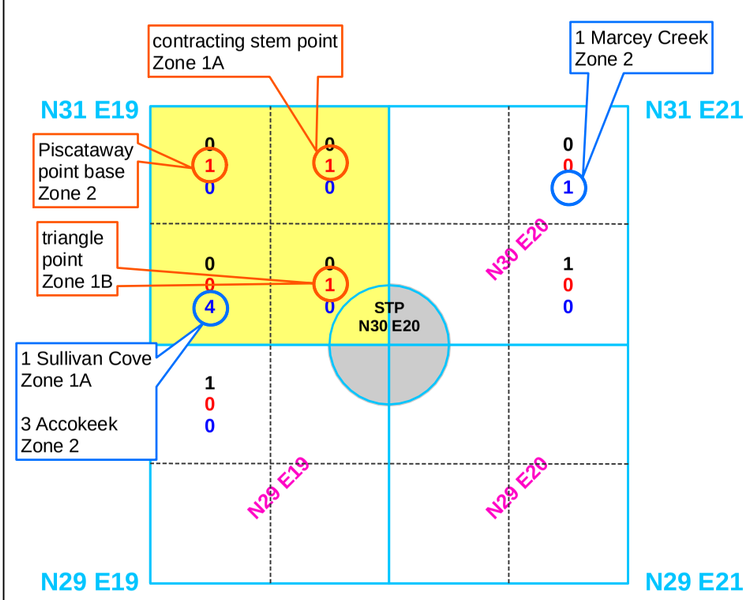
Meters
0 0.5 1

Early-Mid and Late Stage Bifaces, Cores, Biface Fragments and Worked/Tested Cobbles



= LSBR and ESBR
= Biface Fragment
= Worked/Tested Cobble
= Core

Point Fragments (non-diagnostic), Points and Ceramic Sherds



= Point Fragment # = Point # = Ceramic Sherd

Note:: Quantities shown in center of Block were recovered from STP N30 E20 and from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv491 - Block 1, Feature B
Artifact Distribution by Type

FIGURE 56

point provide little to no analytical evidence to support otherwise since the identification of pre-Late Woodland triangle points is still heavily-dependent on contextual data. Of the established Late Woodland triangle subtypes, the point is closest in form to a Madison point.

The non-diagnostic point fragment that was collected from Zone 3 of TU N30E20 warrants mention. This artifact is the proximal end of a contracting stemmed point. While there is not enough of the point form to properly classify it in accordance with established regional type systems, the tapered stem of this point fragment is similar to those of Poplar Island points (ca. 5000 B.C. – A.D. 1000; Custer 1996, 2001). Like many stemmed types, Poplar Island points have an estimated date range that spans the Middle Archaic through Middle Woodland Periods, but regional studies have shown that these points most likely postdate 2500 B.C. (Custer 1996a, 2001). These studies have also revealed that larger Poplar Island variants tend to date between 2500 B.C. and 0 A.D. whereas smaller examples are more apt to be found in association with occupations that postdate 0 A.D. (Custer 2001, 1996). Unfortunately, the dimensions of the point from which the TU N30E20 fragment was derived are not known.

The combined dates of the Piscataway point (ca. 4050 B.C. - 50 B.C. http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html) and the (probable) Madison triangle (ca. A.D. 1250 – A.D. 1600; Steponaitis 1980; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html) span the Late Archaic through Woodland Period. The contracting stem point is too general in form to afford it a date other than ca. 5000 B.C. - A.D. 800 (Custer 1996, 2001). While the contracting stem point neither contributes to nor detracts from the composite date range of the other two points, the possible Poplar Island point fragment does imply that the feature deposits postdate 2500 B.C.

The ceramic assemblage contains two Early Woodland wares and one Late Woodland ware. The Early Woodland ceramic assemblage contains one sherd of Marcey Creek ware (1200 B.C. – 800 B.C.; Egloff and Potter 1982) and three sherds of Accokeek ware (900 B.C. – 300 B.C.; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). The Late Woodland contains one Sullivan Cove Plain sherd (1250 A.D. – 1600 A.D.; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). All five sherds are small and heavily-weathered. The three Accokeek sherds are burned.

Both Early Woodland wares were recovered from the first ten centimeters of the intact subsoil Zone 2. The Marcey Creek sherd was recovered from the northeast quadrant of TU N30E20. The three Accokeek sherds were recovered together from the southwest quadrant of TU N30E19. The Sullivan Cove Plain sherd was recovered from the lower depths of the Zone 1A slopewash in TU N30E19.

Collectively, the Piscataway point, Marcey Creek, and Accokeek sherds provide a strong Early Woodland context for the intact sub-plow zone cultural deposits of Feature B. The recovery of these three artifact types in association with one another also has broader site implications since it places the Piscataway point with an Early Woodland Period occupation.

The Sullivan Cove Plain sherd indicates subsequent use of the feature area during the Late Woodland Period. The sherd also supports the proposition of the recovered triangle as a Late Woodland artifact.

2. Distribution of Artifacts in Block 1/Feature B

The overall artifact assemblage is relatively randomly distributed across Feature B. Most of higher artifact counts are due to debitage (**Figures 55** and **56**). Aside from a few exceptions, the distribution of individual tool classes trend towards consistency across the feature rather than dramatic peaks in artifact quantity.

For example, six of the eight flake tools were recovered from the north half of the feature. Pursuant to the aforementioned, one could say that the flake tools are clustered in the north half of the feature, but this observation is not particularly meaningful since 1) only six 50cm quadrants yielded flake tools; 2) no more than two flake tools were recovered from any one quadrant; and 3) one of the two-tool quadrants is in the south half of the feature (**Figure 56**).

Another example is the distribution of the eleven biface fragments. Eight of these fragments were recovered from the east half of the feature. Of the quadrants in the east half of the feature that did contain fragments, only one quadrant contained more than one fragment. This was the southwest quadrant of TU N29E20, which contained at two quartzite biface fragments (Zone 1B =1, Zone 2 =1) and one quartz biface fragment (Zone 1B). While these three artifacts are interesting as a small subassemblage, they are indeed a far cry from consideration as a "concentration" (**Appendix IV; Figure 55**).

The few discrete artifact concentrations of a particular artifact class that do exist are confined to small areas and/or a single stratigraphic zone (**Figure 36, 37** and **55**). One such example is found in TU N30E20. The unit produced the most artifacts (n=206) in the feature block, a circumstance that can be partly attributed to the seventy-three flakes contained within its southeast quadrant.

Table 15 enumerates the vertical distributions of the largest (quadrant) flake assemblage of each unit, as well as the quadrants located in all cardinal directions of 73-flake concentration. The four largest flake assemblages shown in **Table 15** are also the four largest (quadrant) flake assemblages of Block 1/Feature A.

Fifty-seven of the flakes from the SE quadrant of TU N30E20 were recovered from Zone 2 and Zone 3. In the case of this quadrant, distinction between Zone 2 and Zone 3 is debatable due to the aforementioned tree disturbance. Regardless, the flake density in the southeast quadrant of TU N30E20 is substantially higher than those adjacent to it or elsewhere in the feature.

As can be seen in **Table 15** and in **Figure 56**, the 73 flakes from the northeast quadrant of N30E20 are somewhat of an anomaly since the quadrant is not contiguous to any individual, or discrete grouping of, quadrants that *sans the southeast quadrant of TU N30E20* exhibit an irregularity in flake content (**Figure 55**). The feature block also does not exhibit directional

Table 15:
Vertical Distribution of Flakes at 18Cv491 – Block 1/Feature A

	N30E20 SE quad Flake Conc.	N30E20 NE quad N of Conc.	N30E20 NW quad NW of Conc.	N30E20 SW quad W of Conc.	N29E20 NE quad S of Conc. & Largest Assemblage in Unit	N30E19 SW quad Largest Assemblage in Unit	N29E19 SW quad Largest Assemblage in Unit	Sum
Zone 1A	0	0	0	3	0	1	0	**4**
Zone 1B	11	5	10	7	11	5	11	**60**
Zone 2	36	22	10	15	20	34	29	**166**
Zone 3	21	9	1	8	9	5	5	**58**
Zone 4A	5	5	0	0	0	0	0	**10**
Sum	**73**	**41**	**21**	**33**	**40**	**45**	**45**	**298**

increases towards (or decreases away from) the concentration. It can be speculated that this small flake concentration consists of debris that was purposefully deposited or created at this location.

A small concentration of six quartz utilized flakes (Zone 1B =1; Zone 2 =5), is present in the southwest quadrant of TU N30E19. This collection is not large by any means but it is over twice the size of the utilized flake assemblages of the other quadrants (**Figure 55**).

The eight diagnostic artifacts, three points and five ceramic sherds, are clustered around certain proveniences in the north half of Feature B. The quartz contracting stem variant, quartzite Piscataway base, quartz triangle, three Accokeek sherds, and Sullivan Cove Plain sherd were all retrieved from TU N30E19. The only diagnostic artifact that was not recovered from TU N30E19 is the Marcey Creek sherd, which originated from the northeast quadrant of TU N30E20.

The high proportion of diagnostic artifacts in TU N30E19 is of spatial interest since it is the Feature B unit that is closest to Block 2/Feature A. The recovery of like diagnostic artifacts in this unit and in Feature A, specifically Piscataway and triangle points, strengthens the temporal associations between the two features. Other notable artifact combinations are the concentration of the Early Woodland Period artifacts (i.e. Piscataway point, Marcey Creek, and Accokeek) in subsoil Zone 2 and the presence of Late Woodland artifacts (i.e. triangle point and Sullivan Cove Plain sherd) in the overlying Zones 1A and 1B stratigraphic contexts. Although Zones 1A and 1B are disturbed, the location of the Early Woodland artifacts underneath the Late Woodland artifacts does reiterates the physical integrity of the sub plow zone cultural deposits. The coincidence of the Piscataway point and Early Woodland ceramic sherds in Zone 2 also provides a basis to contend that the Piscataway points at 18Cv491 date to the Early Woodland Period, a supposition that is less readily apparent in Feature B and other locations of the site.

The high vertical position of the lithic artifacts and lack of discrete cultural pit features imply that Feature B was originally a surface-level work area.

H. Summary of Peripheral Lithic Scatters

In order to minimize redundancy in this document, the reader is advised to consult **Figure 19**; **Tables 5, 8, 9** and **12**; as well as **Appendix IV** for complete artifact inventories of the peripheral units. Nonetheless, some repetition of the artifact distribution data presented earlier in this document is necessary to facilitate the discussion.

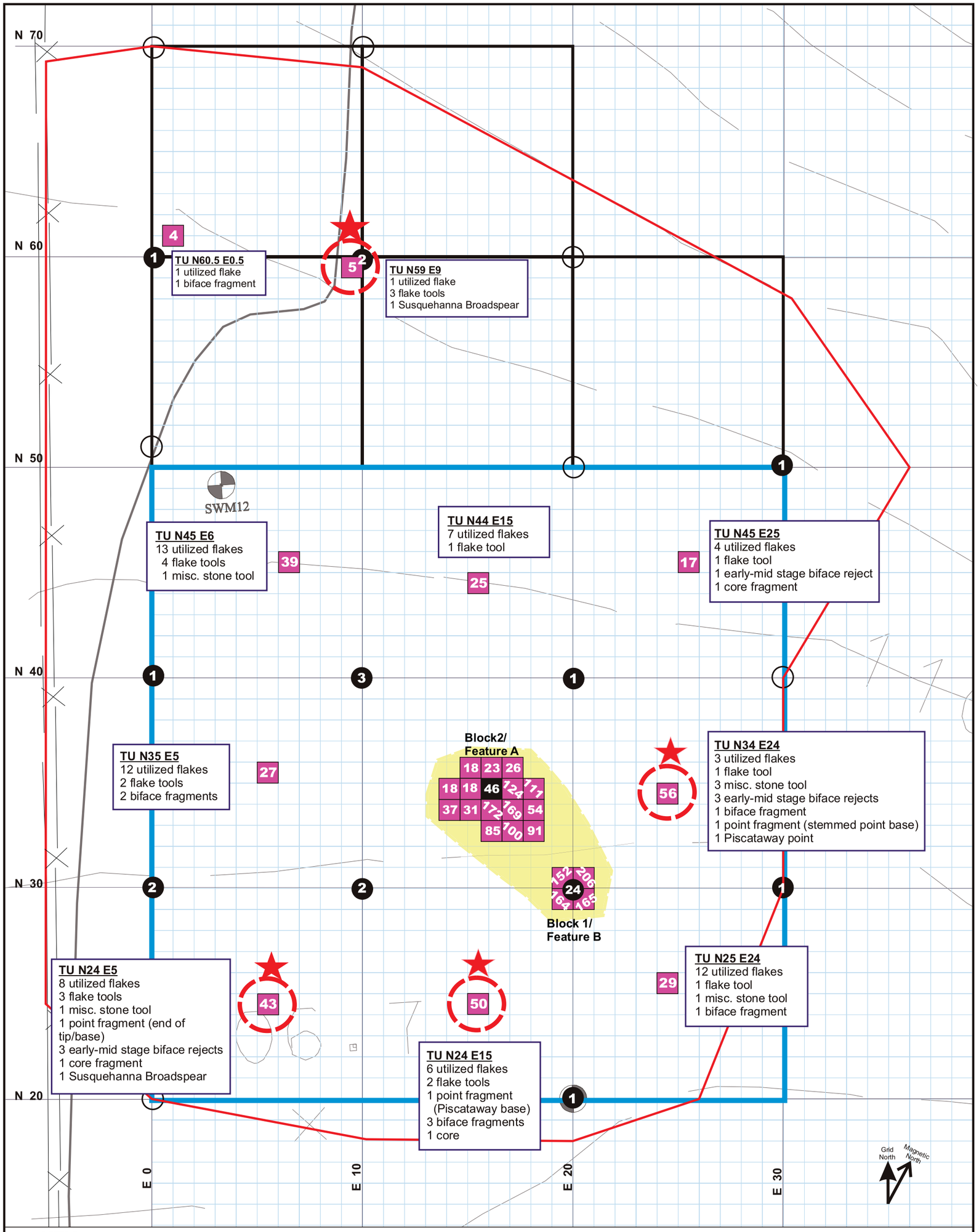
Prehistoric artifacts, including tools, were recovered from all of the peripheral sample units. The discovery of these small lithic scatters was not surprising. Given the recurrent use of the site, and notably, its use as a small base camp, it was expected that the peripheral excavations would encounter various forms of general debris across the site.

Most of the lithic scatters encountered in the peripheral sample units contain debitage and a few exhausted expedient tools. **Figure 57** presents a base map with itemized listings of tools by test units.

The assortment of tools recovered by the peripheral sampling is compatible to that in the core area. In fact, nearly all of the forms recovered from the core area are also represented in the peripheral unit assemblage. However, most of individual unit assemblages also contain less than four tool forms and in several cases, these forms are represented by one artifact each. The peripheral assemblage contains very few artifacts that can be considered unique specimens. Most of the tools are simple, commonplace forms that possess virtually no unusual or extraordinary physical characteristics or use-wear traits. Utilized flakes, the most generalized tool form, are the only ubiquitous tool type amongst the units. They are also the only tool type that was consistently recovered in multiple numbers from a given unit. The only peripheral unit that did not yield more than one utilized flake is TU N60.5E0.5 (**Figure 57; Table 12**)

Individually and collectively, neither the lithic scatters nor their individual assemblages are particularly interesting. The scatters are far from unique and, no doubt, they are only a few of many more similar, non-descript, scatters that exist throughout the region. Although the scatters encountered at 18Cv491 are not individually or collectively significant, the general relationships amongst themselves and, importantly, to the Feature A/Feature B core area are a part of the overall spatial patterning of the site.
The recordation of their locations, identification of their attributes, and acquisition of representative samples of their cultural material were accurately accomplished by the Phase III studies. The data collected provides an accurate record of the scatters and their characteristics. The recovered samples also provide ample information that can be used to identify repetition at the site and interpret the roles of the scatters as they relate to site usage. Therefore, it has also been concluded that the scatters have been sufficiently sampled.

The excavation results of each peripheral unit and key observations are presented below. **Table 16** presents an abbreviated version of the stratigraphic sequences recorded in each unit. For detailed representative soil profiles of the individual test units, the reader is advised to consult **Figure 25** through **Figure 34** in **Section VI.b**.



KEY

18Cv491 Site Boundary

Phase I/II STP with prehistoric artifacts (note: size of STP not to scale)

Phase I/II STP without prehistoric artifacts (note: size of STP not to scale)

Phase I/II TU (prehistoric artifacts noted)

Phase III 10m Grid Sampling Area (1 TU per 10m x 10m)

Re-delinated Core Area of 18Cv491

Phase III 1m x 1m TU (prehistoric artifacts noted)

Peripheral Unit with Projectile Point and/or Point Fragment

meters: 0, 5, 10

feet: 0, 25, 50

18Cv491 Peripheral Unit Tool Distributions

FIGURE 57

Table 16:
Stratigraphic Sequences of 18Cv491 Peripheral Sample Units

not to scale	N24 E15	N24 E5	N25 E24	N34 E24	N35 E5	N44 E15	N45 E25	N45 E6	N59 E9	N60.5 E0.5
Zone 1A*	humus	humus	humus	humus slope wash mantle	humus slight slope wash mantle	humus slope wash mantle	humus slope wash mantle	humus	humus slope wash mantle	Humus Slope wash mantle
Zone 1B*	plow zone (Ap)	plow zone (Ap)	plow zone (Ap)	buried plow zone (2Apb)	partial buried plow zone (Ap/2Apb)	buried plow zone (2Apb)	unplowed surface (2Ab)	plow zone (Ap)	buried plow zone (2Apb)	Buried plow zone (2Apb)
intact subsoil Zone 2 – Zone 4**	BE	BE	BE	2BEb	BE	2BEb	2Eb	BE	2BEb	2BEb
	Bt1	Bt1	Bt1	2Btb1	Bt1	2Btb1	2Btb1	Bt1	2Btb1	2Btb1

**excavated in natural levels* ***excavated in 10cm levels*

1. TU N24E15

TU N24E15 is located eight meters due south of Feature A and four meters southwest of Feature B. TU N24E15 is one of three units that were excavated along the southernmost east-west transect of the Phase III investigations at 18Cv491. Transect E15 is the north-south centerline of the site. TU N24E15 was one of the units that did not contain an isolated remnant of the original surface underneath a slopewash mantle. The subsurface stratigraphy of this unit beneath the humus consisted of a depleted plow zone horizon atop an intact BE subsoil horizon. The plow zone was twenty-three (33) centimeters thick (**Figure 25; Table 16**).

TU N24E15 yielded the second highest number of artifacts from a single peripheral unit with a total of fifty (50) artifacts. Thirty-eight (38) of these artifacts were recovered from the plow zone horizon, which was excavated at Zone 1A. The remaining twelve (12) artifacts were recovered from the top twenty (20) centimeters of BE subsoil horizon. Zone 2, the first ten (10) centimeters of the subsoil, yielded four (4) artifacts. The subsequent ten (10) centimeters, Zone 3, contained eight (8) artifacts (**Table 8 and Table 12**).

The recovered artifacts consist of thirty-one (31) flakes, six (6) utilized flakes, two (2) flake tools, one (1) point fragment, three (3) biface fragments, one (1) core, one (1) piece of shatter, four (4) fire-cracked rock fragments, and one (1) split cobble (possibly cultural). The point fragment is the base of a small contracting stem variant. The fragment is made of quartz and was created through a snap break. Based on its size and the angle of its sides, the fragment may be interpreted as the proximal end of a Piscataway point. The plow zone and subsoil distributions of the TU N24E15 artifacts are presented below.

Zone 1A (humus/plow zone):	20 flakes (10 quartz, 9 quartzite, 1 rhyolite) 1 chert flake tool 1 chert biface fragment 1 quartzite core 1 quartz point fragment (Piscataway base) 1 quartz utilized flake 4 fire-cracked rock 29 artifacts
Zone 1A (plow zone): (near subsoil interface)	5 flakes (1 quartz, 4 quartzite) 1 quartzite flake tool 3 quartz utilized flakes 9 artifacts
Zone 2 (1st 10cm of subsoil):	3 quartz flakes 1 split cobble (possibly cultural) 4 artifacts
Zone 3 (2nd 10cm of subsoil):	3 flakes (2 quartz, 1 quartzite) 2 quartz biface fragments 2 quartz utilized flakes 1 quartz shatter 8 artifacts

Most of the cultural material of this scatter is located near the surface. The assemblage contains a small variety of tool forms but none of the types are more uniquely represented in this assemblage than elsewhere at the site. The most interesting aspect about TU N24E15 is that the only chert tools from 18Cv491 were recovered from this unit. These two tools are similar in material to several pieces of debitage collected in the core area and the other peripheral units; however, no distinct refits are readily apparent within the overall chert assemblage.

Based on the artifact assemblage, the lithic scatter at TU N24E15 has been identified as small resource processing station. The close proximity of TU N24E15 to the southeasterly-oriented Feature A/Feature B and the recovery of a Piscataway point base fragment from TU N24E15 suggest that this lithic scatter was a secondary activity area of Early Woodland Feature A/Feature B occupation.

2. TU N24E5

TU N24E5 is the southwesternmost unit excavated at 18Cv491. The unit is located five meters south and eight meters west of the southern and western boundaries of the core area, respectively. The unit is located downslope of the rise at N35E5 near the inner bank of a bend in the unnamed tributary to Halls Creek. TU N24E5 was one of two peripheral units investigated by Wagner (2012) (**Appendix III**).

The unit is located in a portion of the site that did not have a slopewash mantle (**Figure 26; Table 16**). Forty-three artifacts were recovered TU N24E5. These artifacts were collected from the humus (Zone 1A), plow zone (Zone 1B), and the top sixty (60) centimeters of the

intact subsoil (Zones 2-4) (**Table 8**). The TU N24E5 assemblage is the third largest sample unit assemblage. The unit was also one of the few units in which a notable number of artifacts were recovered from the argillic soils below the BE horizon. Most of these artifacts were collected from the northeast quadrant of the unit.

In addition to twenty (20) flakes, the recovered assemblage contains eight (8) utilized flakes, three (3) flake tools, one (1) broadspear, one (1) non-diagnostic point fragment, three (3) early-mid stage biface fragments, one (1) core fragment, two (2) pieces of shatter, and three (3) pieces of fire-cracked rock (**Figure 57; Table 12**).

The broadspear is rhyolite and no longer possesses its stem. The extant remnants of the point's shoulders, asymmetry, and flatness of blade are much more compatible to those of Susquehanna broadspears than the characteristics of other broadspear variants.

The vertical distribution of these artifacts is enumerated below.

Zone 1A (humus):	7 flakes (1 quartz, 5 quartzite, 1 rhyolite) 1 quartzite flake tool 1 quartzite early stage biface reject 1 fire-cracked rock 10 artifacts
Zone 1B (plow zone):	5 quartzite flakes 1 quartz flake tool 1 quartzite early stage biface reject 1 quartzite core fragment 3 quartz utilized flakes 1 fire-cracked rock 12 artifacts
Zone 2 (1st 10cm of subsoil):	8 flakes (6 quartz, 1 quartzite, 1 rhyolite) 1 quartzite point fragment (end of tip/base) 1 quartz flake tool 2 quartz utilized flakes 2 quartzite shatter 1 fire-cracked rock 15 artifacts
Zone 3 (2nd 10cm of subsoil):	1 quartz utilized flake 1 artifacts
Zone 4A (3rd 10cm of subsoil):	1 rhyolite Susquehanna broadspear 2 utilized flakes (1 quartz, 1 quartzite) 3 artifacts
Zone 4B (4th 10cm of subsoil):	1 quartz early-mid stage biface fragment 1 quartz miscellaneous stone tool 2 artifacts

The northeast quadrant of the unit was the only quadrant that contained artifacts in Zone 4A/4B. The Zone 4A/4B artifacts were recovered between fifty-five and sixty-nine centimeters below the surface and well into the argillic horizon (Btg). After the recovery of artifacts from these soils, especially the Susquehanna broadspear, it became a concern that this small assemblage could be indicative of an intact deeply buried cultural horizon. Consequently, the project's geomorphologist was enlisted to assist with ascertaining the maximum depth to which cultural deposits could be expected in this somewhat unusual unit. The analysis concluded that the argillic soils were of an advanced degree of development and that their formation predates the age of the broadspear by a factor of at least three and probably four or more. Because of location of the artifacts well into the horizon, it was further concluded that the artifacts should be viewed as something of an anomaly (Wagner 2013). A root disturbance in the northeast corner of the unit may be partially responsible for the downward movement of artifacts in the soil profile and the subsequent deposition of the artifacts in the Bt horizon.

The number of tools (n = 17) and the number of different tool forms (n=6) clearly show that the lithic scatter at TU N24E5 is more complex than a random collection of refuse. The multiple utilized flakes, flake tools, rejected bifaces, pieces of bifaces, as well as a broken point and a core are items of a small, cohesive and well-worn expedient toolkit.

Although the assemblage does contain twenty-two pieces of debitage and two fragments of fire-cracked rock, the scatter does not exhibit the levels of accumulated general debris that can be expected at habitation sites. For example, compared to Feature A house pattern units with compatible tool sets (e.g., TUs 6, 8 and 9), the proportions of debitage and fire-cracked rock to tools at TU N24E5 are extremely low. If the immediate environs of TU N24E5 were used for overnight stays, the stays were very short.

Instead, the TU N24E5 assemblage suggests that the environs of this unit functioned as a small activity area for a rather involved, but single, task. Based on the artifact assemblage, the close proximity of the scatter to the water's edge, and the recovered Susquehanna broadspear, it has been concluded that the TU N24E5 scatter represents the remains of a Late Archaic staging/processing location at which the exhausted and broken tools were abandoned when the task at hand was completed.

Pursuant to classification systems established for the Patuxent River region, the recovered Susquehanna broadspear dates the occupation around TU N24E5 to sometime between ca. 1700 B.C. to 1500 B.C (Steponaitis 1980)[7].

3. TU N25E24

TU N25E24 is located approximately four meters southeast of the Feature A/Feature B core area of the site (**Figure 19** and **Figure 57**).

[7] In the Middle Atlantic region, Susquehanna broadspears are generally recognized as dating between ca. 2000 B.C. to 1500 B.C (Custer 1996a, 2001). In the Patuxent River region, the begin date of these points is set a little later at 1700 B.C. (Steponaitis 1980).

The unit is located in a portion of the site that is devoid of a slopewash mantle. The soil profile beneath the humus consisted of a uniform former plow zone horizon underlain with a truncated BE subsoil horizon (**Figure 27**). The humus was excavated as Zone 1A. The plow zone and the plow zone/subsoil interface were defined as Zone 1B. The top of the BE horizon was recorded at twenty-two centimeters below the surface (**Figure 27; Table 16**). No cultural material was recovered after the removal of the first ten centimeters of the subsoil.

Twenty-nine (29) artifacts were recovered from TU N25E24. These artifacts are fourteen (14) flakes, twelve (12) utilized flakes, one (1) flake tool, one (1) miscellaneous stone tool, and one (1) biface fragment. Most of TU N25E24 assemblage was obtained from the plow disturbed contexts of Zone 1A (n = 15) and Zone 1B (n = 9). The first ten (10) centimeters of the BE Horizon, excavated as Zone 2, yielded five (5) artifacts. The five artifacts of the subsoil assemblage consist of one (1) chert flake, one (1) rhyolite flake, one (1) quartzite utilized flake, and two (2) quartz utilized flakes. An enumeration of the artifacts by zone is presented below.

Zone 1A (humus/ slopewash):	7 flakes (4 quartz, 3 quartzite)
	1 quartz biface fragment
	1 miscellaneous stone tools
	6 quartz utilized flakes
	15 artifacts
Zone 1B (plow zone/subsoil interface):	5 quartzite flakes
	1 quartzite flake tool
	3 quartz utilized flakes
	9 artifacts
Zone 2 (1st 10cm of subsoil):	2 flakes (1 chert, 1 rhyolite)
	3 utilized flakes (2 quartz, 1 quartzite)
	5 artifacts

Due to the lack of diagnostic artifacts, the temporal context of this small collection of debitage and tools is not known. Given the close proximity of this unit to Feature B and the overall southeasterly orientation of the Feature A/Feature B core area, the artifacts may be scattered refuse from the core area. The lithic scatter could also be the remains an ancillary, single- or limited-use work area associated with the Feature A/Feature B occupation.

4. TU N34E24

TU N34E24 is located six meters due east of Block 2/Feature A (house pattern feature) and is the closest peripheral unit to Block 2/Feature A. The unit is located three meters east and four meters north of Block 1/Feature B.

The soil profile observed in this unit was similar to that of the core area. An isolated lens of the original plow zone (2Apb, Zone 1B) was defined beneath approximately thirty-eight centimeters of accumulated slopewash. The top of the underlying BE horizon (2BEb, Zone 2) was recorded at fifty-two (52) centimeters below the surface (**Figure 28; Table 16)**.

A total of fifty-six (56) artifacts were recovered from TU N34E24. This assemblage is the largest peripheral unit assemblage.

The artifact assemblage from TU N34E24 contains thirty-eight (38) flakes, three (3) utilized flakes, one (1) flake tool, three (3) miscellaneous chipped stone tools, one (1) projectile point, one (1) point fragment, three (3) early-mid stage biface rejects, one (1) small biface fragment, one (1) piece of shatter, and four (4) pieces of fire-cracked rock. The recovered projectile point is a quartzite Piscataway point. The point fragment is the proximal fragment of a quartzite stemmed point.

The Piscataway point is one of seven artifacts that were recovered from Zone 1A. Thirty-three (33) artifacts originated from Zone 1B, the buried plow zone horizon. The Zone IB assemblage comprises 58.92 percent of the unit assemblage. The excavation of Zone 2 obtained fourteen (14) artifacts. The subsequent levels, Zone 3 and Zone 4, yielded one (1) flake each. The vertical distribution of the TU N34E24 artifact assemblage is provided below.

Zone 1A (humus/plow zone):	4 flakes (3 quartzite, 1 rhyolite)
	1 quartzite early-mid stage biface reject
	1 quartzite miscellaneous stone tool
	1 quartzite Piscataway point
	7 artifacts
Zone 1B (plow zone):	23 flakes (13 quartz, 10 quartzite)
	2 early-mid stage biface reject (1 quartz, 1 quartzite)
	1 quartzite base fragment of a contracting stem variant
	1 quartz flake tool
	1 quartz miscellaneous stone tool
	2 quartz utilized flake
	1 quartz shatter
	2 fire-cracked rock
	33 artifacts
Zone 2 (1st 10cm of subsoil):	12 flakes (5 quartz, 6 quartzite, 1 chert)
	1 quartzite miscellaneous stone tool
	1 quartzite utilized flake
	14 artifacts
Zone 3 (2nd 10cm of subsoil):	1 quartzite flake
	1 artifact
Zone 4A (2nd 10cm of subsoil):	1 quartzite flake
	1 artifact

While the quantity and diversity of its artifact assemblage is not nearly as notable as those recovered from the units in the core area, the assemblage does contain a small diversity of lithic tools. This unit assemblage is also one of three peripheral sample assemblages with a projectile point.

The tool assemblage contains a mix of well-worn expedient tools (e.g., utilized flakes, flake tools, and miscellaneous tools), broken pieces of curated tools (e.g., point and biface fragment), as well as discarded unfinished tools (e.g., biface rejects). The three biface rejects in this assemblage are crudely-shaped specimens. Used tools outnumber unfinished tools approximately three to one. The poor condition and generalized forms of the expedient tools suggests that they are discarded items from a disposable tool kit. The relatively low density of debitage implies that while some lithic reduction did occur around TU N34E24, tool production was not a primary activity in this location. Knapping activities were likely performed as needed to complete the resource processing task at hand. These activities probably did not extend beyond basic maintenance like resharpening, or at most, simple expedient tool making.

The scatter and Feature A/Feature B are separated by six meters. The scatter falls well within the radius of the catchment area, or what can be viewed as the "yard," of the Feature A house pattern. In addition to this spatial proximity, the core area and the TU N34E24 scatter share a temporal association through the Piscataway points in their assemblages. The scatter at TU N34E24 could be a small, limited-use auxiliary work area that was associated with the Early Woodland occupation of Feature A/Feature B. The scatter could also be an extension of the general debris field of Feature A/Feature B.

5. TU N35E5

TU N35E5 is located eight meters due west of the core area (**Figure 19** and **Figure 57**). The unit was excavated on the downslope of a small rise (TU N45E6) situated along the west edge of the site. The rise overlooks the inner bank of a bend in the unnamed tributary to Halls Creek.

The colluvial overburden in this part of the site was only slightly thicker than the depth of tillage. Breaks in plowing episodes were irregular and extremely difficult to differentiate during excavation. Remnants of the "buried" plow zone were found to be slightly more pronounced in the east half of the unit due to the presence of a plow scar. The average depth of the top of the intact subsoil was twenty-six centimeters below surface (**Figure 29; Table 16**).

Twenty-seven (27) artifacts were recovered TU N35E5 (**Table 8**). These artifacts were recovered from Zone 1A (colluvium), Zone 1B (remnant of buried plow zone), and Zone 2 (intact subsoil). The recovered artifacts consisted of nine (9) flakes, twelve (12) utilized flakes, two (2) flake tools, two (2) small biface fragments, one (1) piece of shatter, and a battered cobble (**Table 12; Appendix IV**). The vertical distribution of these artifacts is presented below.

Zone 1A (humus/ slopewash):	2 quartzite flakes
	1 quartz biface fragment
	2 quartz flake tools
	7 quartz utilized flakes
	12 artifacts
Zone 1B (buried plow zone):	7 flakes (4 quartz, 3 quartzite)
	1 quartz biface fragment
	2 quartz utilized flakes
	10 artifacts
Zone 2 (1st 10cm of subsoil):	3 quartz utilized flakes
	1 quartz shatter
	1 battered cobble
	5 artifacts

As is apparent by the list presented above, most of the artifacts of this lithic scatter are confined to plow disturbed contexts.

Due to the lack of diagnostic artifacts, the temporal context of this small lithic scatter is not known. The sixteen discarded tools suggest that this location was likely a small, single-use temporary procurement/processing (staging) station at which only a limited number activities were performed. This location may have been used as a small secondary work area of the Early Woodland – Late Woodland occupation in the core area of the site, but the southeasterly orientation of the core area seems to suggest otherwise. It is more likely that the lithic scatter at TU N35E5 is associated with a different, more temporary occupation.

TU N35E5 is located along a north-south axis formed by two Susquehanna broadspear find spots. These points were recovered north and south of TU N35E5 in TU N59E9 and TU N24E5, respectively. The presence of these points place use of the west side of the site between ca. 1700 B.C. to 1500 B.C (Steponaitis 1980)[8]. It can be speculated that the lithic scatter at TU N35E5 may represent one of a series of temporary visits that occurred in this portion of the site during the Late Archaic Period.

6. TU N44E15

TU N44E15 is located nine meters due north of the Feature A/Feature B core area (**Figure 19** and **Figure 57**).

This unit is located in a portion of the site covered with a slopewash mantle. The top of the buried plow zone was exposed after the removal of thirty-six centimeters of colluvial deposits. The top of the intact subsoil was located at forty-eight centimeters below the surface (**Figure 30; Table 16**).

[8] In the Middle Atlantic region, Susquehanna broadspears are generally recognized as dating between ca. 2000 B.C. to 1500 B.C (Custer 1996a, 2001). In the Patuxent River region, the begin date of these points is set a little later at 1700 B.C. (Steponaitis 1980).

Twenty-five (25) artifacts were recovered from TU N44E15. These artifacts are fifteen (15) flakes, seven (7) utilized flakes, one (1) flake tool, and two (2) pieces of fire-cracked rock. The artifacts were recovered from Zone 1A through Zone 3. The vertical distribution of the TU N44E15 assemblage is enumerated below.

Zone 1A (humus/slopewash):	4 flakes (3 quartzite, 1 rhyolite) 1 quartz flake tool 2 quartz utilized flakes 7 artifacts
Zone 1B (buried plow zone):	5 flakes (2 quartz, 1 chert, 2 rhyolite) 2 quartz utilized flakes 1 fire-cracked rock 8 artifacts
Zone 2 (1st 10cm of subsoil):	5 flakes (3 quartzite, 1 jasper, 1 rhyolite 3 utilized flakes (2 quartz, 1 quartzite) 1 fire-cracked rock 9 artifacts
Zone 3 (2nd 10cm of subsoil):	1 quartz flake 5 artifacts

The variation in this assemblage is limited. All of the tools are exhausted and are clearly discards. Little can be said about this scatter other than it is an example of one of the random collections of debris that were left around the site over the course of its occupation. At most, the tools may be items that were abandoned after the completion of a small resource processing task conducted in the immediate vicinity of N44E15.

7. TU N45E25

TU N45E25 is located nine meters north and five meters east of the Feature A/Feature B core area. TU N45E25 is the closest peripheral unit to the slope that rises above the site to the northeast (**Figure 19** and **Figure 57**). This unit was one of two peripheral units analyzed by Wagner (2013) (**Appendix III**).

TU N45E25 is also located in a portion of the site with thick colluvial deposits. Because of this, TU N45E25 was initially identified as a peripheral unit with a high potential for containing deeply buried cultural deposits. The original surface horizon was exposed after the removal of eighty centimeters of slopewash. During the geomorphological inspections of the unit, it was revealed that the original surface horizon had not been plowed, or if so, only minimally, prior to its rapid burial beneath accumulating slopewash (Wagner 2012) (**Figure 31; Table 16; Appendix III**). The unplowed nature of the original surface horizon was further supported by an underlying intact 2Eb subsoil horizon, which, though common in forested settings, is usually lost through continuous tillage after the land is put to agricultural use (Wagner 2013). The geoarcheological findings were regarded with much interest because they implied that this unit had an added potential for intact cultural surface deposits, if any such deposits existed.

Despite its high archeological potential, TU N45E25 yielded one of the smaller unit assemblages. This seventeen-artifact assemblage (17) contained nine (9) flakes, four (4) utilized flakes, one (1) flake tool, one (1) early stage biface reject, one (1) core fragment, and one (1) piece of fire-cracked rock. The vertical distribution of the TU N45E25 assemblage is listed below:

Zone 1A (humus/slopewash):	3 flakes (1 quartz, 1 quartzite, 1 rhyolite) 1 quartz early stage biface reject 1 fire-cracked rock 5 artifacts
Zone 1B (buried surface):	2 flakes (1 quartz, 1 rhyolite) 2 artifacts
Zone 2 (1st 10cm of subsoil):	4 flakes (1 quartz, 1 quartzite, 2 chert) 4 artifacts
Zone 3 (2nd 10cm of subsoil):	1 quartzite flake tool 1 quartz utilized flake 2 artifacts
Zone 4A (3rd 10cm of subsoil):	2 quartz flake 1 quartz core fragment 1 quartz utilized flake 4 artifacts

All of the tools are exhausted, commonplace, simple forms. The artifacts are only interesting as additions to the overall 18Cv491 assemblage. None of the unit's individual type assemblages exceed those of the other peripheral units in number. No evidence of any discrete cultural pit features was encountered in this unit. Intermittent charcoal flecking was observed in the 2Eb horizon; however, no collectible pieces of charcoal/charred matter or discrete concentrations of charcoal flecking were encountered.

The lithic scatter in TU N45E25 is another example of one of the random collections of debris that were left at the site over the course of its occupation. The small array of exhausted tools suggests that this particular scatter is the detritus of a small single-use work station. The station may have been a small ancillary work area of Feature A/Feature B or it may have been with a different and more temporary occupation.

8. TU N45E6

TU N45E6 is located nine meters north and seven meters west of the Feature A/Feature B core area. This unit spans the crest of a small eroded rise along the west edge of the site (**Figure 19** and **Figure 57**). The rise does not possess a slopewash mantle. The subsurface stratigraphy of the rise consists of a severely depleted and eroded plow zone horizon (Ap horizon) atop a truncated BE subsoil horizon (**Figure 32; Table 16**).

The thirty-nine (39) artifacts from TU N45E6 is the fourth largest assemblage of the peripheral units. In addition to twenty-one (21) flakes, the recovered assemblage contains

thirteen (13) utilized flakes, four (4) flake tools, and one (1) miscellaneous stone tool (**Table 12; Appendix IV**). Although the tool assemblage is not datable due to its lack of diagnostic artifacts, it is one of the more interesting collections amongst the peripheral units. Eleven of the flakes from this unit are rhyolite. These eleven flakes are half of the rhyolite artifacts that were obtained from the peripheral sample units.

TU N45E6 is also one of the few units that yielded artifacts with consistency from intact subsoil stratigraphic contexts of Zone 2 and lower (**Table 8; Appendix IV**). Of the peripheral units, TU N45E6 yielded the second highest number of artifacts from Zone 3 and the highest number of artifacts from Zone 4 (**Table 8**). Culturally sterile subsoil was reached in the unit at sixty-five centimeters below the surface. The vertical distribution of artifacts in TUN45E6 is summarized below.

Zone 1A (humus/plow zone):	4 flakes (2 quartz, 1 quartzite, 1 rhyolite)
	1 quartz flake tool
	3 quartz utilized flakes
	8 artifacts
Zone 2 (1st 10cm of subsoil):	7 flakes (1 quartz, 5 rhyolite, 1 ironstone)
	1 quartz flake tool
	4 quartz utilized flakes
	1 quartz miscellaneous stone tool
	13 artifacts
Zone 3 (2nd 10cm of subsoil):	2 flakes (1 quartz, 1 rhyolite)
	1 quartz flake tool
	3 quartz utilized flakes
	6 artifacts
Zone 4A (3rd 10cm of subsoil):	5 flakes (1 quartz, 2 quartzite, 2 rhyolite)
	1 quartz flake tool
	1 quartz utilized flake
	7 artifacts
Zone 4B (4th 10cm of subsoil):	3 flakes (1 quartz, 2 rhyolite)
	2 quartz utilized flakes
	5 artifacts

Based on its topographic position and its quantity of exhausted tools, the lithic scatter at TU N45E6 has been concluded to be the remains of a small temporary procurement/processing (staging) station. The temporal context of the station is not known. This location may have been a small secondary work area of the Early Woodland – Late Woodland occupation in the core area of the site but the southeasterly orientation of the core area seems to suggest otherwise. It is more likely that this spot represents a different and more temporary occupation.

TU N45E6 is located in the midsection of a north-south axis formed by two units that yielded Susquehanna broadspears. These units are located north and south of TU N45E6 at N59E9

and N24E6, respectively. The projected date range of the broadspears implies that the west edge of 18Cv491 was a favored portion of site between ca. 1700 B.C. and 2000 B.C. (Steponaitis 1980)[9]. The lithic scatter at TU N45E6 may be remains of a Late Archaic occupation that also occurred during this time frame.

9. TU N59E9

TU N59E9 is situated twenty-three meters north and three meters west of the core area of the site (**Figure 19** and **Figure 57**).

The soil profile of this unit exhibited the standard slopewash-capped stratigraphy recorded across the site. The buried remnant of the original plow zone was encountered at fifty-five (55) centimeters below the surface. The buried plow zone was 25-28 centimeter thick and underlain by the truncated, intact (buried) BE horizon (2BEb) (**Figure 33; Table 16**).

Five (5) artifacts were recovered from TU N59E9. These artifacts are one (1) quartzite flake, three (3) quartz utilized flakes, and one (1) heavily-worn rhyolite Susquehanna broadspear. The flake, two of the utilized flakes, and the Susquehanna broadspear were recovered near the bottom of the Zone 1A disturbed slopewash. The third utilized flake was recovered from the intact subsoil in Zone 2.

Pursuant to classification systems established for the Patuxent River region, the recovered Susquehanna broadspear dates the deposition of the artifacts at TU N59E9 to the Late Archaic Period, specifically sometime between ca. 1700 B.C. to 1500 B.C (Steponaitis 1980)[10]. While it can be speculated that the small group of tools from TU N59E9 mark the site of a small Late Archaic procurement/processing station, meaningful analysis of this supposition is not feasible due to low artifact densities. This scatter at TU N59E9 is little more than a projectile point find spot.

10. TU N60.5E0.5

TU N60.5E0.5 the northwesternmost unit of the site. The unit was excavated twenty-five meters north and fifteen meters west of the core area (**Figure 19** and **Figure 57**).

The bottom of the slopewash mantle was reached at approximately sixty-two (62) centimeters below the surface. At this depth, researchers encountered the isolated remains of the original plowed surface (2Ab2). Two episodes of plowing were evident within this horizon. Very little of the natural 2BEb horizon was encountered beneath plow zone horizon. The few patches of the 2BEb Horizon that had not been lost to plowing were found to be little more than a severely deflated, compromised transitional horizon situated between the buried plow zone and the 2Bt horizon (**Figure 34; Table 16)**.

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[9] In the Middle Atlantic region, Susquehanna broadspears are generally recognized as dating between ca. 2000 B.C. to 1500 B.C (Custer 1996a, 2001). In the Patuxent River region, the begin date of these points is set a little later at 1700 B.C. (Steponaitis 1980).

[10] In the Middle Atlantic region, Susquehanna broadspears are generally recognized as dating between ca. 2000 B.C. to 1500 B.C (Custer 1996a, 2001). In the Patuxent River region, the begin date of these points is set a little later at 1700 B.C. (Steponaitis 1980).

One (1) quartz utilized flake, one (1) quartz biface fragment, and two (2) pieces of fire-cracked rock were recovered from this unit. All of the artifacts were recovered from the first ten centimeters of the truncated buried B horizon (Zone 2), which included the transitional horizon and the upper depths of the 2Bt2 horizon.

Due to the lack of datable artifacts and low artifact density, little can be said about the temporal context and deposition of cultural material in this diffuse artifact scatter. The scatter is little more than random debris.

VII. ARTIFACT ANALYSIS AND INTERPRETATIONS OF 18CV491

This section presents a discussion of the interpretations of the excavation data from 18Cv491. In addition to discussions on the site chronology and trends and patterns exhibited in the artifact collection, this section also focuses on activity areas of the site as implied by the recovered data.

A. Site Chronology

A comprehensive site chronology was established for 18Cv491 using the diagnostic projectile points and ceramic artifacts. The established dates applied towards developing this chronology were those developed for Maryland (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). Regional classification systems presented in Custer (2001, 1996a, 1989), Steponaitis (1980), Stephenson and Ferguson (1963), Ritchie (1971), and Hranicky (1994) were also consulted for supplemental information.

The focus of this discussion involves the temporal contexts of the diagnostic artifacts. Discussions pertaining to physical attributes and artifact technologies are presented in separate discussions.

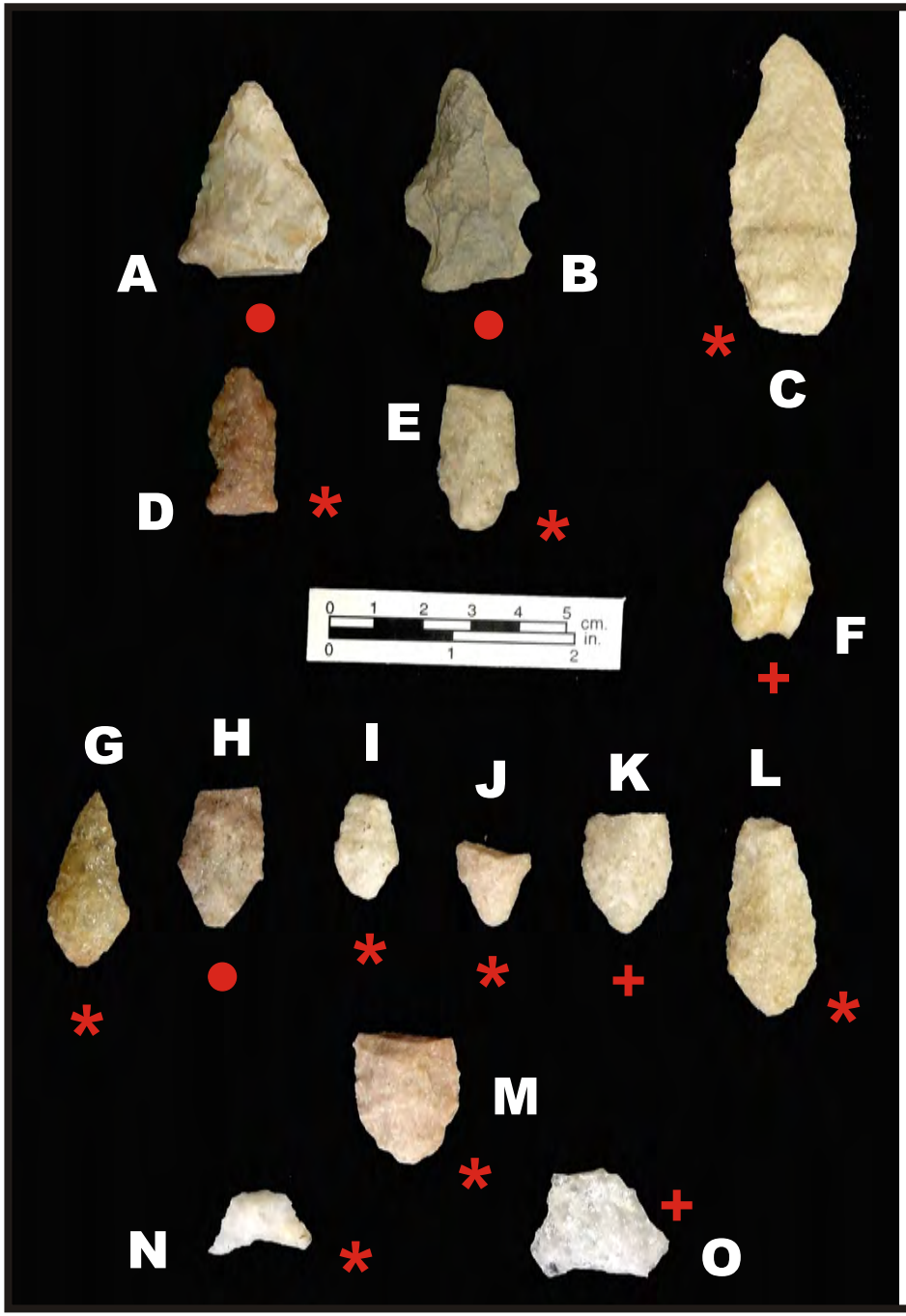
1. Diagnostic Points

A total of fifteen (15) diagnostic points were recovered from 18Cv491. These points are shown in **Figure 58**. **Table 17** and **Table 18** present summary descriptions of their physical characteristics and their projected date ranges.

The recovered projectile points consist of two (2) Susquehanna broadspears (**Figure 58A, B**) one (1) fishtail/orient point (**Figure 58D**), one (1) Piney Island variant stemmed point (**Figure 58E**), two (2) contracting stemmed points (**Figure 58C, F**), six (6) Piscataway point forms (**Figure 58G-L**), a base of an ovate/teardrop form (**Figure 58M**), and two (2) triangle points (**Figure 58N,O**).

A series of point fragments, mostly tips, from 18Cv491 are shown in **Figure 59** for reference. The tips are not diagnostic but they do show the range of blade widths at the site. Three of the point fragments are base fragments (**Figure 59L-N**). The fragments are too incomplete to be diagnostic but one of the base fragments may be the proximal end of a Piscataway point (**Figure 59L**). The other two fragments may be the bases of stemmed variants.

Nearly all of the points are either damaged or heavily resharpened, which suggests that these artifacts were discards. The most complete points are a rhyolite Susquehanna broadspear



Key

A: Susquehanna Broadspear, rhyolite (#393)
Sample TU N24E5, NE quad, level 7, Zone 4

B: Susquehanna Broadspear, rhyolite (#315)
Sample TU N59E9, level 3, Zone 1A

C: very late stage biface/contracting stem variant, quartzite (#181)
Block 2, TU 8, SE quad, level 4, Zone 2

D: fishtail, quartzite (#252)
Block 2, TU 13, level 3 Zone 1B

E: Piney Island, quartzite (#306)
Block 2, TU 16, level 3, Zone 1A

F contracting stem variant, quartz (#40)
Block 1, TU N30E19, NE quad, level 2, Zone 1A

G: Piscataway, quartz (#272)
Block 2, TU 14, NE quad, level 7, Zone 4

H: Piscataway, quartzite (#372)
Sample TU N34E24, level 1A, Zone 1A

I: Piscataway, quartzite (#276)
Block 2, TU 15, level 3, Zone 1A

J: Piscataway, quartz (#134)
Block 2, TU 6, NW quad, level 3, Zone 1B

K: Piscataway, quartzite (#49)
Block 1, TU N30E19, NW quad, level 3A, Zone 2

L: Piscataway, quartzite (#196)
Block 2, TU 9, NE quad, level 3, Zone 1B

M: teardrop/ovate, possible Rossville, quartzite (#171)
Block 2, TU 8, level 2A, Zone 1A

N: triangle, quartz (#112)
Block 2, TU 4, level 1, Zone 1A

O: triangle, quartz (#43),
Block 1, TU N30E19, SE quad, level 3, Zone 1B

✚ = recovered from Block 1, Feature B

✱ = recovered from Block 2, Feature A

● = recovered from Sample Unit

18CV491
Projectile Points

FIGURE 58

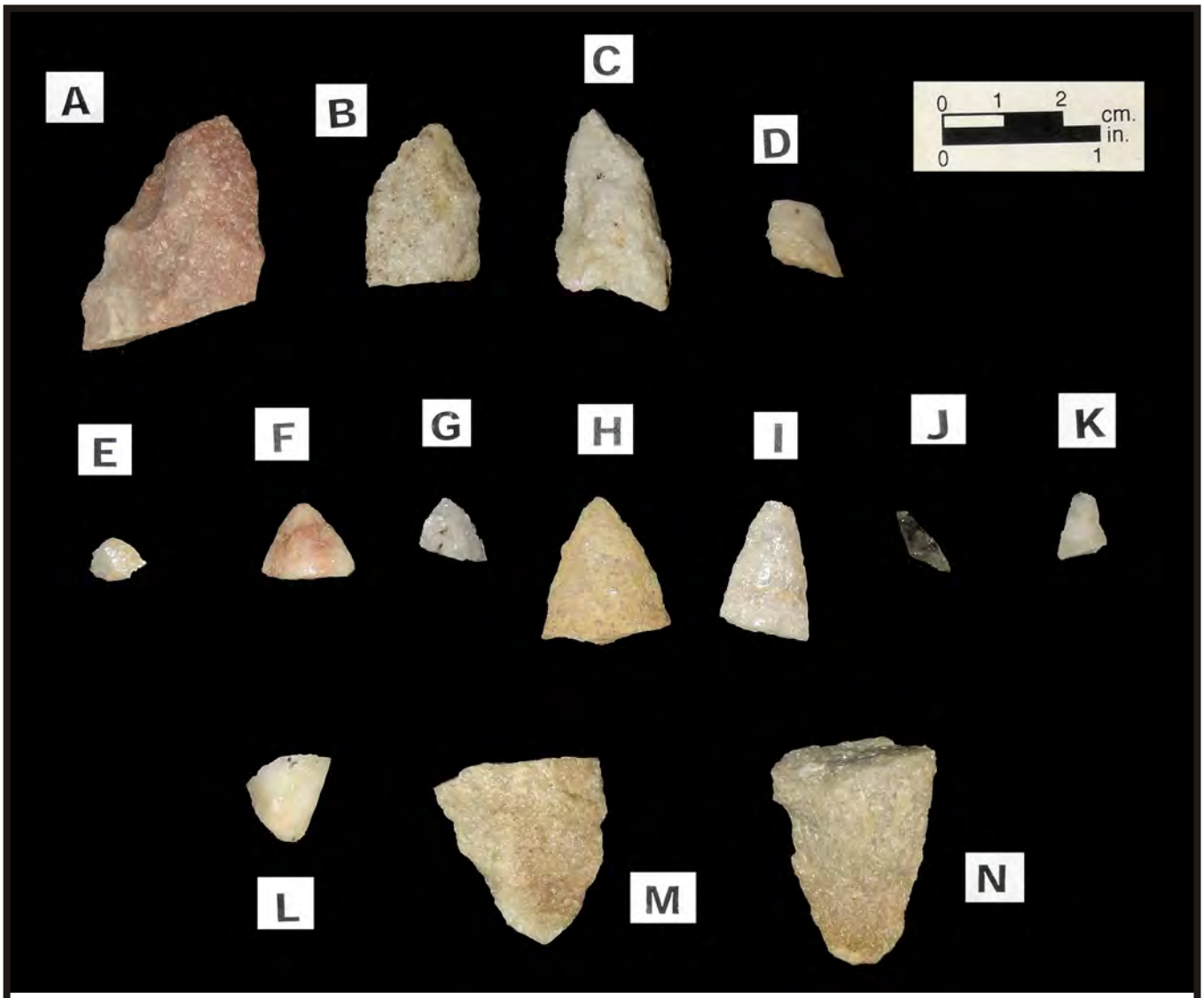
Table 17:
18Cv491- Descriptive Summary of Recovered Datable Points and Point Fragments

Cat. #	Provenience	Level/ Zone	Point Type	Lithic Material	length (mm)	width (mm)	Description
393	Sample TU TU N24E5	level 7 Zone 4	Susquehanna Broadspear	rhyolite	42*	32	asymmetrically resharpened, broken base (snap fracture)
315	Sample TU N59E9	level 3 Zone 1A	Susquehanna Broadspear	rhyolite	47	28	heavily asymmetrically resharpened
181	Block 2/Feature A TU 8	level 4 Zone 2	contracting stem variant/ very late stage biface	quartzite	65	28	slight basal grinding
252	Block 2/Feature A TU 13	level 3 Zone 1B	fishtail (orient variant)	quartzite	31	14	asymmetrically resharpened, broken tip, basal grinding
306	Block 2/Feature A TU 16	level 3 Zone 1A	Piney Island	quartzite	30*	18	impact fracture, basal grinding
410	Sample TU TU N30E19	level 2 Zone 1A	contracting stem variant	quartz	29	19	basal fracture, basal grinding
272	Block 2/Feature A TU 14	level 7 Zone 4	Piscataway	quartz	38	18	basal grinding
372	Sample TU N34E24	level 1A Zone 1A	Piscataway	quartzite	31*	18	transverse/snap fracture
276	Block 2/Feature A TU 15	level 3 Zone 1A	Piscataway	quartzite	22*	14	impact fracture, basal grinding
134	Block 2/Feature A TU 6	level 3 Zone 1B	Piscataway	quartz	19*	16	transverse fracture, basal grinding
49	Block 1/Feature B TU N30E19	level 3A Zone 2	Piscataway	quartzite	26*	19	asymmetrically resharpened, transverse fracture
196	Block 2/Feature A TU 9	level 3 Zone 1B	Piscataway	quartzite	47*	19	impact fracture
171	Block 2/Feature A TU 8	level 2A Zone 1A	Teardrop/Ovate possible Rossville	quartzite	29*	22	transverse fracture
112	Block 2/Feature A TU 4	level 1 Zone 1A	Triangle	quartz	22*	13	impact fracture estimated width x length = 23mm x 24mm
43	Block 1/Feature B TU N30E19	level 3 Zone 1B	Triangle	quartz	24*	30	impact fracture estimated width x length = 36mm x 37mm
395	Sample TU TU N24E15	level 1 Zone 1A	Piscataway	quartz	base fragment		
76	Block 1/Feature B TU N30E20	level 5 Zone 3	Poplar Island	quartzite	base fragment		
374	Sample TU TU N34E24	level 5 Zone 1B	Poplar Island	quartzite	base fragment		

*incomplete, dimension of remaining fragment

Table 18:
18Cv491- Projected Dates of Recovered Datable Points and Point Fragments

Point Type	General Date Range (Middle Atlantic Region)	Projected Date Range Based on Regional Chronologies	Cultural Period	Core Area	Non-Core Area	Total
Susquehanna Broadspear	ca. 2000 B.C. -1500 B.C. (Custer 2001, 1996, 1989)	1700 B.C. – 1500 B.C. (Steponaitis 1980)	Late Archaic		2	**2**
Miscellaneous Stemmed	ca. 5000 B.C. – A.D. 800 (Custer 2001)	ca. 5000 B.C. – A.D. 800 (Custer 2001)	Middle Archaic – Middle Woodland	1	1	**2**
Poplar Island *base fragments only*	maximum ca. 5000 B.C. – A.D. 1000 (Custer 2001) probable ca. 2500 B.C. – A.D. 1000 (Custer 2001)	ca. 2500 B.C. – A.D. 0 (Custer 2001) *for points >50 mm in length*	Late Archaic – Early Woodland	*1*	*1*	***2***
Fishtail aka. Orient, Dry Brook	ca. 1200 B.C. – 800 B.C. (Custer 2001)	1500 B.C. – 750 B.C (Steponaitis 1980)	Late Archaic – Early Woodland	1	-	**1**
Piscataway	ca. 940 B.C. – 50 B.C. (Mounier and Martin 1994)	4050 B.C. – 50 B.C. (www.marylandarcheology.org)	Late Archaic – Early Woodland	5	1	**6**
Piney Island (stemmed)	Maximum ca. 5000 B.C. – A.D. 1000 (Custer 2001) probable ca. 3000 B.C. – A.D. 500 (Custer 2001)	1000 B.C. – A.D. 500 (Custer 2001) *for points <50 mm in length*	Early Woodland – Middle Woodland	1	-	**1**
Teardrop/Ovate, Rossville form	730 B.C. – A.D. 640 (www.marylandarcheology.org)	730 B.C. – A.D. 640 (www.marylandarcheology.org)	Early Woodland – Middle Woodland	1	-	**1**
Triangle	ca. A.D. 1200 – A.D. 1700 *Potomac/Madison composite* (Scully 1951; Stephenson and Ferguson 1963; www.marylandarcheology.org)	ca. A.D. 1200 – A.D. 1700 (www.marylandarcheology.org)	Late Woodland	2	-	**2**



Block 2/Feature A

A: distal fragment, transverse fracture, quartzite
TU 16, SW quad, level 4, Zone 1B, (#291)

B: distal fragment, transverse fracture, quartzite
TU 1, SW quad, level 3, Zone 1B (#87)

C: distal fragment, transverse fracture and tip damage, quartzite
TU 8, SE quad, level 5, Zone 3 (#185)

D: distal fragment, transverse fracture and tip damage, quartz
TU 12, level 2, Zone 1A (#238)

E: tip, pry break, quartz
TU 8, SW quad, level 5, Zone 3 (#183)

F: tip, pry break, quartz
TU 6, SE quad, level 4, Zone 2 (#139)

G: tip, pry break, quartz
TU 8, level 1, Zone 1A (#165)

H: tip, pry break, quartz
TU 9, NW quad, level 6, Zone 4 (#211)

I: tip, pry break and tip damage, quartz
TU 13, SW quad, level 4, Zone 2 (#256)

J: tip, pry break, quartz
TU 9, NE quad, level 6, Zone 4 (#209)

K: tip, pry break and tip damage, quartz
N29E19, NW quad, level 3B, Zone 2 (#416)

Peripheral Unit

L: proximal fragment, stemmed variant, possible Piscataway
quartz, snap break
N24E15, level 1, Zone 1A (#395)

Block 1/Feature B

M: proximal fragment, stemmed variant, quartzite
snap break, N30E20, SE quad, level 5, Zone 3 (#76)

Peripheral Unit

N: proximal fragment, stemmed variant , quartzite
snap break
N34E24, SE quad, level 5, Zone 1B (#374)

18Cv491
Point Fragment Examples

FIGURE 59

from TU N59E9, a quartz contracting stem variant from Block 1/Feature B (**Figure 58F**) and a quartz Piscataway point from Block 2/Feature A (**Figure 58G**). These points are near complete from tip to base.

Susquehanna Broadspears. Overall, broadspears are a tightly-dated Late Archaic tool form that were commonly used more as knives than as projectile points. Two Susquehanna broadspears were recovered from the site. Both broadspears are made of rhyolite. The broadspears, one each, were recovered from peripheral sample units TU N24E5 and TU N59E9. Both units were excavated along the west edge of the site.

The broadspear from TU N24E5 is devoid of its stem. The point has been classified as a Susquehanna broadspear based on the characteristics of the extant portions of its shoulders, asymmetry, and flatness of blade. All of the aforementioned are more compatible to those attributed to Susquehanna broadspears than the characteristics noted for other broadspear variants (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). The broadspear from TU N59E9 is heavily-worn and resharpened.

In the Middle Atlantic region, Susquehanna broadspears are generally attributed a date range of 2000 B.C. to 1500 B.C. (Custer 2001, 1996a, 1989). Comprehensive research by Steponaitis (1980) has shown that these broadspears tend to appear later in the Patuxent River region, beginning around 1700 B.C.

Piney Island and other Stemmed Points. The stemmed point assemblage from 18Cv491 contains three stemmed points. These points are one quartzite Piney Island contracting stemmed point (**Figure 58E**), one quartzite generalized contracting stemmed form (**Figure 58C**), and one quartz contracting stem variant that does not particularly resemble any of the established regional types (**Figure 58F**). The non-diagnostic point fragments also include the proximal sections of two quartzite stemmed points (**Figure 59M-N**).

All of the stemmed points were recovered from the core area of the site (**Figure 51 and Figure 56; Table 17**). The Piney Island point and the generalized quartzite contracting stem point were recovered from Block 2/Feature A, specifically in TU 16 and TU 8, respectively (**Figure 51 and Figure 58C, E**). The quartz contracting stem point and one of the stem fragments were recovered from Block 1/Feature B in TU N30E19 and TU N30E20, respectively (**Figure 56, Figure 58F and Figure 59M**). The remaining quartzite stem fragment was recovered from peripheral unit TU N34E24 (**Figure 57** and **Figure 59N**).

Because of their relatively broad time span, between 5000 B.C. and A.D. 1000 (Custer 2001, 1996), stemmed points often provide little assistance as diagnostic artifacts; however, research has been able to demonstrate that some point varieties may be more useful than others as temporal indicators (Custer 2001, 1996).

One such variety is a narrow-bladed, contracting stem type known as Piney Island. Like many stemmed variants, Piney Island points have been found in various contexts that span the duration of the projected ca. 5000 B.C. – A.D. 1000 for stemmed points; however, regional research has resulted in the identification of time spans within the overall date range

where certain variants of this point are more apt to appear (Custer 2001, 1996). In general, Piney Island points tend to be more frequent in Late Archaic to Middle Woodland contexts that date between ca. 3000 B.C. to A.D. 500 (Custer 2001, 1996). It has also been noted that larger Piney Island points, namely greater than 50 millimeters (2 inches) in length, may be more apt to date before 1000 B.C., whereas those that are shorter are more likely to postdate 1000 B.C. (Custer 2001). The approximated size of the Piney Island point from 18Cv491, including the distal segment that is no longer extant, places it in the latter category. Consequently, a refined ca. 1000 B.C. – A.D. 500 date bracket can be proposed for the Block 2/Feature A TU 16 Piney Island point. This date range generally encompasses the latter half of the Early Woodland Period and the first half of Middle Woodland Period.

Little can be said about the two unidentifiable stemmed points. Neither specimen possesses any distinctive characteristics that can be used to place them in accordance with established type classification systems.

The quartz contracting stemmed point from Block 1/Feature A TU N30E19 is a short point with a blade that is nearly as wide as its short stem. The base is ground and concave, but the concavity appears to be more of a production flaw than an intention. As can be seen in the image provided in **Figure 58F**, the point has some traits that are reminiscent of established types such as thick-bladed Calvert points (ca. 800 B.C. – A.D. 200; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html), Fox Creek stemmed points with excurvate-edged ovate blades (ca. A.D. 200 B.C. – A.D. 900; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html), and examples of Jack's Reef Pentagonal points with slightly contracting stems. However, the point has other traits that are inconsistent with and/or lacks key defining characteristic of these well-established types. Even though variations within point types are to be expected, classifying the point despite its ambiguities would be both arbitrary and misleading. For these reasons, the base 5000 B.C. – A.D. 800 date range for stemmed points has been applied to the quartz point from Block 1/Feature A TU N30E19.

The quartzite stemmed point from Block 2/Feature A TU 8 is rudimentary in form and appears to be a point that is towards the end stages of manufacturing process (**Figure 58C; Table 14**). Little else can be said about the point. The point is a generalized form that could date anywhere 5000 B.C. – A.D. 800.

The quartzite stem fragments from Block 1/Feature B TU N30E19 and Sample Unit TU N34E24 present an interesting situation. Given their shapes and sizes, it can be suggested that they may represent the proximal ends of Poplar Island points. These narrow-bladed, tapered-stem points have been recovered from contexts that date from ca. 5000 B.C. to as late as A.D. 1000 although occurrences tend to be greater after 3000 B.C. (Custer 2001). Like Piney Island points, there is a correlation between point length and age. It has been projected that Poplar Island points 50 millimeters or longer (2 inches) are more likely to date between 2500 B.C. and A.D. 0 whereas points less than 50 millimeters in length are more apt to date between A.D. 0 and A.D. 1000 (Custer 2001). Although the 18Cv491 stem fragments are far from complete, they are clearly larger than the stem of the Piney Island point as well as most of the other near complete points in the site assemblage. As such, it can be proposed that the

points from which the fragments were derived likely date between 2500 B.C. and A.D. 0. This time frame spans the second half of the Late Archaic Period and most of the Early Woodland Period.

Compared to other portions of the Middle Atlantic Region, Poplar Island points are regarded as a less common occurrence in southern Maryland (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). This circumstance may not necessarily be indicative of an absence of these points in this portion of the state but instead a reflection of the classification of these points as another type. Piscataway, Rossville, and Morrow Mountain are regional point types that have been identified as related forms of the Poplar Island point (Custer 2001, 1996).

As a final note, while the above noted date ranges for Piney Island and Poplar Island variants do indeed provide some basis for temporal distinction, it is also recognized that several precautions must be taken when applying these points towards the development of a site chronology for 18Cv491. In addition to having a known, long history of occurrence that spans the entire stemmed point date range (ca. 5000 B.C. – A.D. 1000), each of the these stemmed variants also have lengthy independent date ranges. Furthermore, these point types also have overlapping date ranges. Because of their temporal overlap and mutual occurrence at 18Cv491, it is recognized that each of these stemmed points do not necessarily represent a single cultural tradition on their own. At the site, these points were found in mixed contexts (e.g., Zone 1A/Zone 1B) and/or alone in subsoil contexts, which further hinder use of these points as accurate chronological markers. Therefore, instead of being regarded as representative of independent markers at 18Cv491, these points are considered to represent a continuity of site use that spans the Late Archaic through Middle Woodland Periods.

Fishtail. The quartzite fishtail point (**Figure 58D, Table 17**) from Block 2/Feature A (TU 13) spans the transitional time between the Late Archaic and Early Woodland Periods. This type, also known as Orient or Dry Brook, has a regional attributed date range of ca. 1200 B.C. – 500 B.C. (Kinsey 1972; Custer 2001, 1996a). In the Patuxent River region, these points have been identified as dating between ca. 1500 – 750 B.C. (Steponaitis 1980).

Piscataway. Six Piscataway points and one possible Piscataway base fragment were recovered from the site (**Figure 58G-L** and **Figure 59L**). Four of the points are made of quartzite. Two of the points and the possible point base are quartz.

Five of the points (3 quartzite, 2 quartz) were recovered from the Feature A (Block 2)/Feature B (Block 1) core area. One of the points (quartzite) and the possible base fragment (quartz) were recovered from the peripheral sampling around the core (**Table 17**).

The estimated date range of Piscataway points varies. These points were originally defined by Stephenson and Ferguson (1963) and attributed to the Late Woodland Period based on their recovery with other Late Woodland points and ceramic wares at the Accokeek Creek Site (18Pr8). Since then, these points, and variants thereof, have been documented throughout the Middle Atlantic region in association with a broad range of occupations pre-dating the Late Woodland Period. As a result, these points have been attributed time frames

that collectively span the Late Archaic through Middle Woodland Periods (Stephenson and Ferguson 1963; Steponaitis 1980; Luckenbach et al. 2010; Sperling et al. 2010; Dent 1995; Mounier and Martin 1994; Hranicky 1994; and Fogelman 1992).

There are also discrepancies in the categorizations of these lozenge-shaped points and the similarly-shaped larger Rossville point, both which may possess pointed or round bases. These points have been regarded as variations of contracting stemmed forms (e.g., Custer 2001) and they have also been described as a teardrop/ovate variant (e.g., Luckenbach et al. 2010). It has been noted that these perspectives may be one of the reasons for temporal discrepancies across established classification systems (Mounier and Martin 1994).

Although the exact time frame of Piscataway points continues to be debated, it is commonly acknowledged that these points predate 50 B.C. at the latest (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html; Mounier and Martin 1994). While these points have been recovered in undisputable Early Woodland contexts (Louis Berger & Associates Inc. 1992; Siegel et al. 2004; Luckenbach et al. 2010; Sperling 2010), studies have also revealed that the height of these points coincides with the transition between the Late Archaic and Early Woodland Periods (Mounier and Martin 1994; Luckenbach et al. 2010; Sperling 2010).

One of the earlier primary works that systematically addressed the temporal placement of teardrop points is Mounier and Martin (1994), which was conducted in conjunction with studies of the Woodbury Annex Site (28Gl5) in southern New Jersey. Site examinations included analysis of several teardrop points and related artifacts from contexts with (uncalibrated) radiocarbon dates ranging from 1480 B.C. ± 250 B.C. to 530 ± 50 B.C. (Mounier and Martin 1994). Based on comparative analysis of radiocarbon assays, weighted averages, and contextual data from the Woodbury Annex Site (28Gl5) and other regional sites (i.e., 28Ca2, 28Bu165, and 28Gl48), researchers identified a prevailing ca. 940 B.C. – 50 B.C. temporal bracket for teardrop points in New Jersey (Mounier and Martin 1994).

Recent studies at the Pig Point Site (18An50) have included detailed examinations of the vertical sequence of Piscataway points recovered from the site (Luckenbach et al. 2010; Sperling 2010). These studies found Piscataway points to be most prolific in Stratum G, the youngest Late Archaic pre-ceramic stratigraphic context of the Pig Point Site (18An50). The decline in point frequencies as well as the division of the assemblage are virtually symmetrical the consecutive strata above and below Stratum G. Piscataway points were recovered from two pre-ceramic strata preceding Stratum G and also in the postdating Late Archaic/Early Woodland Transitional and Early Woodland strata (Luckenbach, et al. 2010; Sperling 2010).

In Maryland, a general ca. 4050 B.C. to 50 B.C date range has been established for Piscataway points (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html), which places use of the points well within the Late Archaic and Early Woodland Periods. Given the results of regional research, especially the recent findings of the Pig Point Site studies, it is apparent that in southern Maryland these points date best to the time spanning the transitional Late Archaic/Early Woodland Period.

Rossville. One quartzite convex base fragment was recovered from Block 2 TU 8 (**Figure 51** and **Figure 58M**). The base is rounded and is believed to be the proximal end of a lozenge-shaped or teardrop/ovate point. The curvature of the base fragment is similar to the base of rounded Piscataway points and also the rounded stems that often appear on some larger Poplar Island variants. Pursuant to Maryland classification systems, the point has been tentatively identified as a Rossville. The resemblance of the Block 2 TU 8 base fragment to Poplar Island points is a testament to the similarities between these Rossville and Poplar Island point types.

In Maryland, Rossville points have been established as an Early-Middle Woodland point that dates between 730 B.C. and A.D. 640 (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html).

Triangle. Two quartz triangles were recovered from the Feature A/Feature B core area. One point each was recovered from Block 2/Feature A TU 4 and Block 1/Feature B TU N30E19 (**Figures 51, 56** and **58N-O**). The points are broken but the angles of the sides indicate that the points were equilateral forms, with the point from TU N30E19 only slightly less so. The estimated full height of Block 2/Feature A TU 4 triangle is twenty-three (23) millimeters. The triangle from Block 1/Feature B TU N30E19 is larger of the two points and has an estimated full height of thirty-six (36) millimeters.

Until the late 1990s, triangle points were traditionally attributed to the Late Woodland Period in areas south of the Hudson Valley[11]. Although triangle points are still regarded as a primary Late Woodland diagnostic artifact, studies have shown that triangle points are not as exclusively synonymous with the Late Woodland Period as once believed. One of the key and earliest works on pre-Late Woodland use of triangular points is Stewart (1998), which entailed detailed analysis of triangle points recovered from deep, well-defined, intact Middle Archaic contexts at 28Me1-D (aka. Area D) of the Abbott Farm National Landmark near Trenton, NJ (Stewart 1998; Stewart and Cavallo 1991; Wall, Stewart et al. 1996; Wall, Stewart, and Cavallo 1996). Site 28Me1-D is one of several sites in the Abbott Farm National Landmark that yielded triangles from Archaic, Early Woodland, and/or Middle Woodland contexts (e.g., 28Me100G, 28Me1-I, 28Me37, and Wall, Stewart, and Cavallo 1996). The results of Stewart's (1998) 28Me1-D studies, which also included re-evaluation of other sites that have yielded triangles from pre-Woodland contexts (e.g., 28Mo135), have since prompted archeologists to reinterpret the place of triangle points in regional chronologies. The reporting of other sites with triangles associated with pre-Late Woodland occupations in New Jersey (e.g., 28GL210, Lothrop and Koldehoff 1991) and in Pennsylvania (e.g., 36CN175 – Custer, Watson, and Bailey 1993, 1996) has also contributed towards developing inventories of Middle Atlantic pre-Late Woodland triangles.

A recent addition is a site in Maryland, specifically the Pig Point Site (18An50) in Anne Arundel County (Luckenbach, et al. 2010; Sperling 2010). Excavations in the Lower Block

[11] Prior to the reporting of the late twentieth century investigations at the Abbott Farm National Landmark (Stewart 1998; Stewart and Cavallo 1991), it was generally thought that pre-Woodland triangle forms did not extend south of the Hudson Valley.

section of the site have recovered triangle points from nine consecutive cultural strata that span the Archaic through Woodland Periods. From oldest to youngest, these strata consist of three pre-ceramic (Archaic) strata (Strata G-I), two Early Woodland strata (Strata E-F), two Middle Woodland strata (Strata C-D), and two Late Woodland (Strata A-B). In addition to the expected peak centered around the Late Woodland strata, the point assemblage also includes a concentration of triangle points centered on the oldest Early Woodland stratum (Stratum F). The vertical distribution of points above and below Early Woodland peak is near symmetrical. Fourteen of the twenty-two points were also recovered from the Early Woodland and pre-ceramic strata (Luckenbach, et al. 2010; Sperling 2010).

The dating of triangle points has, and continues to, become less straightforward due to the physical similarities amongst triangles of varying age. Efforts to establish defining characteristics for use in separating Late Woodland triangles from non-Late Woodland triangles have met varying levels of success. Although morphological studies have identified a few noteworthy, trending attributes amongst Archaic points such as unique pressure flaking along basal edges and possible size proportions (Stewart 1998, Katz 2001), these trends are not as readily apparent during exercises that require diagnosing points on an individual basis. To date, the identification of pre-Late Woodland triangle points is still heavily dependent on contextual data.

The two triangle points from 18Cv491 bear strong resemblances to both Late Woodland and pre-Late Woodland triangular forms, especially those contained in the Archaic-Late Woodland sequence of the Pig Point Site (Luckenbach, et al. 2010:176). Although it is quite possible that the TU 4 and/or TU N30E19 points are associated with one of the Late Archaic-Middle Woodland components at 18Cv491, there is little to no data that can be used to prove or refute this contention. Both points were recovered from Zone 1A/Zone 1B, the plow-disturbed, mixed strata that comprise the upper portions of the soil profile. Attributing these plow zone points to the Late Archaic, Early Woodland, or Middle Woodland Periods with disregard to the *terminus post quem* (TPQ) of Late Woodland triangles would be both arbitrary and misleading. For this reason, the 18Cv491 triangle points are conservatively regarded as Late Woodland examples.

The points are broken but the angles of the sides indicate that the original points were slightly more isosceles than equilateral. The approximated full width and length (height) of the TU 4 point are twenty-three millimeters and twenty-four millimeters, respectively. The approximated full width and length (height) of the TU 4N30E19 point are thirty-six (36) millimeters and thirty-seven (37) millimeters, respectively.

In deference to the worn and broken conditions of the points, the points have not been classified by subtype. However, for reference purposes, it can be suggested that the dimensions of the TU 4 triangle coincide best with those noted for Potomac variants whereas the TU N30E19 triangle is more similar to the larger Madison point.

Based on the established date ranges of Potomac (A.D. 1200 – A.D. 1700; Stephenson and Ferguson 1963) and Madison (A.D. 1250 – A.D. 1450; Scully 1951) points, the composite date range for the 18Cv491 triangles has been set to ca. A.D. 1200 – A.D. 1700.

2. Ceramic Artifacts

Compared to the projectile point, which contains a variety of diagnostic types, there is less type variation within the recovered ceramic assemblage. The five-sherd assemblage recovered from 18Cv491 contains only three ceramic types, two of which are represented by a single sherd.

The ware types therein are Marcey Creek (n= 1), Accokeek (n=3), and Sullivan Cove Plain (n=1). All three types are common wares of Maryland's Western Shore. Photographs of the sherds are shown in **Figure 60**. **Table 19** presents summary descriptions of their physical characteristics and their projected date ranges.

Marcey Creek

The Marcey Creek sherd is a triangular body sherd that is approximately twenty square millimeters in size. The sherd was recovered from the first ten centimeters of the intact subsoil (Zone 2) in Block 1/Feature B TU N30E20 (**Figure 60A; Table 19**).

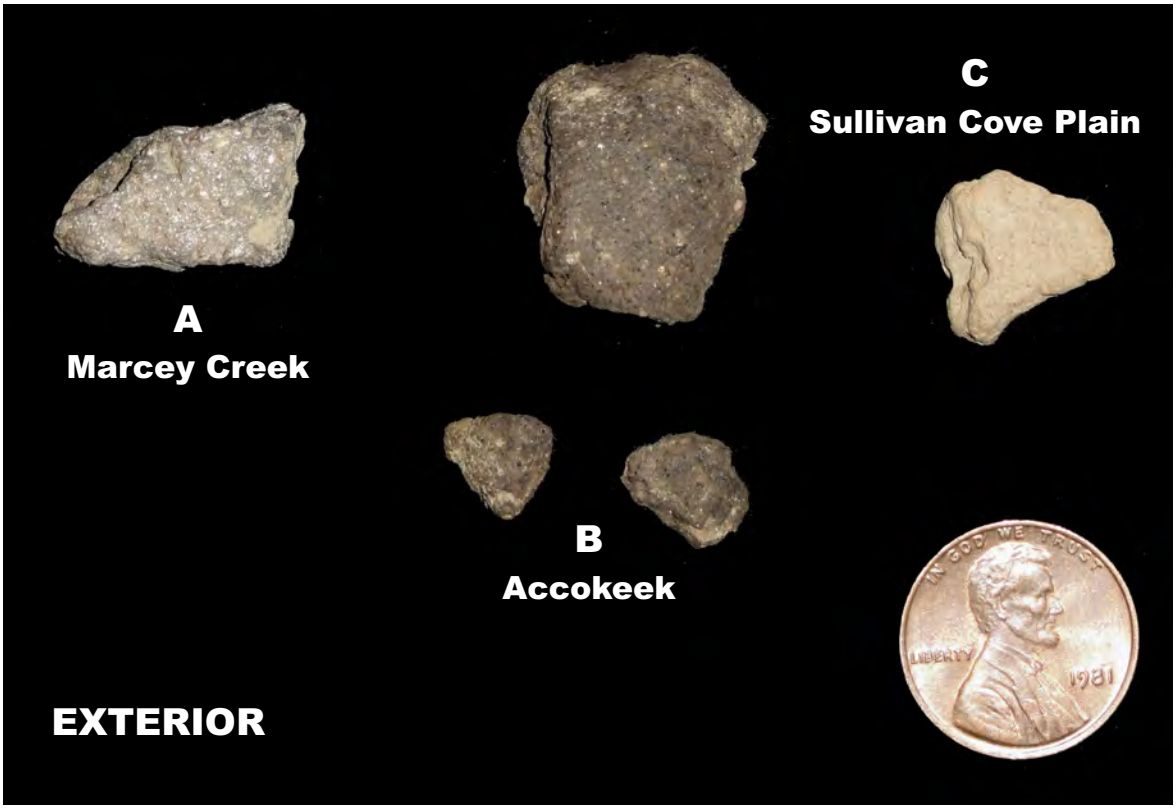
Marcey Creek is the earliest of the experimental ceramic wares in Maryland. The ware is characterized by its crushed steatite temper, which gives it a slightly waxy texture. The vessels were straight-sided, flat-bottomed, oblong to semi-rectangular containers that were fashioned after the forms of pre-ceramic steatite/soapstone bowls. Applied lug handles were also common. Vessel exteriors are smoothed. Decoration is rare, but lips are sometimes nicked, notched, or slightly scalloped. Bases are thick slabs, and vessels are often configured to have protruding heels. The bottoms of the vessels exhibit mat impressions on the exterior. The usual construction method was hand-modeling; however, examples of Marcey Creek vessels that were created by stacking large flat coils on top of the base have also been reported (Stephenson et al.1963:91, Egloff and Potter 1982:95). One such vessel was recovered at the Snapp Prehistoric Site (7NC-G-101) in Delaware (Custer and Silber 1994). The latter construction method can be viewed as a precursor to later coil manufacturing techniques.

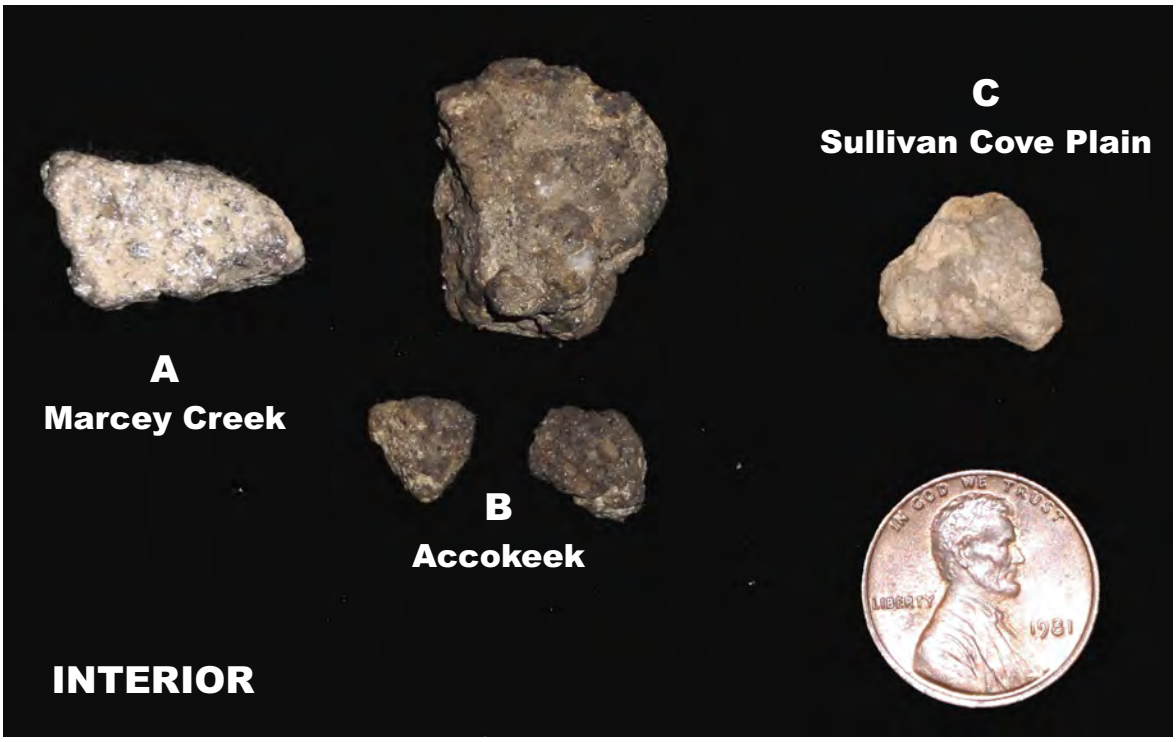
The dates of Marcey Creek vary by region. In more interior portions of Maryland, this Early Woodland ware tend to date between ca. 1000 B.C. and 750 B.C. (Stewart 1982:74). In coastal plain of the Middle Atlantic, which includes Calvert County, the ware appears a bit earlier, beginning around 1200 B.C. and lasting until ca. 800 B.C. (Egloff and Potter 1982:97) or ca. 900 (Custer 1989).

Accokeek

Three sherds of Accokeek ceramic were recovered during the 18Cv491 excavations. These sherds were recovered from Block 1/Feature B TU N30E19 from the first ten centimeters of the intact subsoil (Zone 2). The largest sherd is approximately twenty (20) millimeters square in size. The other two sherds are small rounded fragments that are approximately ten (10) millimeters in diameter. All three sherds are burned (**Figure 60B; Table 19**).

Accokeek ceramic is characterized as a sand and/or crushed quartz-tempered ware. One of the most prominent features of this ware is pronounced, oblique cord-marking on exterior





A: Marcey Creek - steatite/soapstone tempered (#68)
TU N30 E20, NE quad, level 3A, Zone 2

B: Accokeek - crushed quartz/grit tempered (#54)
TU N30 E19, SW quad, level 4, Zone 2

C: Sullivan Cove Plain - fine shell/grit tempered (#39)
TU N30 E19, SW quad, Zone 1A

18CV491, Block 1, Feature B
Ceramic Sherds

FIGURE 60

Table 19:
18Cv491- Descriptive Summary of Recovered Ceramic Sherds

Cat. #	Provenience	Level/ Zone	Ware Temper	Body Fragment Decoration Surface Treatment Other	Maximum Dimension W x L (mm)	Wall Thickness (mm)	Cultural Period/ Projected Date Range/
68	Block 1/ Feature B N30E20 NE quad	level 3A Zone 2	**Marcey Creek** crushed steatite	body sherd undecorated smoothed exterior/interior	13mm x 21mm	6mm	**Early Woodland** 1200 B.C. – 800 B.C. (Egloff and Potter 1982) 1000 B.C. – 750 B.C (Stewart 1982)
54	Block 1/ Feature B N30E19 SW quad	level 4 Zone 2	**Accokeek** crushed quartz and sand	body sherd undecorated smoothed exterior/interior burned	<10mm diameter.	?	**Early Woodland** 900 B.C. – 300 B.C. (www.marylandarcheology.org)
54	Block 1/ Feature B N30E19 SW quad	level 4 Zone 2	**Accokeek** crushed quartz and sand	body sherd undecorated smoothed exterior/interior burned	10mm diameter	?	**Early Woodland** 900 B.C. – 300 B.C. (www.marylandarcheology.org)
54	Block 1/ Feature B N30E19 SW quad	level 4 Zone 2	**Accokeek** crushed quartz and sand	body sherd – possible base or near base sherd undecorated smoothed exterior/interior burned	18mm x 22mm	9mm	**Early Woodland** 900 B.C. – 300 B.C. (www.marylandarcheology.org)
39	Block 1/ Feature B N30E19 SW quad	level 2 Zone 1A	**Sullivan Cove Plain** fine crushed shell and grit	body sherd undecorated smoothed exterior/interior	14mm diameter	4mm	**Late Woodland** A.D. 1250 – A.D. 1600 A.D (www.marylandarcheology.org)

surfaces. The cord marks usually slant to the right away from the vessel rim. Accokeek vessel forms are generally conical.

Accokeek ceramic can be found throughout most of Maryland. The ware closely resembles Wolfe Neck and Vignette I wares, which have similar physical characteristics and contemporaneous date ranges. Wolfe Neck and Vignette I are found in more northern portions of the Delmarva Peninsula, southeastern Pennsylvania, and southern New Jersey.

The namesake and defining site of Accokeek ware is the Accokeek Creek site (18Pr8), which is located in Prince George's County on the south side of the Piscataway Creek near its confluence with the Potomac River. The ware was defined at the site by Stephenson and Ferguson (1963). In Maryland, Accokeek ware has a well-established Early Woodland date range of ca. 900 B.C. to 300 B.C.

Sullivan Cove Plain. One sherd of Sullivan Cove Plain, was recovered from Block 1/Feature B TU N30E19 from Zone 1A, the slopewash overburden that is situated just below the humus. The sherd is heavily weathered and approximately fourteen square millimeters (**Figure 60C; Table 19**).

Sullivan Cove is a Late Woodland ware that has two established variants, Sullivan Cove Cord-Marked and Sullivan Cove Plain. The paste of the thin-bodied ceramic is compact and tempered with finely crushed oyster shell. Vessel forms are generally conical. The exterior surfaces of unmarked forms are smoothed and partially smoothed in marked forms. The interiors of both variants are smoothed. The ware shares similarities with Potomac Creek and Townsend wares.

Sullivan Cove is found throughout the Maryland Western Shore. The established date range of this Late Woodland ceramic is ca. 1250 A.D. to 1600 A.D. (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). The ceramic is a signature artifact of the Sullivan Cove Phase of the Rappahannock Complex (A.D. 900 –A.D. 1600; Steponaitis 1983).

3. Diagnostic Artifact Associations

An overall site chronology for 18Cv491 was developed based on the recovered diagnostic projectile points and ceramic types. **Figure 61** and **Figure 62** present composites of the diagnostic artifacts by site section and by stratigraphic zone, respectively. A summary site composite is presented in **Figure 63**. The aforementioned composites also show the "best fit" temporal overlaps of artifact date ranges. Several notable artifact associations are apparent in the diagnostic assemblage. The diagnostic artifacts are consistent with the sequence of established regional cultural traditions.

The only points that firmly date to the Archaic Period are the two Susquehanna broadspears that were recovered from the peripheral units along the west edge of the site (**Figure 61**). The Susquehanna broadspears are indicative of a Late Archaic component that dates to at least ca. 1700 B.C. – 1500 B.C. (Steponaitis 1980).

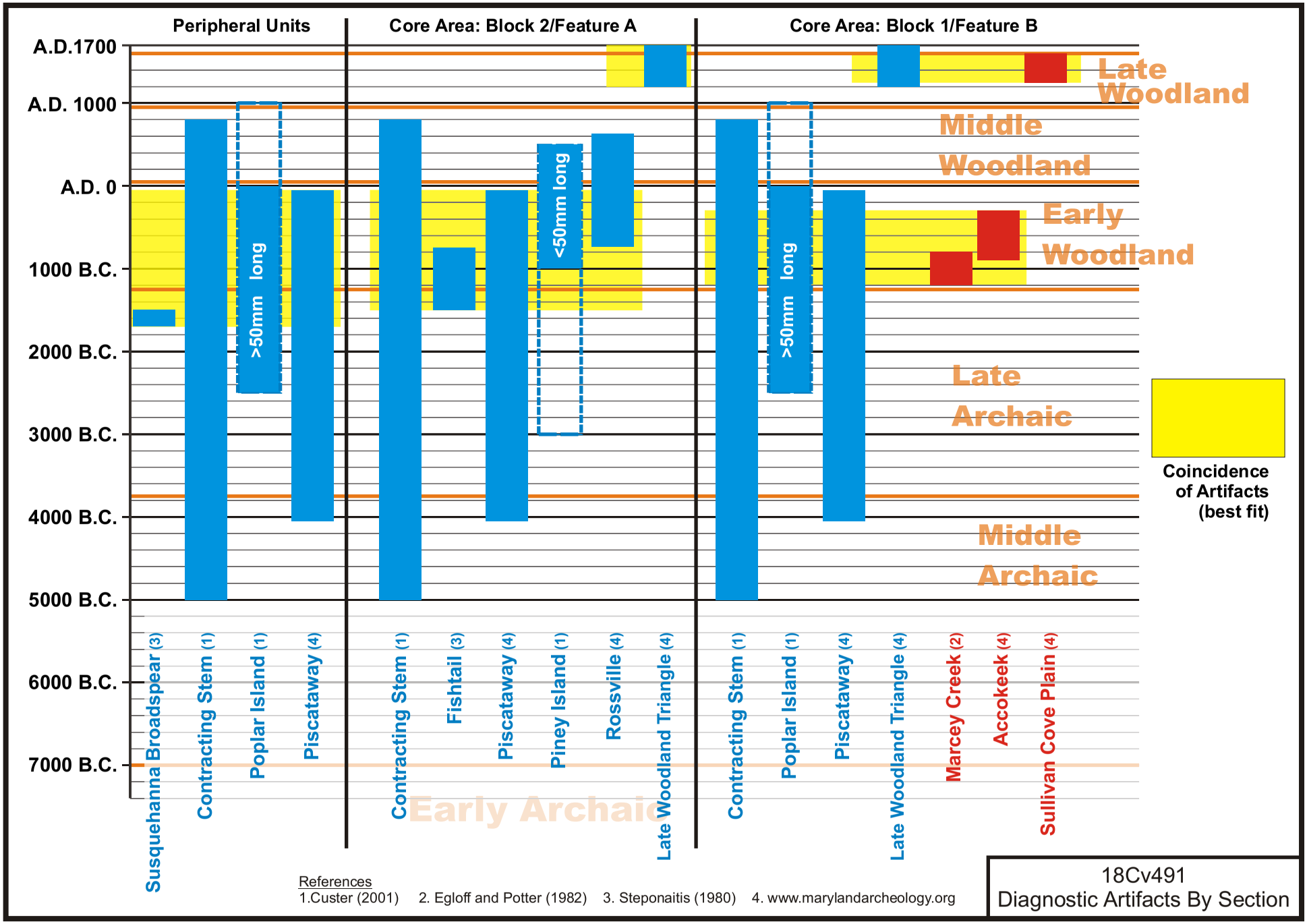

Peripheral Units
Core Area: Block 2/Feature A
Core Area: Block 1/Feature B
A.D.1700
A.D. 1000
A.D. 0
1000 B.C.
2000 B.C.
3000 B.C.
4000 B.C.
5000 B.C.
6000 B.C.
7000 B.C.
>50mm long
<50mm long
>50mm long
Late Woodland
Middle Woodland
Early Woodland
Late Archaic
Middle Archaic
Early Archaic
Coincidence of Artifacts (best fit)
Susquehanna Broadspear (3)
Contracting Stem (1)
Poplar Island (1)
Piscataway (4)
Contracting Stem (1)
Fishtail (3)
Piscataway (4)
Piney Island (1)
Rossville (4)
Late Woodland Triangle (4)
Contracting Stem (1)
Poplar Island (1)
Piscataway (4)
Late Woodland Triangle (4)
Marcey Creek (2)
Accokeek (4)
Sullivan Cove Plain (4)
References
1.Custer (2001) 2. Egloff and Potter (1982) 3. Steponaitis (1980) 4. www.marylandarcheology.org
18Cv491
Diagnostic Artifacts By Section

FIGURE 61

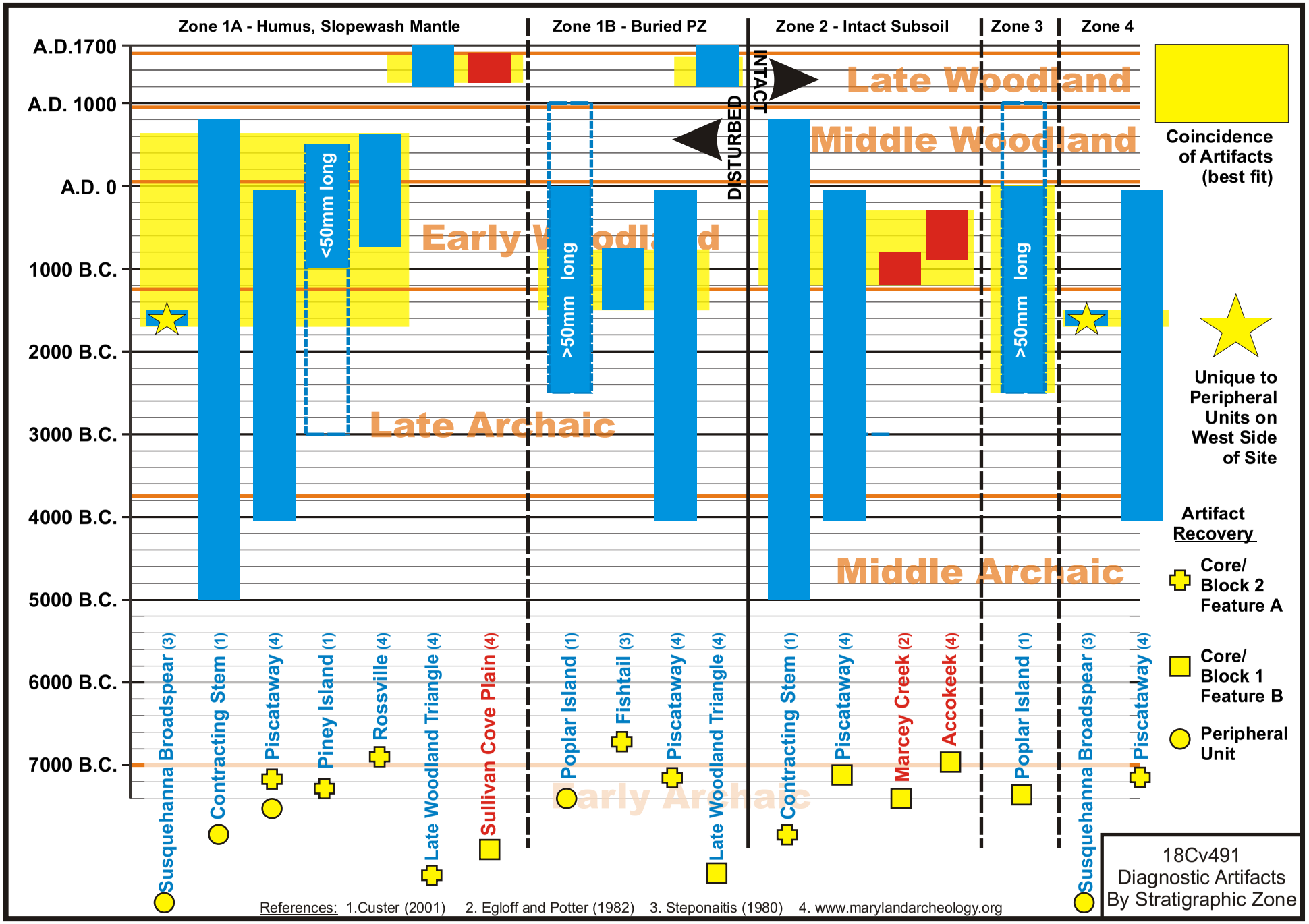

Zone 1A - Humus, Slopewash Mantle
Zone 1B - Buried PZ
Zone 2 - Intact Subsoil
Zone 3
Zone 4
A.D.1700
A.D. 1000
A.D. 0
1000 B.C.
2000 B.C.
3000 B.C.
4000 B.C.
5000 B.C.
6000 B.C.
7000 B.C.
Late Woodland
Middle Woodland
Early Woodland
Late Archaic
Middle Archaic
Early Archaic
INTACT
DISTURBED
<50mm long
>50mm long
>50mm long
Susquehanna Broadspear (3)
Contracting Stem (1)
Piscataway (4)
Piney Island (1)
Rossville (4)
Late Woodland Triangle (4)
Sullivan Cove Plain (4)
Poplar Island (1)
Fishtail (3)
Piscataway (4)
Late Woodland Triangle (4)
Contracting Stem (1)
Piscataway (4)
Marcey Creek (2)
Accokeek (4)
Poplar Island (1)
Susquehanna Broadspear (3)
Piscataway (4)
Coincidence of Artifacts (best fit)
Unique to Peripheral Units on West Side of Site
Artifact Recovery
Core/ Block 2 Feature A
Core/ Block 1 Feature B
Peripheral Unit
References: 1.Custer (2001) 2. Egloff and Potter (1982) 3. Steponaitis (1980) 4. www.marylandarcheology.org
18Cv491
Diagnostic Artifacts
By Stratigraphic Zone

FIGURE 62

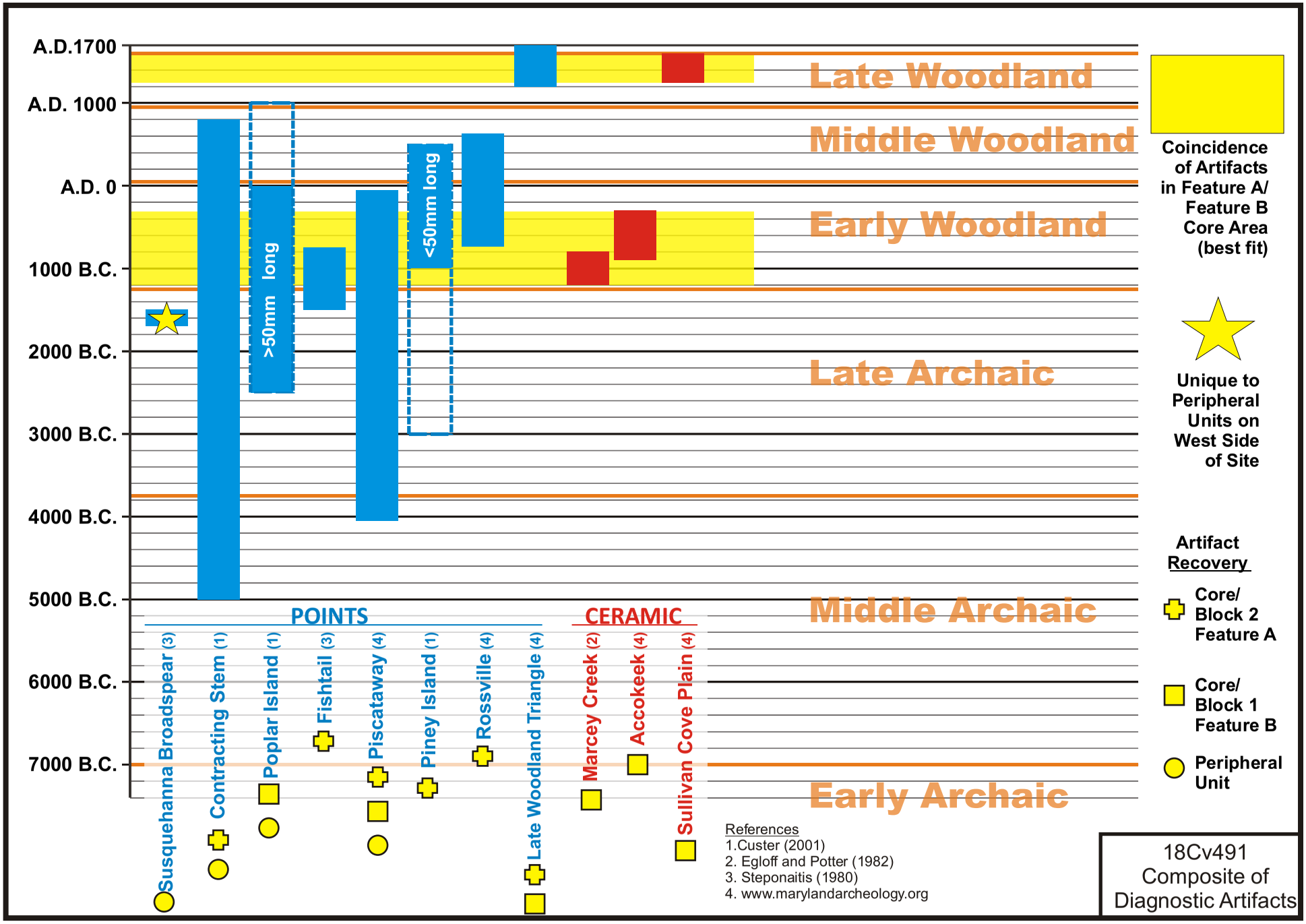

A.D.1700
A.D. 1000
A.D. 0
1000 B.C.
2000 B.C.
3000 B.C.
4000 B.C.
5000 B.C.
6000 B.C.
7000 B.C.
Late Woodland
Middle Woodland
Early Woodland
Late Archaic
Middle Archaic
Early Archaic
>50mm long
<50mm long
POINTS
CERAMIC
Susquehanna Broadspear (3)
Contracting Stem (1)
Poplar Island (1)
Fishtail (3)
Piscataway (4)
Piney Island (1)
Rossville (4)
Late Woodland Triangle (4)
Marcey Creek (2)
Accokeek (4)
Sullivan Cove Plain (4)
Coincidence of Artifacts in Feature A/ Feature B Core Area (best fit)
Unique to Peripheral Units on West Side of Site
Artifact Recovery
Core/ Block 2 Feature A
Core/ Block 1 Feature B
Peripheral Unit
References
1.Custer (2001)
2. Egloff and Potter (1982)
3. Steponaitis (1980)
4. www.marylandarcheology.org
18Cv491
Composite of
Diagnostic Artifacts

FIGURE 63

It is important to note that the projected dates of the Late Archaic Period do not dictate that the Late Archaic component is represented only by the broadspears, but rather that the broadspears provide the best definitive datable evidence of site usage during the Late Archaic Period. The majority of the points that span the Archaic – Woodland Periods straddle the Late Archaic/Early Woodland transitional period. As such, it is reasonable to assume that some of the points could have been associated with the site's Late Archaic occupation as evinced by the Susquehanna broadspears. In Maryland's Upper Delmarva portion, studies of the Barker's Landing/Clyde Farm Complexes have demonstrated that several stemmed point types were constant throughout the Late Archaic –Middle Woodland periods and that it is not uncommon for broadspears to be found in association with them (Custer 1994, 1983, 1989). Studies have also shown that it is not uncommon for Piscataway points to be found in association with broadspears (Luckenbach et al. 2010; Sperling 2010).

The only pre-Late Woodland Point that does not span the Late Archaic/Early Woodland Periods is the teardrop/ovate/Rossville point, which spans the Early-Middle Woodland transitional period. Given the vast literature that documents the Piscataway-Rossville sequence as well as the associations between these points and Accokeek ceramic (Stephenson and Ferguson 1963; Steponaitis 1980; Luckenbach et al. 2010; Sperling 2010; Dent 1995; Mounier and Martin 1994; Hranicky 1994; and Fogelman 1992; Siegel et al. 2004; Louis Berger and Associates, Inc. 1994) the Rossville can be placed with the Early Woodland Period occupation of the site.

Although the Early Woodland ceramic sherds are too few in number and too ill-preserved for exercises that are heavily-dependent on artifact densities (e.g, spatial patterning, attribute analysis), they can be used as temporal markers to assist with reconciling some of the chronological ambiguities in the point assemblage.

The Marcey Creek sherd and three Accokeek sherds indicate that the core area of the site contains a Marcey Creek Phase - Accokeek Phase component. All four sherds were recovered from Zone 2 in Block 1/Feature A. Their combined recovery provides a strong Early Woodland context for the intact cultural deposits of the core area. Pursuant to the established beginning date of Marcey Creek ceramic and end date of Accokeek ceramic, the extended date range of the intact cultural deposits of the 18Cv491 core area is ca. 1200 B.C. to 300 B.C. (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). This ca. 1200 B.C. to 300 B.C. date range is the baseline of Early Woodland Period occupation and intact cultural deposits of 18Cv491.

The ca. 1500 B.C. – 750 B.C. fishtail point (Steponaitis 1980) is the most distinctive and diagnostic point style of the Late Archaic-Early Woodland points. The fishtail point (Steponaitis 1980) coincides best with the ca. 1200 B.C. – 800 B.C. Marcey Creek ceramic sherd (Egloff and Potter 1982), and even more so when the regional ca. 1200 B.C. – 800 B.C. date range for fishtail points (Custer 2001) is taken into consideration (**Figure 61-63**).

The recovery of the fishtail point and Marcey Creek sherd in the 18Cv491 core area is not surprising since this artifact combination is a well-documented, recognized characteristic of the Fishtail tradition/Marcey Creek phase of the Patuxent Drainage (Steponaitis 1980:190),

as well as in Maryland's Lower Delmarva and southern regions (Davison 1981; Pogue and Smolek 1985). In Maryland's Upper Delmarva region, Marcey Creek ceramic and fishtail points are a recognized artifact association of the later years of Barker's Landing Complex and Clyde Farm Complexes, which is sometimes referred to as Barker's Landing III/Clyde Farm III (Custer 1994) (Custer 1983, 1989, 1994). Given the well-documented regional coincidence of the two artifacts, not to mention the vertical seriation of the point (Zone 1B) and the sherd (Zone 2), it is reasonable to conclude that the deposition of the fishtail dates to the Early Woodland Period occupation.

Stemmed points are present and vary in shape and sizes. The generalized stemmed points are not particularly diagnostic since they could indicate occupations during the Archaic through Middle Woodland Periods. However, the overlapping of date ranges that have been adjusted based on regional correlations between point size and likelihood for temporal usage (Custer 2001), provides a level of confidence to suggest that the Poplar Island and Piney Island point probably date to the Early Woodland Period (**Figures 61-63**).

As a group, the Piscataway points, like the stemmed points, are not particularly diagnostic. Due to their extended period of use (ca. 4050 B.C. -0 A.D.; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html), they could represent one or more Archaic-Early Woodland occupations.

Contextual data from 18Cv491 does provide some assistance in deducing the depositional history of Piscataway point assemblage. One of the Piscataway points was recovered from Zone 2, the same subsoil stratigraphic context that contained the one Marcey Creek and three Accokeek sherds. The point was also recovered from the same unit that contained the Accokeek sherds, specifically Block 1/Feature B TU N30E19 (**Figure 58K**). The recovery of this Piscataway point in association with Marcey Creek and Accokeek ceramic places the Piscataway point, and probably those recovered above in Zone 1A/Zone 1B, with an Early Woodland Period occupation. The contracting stem from Zone 2 in Block 2/Feature A TU 8 can also be attributed to the Early Woodland period (**Figure 58C**).

The deepest diagnostic artifacts from the core area are a Poplar island stem fragment, which originated from Block 1/Feature A TU N30E20, Zone 3 (**Figure 59M**) and one Piscataway point, which was recovered from Block 2/Feature B TU 14 (**Figure 58G**). While these two points could indicate an occupation that predates the Marcey Creek – Accokeek Phase occupation that is represented in Zone 2, this supposition must remain speculative since 1) neither point type is definitively older than the Early Woodland Period and 2) the site did not yield any data, in the form of artifacts, ecofacts, or features, that can be used to accurately identify and delineate any occupations that are different than the ones expressed in Zone 2.

Consideration of the Susquehanna broadspear from Zone 4 in Peripheral Unit TU N24E5 does not provide any substantial insights about the Piscataway and Poplar Island points from Zones 2 and 3 since both points could indicate older, contemporaneous, or younger occupations. In fact, the siting of the Late Archaic component across a small rise along the west side of the site and the questionable depositional context of the broadspear, as revealed by the geoarcheological study (**Appendix III**), introduces the possibility that artifacts in

Zones 3/4 of the core area and Zones 3/4 along the west side of the site could be unrelated. Due to the overall low artifact densities in Zone 4 across the site, the relationship of the artifacts as they relate to one another cannot be discerned. At best, the Piscataway point from Zone 4 indicates that lower depths of the intact cultural deposits in the core area postdate 4050 B.C.

The second half of the Rappahannock Complex of the Late Woodland Period (ca. A.D. 900 – A.D. 1600) is represented by the Sullivan Cove and triangle points. The fact that the Sullivan Cove sherd and one of the triangle points are both plow zone (Zone 1A/1B) artifacts from Block 1/Feature B TU N30E19 increases the likelihood of the triangles as Late Woodland artifacts. The Sullivan Cove sherd indicates that the Late Woodland occupation dates between ca. A.D. 1250 and A.D. 1600.

4. Comprehensive Site Chronology and Temporal Occupations

The variation in the diagnostic artifacts from 18Cv491 reflects continuous and repeated, but limited, use of the site. The progressive sequence of the more distinctive point types and ceramic wares implies that use of the site began during the Late Archaic Period and continued into the Woodland Period. These artifacts also indicate that the site's most intensive period of use occurred during the Early Woodland Period between 1200 B.C. and 300 B.C. The 1200 B.C. and 300 B.C. date range is the Early Woodland period baseline of the core area, which contains the Feature A House pattern and the Feature B work area. The Early Woodland Marcey Creek Phase and Accokeek Phase cultural traditions are represented at the site.

Although the deposition of some of the stemmed points and the Piscataway points could have occurred as early as the Middle Archaic period, without any other definitively Middle Archaic artifacts, this possibility is difficult to confirm. Instead, it is more logical to regard the stemmed points and Piscataway points as supporting indicators of the site's occupational continuity suggested by the other diagnostic artifacts.

The recovery of a Piscataway point from an intact stratigraphic context in association with Marcey Creek and Accokeek ceramic further supports this perspective.

As noted earlier, in the Middle Atlantic Region, stemmed points generally have a longer period of use that begins as early as ca. 5000 B.C. and ends as late as A.D. 1000. Nonetheless, research has been able to establish tighter time spans during which certain stemmed points are likely to date (Custer 2001). If the tighter Piney Island and Poplar Island time spans are compared, it becomes quite apparent that the uses of these points overlap around the middle of the Early Woodland Period (**Figure 61-63**). This overlap is interesting in regard to 18Cv491, as the progressive sequence of other artifacts also begin at this time. These artifacts include the fishtail point, Rossville point, Marcey Creek ceramic, and Accokeek ceramic. The use of other stemmed points and Piscataway points is constant through these overlaps. The convergence of nearly all of the diagnostic artifacts during the Early Woodland Period reiterates the ca. 1200 B.C. – 300 B.C. baseline established by the presence of Marcey Creek ceramic and Accokeek ceramic, as well as the fishtail/Marcey

Creek temporal association and the Marcey Creek-Accokeek-Piscataway stratigraphic association.

Alone, the diagnostic artifacts also reveal subtle shifts in the site's use over time. The Late Archaic component can be loosely attributed to at least ca. 1700 B.C. – 1500 B.C. (Steponaitis 1980) based on regional dates established for the two Susquehanna broadspears. However, the time of this component could be longer since some, but not all, of the stemmed points/Piscataway points recovered across the site could be related to this occupation.

As noted earlier, these broadspears were recovered outside of the core area of the site. The broadspears are situated on a small rise of the larger landform (i.e. a larger small rise) on which the site at large is positioned. This small rise is situated on the west side of the site and overlooks a bend in the unnamed tributary to Halls Creek. The broadspears, one located at the top of the rise and one at the bottom, form a north-south transect that crosses several small lithic scatters. These data suggest that during the Late Archaic Period, the micro-environment of the small rise was targeted more than the core area. It can be postulated that some of the stemmed points and Piscataway points recovered east of the small rise may be a reflection of gradual shifting and redirection of activities eastward that eventually led to the focused use of the core area during the Early Woodland Period.

Another shift in site use is evident in the absence of a distinct Middle Woodland Period component in the site's diagnostic assemblage. Any use of the site during this time can only be assumed based on the projected date ranges of the stemmed points and the Rossville point.

The presence of the Sullivan Cove sherd and the two triangle points indicate that the site was visited during the Late Woodland Period, but less so than during the Late Archaic-Early Woodland periods. The Late Woodland use generally mirrors that of the Early Woodland period but to a lesser degree. The Sullivan Cove Plain sherd provides a ca. A.D. 1250 – A.D. 1600 A.D. baseline for the Late Woodland component of 18Cv491.

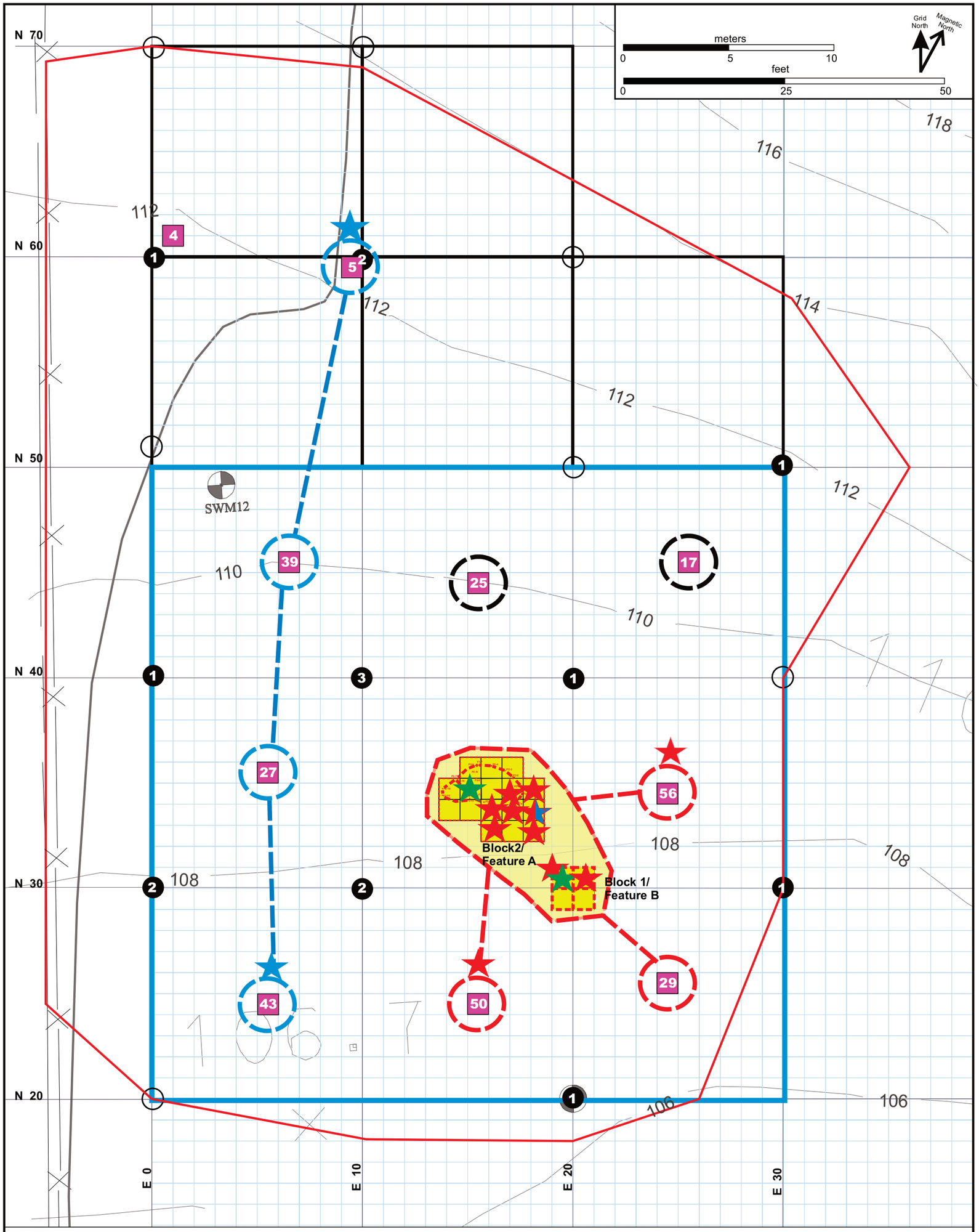
Based on the analysis of the diagnostic artifacts, it is estimated that the variation within the diagnostic artifact assemblage represents at least three primary episodes of short-term occupation between the last third of the Late Archaic Period and the end of the Late Woodland Period. These are:

- a Late Archaic occupation that dates primarily to ca. 1700 B.C. – 1500 B.C. but intermittent site use may have also extend into the Late Archaic/Early Woodland transitional period.

- a ca. 1200 B.C. and 300 B.C. Early Woodland occupation that spans the Marcey Creek-Accokeek Phase

- a Late Woodland occupation that dates to ca. A.D. 1250 – A.D. 1600. The Rappahannock Complex: Sullivan Cove Phase is represented in this occupation.

The identified site components are shown graphically in **Figure 64** and listed in **Table 20**.



KEY

18Cv491 Site Boundary

STP with prehistoric artifacts (note: size of STP not to scale)

STP without prehistoric artifacts (note: size of STP not to scale)

Sample TU (prehistoric artifacts noted)

Phase III 10m Grid Sampling Area

Focus Activity Area Associated with **Late Archaic Occupation**

Focus Activity Area Associated with Feature A/B **Regional Context: Marcey Creek- Accokeek Phase**

Lithic Scatter Temporal Context and Association Unknown

Re-delinated Core Area of 18Cv491

Late Archaic Diagnostic Artifact

Early Woodland Diagnostic Artifact **Regional Context: Marcey Creek - Accokeek Phase**

Late Woodland Diagnostic Artifact **Regional Context: Rappahannock Complex - Sullivan Cove Phase**

18Cv491 Temporal and Spatial Associations

FIGURE 64

Table 20:
18Cv491- Summary of Site Components

Site Area	Temporal Context	Cultural Context	Date Range of Tradition/Context	Functional Context
West Side of Site	Late Archaic	Late Archaic/Early Woodland Transition	ca. 1700 B.C. – 1500 B.C.	procurement/ processing station
Core Area	Early Woodland	Marcey Creek Phase	ca. 1200 B.C. – 800 B.C.	short-term base camp
		Accokeek Phase	ca. 900 B.C. – 300 B.C.	
Core Area	Late Woodland	Rappahannock Complex: Sullivan Cove Phase	ca. A.D. 1250 – A.D. 1600	short-term base camp

B. Introduction to Analysis of Lithic Artifacts

Lithic artifacts were inventoried by class and material type. While the recovered lithic assemblage of 18Cv491 is a result of multiple episodes of site use, this assemblage reflects the range of activities associated with tool manufacturing and maintenance that were performed by the site's past Native American occupants.

As noted earlier and enumerated in the previously presented **Table 13**, the lithic assemblage contains 1,983 chipped stone artifacts. **Table 13** is repeated in this section as **Table 21** as a basic reference for the lithic artifact discussions. **Table 22** provides further enumeration of the peripheral units grouped by the site components with which they are associated (***see* Figure 64**). Other itemized artifact inventories can be found in various table and list formats throughout this report (e.g., **Tables 5, 9, 10, 11** and **12; Appendix IV**) as well in as plotted distributions of artifacts by stratigraphic zones and by type (e.g., **Figure 36, 37, 38, 39, 40, 41, 51, 55, 56** and **57**). These items will be references as needed throughout the following discussion.

C. Distribution of Lithic Materials within the Assemblage

The lithic assemblage contains a diversity of chipped stone artifact forms but few material types. Cobble quartz and quartzite are by far the prevailing lithic material types within the assemblage. Of these two materials, quartz artifacts outnumber quartzite artifacts. Nearly half of the lithic assemblage, 49.86 percent or 1,069 artifacts, are quartz. The 742 quartzite artifacts comprise 37.41 percent, or slightly over one-third, of the assemblage (**Table 24**).

The third most frequent material type is rhyolite. The rhyolite assemblage contains 133 artifacts and is 6.71 percent of the total assemblage (**Table 24**).

Table 21:
18Cv491 - Summary Catalog of Lithic Artifact Types and Material Types

18Cv491 Block 1/Feature B: Centered around N30 E20

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	237 (46)	314 (38)	5		34				**590** (84)
Utilized Flakes	9 (3)	23 (9)							**32** (12)
Flake Tools	2 (2)	5 (3)			1				**8** (5)
Miscellaneous Stone Tools	1								**1**
Projectile Points - diagnostic	1	2							**3**
Point Fragment - non-diagnostic	1	1							**2**
Early Stage Biface Rejects	1	1 (1)							**2** (1)
Late Stage Biface Rejects		1							**1**
Biface Fragments	3 (1)	7 (1)			1				**11** (2)
Worked Stone/Tested Cobble	1 (1)	2 (2)							**3** (3)
Cores	3 (1)								**3** (1)
Shatter	1	12 (3)							**13** (3)
TOTAL	**260 (54)**	**368 (57)**	**5**		**36**				**669 (111)**

18Cv491 Block 2/Feature A: Centered around N34 E15

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	303 (74)	382 (59)	17 (8)	4 (2)	69				**775** (143)
Utilized Flakes	33 (13)	100 (20)			2				**135** (33)
Flake Tools	8 (7)	17 (7)							**25** (14)
Miscellaneous Stone Tools	4 (1)	4 (1)			1				**9** (2)
Projectile Points - diagnostic	6	3							**9**
Point Fragment - non-diagnostic	5	6							**11**
Early Stage Biface Rejects	6 (1)	5 (2)							**11** (3)
Late Stage Biface Rejects	1								**1**
Biface Fragments	2	9			1				**12**
Worked Stone/Tested Cobble	2 (2)	3 (3)							**5** (5)
Cores	1 (1)	1							**2** (1)
Shatter	17 (5)	6	4 (2)						**27** (7)
TOTAL	**388 (104)**	**536 (92)**	**21 (10)**	**4 (2)**	**73**				**1022 (208)**

18Cv491 Sample Units: 10m-Interval Units and STPs in Non-Block Areas

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	72 (22)	72 (19)	5 (3)	1 (1)	22		1		**173** (45)
Utilized Flakes	4 (1)	65 (21)							**69** (22)
Flake Tools	4 (4)	10 (8)	1 (1)						**15** (13)
Miscellaneous Stone Tools	2 (2)	4 (2)							**6** (4)
Projectile Points - diagnostic	1				2				**3**
Point Fragment - non-diagnostic	2	1							**3**
Early Stage Biface Rejects	4	3							**7**
Late Stage Biface Rejects									**0**
Biface Fragments	1	6	1						**8**
Worked Stone/Tested Cobble									**0**
Cores	2 (2)	1 (1)							**3** (3)
Shatter	2 (1)	3							**5** (1)
TOTAL	**94 (32)**	**165 (51)**	**7 (4)**	**1 (1)**	**24**		**1**		**292 (88)**

18Cv491 Total Assemblage

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	612 (142)	768 (116)	27 (11)	5 (3)	125		1		**1538** (272)
Utilized Flakes	46 (17)	188 (50)			2				**236** (67)
Flake Tools	14 (13)	32 (18)	1 (1)		1				**48** (32)
Miscellaneous Stone Tools	7 (3)	8 (3)			1				**16** (6)
Projectile Points - diagnostic	8	5			2				**15**
Point Fragment - non-diagnostic	8	8							**16**
Early Stage Biface Rejects	11 (1)	9 (3)							**20** (4)
Late Stage Biface Rejects	1	1							**2**
Biface Fragments	6 (1)	22 (1)	1		2				**31** (2)
Worked Stone/Tested Cobble	3 (3)	5 (5)							**8** (8)
Cores	6 (4)	2 (1)							**8** (5)
Shatter	20 (6)	21 (3)	4 (2)						**45** (11)
TOTAL	**742 (190)**	**1069 (200)**	**33 (14)**	**5 (3)**	**133**		**1**		**1983 (407)**

Table 22:
18Cv491 - Peripheral Units Summary Catalog of Lithic Artifact Types and Material Types by Site Component

18Cv491 Sample Units Associated with Block 2/Feature A and Block 1/Feature B: TUs N24E15, N25E24, and N34E24

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	43 (9)	35 (4)	2		3				**83** (13)
Utilized Flakes	2	19 (7)							**21** (7)
Flake Tools	2 (2)	1 (1)	1 (1)						**4** (4)
Miscellaneous Stone Tools	2 (2)	2 (1)							**4** (3)
Projectile Points - diagnostic	1								**1**
Point Fragment - non-diagnostic	1	1							**2**
Early Stage Biface Rejects	2	1							**3**
Late Stage Biface Rejects									**0**
Biface Fragments	1	3	1						**5**
Worked Stone/Tested Cobble									**0**
Cores	1 (1)								**1** (1)
Shatter		2							**2**
TOTAL	**55 (14)**	**64 (13)**	**4 (1)**		**3**				**126 (28)**

18Cv491 Sample Units Associated with Late Archaic Component on West Side of Site: TUs N24E5, N35E5, N45E6, & N59E9

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	20 (9)	17 (8)			13		1		**51** (17)
Utilized Flakes	1	35 (11)							**36** (11)
Flake Tools	1 (1)	8 (6)							**9** (7)
Miscellaneous Stone Tools		2 (1)							**2** (1)
Projectile Points - diagnostic					2				**2**
Point Fragment - non-diagnostic	1								**1**
Early Stage Biface Rejects	2	1							**3**
Late Stage Biface Rejects									**0**
Biface Fragments		2							**2**
Worked Stone/Tested Cobble									**0**
Cores	1 (1)								**1** (1)
Shatter	2 (1)	1							**3** (1)
TOTAL	**28 (12)**	**66 (26)**			**15**		**1**		**110 (38)**

18Cv491 Sample Units, Associations Unknown/Random Scatter: N44E15, N45E25, N60.5E0.5, & Non-Core Phase I/II STPs

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	9 (4)	20 (7)	3 (3)	1 (1)	6				**39** (15)
Utilized Flakes	1 (1)	11 (3)							**12** (4)
Flake Tools	1 (1)	1 (1)							**2** (2)
Miscellaneous Stone Tools									**0**
Projectile Points - diagnostic									**0**
Point Fragment - non-diagnostic									**0**
Early Stage Biface Rejects		1							**1**
Late Stage Biface Rejects									**0**
Biface Fragments		1							**1**
Worked Stone/Tested Cobble									**0**
Cores		1 (1)							**1** (1)
Shatter									**0**
TOTAL	**11 (6)**	**35 (12)**	**3 (3)**	**1 (1)**	**6**				**56 (22)**

18Cv491 Total Sample Unit Assemblage

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	72 (22)	72 (19)	5 (3)	1 (1)	22		1		**173** (45)
Utilized Flakes	4 (1)	65 (21)							**69** (22)
Flake Tools	4 (4)	10 (8)	1 (1)						**15** (13)
Miscellaneous Stone Tools	2 (2)	4 (2)							**6** (4)
Projectile Points - diagnostic	1				2				**3**
Point Fragment - non-diagnostic	2	1							**3**
Early Stage Biface Rejects	4	3							**7**
Late Stage Biface Rejects									**0**
Biface Fragments	1	6	1						**8**
Worked Stone/Tested Cobble									**0**
Cores	2 (2)	1 (1)							**3** (3)
Shatter	2 (1)	3							**5** (1)
TOTAL	**94 (32)**	**165 (51)**	**7 (4)**	**1 (1)**	**24**		**1**		**292 (88)**

Table 23: 18Cv491 - Distribution of Lithic Material

	Core Area: Block 1/Feature B (Chipping/Work Area)		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
TUs N30E19 N30E20 N29E19 N29E20	quartzite	debitage (237 flakes + 1 shatter)	238	35.58%	260	38.86%	35.04%	13.11%
		tools	22	3.29%				
	quartz	debitage (314 flakes + 12 shatter)	326	48.73%	368	55.01%	34.42%	18.56%
		tools	42	6.28%				
	chert	debitage (5 flakes + 0 shatter)	5	0.75%	5	0.75%	15.15%	0.25%
		tools	0	0.00%				
	jasper	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
	rhyolite	debitage (34 flakes + 0 shatter)	34	5.08%	36	5.38%	27.07%	1.82%
		tools	2	0.30%				
	ironstone	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
		Sum	669	100.00%				

	Core Area: Block 2/Feature A (House Pattern Feature)		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
TU 1 through TU 16	quartzite	debitage (303 flakes + 17 shatter)	320	31.31%	388	37.96%	52.29%	19.57%
		tools	68	6.65%				
	quartz	debitage (382 flakes + 6 shatter)	388	37.96%	536	52.45%	50.14%	27.03%
		tools	148	14.48%				
	chert	debitage (17 flakes + 4 shatter)	21	2.05%	21	2.05%	63.64%	1.06%
		tools	0	0.00%				
	jasper	debitage (4 flakes + 0 shatter)	4	0.39%	4	0.39%	80.00%	0.20%
		tools	0	0.00%				
	rhyolite	debitage (69 flakes + 0 shatter)	69	6.75%	73	7.14%	54.89%	3.68%
		tools	4	0.39%				
	ironstone	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
		Sum	1022	100.00%				

	Peripheral Units: Associated with Core Area		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
Sample TUs N24E15 N25E24 N34E24	quartzite	debitage (43 flakes + 0 shatter)	43	34.13%	55	43.65%	7.41%	2.77%
		tools	12	9.52%				
	quartz	debitage (35 flakes + 2 shatter)	37	29.37%	64	50.79%	5.99%	3.23%
		tools	27	21.43%				
	chert	debitage (2 flakes + 0 shatter)	2	1.59%	4	3.17%	12.12%	0.20%
		tools	2	1.59%				
	jasper	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
	rhyolite	debitage (3 flakes + 0 shatter)	3	2.38%	3	2.38%	2.26%	0.15%
		tools	0	0.00%				
	ironstone	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
		Sum	126	100.00%				

	Peripheral Units: Associated with Late Archaic Component		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
Sample TUs N24E5 N35E5 N45E6 N59E9	quartzite	debitage (20 flakes + 2 shatter)	22	20.00%	28	25.45%	3.77%	1.41%
		tools	6	5.45%				
	quartz	debitage (17 flakes + 1 shatter)	18	16.36%	66	60.00%	6.17%	3.33%
		tools	48	43.64%				
	chert	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
	jasper	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
	rhyolite	debitage (13 flakes + 0 shatter)	13	11.82%	15	13.64%	11.28%	0.76%
		tools	2	1.82%				
	ironstone	debitage (1 flake + 0 shatter)	1	0.91%	1	0.91%	100.00%	0.05%
		tools	0	0.00%				
		Sum	110	100.00%				

	Peripheral Units: Association Unknonw/Random Scatter		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
Sample TUs N45E25 N60.5E0.5 and STPs outside of core area	quartzite	debitage (9 flakes + 0 shatter)	9	16.07%	11	19.64%	1.48%	0.55%
		tools	2	3.57%				
	quartz	debitage (20 flakes + 0 shatter)	20	35.71%	35	62.50%	3.27%	1.77%
		tools	15	26.79%				
	chert	debitage (3 flakes + 0 shatter)	3	5.36%	3	5.36%	9.09%	0.15%
		tools	0	0.00%				
	jasper	debitage (1flake + 0 shatter)	1	1.79%	1	1.79%	20.00%	0.05%
		tools	0	0.00%				
	rhyolite	debitage (6 flakes + 0 shatter)	6	10.71%	6	10.71%	4.51%	0.30%
		tools	0	0.00%				
	ironstone	debitage (0 flakes + 0 shatter)	0	0.00%	0	0.00%	0.00%	0.00%
		tools	0	0.00%				
		Sum	56	100.00%				

	18Cv491 TOTAL ASSEMBLAGE		Sum	%	sum	% of area assemblage	% of material assemblage	% of site assemblage
	quartzite	debitage (612 flakes + 20 shatter)	632	31.87%	742	37.42%	100.00%	37.42%
		tools	110	5.55%				
	quartz	debitage (768 flakes + 21 shatter)	789	39.79%	1069	53.91%	100.00%	53.91%
		tools	280	14.12%				
	chert	debitage (27 flakes + 4 shatter)	31	1.56%	33	1.66%	100.00%	1.66%
		tools	2	0.10%				
	jasper	debitage (5 flakes + 0 shatter)	5	0.25%	5	0.25%	100.00%	0.25%
		tools	0	0.00%				
	rhyolite	debitage (125 flakes + 0 shatter)	125	6.30%	133	6.71%	100.00%	6.71%
		tools	8	0.40%				
	ironstone	debitage (1 flake + 0 shatter)	1	0.05%	1	0.05%	100.00%	0.05%
		tools	0	0.00%				
		Sum	1983	100.00%				

Chert, jasper, and ironstone are also present in the assemblage but the quantities of these material types are much lower than quartz, quartzite, and rhyolite. The chert and jasper assemblages consist of thirty-three artifacts and five artifacts, respectively. Ironstone is represented by a single flake. Collectively, chert, jasper, and ironstone artifacts are less than two percent of the assemblage (**Table 24**).

Cortex is present on 407 of the artifacts (**Table 21 and Table 22**).

Only ten of the recovered tools are not quartz or quartzite. These tools consist of eight rhyolite tools and two chert tools.

The overall ratio of debitage to tools is approximately one tool to four pieces of debitage (**Table 25**).

The following presents a discussion of the lithic material assemblages. For plotted distributions of individual artifact classes, the reader is advised to consult **Figures 51, 52, 55,** and **57**, which were presented earlier in this document.

Table 24:
18Cv491 - Summary of Distribution of Artifacts by Material Type

Material Type	Sum	%
Quartzite	742	37.42%
Quartz	1069	53.91%
Chert	33	1.66%
Jasper	5	0.25%
Rhyolite	133	6.71%
Ironstone	1	0.05%
Sum	**1,983**	100.00%

Table 25:
18Cv491 – Ratio of Tools to Debitage

Ratios are presented as *tools : debitage*	Core Area			Late Archaic Component Sample Units	Unknown/ Random Scatters Sample Units	Site Ratio
	Block 1/ Feature B Chipping Feature	Block 2 Feature A House Feature	Related Sample Units			
Quartzite	**1 : 10.82**	**1 : 4.71**	**1 : 3.58**	**1 : 3.67**	**1 : 4.5**	**1 : 5.75**
Quartz	**1 : 7.76**	**1 : 2.62**	**1 : 1.37**	**1 : 0.38**	**1 : 1.33**	**1 : 2.82**
Chert	no tools	no tools	**1 : 1**	no artifacts	no tools	**1 : 15.5**
Jasper	no artifacts	no tools	no artifacts	no artifacts	no tools	no tools
Rhyolite	**1 : 17**	**1 : 17.25**	no tools	**1 : 6.5**	no tools	**1 : 15.63**
Ironstone	no artifacts	no artifacts	no artifacts	no tools	no artifacts	no tools
Total Ratio	**1 : 9.14**	**1 : 3.65**	**1 : 2.07**	**1 : 0.96**	**1 : 2.29**	**1 : 3.96**

1. Quartzite Distribution

The quartzite assemblage contains 612 flakes, twenty (20) pieces of shatter, forty-six (46) utilized flakes, fourteen (14) flake tools, seven (7) miscellaneous stone tools, eight (8) projectile points, eight (8) point fragments, eleven (11) early stage biface rejects, one (1) late stage biface reject, six (6) biface fragments, three (3) worked/tested cobbles and six (6) cores (**Table 21**). Cortex is present on 190 of the quartzite artifacts. The 110 tools are approximately 5.55 percent of the quartzite assemblage (**Table 23**). Of the material assemblages, the quartzite assemblage contains the most points and early stage bifaces. The proportions of these artifacts, as well as late stage bifaces and cores, are higher in the quartzite assemblage than in the quartz assemblage.

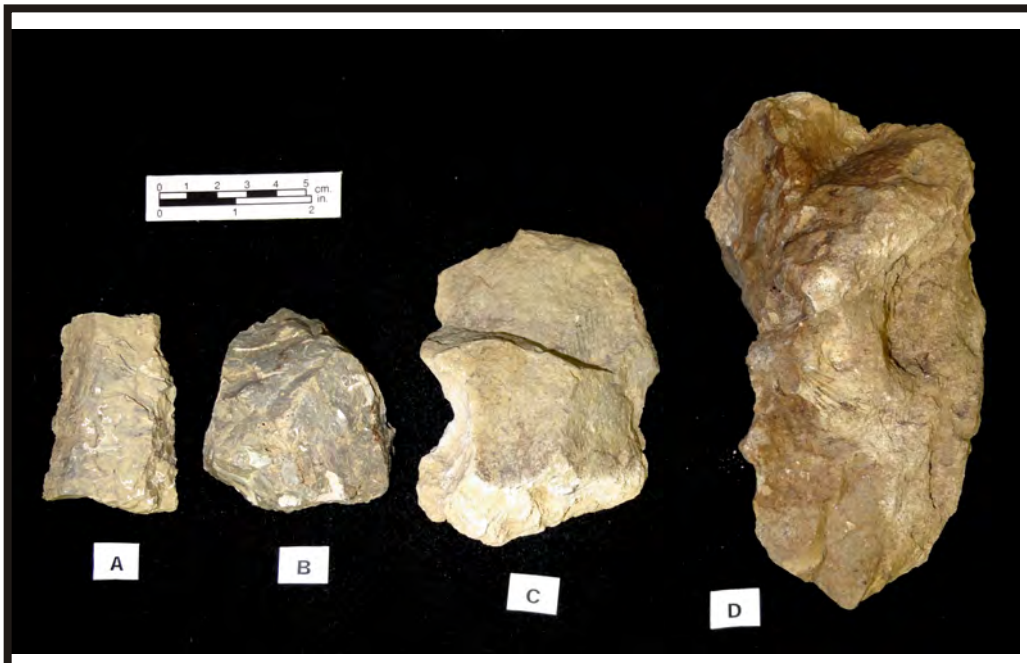
The physical characteristics and quality of the quartzite varies. The quartzite artifacts are generally manufactured from common, homogenous quartzite cobbles that are both randomly available on the surface and ubiquitous in the bed of the unnamed tributary to Halls Creek; however, the assemblage also contains several artifacts manufactured from local fossiliferous materials, which can also be recovered from the aforementioned stream bed (**Figure 65**).

Quartzite artifacts are the second most abundant artifacts within all of the site area subassemblages (**Table 23**). The overall site ratio of quartzite tools to quartzite debitage in the total assemblage is approximately one tool to six pieces of debitage. Most of the area subassemblages are within one to two pieces of debitage of this proportion. The only subassemblage that exhibits a substantially different ratio of tools to debitage is the Block 1/Feature A assemblage, which has a ratio of one tool to eleven debitage (**Table 25**). This ratio suggests that quartzite tool manufacturing/maintenance was more actively pursued in this portion of the site than elsewhere.

The distribution of 703 quartzite artifacts within the core area is generally aligned along a northwest-southeast axis that runs from the center of the Feature A house pattern to the chipping feature/work area at Block 1/Feature B (**Figure 66**). This trend is best illustrated by the distribution of quartzite tools (**Figure 67**), as well as by the combined distribution of non-quartzite and quartzite flake tools and miscellaneous stone tools that can be viewed in the previously presented **Figure 52.**

Quartzite tools in the core area conform to the distribution of the overall quartzite assemblage. Higher tool densities are concentrated in the southeast corner of the Block 2/Feature A, especially in TU 8 and TU 9 (**Figure 66** and **Figure 67**). On average, these units yielded a minimum of three quartzite tools per fifty-centimeter block (**Figure 66** and **Figure 67**). Included amongst these tools were seven of the eight tools that were encountered at the Zone 1B/Zone 2 interface in Block 2/Feature A (**Figure 45:#1,#2,#3,#5,#8,and #13**). One of the these artifacts is a large early-middle stage biface that is approximately seventy-four (74) millimeters in maximum length and approximately forty-eight (48) millimeters in maximum width (**Figure 45: #8; Figure 65**).

In Block 1/Feature A of the core area, there are small concentrations of quartzite artifacts in the southwest quadrant of TU N30E19 and southeast quadrant of TU N30E20. The



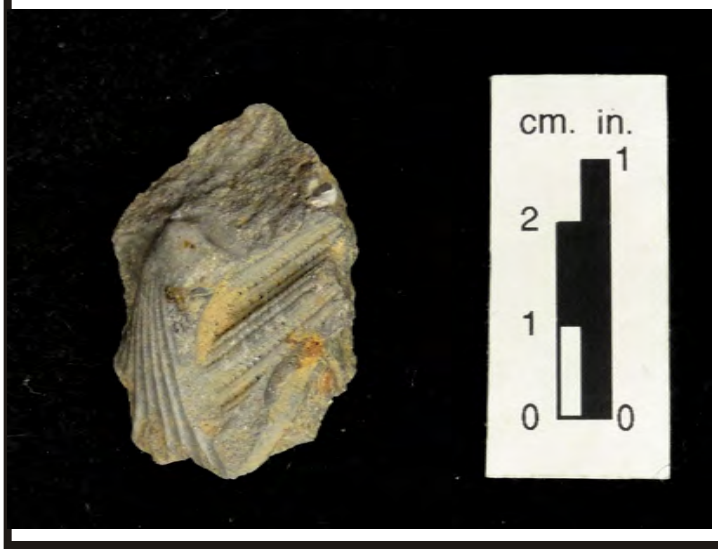
A: flake tool, quartzite
Block 2, TU 8, NW quad
bottom of level 3
Zone 1B at Zone 1B/
Zone 2 interface
(#176)

B: misc. stone tool,
modified core
quartzite
Block 2, TU 15
level 3, Zone 1A
(#276)

C: utilized flake, quartzite
Block 2, TU 15
level 3, Zone 1A
(#276)

D: worked cobble, quartzite
Block 2, TU 2
level 1, Zone 1A
(#91)

LEFT:
early-mid stage biface
quartzite
Block 2, TU 9, SW quad
bottom of level 3
Zone 1B at Zone 1B/
Zone 2 interface
(#307.8)



LEFT:
early stage biface
quartzite
Block 2, TU 11
level 2, Zone 1A
(#223)

18Cv491, Block 2
Examples of Local Quartzite

FIGURE 65

concentration in TU N30E19 is mostly flakes. The concentration in TU N30E20 includes a small concentration of quartzite tools (**Figure 66** and **Figure 67**). The assemblages of the peripheral units associated with the core area collectively contain fifty-quartzite artifacts. Peripheral unit TU N34E24, which has been identified as a secondary work area/debris field due east of the Feature A house pattern, also contains a small concentration of quartzite artifacts (**Figure 66** and **Figure 67**).

By comparison, the quartzite assemblages of the four peripheral units associated with the Late Archaic component of the west side of the site are small. Collectively, these assemblages contain twenty-eight quartzite artifacts, twenty-two of which are flakes and shatter (**Tables 21-23**).

Eleven quartzite artifacts were recovered in random locations across the site by the Phase I/II STP testing and the three peripheral units that are not directly associated with an identified occupation. These random finds consist of nine flakes, one utilized flake, and one flake tool (**Tables 21-23**).

2. Quartz Distribution

The 1,069 quartz artifacts consist of 789 pieces of debitage and 280 tools (**Table 24**). The tool assemblage consist of 188 utilized flakes, thirty-two (32) flake tools, eight (8) miscellaneous stone tools, five (5) projectile points, eight (8) point fragments, nine (9) early stage biface rejects, one (1) late stage biface reject, twenty-two (22) biface fragments, five (5) worked/tested cobbles and two (2) cores (**Tables 21-23**). Debitage consists of 768 flakes and twenty-one (21) pieces of shatter. Cortex is present on 200 of the quartz artifacts.

The overall site ratio of tools to debitage of the quartz assemblage is approximately one tool to three flakes/shatter. The material subassemblage with the lowest ratio is the Block 1/Feature B assemblage, which has a quartz tool to quartz debitage ratio of approximately one to eight (**Table 25**). Although this ratio is not as low as the quartzite 1:10.82 tool to debitage ratio, it shows that tool manufacturing activities were heavier in Block 1/Feature B than in other portions of the site.

In contrast, the tools to debitage ratio is much different in the four peripheral units that comprise the Late Archaic component on the west side of the site. In addition to having the highest tool to debitage ratio, the collective quartz assemblage of these units is also the only group assemblage in which tools outnumber flakes and shatter. In this group assemblage, the quartz tool to quartz debitage ratio is one tool to 0.38 pieces of debitage, or in other words, 2.67 tools to one piece of debitage (**Table 23** and **Table 25**). Most of this disproportion can be attributed to quantities of utilized flakes (**Table 12; Figure 57**). This high proportion of tools supports the contention that these small scatters along the west side of the site functioned more as work stations for the resource procurement/processing rather than general habitation locales or tool manufacturing areas.

The quartz artifact distributions of Block 1/Feature B and Block 2/Feature A generally correspond to those exhibited by the quartzite artifacts. In Block 1/Feature B, this is a slight

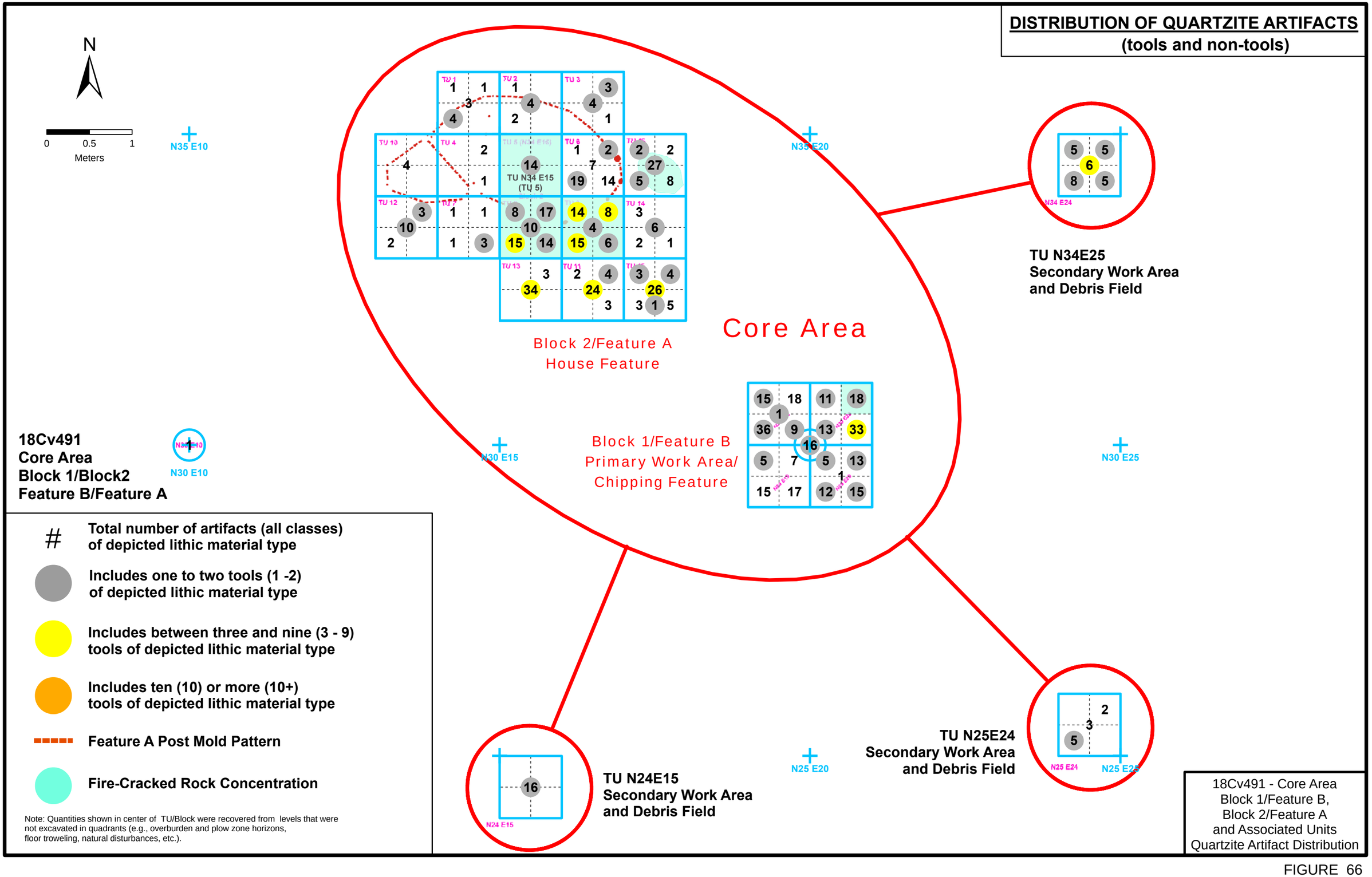

DISTRIBUTION OF QUARTZITE ARTIFACTS
(tools and non-tools)
N
0 0.5 1
Meters
N35 E10
N35 E20
TU N34E25
Secondary Work Area
and Debris Field
Core Area
Block 2/Feature A
House Feature
TU N34 E15
(TU 5)
Block 1/Feature B
Primary Work Area/
Chipping Feature
18Cv491
Core Area
Block 1/Block2
Feature B/Feature A
N30 E10
N30 E15
N30 E25
TU N24E15
Secondary Work Area
and Debris Field
N25 E20
TU N25E24
Secondary Work Area
and Debris Field
N25 E24
N25 E25
N24 E15
Total number of artifacts (all classes) of depicted lithic material type
Includes one to two tools (1 -2) of depicted lithic material type
Includes between three and nine (3 - 9) tools of depicted lithic material type
Includes ten (10) or more (10+) tools of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Quartzite Artifact Distribution

FIGURE 66

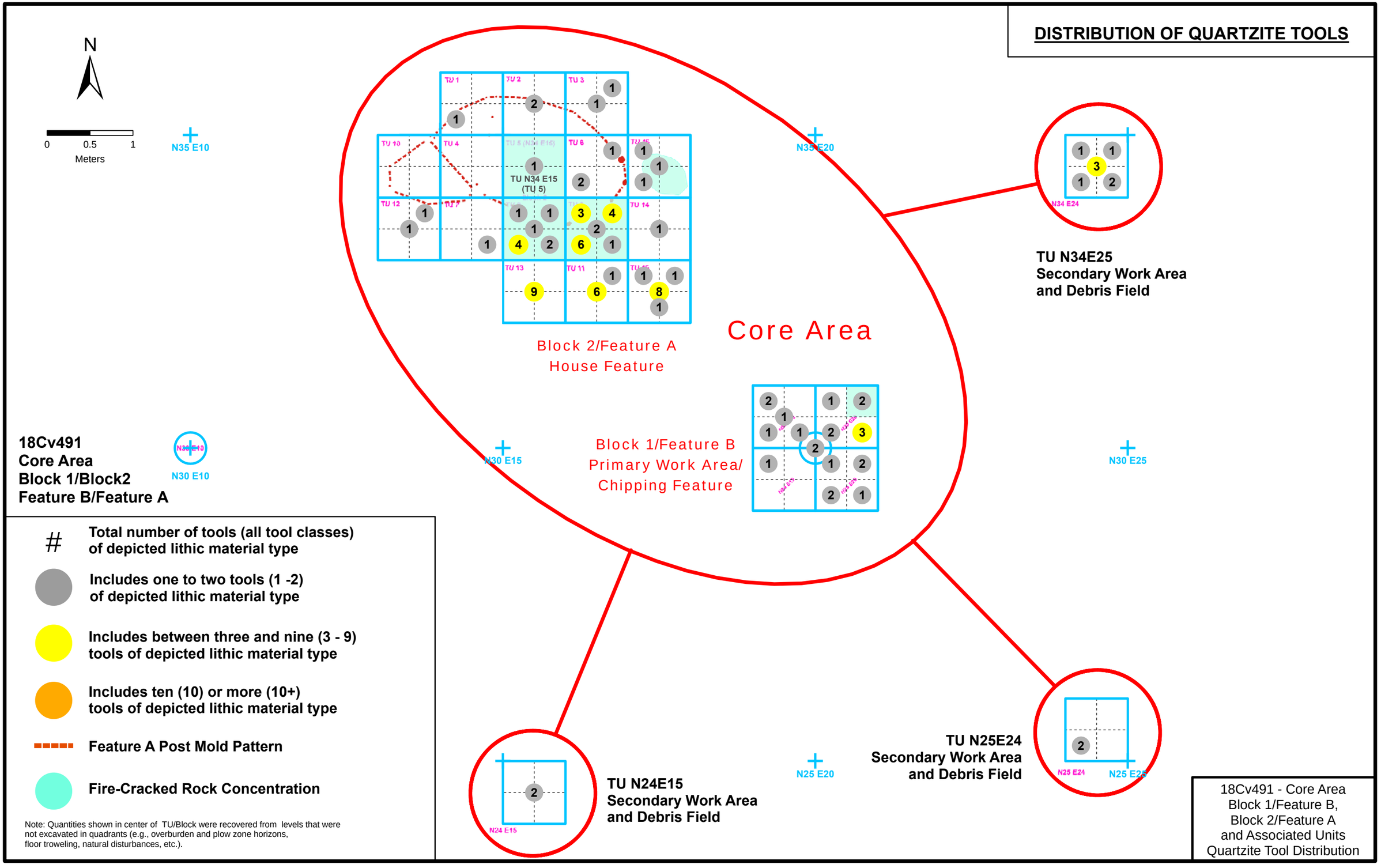

DISTRIBUTION OF QUARTZITE TOOLS
N
0 0.5 1
Meters
N35 E10
N35 E20
TU N34 E15
(TU 5)
Block 2/Feature A
House Feature
Core Area
Block 1/Feature B
Primary Work Area/
Chipping Feature
N30 E15
N30 E25
N30 E10
18Cv491
Core Area
Block 1/Block2
Feature B/Feature A
N34 E24
TU N34E25
Secondary Work Area
and Debris Field
TU N24E15
Secondary Work Area
and Debris Field
N24 E15
N25 E20
TU N25E24
Secondary Work Area
and Debris Field
N25 E24
N25 E25
Total number of tools (all tool classes) of depicted lithic material type
Includes one to two tools (1 -2) of depicted lithic material type
Includes between three and nine (3 - 9) tools of depicted lithic material type
Includes ten (10) or more (10+) tools of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Quartzite Tool Distribution

FIGURE 67

clustering of quartz tools in and around the southwest quadrant of TU N30E19 (**Figure 68** and **Figure 69**).

The highest concentrations of quartz artifacts in Block 2/Feature A are found amongst the other artifact concentrations that are located in the southeastern section of the house pattern feature. Tool concentrations are heaviest along the southern perimeter of the house feature and around the concentration of fire-cracked rock that is located in this portion of the feature. The northwesterly-southeasterly trend of artifacts between Block 2/Feature A and Block 1/Feature A that is expressed in the quartzite assemblage is also visible in the quartz assemblage (**Figure 68** and **Figure 69**).

Plotted distributions of the quartz tools also reflect a subtle consistency that is not expressed in the other lithic material assemblages or quite as obvious in any of the individual tool type assemblage (**Figure 68, 69** and previously presented **Figures 51-52**). The quartz tool concentrations are in alignment with the house feature perimeter. This pattern is formed by the tool concentrations along the southern arc of the feature and by a series of tool groups that follow the path of the north/northwestern perimeter of the house feature in TUs 1, 10, 4, 12, and 7 (**Figure 69**).

The tool groups are small and composed of no more than two tools each. The tool series is very pronounced in TU 12, especially along the segment of the postmold pattern that includes several postmold features suggestive of structure reconstruction and/or repair (**Figures 42, 49** and **67**). Of the individual tool types, the assemblage that comes closest to reflecting this pattern in the northwestern portions of the feature is the utilized flake assemblage (**Figure 52**). A concentration of quartz tools that corresponds to a small concentration of fire-cracked rock is also situated along the east side of the Feature A house pattern in TU 16 (**Figure 68** and **Figure 69**).

The three peripheral test units associated with Feature A/Feature B (TUs N24E15, N25E24, N34E24) contain 126 quartz artifacts. The distributions of quartz artifact types amongst these three units are different than their quartzite distributions. In the quartzite assemblage, TU N34E24 is the prevailing unit with a total of twenty-nine (29) quartzite artifacts, eight (8) of which are tools. The twenty-one (21) quartz artifact assemblage of this unit contains only five (5) tools, which is the lowest number of quartz tools amongst the three associated peripheral units. The peripheral units associated with the core area to the south, TU N34E24 and TU N24E15 contain thirteen (13) quartzite and nine (9) quartz tools in their quartz assemblages, respectively. The quartz assemblage of TU N24E15, which contains a total of seventeen (17) quartz artifacts, is one of the few assemblages that are not associated with the Late Archaic component with a higher number of tools than flakes. The quartz tool to flake ratio of in the TU N24E15 assemblage is approximately three tools to one flake (1 : 3.25) (**Table 25**).

3. Rhyolite Distribution

Non-local rhyolite is the third largest lithic assemblage. This assemblage is composed of 133 artifacts. The assemblage includes porphyritic, aphanitic, and banded rhyolites. Color hues

range from light green-grey to dark grey. Examples of material variation are provided in **Figure 70**.

Over ninety percent of the rhyolite artifacts, 125 artifacts, are flakes, and as such, the tool to flake ratio of this assemblage is very low, approximately one tool to fifteen flakes (1 : 15.63) (**Table 25**). The remaining eight (8) artifacts are tools. In addition to the two (2) Susquehanna broadspears (**Figure 58A, B**) that were recovered from Late Archaic peripheral units (TU N24E5 and TU N59E9), these tools consist of two (2) utilized flakes, one (1) flake tool, one (1) miscellaneous stone tool, and two (2) small biface fragments. The flake tool is a small, simple scraper-type object that was recovered from Block 1/Feature B TU N30E20 (**Figure 70E**). The biface fragments are a medial section (**Figure 70D**) and a small tip fragment. The miscellaneous stone tool is a narrow slug-shaped uniface that was recovered from Block 2/Feature A. This uniface is one of the more finished and complete tools recovered from the site (**Figure 70A, B**).

The majority of the rhyolite assemblage, 112 artifacts, was recovered from locations associated with the core area. The rhyolite assemblages of Block 1/Feature B, Block 2/Feature B, and the peripheral units associated with these features contain thirty-six, seventy-three, and three rhyolite artifacts, respectively (**Table 21-23**). The only rhyolite tools that were not recovered from the core area are the two broadspears, which as noted earlier, are part of the Late Archaic component on the west side of the site.

Plotted distributions of the rhyolite artifacts reflect standard site trends. The rhyolite assemblage is weighted towards the southeastern portion of Block 2/Feature A house pattern (**Figure 71**).

The rhyolite assemblage of the Late Archaic component units contains the two broadspears and thirteen flakes. Eleven of the flakes are part of the assemblage from TU N45E6. The other two flakes were recovered from TU N24E5 (**Tables 21-23**).

Six rhyolite flakes were recovered in TU N44E15 (n =4) and TU N45E25 (n = 2), which are not associated with any particular component (**Tables 21-23**).

4. Chert Distribution

The thirty-three (33) chert artifacts consist of twenty-seven (27) flakes, four (4) pieces of shatter, one (1) flake tool, and one (1) small biface fragment. Fourteen of the thirty-three artifacts, one of which is the flake tool, have remnants of cortex.

Most of the chert artifacts are associated with the core area (**Table 21-23**). Five (5) flakes were recovered from Block 1/Feature A. Twenty-one (21) pieces of debitage, seventeen (17) flakes and four (4) pieces of shatter, were recovered from Block 2/Feature A. The artifacts are too few and too loosely scattered across the core area for any meaningful pattern interpretations. Little can be said about these artifacts other than that they generally follow the northwesterly-southeasterly trends of the other lithic assemblages and that small clusters of one to four flakes are present in various locations within the core area.

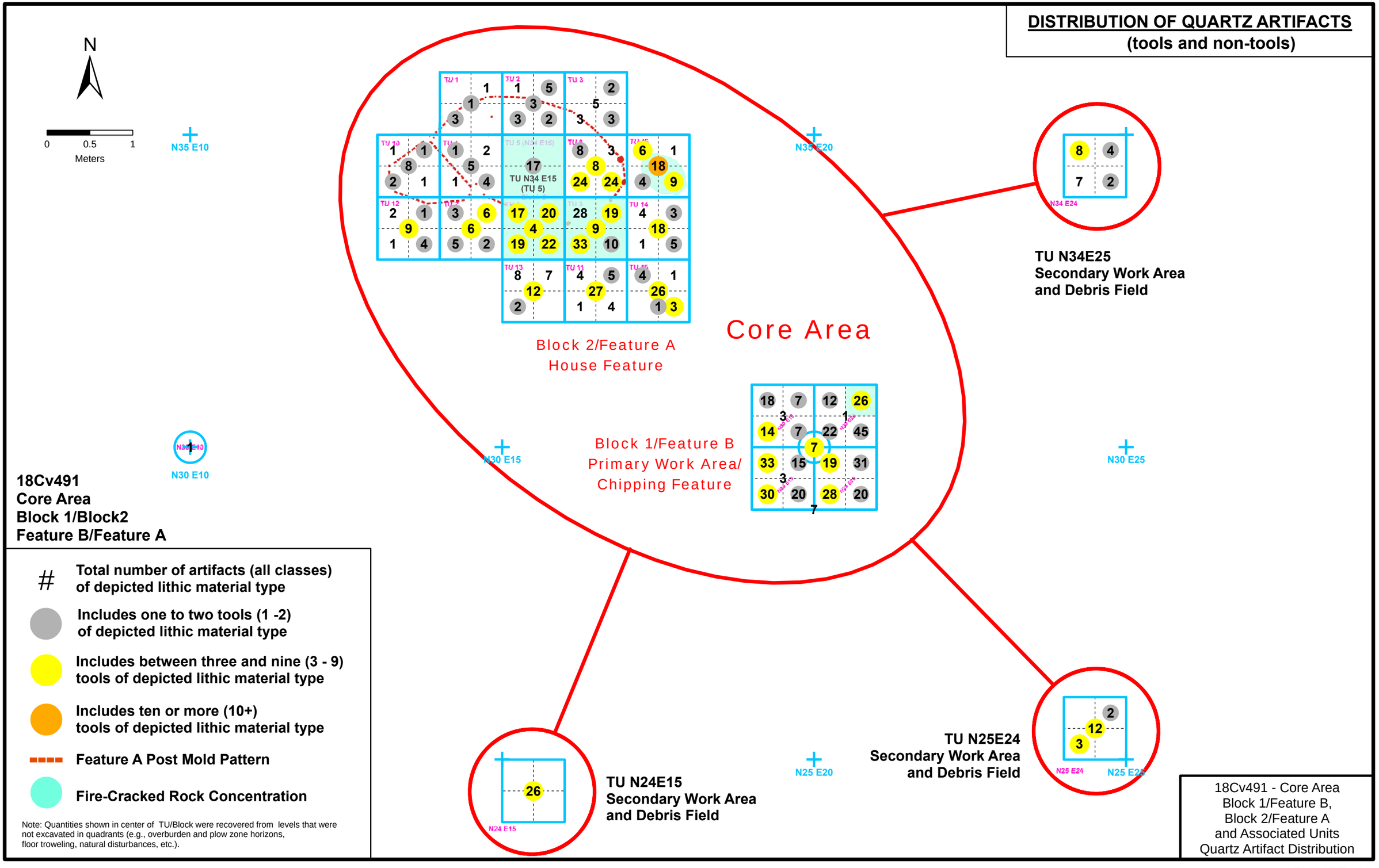

DISTRIBUTION OF QUARTZ ARTIFACTS
(tools and non-tools)
N
0 0.5 1
Meters
N35 E10
N35 E20
TU N34E25
Secondary Work Area
and Debris Field
Core Area
Block 2/Feature A
House Feature
TU N34 E15
(TU 5)
Block 1/Feature B
Primary Work Area/
Chipping Feature
N30 E10
N30 E15
N30 E25
18Cv491
Core Area
Block 1/Block2
Feature B/Feature A
TU N24E15
Secondary Work Area
and Debris Field
N25 E20
TU N25E24
Secondary Work Area
and Debris Field
N25 E24
N25 E25
N24 E15
Total number of artifacts (all classes) of depicted lithic material type
Includes one to two tools (1 -2) of depicted lithic material type
Includes between three and nine (3 - 9) tools of depicted lithic material type
Includes ten or more (10+) tools of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Quartz Artifact Distribution

FIGURE 68

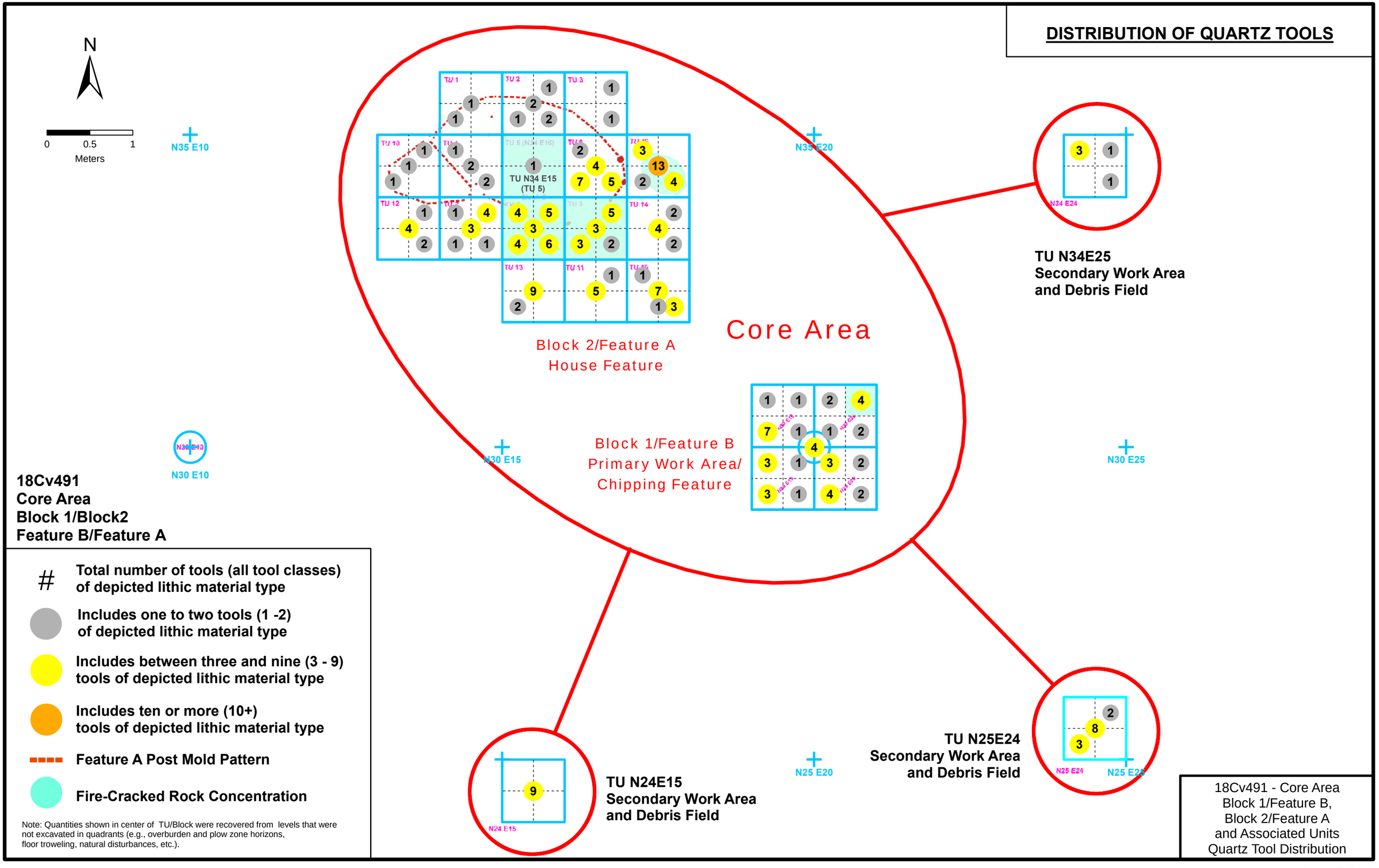
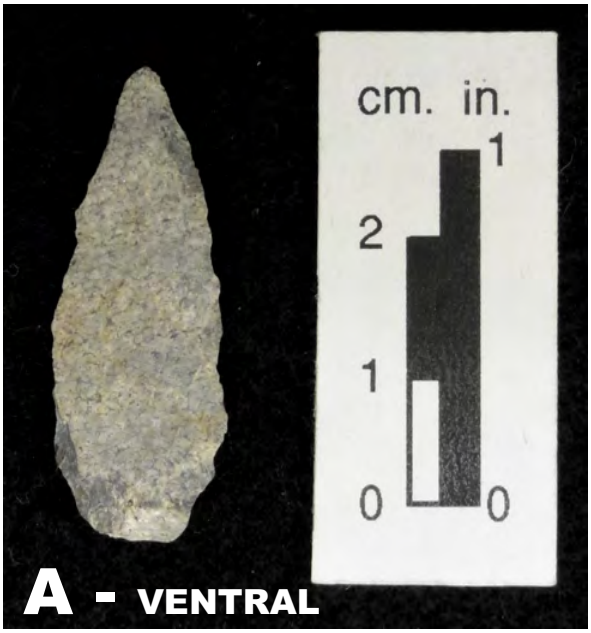
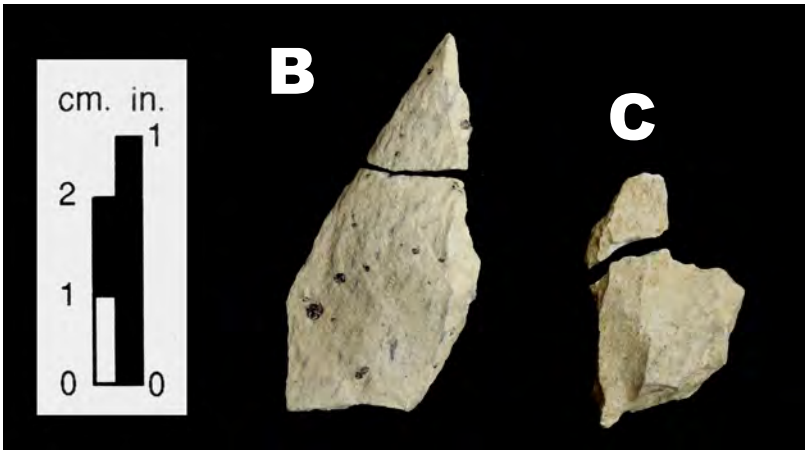
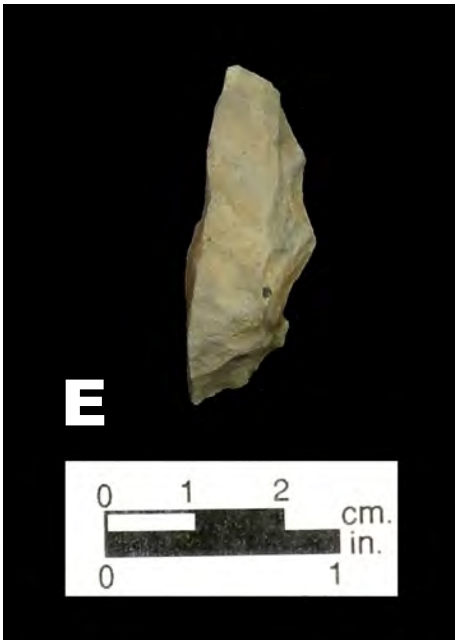

DISTRIBUTION OF QUARTZ TOOLS
N
0 0.5 1
Meters
N35 E10
N35 E20
TU N34 E15
(TU 5)
Block 2/Feature A
House Feature
Core Area
Block 1/Feature B
Primary Work Area/
Chipping Feature
N30 E15
N30 E10
N30 E25
N25 E20
N25 E24
N25 E25
N24 E15
N34 E24
TU N34E25
Secondary Work Area
and Debris Field
TU N25E24
Secondary Work Area
and Debris Field
TU N24E15
Secondary Work Area
and Debris Field
18Cv491
Core Area
Block 1/Block2
Feature B/Feature A
Total number of tools (all tool classes) of depicted lithic material type
Includes one to two tools (1 -2) of depicted lithic material type
Includes between three and nine (3 - 9) tools of depicted lithic material type
Includes ten or more (10+) tools of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Quartz Tool Distribution

FIGURE 69







A: miscellaneous stone tool, slug-shaped uniface, rhyolite
Block 2, TU 12, level 3, Zone 1B (#239)

B: utilized flake, rhyolite
Block 2, TU 9, NW quad, level 4, Zone 2 (#203)

C: utilized flake, rhyolite
Block 2, TU 14, NE quad, level 7, Zone 4 (#272)

D: biface fragment, rhyolite
Block 2, TU 3, level 2A, Zone 1A (#105)

E. flake tool, uniface, rhyolite
Block 1, TU N30E20, NW quad, level 3A, Zone 2 (#69)

18Cv491
Rhyolite Tools

FIGURE 70

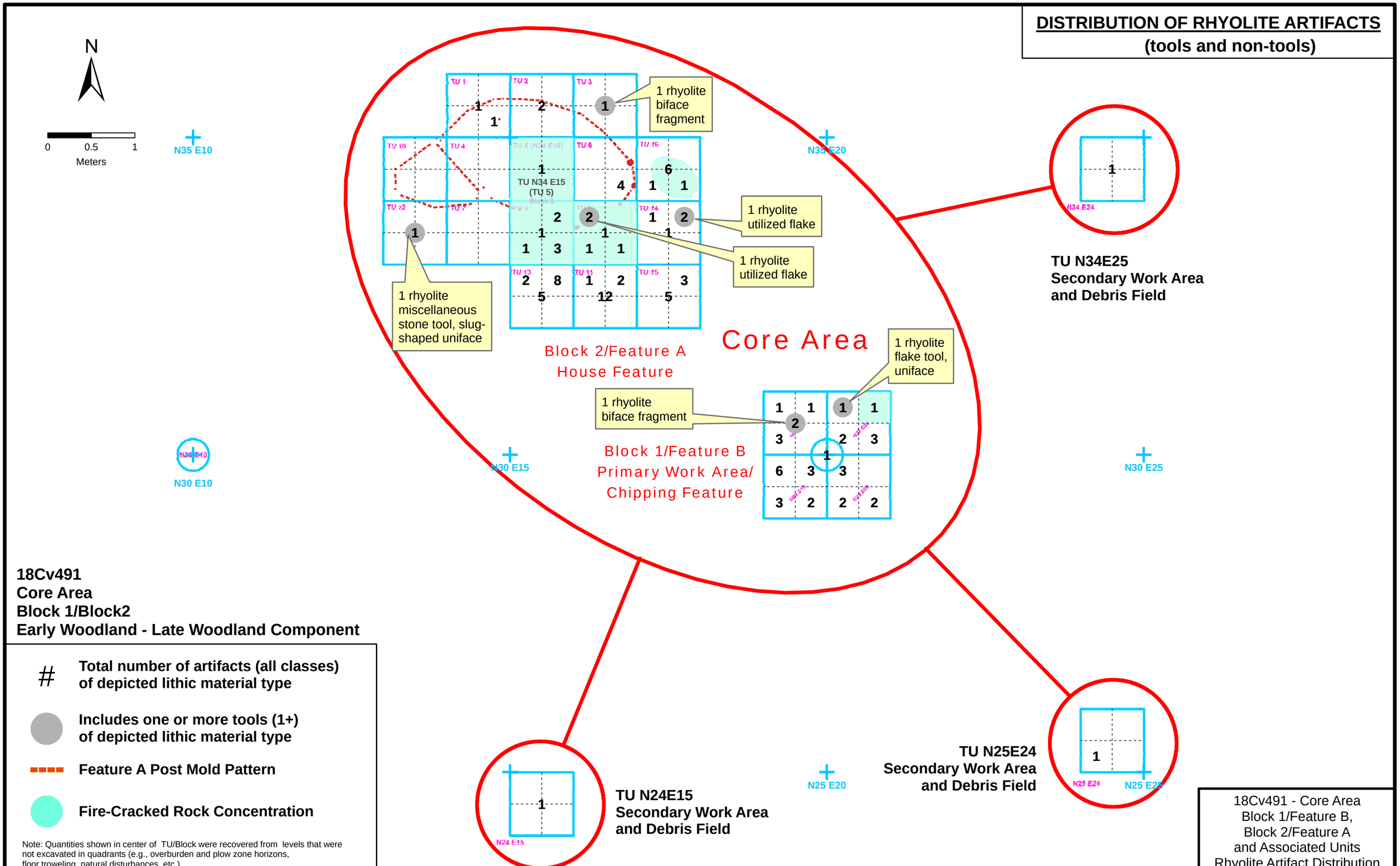

DISTRIBUTION OF RHYOLITE ARTIFACTS
(tools and non-tools)
N
0 0.5 1
Meters
N35 E10
N35 E20
N30 E10
N30 E15
N30 E25
N25 E20
N25 E24
N25 E25
N24 E15
TU N34 E15
(TU 5)
1 rhyolite biface fragment
1 rhyolite utilized flake
1 rhyolite utilized flake
1 rhyolite miscellaneous stone tool, slug-shaped uniface
Block 2/Feature A
House Feature
Core Area
1 rhyolite flake tool, uniface
1 rhyolite biface fragment
Block 1/Feature B
Primary Work Area/
Chipping Feature
TU N34E25
Secondary Work Area
and Debris Field
TU N25E24
Secondary Work Area
and Debris Field
TU N24E15
Secondary Work Area
and Debris Field
18Cv491
Core Area
Block 1/Block2
Early Woodland - Late Woodland Component
Total number of artifacts (all classes) of depicted lithic material type
Includes one or more tools (1+) of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Rhyolite Artifact Distribution

FIGURE 71

The most notable aspect about the chert assemblage is that the two tools, the flake tool and biface fragment, were recovered from peripheral unit TU N24E15, the southwesternmost unit of the three units associated with the core area. The other two associated units, TU N34E24 and TU N25E24, yielded one chert flake each (**Figure 64** and **Figure 72**).

The three chert flakes, that are not associated with the core area are part of the random lithic scatters at peripheral unit TU N44E15 (n = 1) and TU N45E25 (n = 2) (**Figure 64** and **Figure 72; Table 21-23**). These chert flakes may or may not be associated with the tools in TU N24E15.

5. Jasper and Ironstone Distributions

The jasper assemblage consists of five flakes, three of which have cortex. Two flakes with cortex and two flakes without cortex were recovered from Block 2/Feature A. These flakes were recovered in TU 8 (n = 2), TU 15 (n = 1), and TU 16 (n= 1). These units are not contiguous. The fifth flake, which has cortex, was recovered from the random lithic scatter at peripheral unit TU N44E15 (**Appendix IV**). The jasper material in peripheral unit TU N44E15and Block 2/Feature A does not appear to be the same (**Table 21-23**).

One heavily-weathered flake is the only ironstone artifact that was recovered from 18Cv491. This flake is part of the assemblage from peripheral sample unit TU N45E6, which is one of the units associated with the Late Archaic component on the west side of the site (**Figure 56, Table 21-23**).

D. Analysis of Lithic Tool Types

The 18Cv491 contains 400 tools. Aside from a few exceptions, the majority of the tools are heavily-worn and broken. Most of the tools assemblage is composed of expedient tools such as utilized flakes and tools created by modifying flakes (i.e. flake tools); however, the assemblage also contains a few curated forms (**Table 26**). As noted earlier, only ten tools are not manufactured from local cobble quartzites and quartzes (**Table 24** and **Table 27**). The quality of the cobble lithic materials varies.

1. Projectile Points and Point Fragments

Most of the recovered projectile points are either damaged or heavily resharpened, which clearly suggest that these artifacts were discards (**Table 17, Figure 58**). Ten of the fifteen points are incomplete (**Figure 58A, E, H-O**). The Piney Island point, five Piscataway points, the teardrop/Rossville, and one of the triangle points are missing distal sections. The second triangle point lacks all three points. One of the two broadspears has a snapped stem.

The assemblage also contains sixteen point fragments, fourteen of which are shown in **Figure 59**. Thirteen of the fragments are distal sections/tips (**Figure 59A-K** and two that do not appear in **Figure 59**). The other three fragments are bases (**Figure 59L-N**). None of the incomplete points and point fragments mend.

Table 26:
18Cv491 - Summary of Lithic Tool Types

Artifact Type	Sum	%
Utilized Flakes	236	*59.00%*
Flake Tools	48	*12.00%*
Miscellaneous Stone Tools	16	*4.00%*
Projectile Points – diagnostic	15	*3.75%*
Point Fragment - non-diagnostic	16	*4.00%*
Early Stage Biface Rejects	20	*5.00%*
Late Stage Biface Rejects	2	*0.50%*
Biface Fragments	31	*7.75%*
Worked Stone/Tested Cobble	8	*2.00%*
Cores	8	*2.00%*
Sum	**400**	***100.00%***

Table 27:
18Cv491 - Summary of Lithic Materials within Tool Assemblage

Material Type	Sum	%
Quartzite	110	*27.50%*
Quartz	280	*70.00%*
Chert	2	*0.50%*
Jasper	0	*0.00%*
Rhyolite	8	*2.00%*
Ironstone	0	*0.00%*
Sum	**400**	***100.00%***

Four of the points (**Figure 58H, J, K** and **M**) and four of the point fragments (**Figure 59A, B C** and **D**) have transverse fractures. Tip damage due to impact fractures are apparent on the fishtail point (**Figure 58D**), the Piney Island point (**Figure 58E**), one of the Piscataway points (**Figure 58G**), the two triangle points (**Figure 58N, O**), as well as on four of the distal fragments (**Figure 59C, D I** and **K**).

Breakage on one of the Susquehanna broadspears (**Figure 58A**), seven of the point tips (**Figure 59E-K**), and the three point base fragments (**Figure 59L-M**) appear to be due to snap/pry breaks.

Heavy asymmetrical resharpening is apparent on both Susquehanna broadspears (**Figure 58A, B**), one of the contracting stem points (**Figure 58C**) and on two of the distal point fragments (**Figure 59A, C**), which implies that these tools were probably used as knives. One of the Piscataway points (**Figure 58G**) and the fishtail point (**Figure 58D**) have also been asymmetrically resharpened.

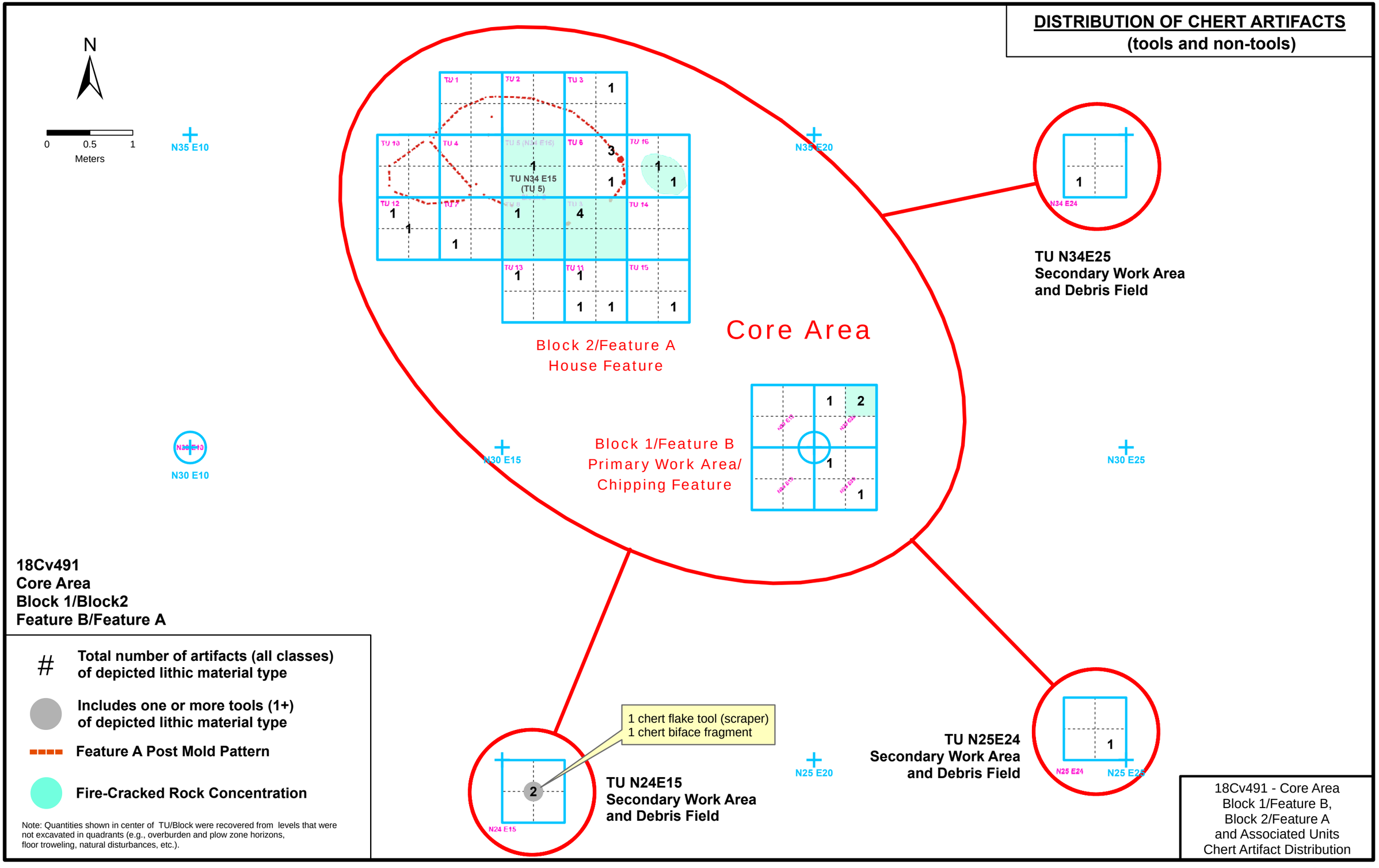

DISTRIBUTION OF CHERT ARTIFACTS
(tools and non-tools)
N
0 0.5 1
Meters
N35 E10
N35 E20
TU 1
TU 2
TU 3
TU 10
TU 4
TU 5 (N34 E15)
TU 6
TU 16
TU N34 E15
(TU 5)
TU 12
TU 7
TU 8
TU 14
TU 13
TU 11
TU 15
Block 2/Feature A
House Feature
Core Area
Block 1/Feature B
Primary Work Area/
Chipping Feature
N34 E24
TU N34E25
Secondary Work Area
and Debris Field
N30 E10
N30 E15
N30 E25
18Cv491
Core Area
Block 1/Block2
Feature B/Feature A
Total number of artifacts (all classes) of depicted lithic material type
Includes one or more tools (1+) of depicted lithic material type
Feature A Post Mold Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
1 chert flake tool (scraper)
1 chert biface fragment
N24 E15
TU N24E15
Secondary Work Area
and Debris Field
N25 E20
TU N25E24
Secondary Work Area
and Debris Field
N25 E24
N25 E25
18Cv491 - Core Area
Block 1/Feature B,
Block 2/Feature A
and Associated Units
Chert Artifact Distribution

FIGURE 72

The more irregular edge of the aforementioned Piscataway point exhibits unifacial attrition and polish (dorsal side) above the haft limit that suggests use of the point as a scraper (**Figure 73**). This point is the only Piscataway point in the assemblage that exhibits this edge wear pattern.

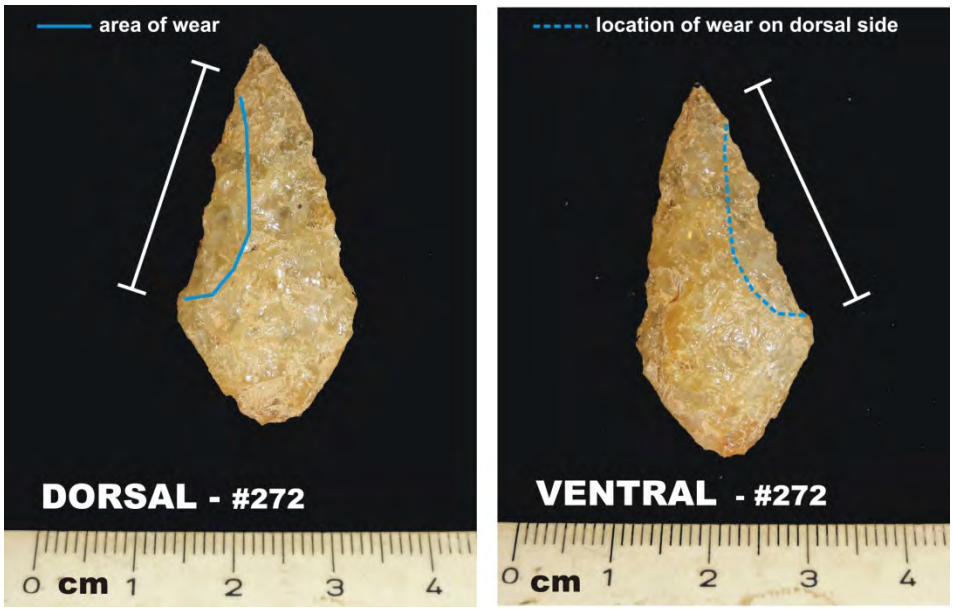


Figure 73: Photograph of Piscataway Point from Block 2, TU 14 showing Detail of Edge Wear on Dorsal Side that is Absent on Ventral Side.

One of the point fragments, a quartz distal fragment from Block 1/Feature A TU N29E19, is much narrower than the others in the assemblage (**Figure 59K**). It is possible that this artifact represents the tip of a bifacial drill form.

Only one of the point fragments was not recovered from the core area or one of its associated units. This artifact was recovered from TU N24E5, which also contains one of the broadspears within its assemblage. The point fragment is a crude quartzite distal section that, in appearance, is much more like a late stage biface than a point.

The points and point fragments of 18Cv491 comprise 3.75 percent and four percent of the tool assemblage, respectively. The points and point fragments are relatively evenly divided between quartz and quartzite. **Table 28** summarizes the distribution of lithic materials in the point and point fragments.

2. Other Bifaces

This category includes early stage bifaces, late stage bifaces, and biface fragments.

Early Stage Bifaces. The 18Cv491 non-diagnostic biface assemblage contains twenty (20) early-mid stage bifaces. These bifaces consist of eleven (11) quartzite bifaces and nine (9) quartz bifaces that are of varying sizes and material quality. Representative examples of the

Table 28:
18Cv491 - Summary of Lithic Materials within Point/Point Fragment Assemblage

Material Type	Sum Points	Sum Fragments	% Points+Fragments
Quartzite	8	*8*	*51.61%*
Quartz	5	*8*	*41.94%*
Rhyolite	2	*0*	*6.45%*
Sum	**15**	**16**	***100.00%***

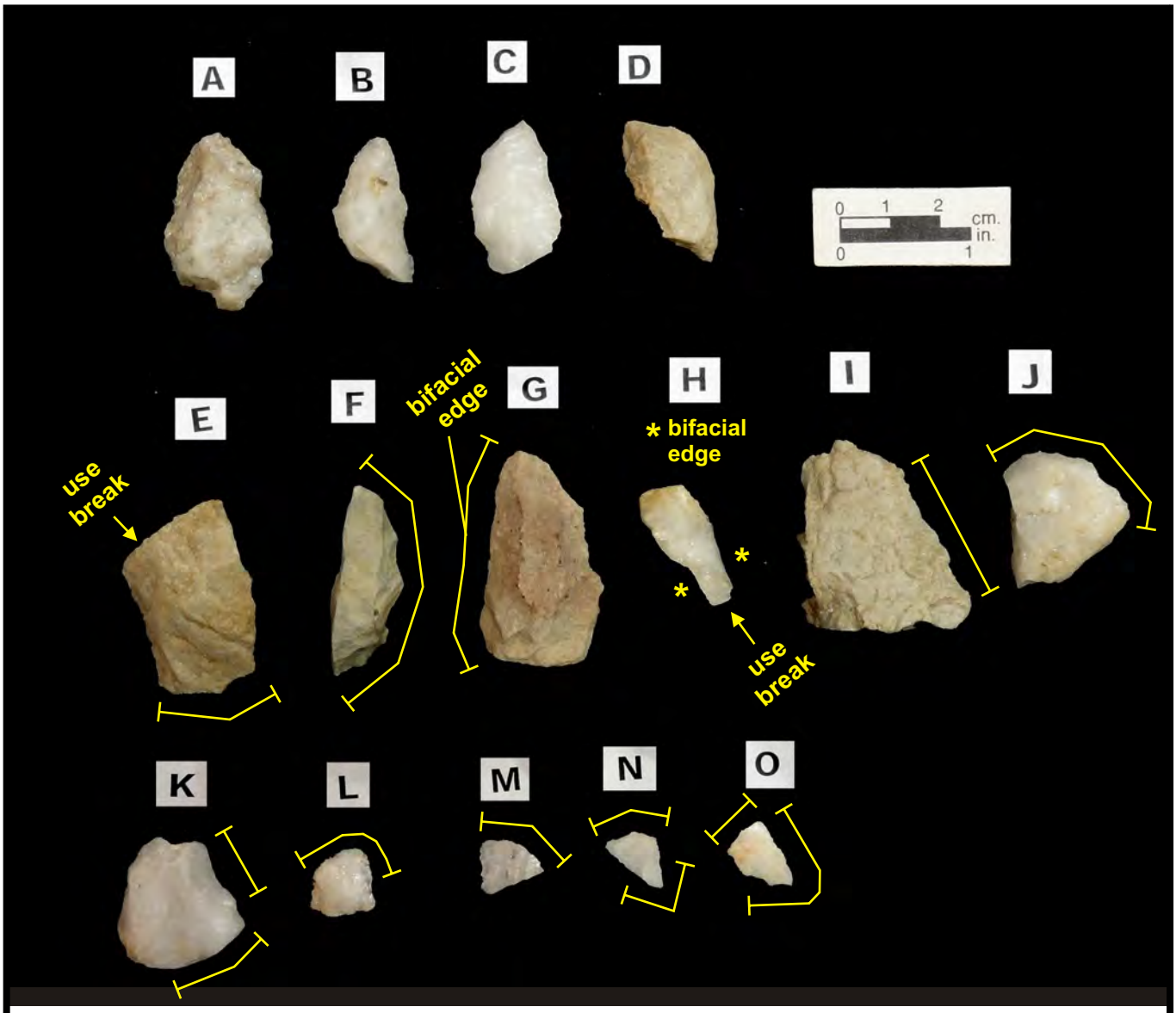
early-mid stage bifaces are shown in **Figure 65, Figure 74A, Figure 75 (A-G, I), 79B,** and **Figure 76.** Four of the bifaces, one quartzite and three quartz, still retain cortex. All four of the early stage bifaces with cortex were recovered from locations inside the core area of the site. The early stage bifaces are five percent of the lithic tool assemblage.

Six quartzite (one w/cortex) and five quartz (two w/cortex) early stage bifaces were recovered from Block 2/Feature A. Although several of the eleven bifaces were recovered around the Feature A house perimeter, only one biface was obtained from a location definitely inside the house perimeter. This biface is an approximate 5cm (w) x 7cm (h) quartzite biface that was recovered from the center of the block, in TU 5 (N34E15), during the 2008 Phase I/II survey (Silber et al. 2008) (**Figure 52, 75I**). The biface shows signs of thermal alteration. Four of the early stage bifaces, including the aforementioned quartzite early-mid stage biface recovered in situ, were recovered in the TU 8/TU 9 artifact concentration situated in the southeast corner of the Feature A house pattern.

Two early stage bifaces, one quartzite (w/o cortex) and one quartz (w/cortex), were recovered from Block 1/Feature B.

Most of the Block 1/Feature B and Block 2/Feature A bifaces that are not in the very early stages of production exhibit reduction flaws suggesting that they were discards. An exception to this is the large quartzite biface from Block 2/Feature A that was recovered in situ beneath the buried plow zone in TU 9 (**Figure 45:#8; 65;** and **75B**). This biface is devoid of cortex and is approximately seventy-four (74) millimeters in maximum length and approximately forty-eight (48) millimeters in maximum width. The biface is the most symmetrical form in the assemblage and is on the verge of the middle stage of the reduction process.

Seven of the twenty early stage bifaces were recovered outside of the core area. These artifacts are unremarkable and do not exhibit any distinguishing characteristics that set them apart from the rest of the collection. The distribution of these artifacts is of some interest because all but one of these bifaces are associated with two units. These units are TU N34E24, which is associated with Feature A/Feature B, and TU N24E5, which is the southernmost Late Archaic unit along the west side of the site. Two quartzite early stage bifaces and one quartz early stage biface were recovered in each of these units (**Table 12**). The seventh biface, a quartz biface, was recovered from the unassigned lithic scatter at TU N45E25.



Bifaces/Biface Fragments

A: early-mid stage biface, quartz, N30E19, SW quad, level 2, Zone 1B (#39)
B: biface fragment, quartz, N29E19, SW quad, level 3B, Zone 2 (#415)
C: late stage biface, quartz, N29E19, SW quad, level 3B, Zone 2 (#415)
D: biface fragment, quartzite, N29E20, SW quad, level 4, Zone 2 (#33)

Flake Tools and Miscellaneous Stone Tools

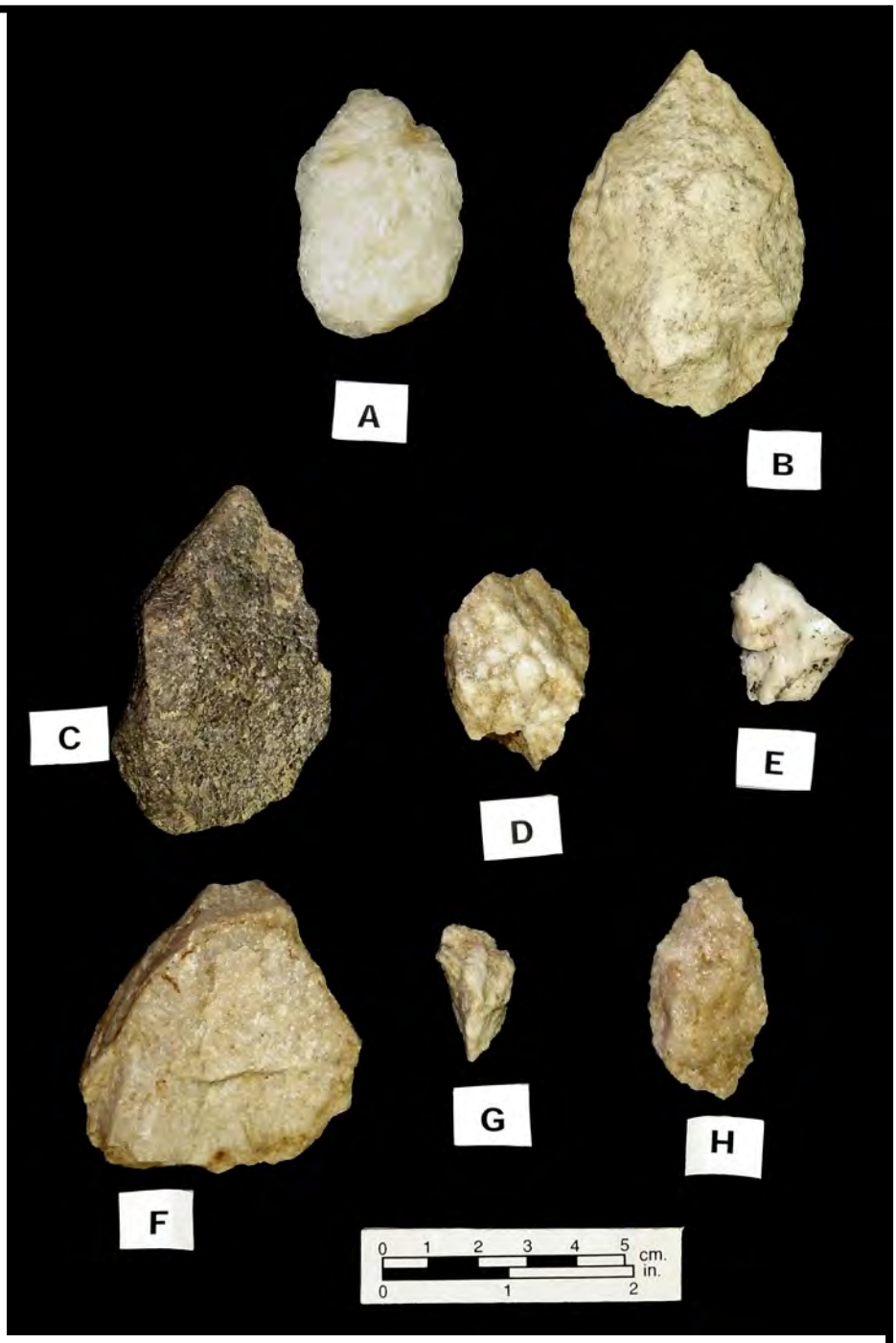
E: misc. stone tool, scraper (poss. reworked biface tip/base), quartzite, N30E19, SW quad, level 3, Zone 1B (#44)
F: flake tool (uniface), rhyolite, N30E20, NW quad, level 3A, Zone 2 (#69)
G: flake tool, knife, quartzite, N30E20, NW quad, level 3A, Zone 2 (#69)
H: flake tool, drill, quartz, N30E20, NE quad, level 5, Zone 3 (#77)
I: flake tool, scraper, quartzite, N30E19, SE quad, level 3A, Zone 2 (#48)
J: flake tool, scraper, quartz, N30E19, NW quad, level 3A, Zone 2 (#49)

Utilized Flakes

K: quartz, N29E19, SW quad, level 3B, Zone 2 (#415)
L: quartz, N30E20, NW quad, level 3A, Zone 2 (#69)
M: quartz, N30E19, SW quad, level 3, Zone 1B (#44)
N: quartz, N30E19, SW quad, level 4, Zone 2 (#54)
O: quartz, N30E19, SW quad, level 4, Zone 2 (#54)

18Cv491, Block 1, Feature B
Representative Tools,
Various Forms

FIGURE 74



A: early stage biface, quartz, TU 16, level 3, Zone 1A (#306)
B: early-mid stage biface, quartzite, A-8, TU 9, SW quad, Zone 1B/Zone 2 interface (#307)
C: early stage biface, quartzite, TU 9, SW quad, level 4, Zone 2 (#202)
D: early stage biface, quartz, TU 8, NW quad, level 3, Zone 1B (#176)
E: early-mid stage biface, quartz, TU 9, level 1, Zone 1A (#189)
F: early stage biface, quartz, TU 14, level 2, Zone 1A (#261)
G: early-mid stage biface, quartzite, TU 15, NE quad, level 5, Zone 2 (#281)
H: late stage biface, quartzite, TU 11, level 3A, Zone 2 (#225)
I: early stage biface, quartzite, TU 5 (N34E15), level 3, Zone 1B (#16)

18Cv491, Block 2, Feature A
Non-Diagnostic Bifaces

FIGURE 75

Artifact Recovery Key

★ Core Area Unit

■ Late Archaic Unit

● Unassigned Lithic Scatter Unit

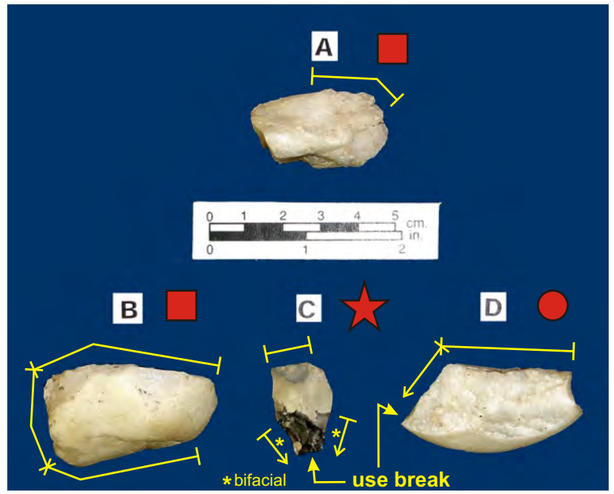
Scraper Forms

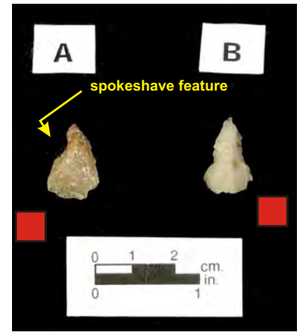
A: flake tool, scraper
quartz
(also exhibits wedge-like characteristics)
TU N45E6, SE quad
level 6, Zone 4 (#327)

B: flake tool, scraper
quartz
TU N45E6, NE quad
level 5, Zone 3 (#323)

C: flake tool, scraper,
may be a
reworked drill, chert,
TU N24E15
level 1, Zone 1A (#395)

D: flake tool, scraper
quartz
TU N44E15
level 1, Zone 1A (#334)



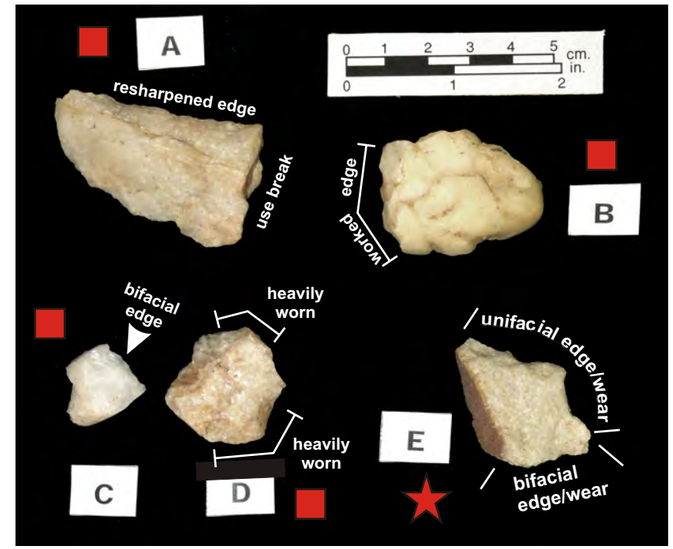


Awl/Drill/Burin Forms

A: flake tool, burin form,
with spokeshave feature, quartz
TU N24E5, SE quad
level 2, Zone 1B (#385)

B: flake tool, awl/drill form, quartz
TU N45E6
Level 2, Zone 1A (#318)

Examples of Edge Use, Wear, and Retouching



A: point fragment, quartzite
TU N24E5, NE quad
level 3, Zone 2 (#391)

B: flake tool, scraper, quartz
TU N24E5, NE quad
level 3, Zone 2 (#391)

C: flake tool, possible wedge, quartz
TU N35E5, level 1, Zone 1A (#361)

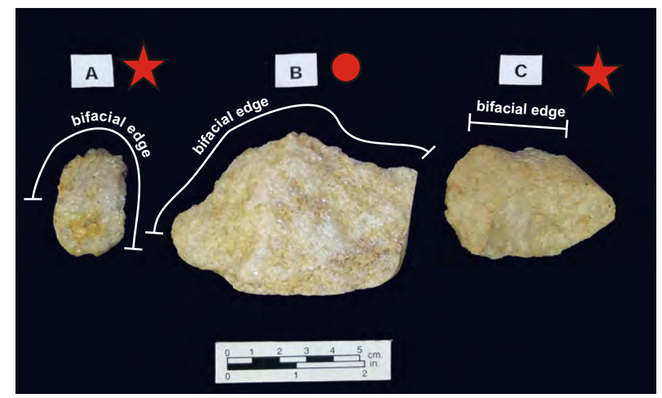
D: flake tool, bifacial scraper, quartz
possible re-purposed/re-worked core
or biface fragment
TU N35E5, level 1, Zone 1A (#361)

E: misc. chipped stone tool, quartzite
TU N34E24, level 1, Zone 1A (#372)

Other Tools

A: utilized cobble/cobble tool
possible nutting stone tool
quartzite (#369)
TU N24E5, NE quad
level 8, Zone 4

B: misc. stone tool, chopper
quartzite (#394)
TU N35E5,NW quad
level 5, Zone 2

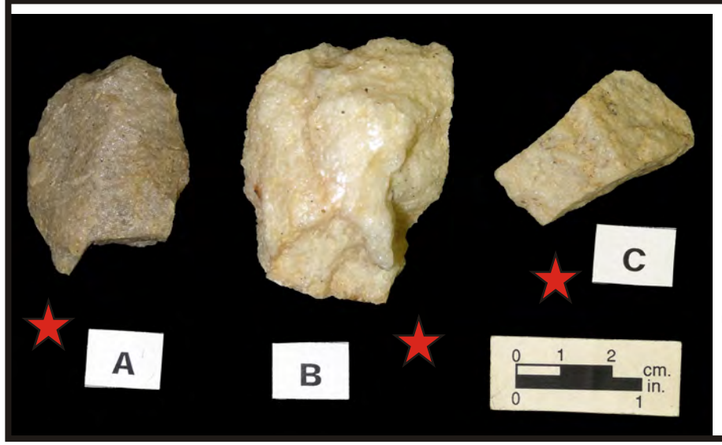


Examples of Tools with Bifacial Edges

A: flake tool, quartzite
TU N24E15
level 2, Zone 1A (#396)

B: flake tool, quartzite
TU N45E25, NW quad
level 9, Zone 3 (#358)

C: flake tool, quartzite
TU N25E24, SW quad
level 2, Zone 1B (#401)

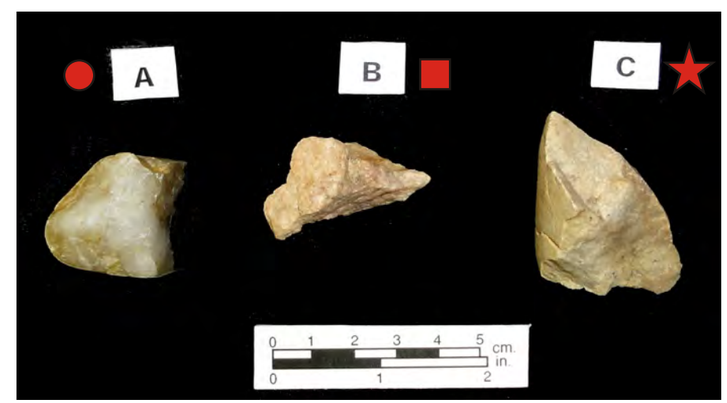


Bifaces

A: early stage biface, quartzite
TU N34E24. SE quad
level 5, Zone 1B (#374)

B: early stage biface, quartz
TU N34E24. SE quad
level 5, Zone 1B (#374)

C: early stage biface,
medial section, quartzite
TU N34E24, level 1, Zone 1A (#372)



Cores

A: core, quartz
TU N45E25. NW quad
level 10, Zone 4 (#360)

B: core, quartzite
TU N24E5, SW quad
level 2, Zone 1B (#387)

C: core, quartzite
TU N24E15, level 1, Zone 1A (#395)

18Cv491, Sample Units
Representative Tools

FIGURE 76

Late Stage Bifaces. The 18Cv491 assemblage contains two late stage bifaces, one quartz biface (**Figure74C**) and one quartzite biface (**Figure 75H**). The quartz and quartzite late stage bifaces were recovered from Block 1/Feature B and Block 2/Feature A, respectively. The quartz late stage biface from Block 1/Feature A has a fractured tip. The base of this biface, albeit minimal, has also been formed. The quartzite late stage biface from Block 2/Feature A is non-descript. The late stage bifaces are less than one percent (0.5%) of the 18Cv491 lithic assemblage.

Tools Created from Biface Fragments. There are two artifacts in the 18Cv491 tool assemblage that warrant mention. One of these tools is a small quartz bifacial scraper that was created from a fragment of an early stage biface (Block 2/Feature A TU 13, **Figure 79A**). The other tool, also a bifacial scraper, was manufactured by repurposing a fragment of a late stage biface (Block 2/Feature A TU 6, **Figure 79J**). Both of these modified biface fragment tools are included in the artifact inventory as miscellaneous stone tools.

Biface Fragments. The 18Cv491 lithic assemblage also contains thirty-one biface fragments. The fragments consist of shattered pieces of bifaces (e.g., **Figure 74B**) as well as pieces of tips, bifacial edges, and medial sections that are too small in size to determine the form from which they were derived. These latter fragments are likely refuse that were created via the breakage of bifacial tools (e.g., **Figure 76**) and/or refuse resulting from the salvaging/alteration of other tools such as the biface fragments that were repurposed into scrapers (**Figure 79A, J**). The biface fragments are 7.75 percent of the lithic assemblage. Approximately seventy percent of the fragments, twenty-two fragments, are quartz. The other fragments consist of six quartzite fragments, one chert fragment, and two rhyolite fragments. The only fragments that retain cortex are a quartzite fragment and a quartz fragment, both of which were recovered from Block 1/Feature B.

The fragments were recovered from various locations inside and outside of the core area. In Block 1/Feature A, the fragments (3 quartzite, 7 quartz) are slightly more concentrated in the east half of the excavation block (**Figure 56**). In Block 2/Feature A and also in the peripheral units, the distributions of the fragments do not exhibit any distributions that deviate from the overall assemblages of which they are a part (**Figure 52; Figure 57**).

Two quartz biface fragments were recovered from peripheral unit TU N34E5 in the southwestern corner of the site. One quartz fragment was recovered from TU N60.5E0.5, which was the northwesternmost unit excavated at the site (**Figure 57**).

The majority of the fragments are unremarkable. The rhyolite medial fragment from Block 2/Feature B TU 3(**Figure 70D**), a small rhyolite tip fragment from Block 1/Feature B TU N30E19, and a small chert edge fragment from peripheral unit TU N24E15 are the more notable of the fragments mainly due to the dearth of these lithic materials in the overall assemblage.

Discussion of Biface Lithic Materials. Quartz and quartzite are relatively evenly distributed amongst the intact/near intact bifaces (**Table 29**). However, quartz biface fragments outnumber those derived from bifaces of other lithic materials (**Table 29**).

Table 29:
18Cv491 - Summary of Lithic Materials within Biface and Biface Fragment Assemblages

Artifact Type	Sum Early Stage	Sum Late Stage	*% Early+Late*		Sum Fragments	*% Fragments*
Quartzite	11	1	*54.55%*		*6*	*19.35%*
Quartz	9	1	*45.45%*		*22*	*70.97%*
Chert	0	0	*0.00%*		*1*	*3.23%*
Rhyolite	0	0	*0.00%*		*2*	*6.45%*
Sum	**20**	**2**	***100.00%***		**31**	***100.00%***

The higher proportion of quartz biface fragments in the assemblage is not surprising given the preferences for quartz in the overall tool assemblage, especially for flake-derived tools (i.e. utilized flakes, flake tools) (**Table 21; Figures 74-82**). As can be seen **Figure 73** through **Figure 82**, by comparison, the materials of the discarded quartz early stage bifaces are of lower grades than the materials in the flake tool, utilized flake, and miscellaneous tool assemblages. The same applies to the quartzite biface and tool assemblages.

The low number of rhyolite artifacts in this assemblage is understandable. No doubt, this non-local material, brought to the site in prepared forms, would have been used and curated much more discriminatingly than readily-available, local quartz and quartzites. The level of conscientious rhyolite curation is evident in the low quantities of debitage (n = 125) and abandoned tools (n= 8), as well as in in the sizes of rhyolite debitage. Of the 123 flakes sampled (Phase III assemblage), only three flakes are 25-35mm in maximum length. The maximum lengths of the other flakes consist of ten flakes between 20-25mm, twenty-two flakes between 15-20mm, fifty-nine flakes between 20-15mm, and twenty-nine flakes less than 10mm. All of the flakes less twenty centimeters in length are tertiary flakes.

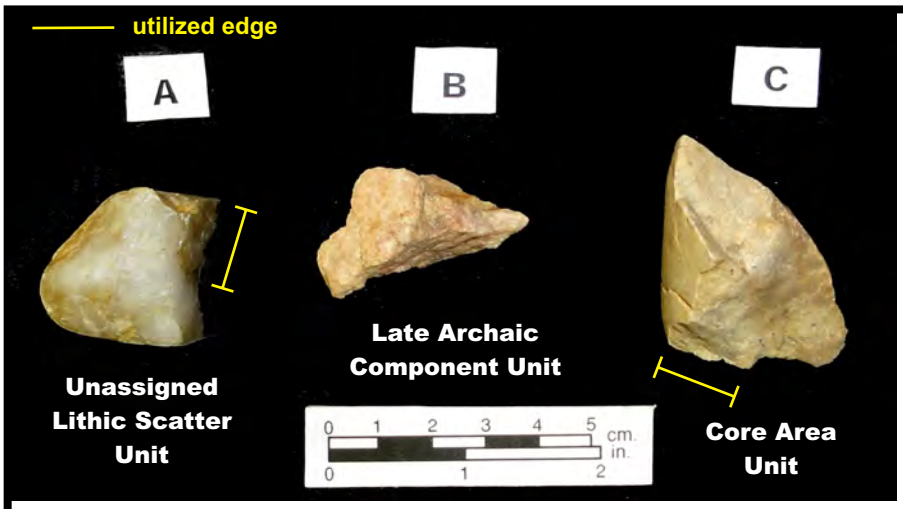
The lone chert biface fragment, as well as the chert debitage, are little more than random finds since they appear to be associated with two tools in the assemblage.

3. Cores

Six quartzite cores and two quartz cores were recovered from 18Cv491 (**Table 30**). These eight cores comprise two percent of the site's lithic artifact assemblage. All but one of the quartzite cores retain cortex. Cortex is present on one of the quartz cores (**Figure 76**).

Table 30:
18Cv491 - Summary of Lithic Materials within Core Assemblage

Artifact Type	Sum	%
Quartzite	6	*75.00%*
Quartz	2	*25.00%*
Sum	**8**	***100.00%***

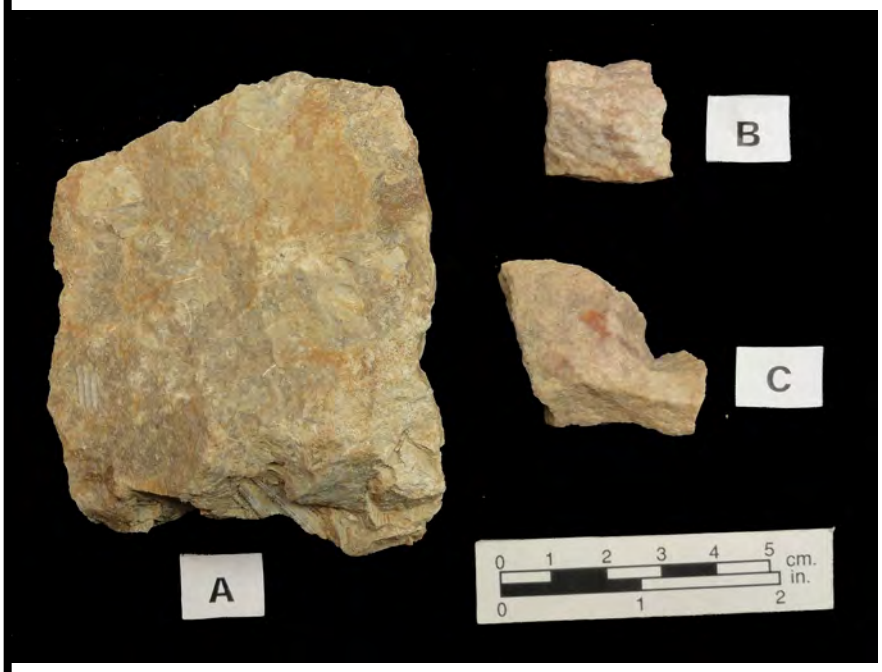


18Cv491: Sample Units

A: core, quartz
TU N45E25. NW quad
level 10, Zone 4
(#360)

B: core, quartzite
TU N24E5, SW quad
level 2, Zone 1B
(#387)

C: core, quartzite
TU N24E15, level 1, Zone 1A,
(#395)

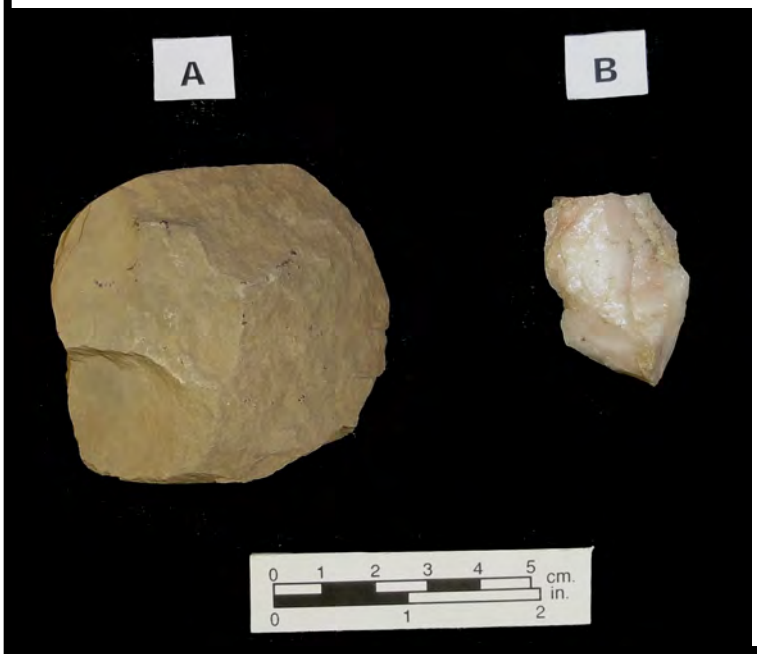


18Cv491: Block 1, Feature B

A: core, quartzite
TU N29E19. NW quad,
level 3, Zone 1B
(#410)

B: core, quartzite
TU N30E20, NE quad,
level 6, Zone 4
(#78)

C: core, quartzite,
TU N30E19, NW quad,
level 3A, Zone 2
(#49)



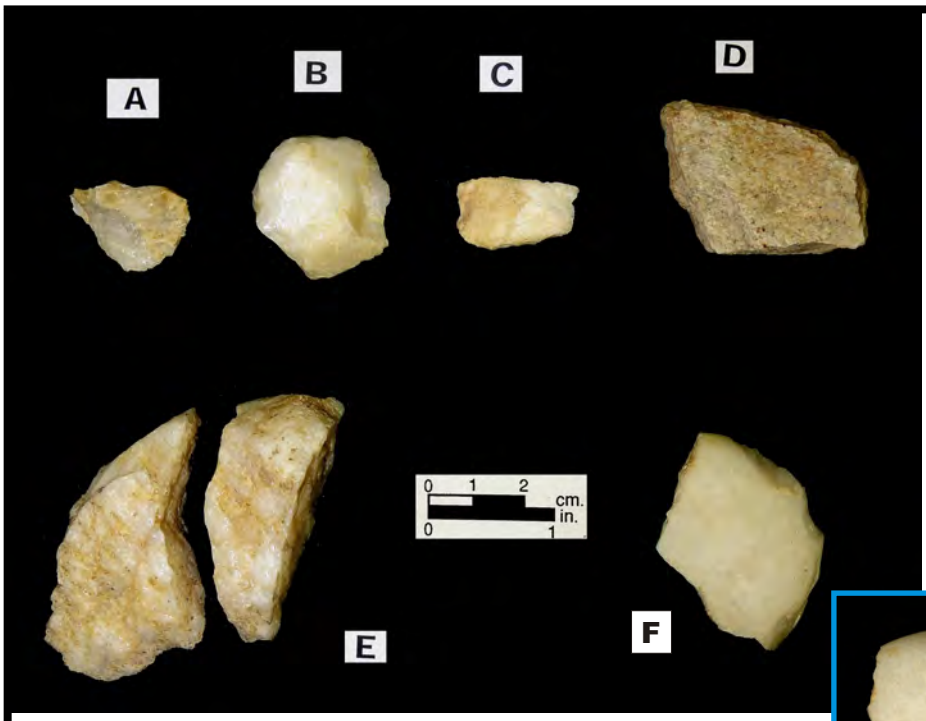
18Cv491: Block 2, Feature A

A: core, quartzite
TU 9. SW quad, level 2, Zone 1A
(#193)

B: core, quartz
TU 7, NE quad, level 4, Zone 2
(#161)

18Cv491
Cores

FIGURE 77



Scraper Forms

A: flake tool, scraper, quartz, TU 15, SE quad, level 5, Zone 2 (#278)

B: flake tool, scraper, quartz, TU 15, SE quad, level 5, Zone 2 (#278)

C: flake tool, scraper, quartz, TU 15, NW quad, level 5, Zone 2 (#279)

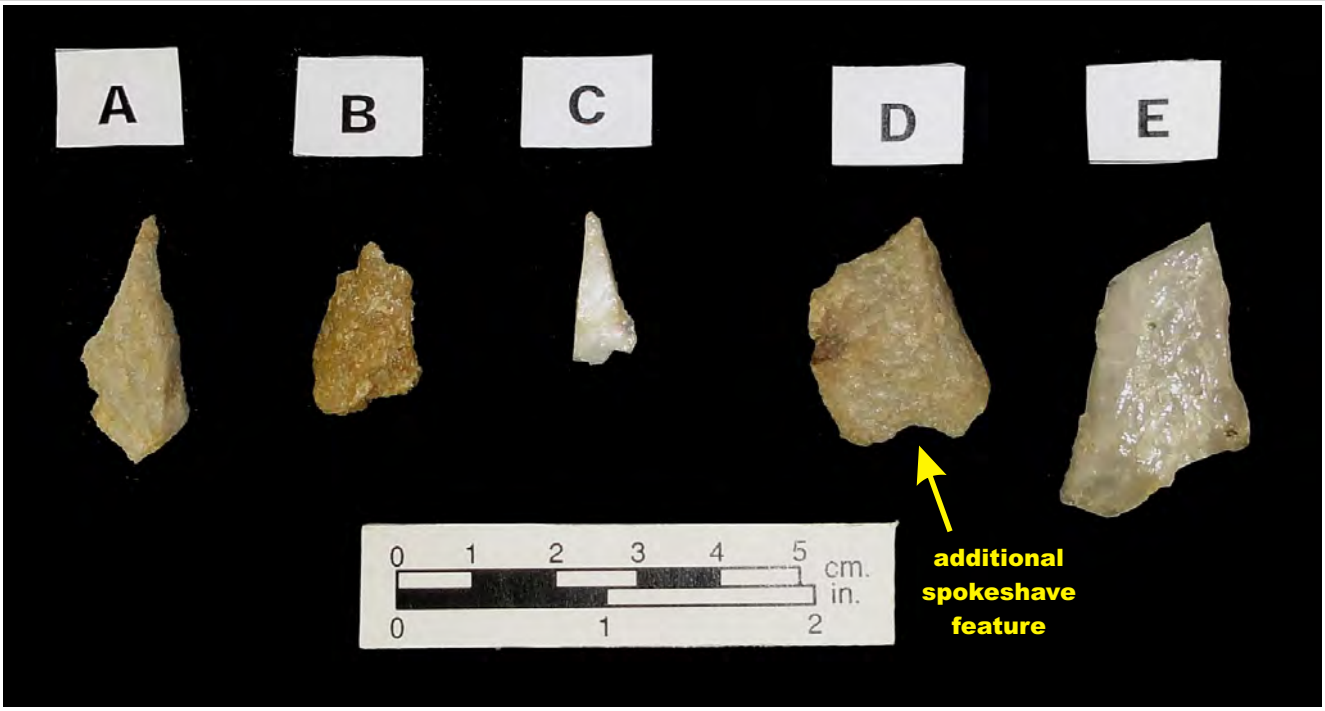
D: flake tool, scraper, quartzite, TU 7, SE quad, level 3, Zone 1B (#156)

E: flake tool, scraper, quartz, TU 8, SE quad, level 3, Zone 1B (#172)

Scraper Forms, cont.

F: flake tool, scraper, quartz, TU 16, NW quad level 4, Zone 1B (#294)

Enlarged detail of "F" shown to right

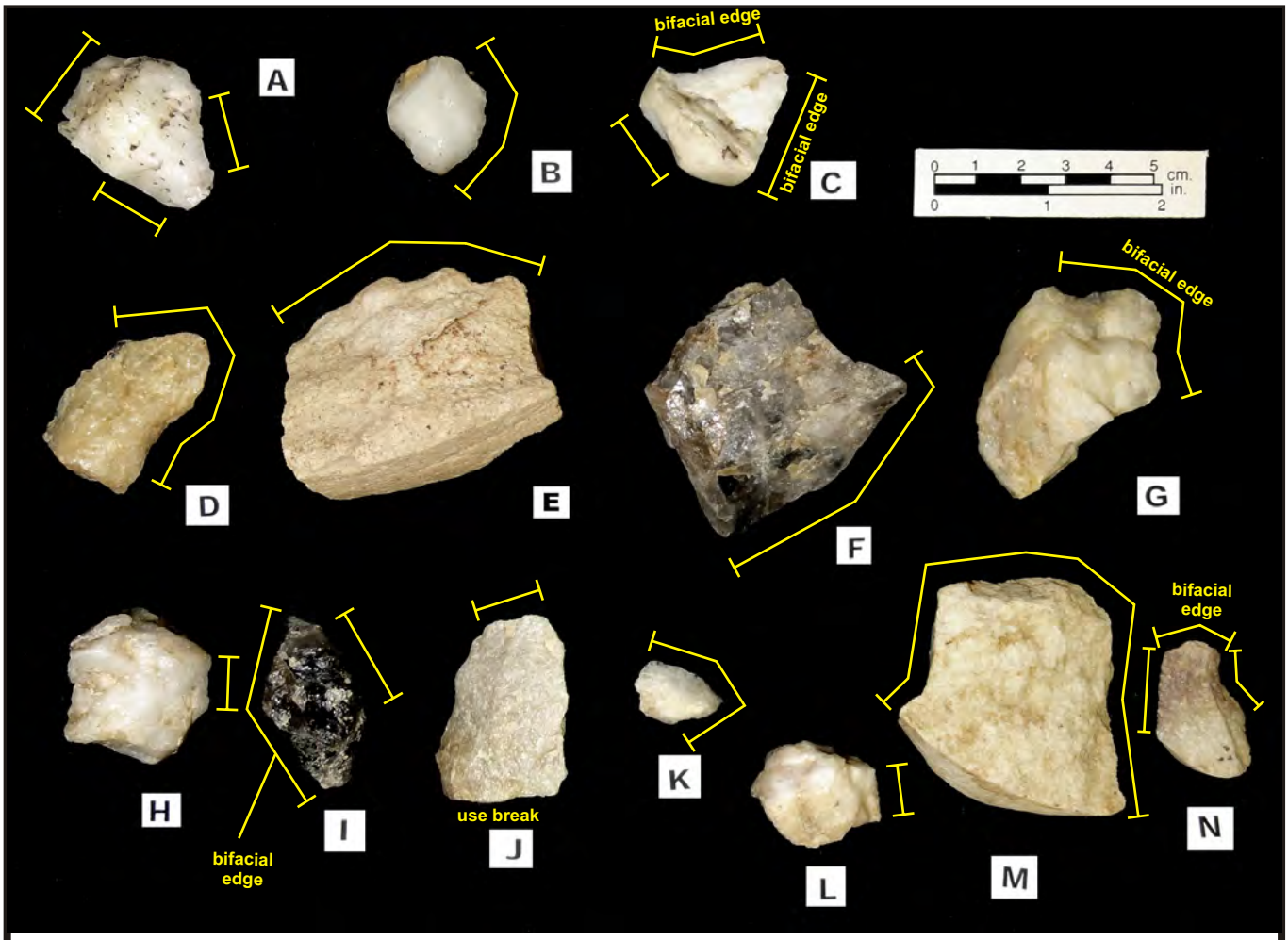


Awl and Drill Forms

A: flake tool, awl, quartz, TU 16, SE quad, level 5, Zone 2 (#296)
B: flake tool, drill, quartz, TU 16, SW quad, level 5, Zone 2 (#297)
C: flake tool, awl, quartz, TU 16, SE quad, level 8, Zone 4 (#304)
D: utilized flake (w/minor modif.), awl/spokeshave, quartzite, TU 13, level 3, Zone 1B (#252)
E: flake tool, awl, quartz, TU 13, level 3, Zone 1B (#252)

18Cv491
Block 2, Feature A
Examples of Scraper, Awl, and Drill Forms

FIGURE 78



A: misc. stone tool, scraper, quartz
modified early stage biface fragment
Block 2, TU 12, level 1, Zone 1A (#237)

B: flake tool, scraper, quartz
Block 2, TU 13, level 3, Zone 1B (#252)

C: flake tool, scraper, quartz
Block 2, TU 16, level 2, Zone 1A (#290)

D: flake tool, scraper, quartz
Block 2, TU 11, level 3, Zone 1B (#224)

E: flake tool, denticulate, quartzite
Block 2, TU 13, level 3, Zone 1B (#252)

F: flake tool, burin/graver and scraper, quartz
Block 2, TU 16, level 3, Zone 1A (#306)

G: flake tool, scraper, quartz
Block 2, TU 16, level 3, Zone 1A (#306)

H: misc. stone tool, scraper, quartz
modified core
Block 2, TU 4, NW quad, level 4, Zone 2 (#121)

I: misc. stone tool, scraper and wedge, quartz
Block 2, TU 4, level 4, Floor Scrapings, Zone 2 (#125)

J: misc. stone tool, scraper, quartzite
modified late stage biface fragment
Block 2, TU 6, NE quad, level 4, Zone 2 (#141)

K: flake tool, burin/graver, quartz
Block 2, TU 8, NE quad, level 4, Zone 2 (#179)

L: utilized flake, scraper, quartz
Block 2, TU 8, NE quad, level 4, Zone 2 (#179)

M: flake tool, knife/scraper, quartzite
Block 2, TU 15, level 4, Zone 1B (#277)

N: flake tool, scraper and possible spokeshave
quartzite
Block 2, TU 11, NE quad, level 5, Zone 3 (#233)

18Cv491, Block 2
Flake Tools and
Miscellaneous Stone Tools

FIGURE 79

The Block 2/Feature A assemblage contains two cores, one quartzite core with cortex and the quartz core without cortex. Neither core is from a provenience that is definitively inside the house pattern perimeter; however the quartz core was recovered from the large artifact concentration situated in the southeast corner of the feature area. The quartz core is a slightly wedge-shaped, 3cm x 3.5cm x 3cm polyhedron (**Figure 77B/#161**). The core exhibits flake scars that are characteristic of bipolar reduction. The quartzite core is approximately 3.4 centimeters in diameter and still retains much of its cobble shape (**Figure 77A/#193**).

The three cores in the Block 1/Feature B assemblage are quartzite cores with cortex. One of the cores is an irregular block of fossiliferous quartzite (sandstone) that is approximately 7.2cm by 9cm (and about half that thick) in size (**Figure 77A/#410**). The other two quartzite cores are small cores of a fine-grained lithic material. The cores have also been subjected to thermal alteration. One of the cores is approximately 2.3 centimeters square (**Figure 77B/#78**). The other core is an irregular polyhedron that is no greater than 3.8 centimeters in any direction (**Figure 77C/#49**). Both of these cores exhibit flake scars that are characteristic of bipolar reduction.

Three cores were recovered from the peripheral units. One core each was recovered from TUs N24E5, N24E15, and N45E25. Cortex is present on all three cores. The core from TU N24E5 is a thermally-altered, 2cm by 3cm, triangular quartzite core with bipolar reduction scars (**Figure 77B/#360**). The core from N24E15 is a triangular quartzite core that is approximately three (3) centimeters long and 2.5cm wide. The core has been thermally altered and one of its edges has been utilized as a scraper (**Figure 77B/#395**). The core from TU N45E25 is an approximate 0.5cm – 1.0cm thick cross section of quartz cobble. One of the interior edges of the core has been utilized (**Figure 77B/#360**).

One additional artifact warrants mention in regard to this artifact class. This artifact is a tool created by modifying a quartzite core (**Figure 65:#276**). The tool has several worked and utilized edges. This tool is included in the artifact inventory as a miscellaneous stone tool.

4. Flake Tools

A total of forty-eight (48) flake tools (modified debitage) were recovered from 18Cv491 (**Table 26, Table 31**). Thirty-two (32) tools are quartz and fourteen (14) tools are quartzite. The chert and rhyolite assemblages contain one flake tool each. The flake tools are twelve percent of the chipped tool assemblage.

Table 31:
18Cv491 - Summary of Lithic Materials within Flake Tool Assemblage

Material Type	Sum	%
Quartzite	*14*	*29.17%*
Quartz	*32*	*66.67%*
Chert	*1*	*2.08%*
Rhyolite	*1*	*2.08%*
Sum	**48**	***100.00%***

Cortex is present on thirty-two of the tools. One quartzite tool, fourteen quartz tools, and the single rhyolite tool are devoid of cortex.

End scrapers and side scrapers are the most common tool types (**Figure 74, 76, 79**), followed by general cutting forms (e.g. **Figure 74G, 79E**), and awls/punches/drills (**Figure 74H, 76, and 78**). Wedges (e.g., **Figure 76A:#327; Figure 79I**) and spokeshave forms (e.g., **Figure 79N**) are also present but these tool types are much less frequent within the assemblage. The assemblage contains eight basic identifiable forms: scrapers (26), awl/drills (6), denticulates (3), burins/graver-like forms (4), knife forms (2); spokshaves (1), unifaces (1), and wedges (2) (**Table 32**).

Table 32:
18Cv491 - Flake Tool Forms

Form Type*	Quartzite	Quartz	Chert	Rhyolite	Total
Scraper	7	18	1	0	***26***
Awl/Drill	0	6	0	0	***6***
Burin/Graver	0	4	0	0	***4***
Denticulate	3	0	0	0	***3***
Wedge	0	2	0	0	***2***
Knife	2	0	0	0	***2***
Spokeshave	1	0	0	0	***1***
Uniface	0	0	0	1	***1***
Unclassifiable	1	2	0	0	***3***
Sum	**14**	**32**	**1**	**1**	***48***

**artifacts with more than one tool feature are classified by its predominant and/or most intact form, edge and/or function.*

Several of the tools exhibit secondary features indicating that they functioned as multi-purpose tools or were repurposed. The tool that best illustrates this type of "multi-use" include the chert scraper from TU N24E15 which has a broken awl/drill bit on the opposite side of its end scraper (**Figure 76**). Other noted combinations include an awl/drill/spokeshave implement from TU N24E5 (**Figure 76**) as well as scraper/wedges from Block 2/Feature A TU 4 (**Figure 79I**) and TU N35E5 (**Figure 76**). At least seven of the scrapers include use of both side and end edges. A total of twenty-two of the tools have at least two worked and used edges. Of these tools, eight exhibit use wear along opposing faces, often along different edges, which suggests that the tools were rotated and flipped.

Twelve tools exhibit bifacial edges. These tools consist of two awls/drills, one knife form, seven scrapers, one spokeshave, and one wedge. Five of the tools exhibit use breaks. The tools with use breaks consist of the chert scraper/awl/drill, one denticulate/scraper, and two scrapers.

Twenty-five of the flake tools were recovered from Block 2/Feature A (**Table 33**). The highest concentrations of flake tools were recovered from TU 16 (n=7), TU 8 (n=5), and TU 15 (n=5) (**Figure 52**). All of the flake tools from Block 2/Feature A are quartz or quartzite.

Table 33:
18Cv491 - Flake Tool Distribution

Form Type*	Core Area			West/ Late Archaic TU	Unassigned TUs	Total
	Block 2/ Feature A	Block 1/ Feature B	Sample TU			
Scraper	15	3	3	4	2	***27***
Awl/Drill	4	1	0	1	0	***6***
Burin/Graver	2	0	0	2	0	***4***
Denticulate	2	0	1	0	0	***3***
Wedge	0	0	0	2	0	***2***
Knife	1	1	0	0	0	***2***
Spokeshave	1	0	0	0	0	***1***
Uniface	0	1	0	0	0	***1***
Unclassifiable	0	2	0	0	0	***2***
Sum	**25**	**8**	**4**	**9**	**2**	***48***

**artifacts with more than one tool feature are classified by its predominant and/or most intact form, edge and/or function.*

Block 1/Feature B and the three peripheral units associated with Feature A/Feature B yielded eight and four tools, respectively (**Table 33**). In Block 1/Feature B, half of the flake tool assemblage, including the rhyolite uniface, was recovered from TU N30E20 (**Figure 56**). The quartz/quartzite tools are evenly distributed amongst the associated units with TUs N24E15, N25E24, and N34E24 each containing one tool of these lithic materials (**Figure 57**). The chert scraper/awl/drill tool was recovered from TU N24E15.

Eight flake tools were recovered from the test units in the site's western Late Archaic component (**Table 33; Figure 57**). The most notable concentration of these tools is found in TU N59E9, which yielded three of the four scrapers that were collected along the west edge of the site. Both wedge forms, one each from TU N35E5 and TU N45E6, were also recovered from the west side of the site.

Two flake tools were recovered from the unassigned units of TU N44E15 and TU N45E25 (**Table 33, Figure 57**). The flake tool assemblages of these units consist of one quartz and one quartzite scraper, respectively.

5. Miscellaneous Chipped Stone Tools

This lithic subassemblage consists of chipped stone tools with utilized edges, but are not manufactured from flakes. Artifacts therein include tools that were manufactured by reworking fragments of preforms (e.g., **Figures 74E, 79A, and 79J**); distinctly unique tools (e.g., **Figure 70**); as well as tools that do not conform to any standard classification due to ambiguous physical characteristics (e.g., **Figure 45:#5**). The 18Cv491 tool assemblage contains sixteen such tools. Fifteen of the tools are manufactured from quartz or quartzite cobble material (**Table 34**). Cortex is present on three quartz and three quartzite tools. The

Table 34:
18Cv491 - Summary of Lithic Materials within Miscellaneous Chipped Tool Assemblage

Material Type	Sum	%
Quartzite	*7*	*43.75%*
Quartz	*8*	*50.00%*
Rhyolite	*1*	*6.25%*
Sum	**16**	***100.00%***

single non-quartz/quartzite tool is the rhyolite slug-shaped uniface that was recovered from Block 2/Feature A TU 12 (**Figure 70**).

The miscellaneous tool assemblage contains functional forms similar to those in the flake tool assemblage. The majority of these tools are scraper variants (**Table 35**).

Table 35:
18Cv491 – Miscellaneous Chipped Stone Tool Distributions

Form Type*	Core Area			West/ Late Archaic TU	Unassigned TUs	Total
	Block 2/ Feature A	Block 1/ Feature B	Associated Sample TU			
Scraper	4	1	1	0	0	***6***
Scraper with Burin Feature	1	0	0	1	0	***2***
Scraper/Wedge	2	0	0	0	0	***2***
Scraper with Awl/Drill Feature	0	0	1	0	0	***1***
Denticulate	0	0	1	0	0	***1***
Chopper	0	0	0	1	0	***1***
Spokeshave	0	0	1	0	0	***1***
Uniface	1	0	0	0	0	***1***
Unclassifiable	1	0	0	0	0	***1***
Sum	**9**	**1**	**4**	**2**	**0**	***16***

Fourteen of the tools are associated with the core area of the site. Two tools, one large quartzite chopper-like tool (TU N24E5; **Figure 76**) and a quartz scraper with a burin feature (TU N46E6), are associated with the Late Archaic component on the west side of the site (**Table 35**).

6. Utilized Flakes

Fifty-nine percent of the chipped stone tools from 18Cv491 are utilized (unmodified) flakes (**Table 26**). This 236-tool subassemblage consists of 46 quartzite utilized flakes, 188 quartz utilized flakes, and two rhyolite flakes at 18Cv491 (**Table 26, Table 36**). Seventeen (17)

Table 36:
18Cv491 - Summary of Lithic Materials within Utilized Flake Assemblage

Material Type	Sum	%
Quartzite	*46*	*19.49%*
Quartz	*188*	*79.66%*
Rhyolite	*2*	*0.85%*
Sum	**236**	***100.00%***

quartzite flakes and fifty (50) quartz flakes possess cortex. The rhyolite utilized flakes, which are manufactured from primary lithic materials, are devoid of cortex. The utilized flakes with cortex are approximately twenty-eighty percent of this expedient tool assemblage.

The majority of these tools are utilitarian blades, scrapers, and other generalized multi-purpose implements that do not particularly conform to traditional tool classification systems. The utilized portions of the tools exhibit polishing, step fractures, pry/snap breaks (bending), transverse fractures, and tip damage. Many of the utilized flakes also exhibit multiple types of wear, several areas of use, and more than one tool feature. Artifacts within this expedient tool assemblage range from single-edge/single-use flakes that were used for only a short time before being tossed aside to flakes that were rotated and flipped repeatedly until to all edges had been exhausted. In addition to cutting and scraping implements, this assemblage of flakes used "as is" also contains various specimens with physical/wear traits that resemble those attributed to spokeshave-, awl-/punch-, and burin-type implements (**Figures 80-82**).

The disposable nature of these utilized flakes is not just evident in the broad and arbitrary ranges of sizes and shapes within the assemblage (**Figures 80-82**), but also in the wide and indiscriminant abandonment of these tools at work stations, habitation areas, and random locations across the site (**Figures 52, 56** and **57**).

Common utilized flakes are the most abundant tool forms at each of the four identified work areas/lithic scatters associated with the Late Archaic component on the west side of site (TU N24E5 = 8; TU N35E5 = 12, TU N45E6=13, and TU N59E9 = 3), as well as in the undesignated scatters at TU N44E15 (n =7) and TU N45E25 (n=4) (**Figure 82**).

Only one of the sixteen Block 2/Feature A units did not contain utilized flakes. This unit is TU 5/N34E15, which is the center unit of the house pattern feature. The highest utilized flake quantities in Block 2/Feature A were encountered TU 6 (n=16), TU 8 (n = 8), and TU 9 (n = 19), which are the units associated with the artifact concentration located in the southeastern corner of the house pattern (**Figure 52**). One of the more unique groupings of utilized flakes in Block 2/Feature A is a series that follows the north/northwestern perimeter of the house feature in TUs 1, 10, 4, 12, and 7 (**Figure 69**). These utilized flakes, as well as others, are part of several small tool concentrations located along the southern and north/northwestern arcs of the feature (**Figure 52** and **Figure 69**). Another small collection of discarded utilized flakes coincides with a small concentration of fire-cracked rock situated along the east side of the house pattern at TU 16 (**Figure 68** and **Figure 69**).

TU 4
A: quartz, TU 4, SE quad, level 3, Zone 1B (#118)
B: quartz, TU 4, SE quad, level 4, Zone 2 (#119)

TU 6 (photo 1)
A: quartz, TU 6, SE quad, level 2, Zone 1A (#130)
B - D: quartz, TU 6, level 2A, Zone 1A (#131)
E: quartz, TU 6, SE quad, level 3, Zone 1B (#133)
F: quartz, TU 6, SE quad, level 4, Zone 2 (#139)
G - I: quartz, TU 6, SW quad, level 5, Zone 3 (#143)
J: quartz, TU 6, NW quad, level 5, Zone 3 (#145)
K: quartz, TU 6, SE quad, level 5, Zone 3 (#146)
(photo 2): A - D: quartz, TU 6, SW quad, level 4, Zone 2 (#138)

TU 8
A: quartz, TU 8, NW quad, level 2, Zone 1A (#169)
B: quartz, TU 8, level 2, Base Clear, Zone 1A (#170)
C: quartz, TU 8, NW quad, level 2, Zone 1A (#166)
D: quartz, TU 8, NE quad, level 3, Zone 1B (#173)
E: quartz, TU 8, NE quad, level 3, Zone 1B (#173)
F, G: quartzite, TU 8, SW quad, level 3, Zone 1B (#174)
H: quartz, TU 8, NW-Bottom of quad, level 3, Zone 1B (#176)
I: quartz, TU 8, SE quad, level 3, Zone 1B (#172)
J: quartz, TU 8, level 3, plow scar, Zone 1B (#177)
K, L: quartz, TU 8, SE quad, level 4, Zone 2 (#181)
M: quartz, TU 8, SW quad, level 4, Zone 2 (#180)
N: quartz, TU 8, SW quad, level 5, Zone 3 (#183)
O: quartz, TU 8, SE quad, level 5, Zone 3 (#185)

TU 9
A: quartz, TU 9, level 1, Zone 1A (#189)
B: quartz, TU 9, SE quad, level 2, Zone 1A (#192)
C: quartz, TU 9, level 2A, Zone 1A (#194)
D: quartzite, TU 9, NE quad, level 3, Zone 1B (#196)
E: quartz, TU 9, NE quad, level 3, Zone 1B (#196)
F: quartzite, TU 9, NE quad, level 3, Zone 1B (#196)
G: quartz, TU 9, NE quad, level 3, Zone 1B (#196)
H, I: quartz, TU 9, SW quad, level 3, Zone 1B (#198)
J: quartzite, TU 9, SW quad, level 3, Zone 1B (#198)
K, L: quartzite, TU 9, level 3, Plowscar, Zone 1B (#199)
M, N: quartzite, TU 9, NW quad, level 3, Zone 1B (#195)
O: quartzite, TU 9, SE quad, level 4, Zone 2 (#200)
P: quartzite, TU 9, NE quad, level 4, Zone 2 (#201)
Q, R: quartz, TU 9, SW quad, level 4, Zone 2 (#202)

TU 10
A: quartz, TU 10, level 1, Zone 1A (#213)
B: quartz, TU 10, SW quad, level 4, Zone 2 (#217)
C: quartz, TU 10, NE quad, level 4, Zone 2 (#219)

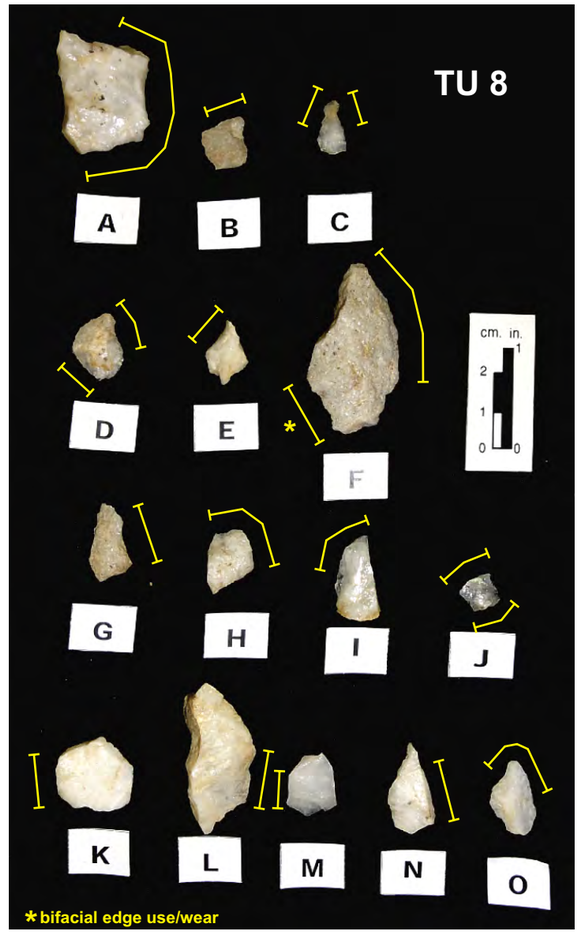
TU 11
A: quartzite, TU 11, level 1, Zone 1A (#222)
B: quartzite, TU 11, level 2, Zone 1A (#223)
C: quartzite, TU 11, level 3, Zone 1B (#224)
D - F: quartz, TU 11, level 3, Zone 1B (#224)
G: quartz, TU 11, NE quad, level 4, Zone 2 (#227)

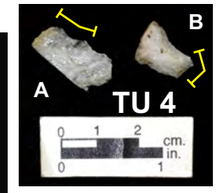
TU 13: quartzite (A, B, C, H, L); quartz (D, E, F G, J, K); level 3, Zone 1B (#252)

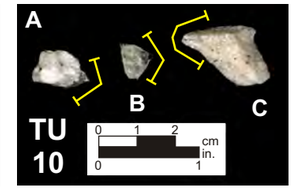
TU 14
A: quartzite, TU 14, level 4, Zone 1B (#263)
B - D: quartz, TU 14, level 4, Zone 1B (#263)
E: quartz, TU 14, SE quad, level 5, Zone 2 (#265)
F: quartz , TU 14, NE quad, level 5, Zone 2 (#267)
G: quartz, TU 14, SE quad, level 6, Zone 3 (#270)

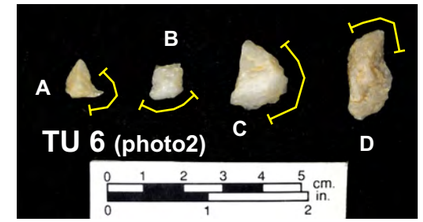
TU 15
A: quartz, TU 15, level 3, Zone 1A (#276)
B - G: quartz, TU 15, level 4, Zone 1B (#277)
H: quartzite, TU 15, level 4, Zone 1B (#277)
I: quartzite, TU 15, NW quad, level 6, Zone 3 (#282)
J: quartz, TU 15, SE quad, level 6, Zone 3 (#283)
K: quartzite, TU 15, level, S 1/2 wall slump, Zone 1A (#287)

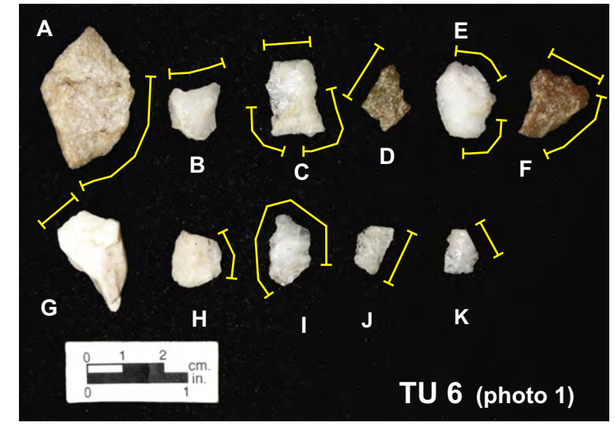
TU 16
A, B: quartz, TU 16, level 2, Zone 1A (#290)
C: quartz, TU 16, SW quad, level 4, Zone 1B (#291)
D: quartzite, TU 16, NW quad, level 5, Zone 2 (#298)
E: quartz, TU 16, NW quad, level 5, Zone 2 (#298)
F: quartz, TU 16, NW quad, level 7, Zone 4 (#301)
G: quartz, TU 16, SE quad, level 7, Zone 4 (#302)

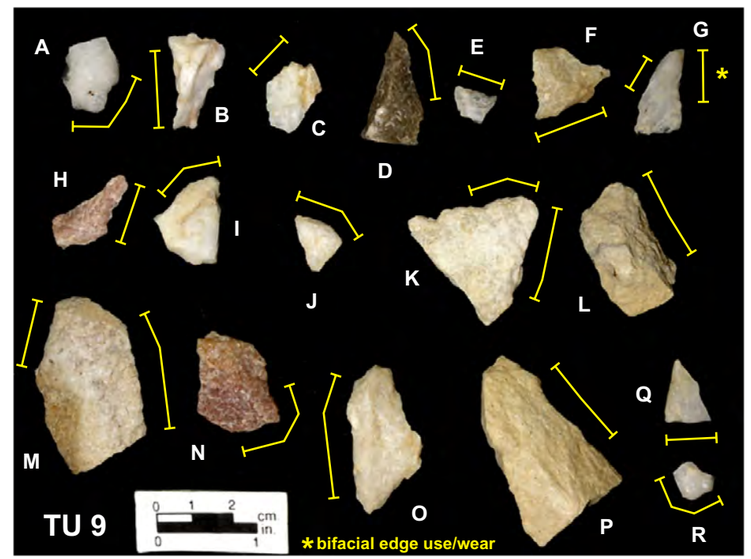


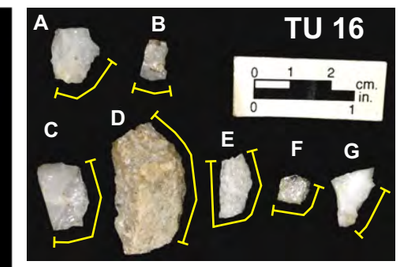


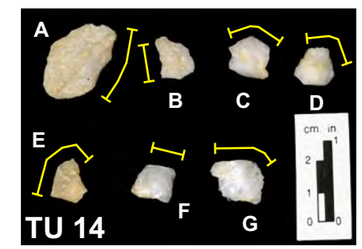


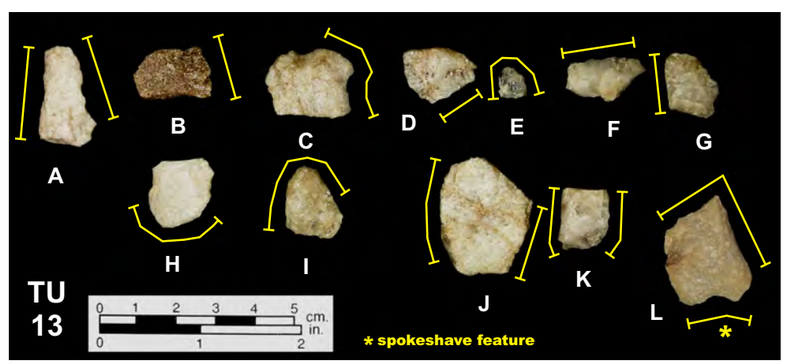


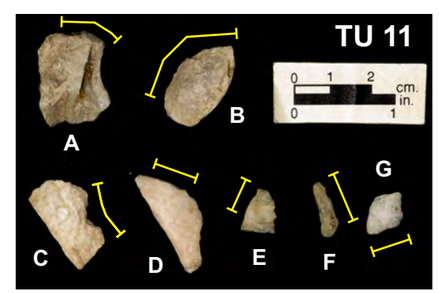


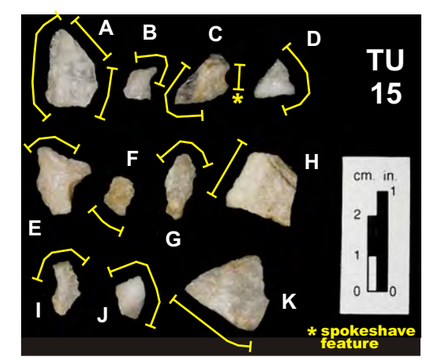








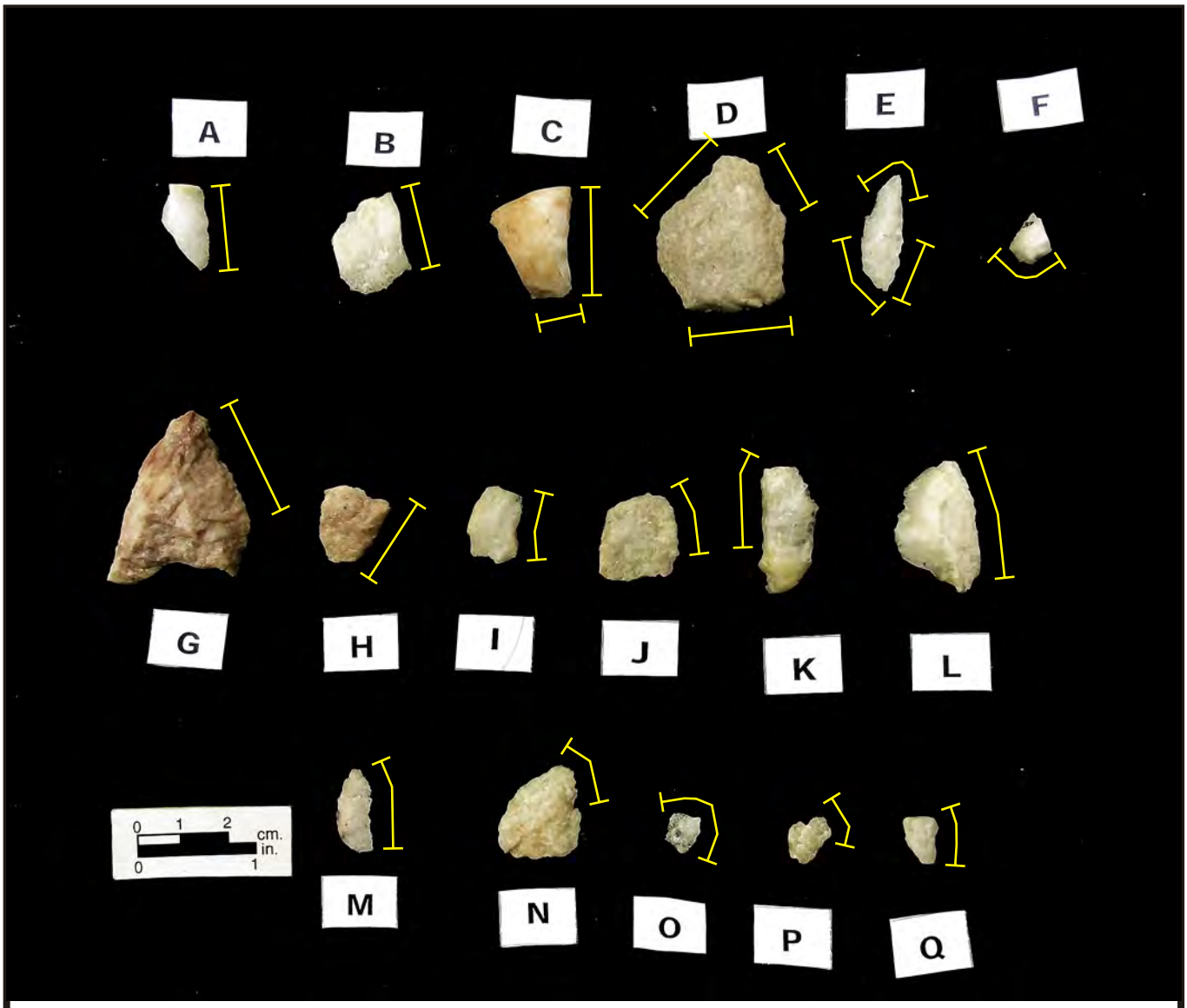




arrangement of photographs generally corresponds to configuration of excavation units of Block 1

18Cv491, Block 2
Representative Utilized Flakes

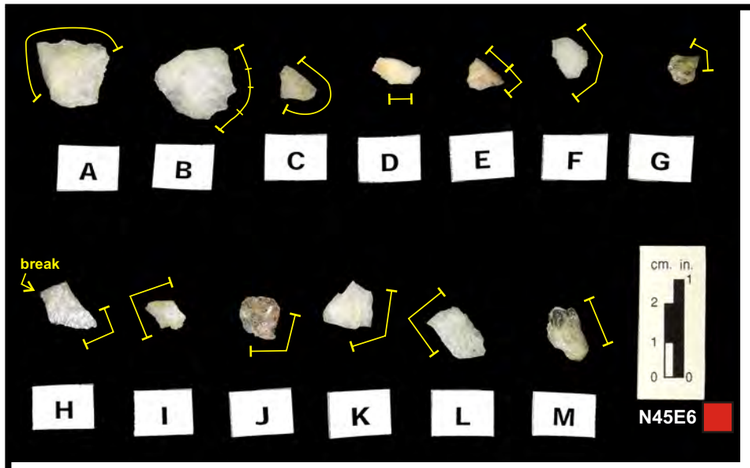
FIGURE 80



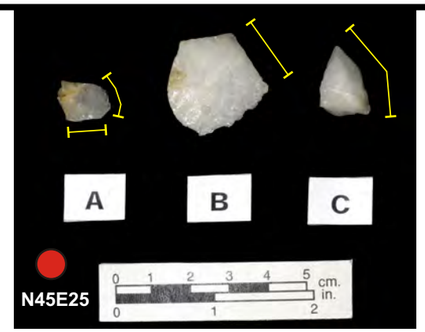
A: utilized flake, quartz, Block 1, TU N29E19, NW quad, level 4, Zone 2 (#420)
B: utilized flake, quartz, Block 1, TU N29E19, SE quad, level 5, Zone 3 (#425)
C: utilized flake, quartz, Block 1, TU N29E19, NE quad, level 3B, Zone 2 (#418)
D: utilized flake, quartzite, Block 1, TU N29E20, SE quad, level 4, Zone 2 (#32)
E: utilized flake, quartz, Block 1, TU N29E20, NW quad, level 2, Zone 1A (#22)
F: utilized flake, quartz, Block 1, TU N29E20, SW quad, level 3, Zone 1B (#028)
G: utilized flake, quartzite, Block 1, TU N30E20, SE quad, level 4, Zone 2 (#72)
H: utilized flake, quartzite, Block 1, TU N30E20, SE quad, level 4, Zone 2 (#72)
I: utilized flake, quartz, Block 1, TU N30E20, NE quad, level 4, Zone 2 (#71)
J: utilized flake, quartzite, Block 1, TU N30E20, SW quad, level 4, Zone 2 (#73)
K: utilized flake, quartz, Block 1, TU N30E20, NE quad, level 6, Zone 4 (#78)
L: utilized flake, quartz, Block 1, TU N30E20, NE quad, level 6, Zone 4 (#78)
M: utilized flake, quartz, Block 1, TU N29E19, N29E20, N30E19, N30E20, Wall Clean-up, Zone 1A (#81)
N: utilized flake, quartze, Block 1, TU N29E19, N29E20, N30E19, N30E20, level 3, Floor Scrapings , Zone 1B (#80)
O: utilized flake, quartz, Block 1, TU N29E19, N29E20, N30E19, N30E20, level 3, Floor Scrapings, Zone 1B (#80)
P: utilized flake, quartzite, Block 1, TU N29E19, N29E20, N30E19, N30E20, level 3, Floor Scrapings , Zone 1B (#80)
Q: utilized flake, quartz, Block 1, TU N29E19, N29E20, N30E19, N30E20, level 3, Floor Scrapings, Zone 1B (#80)

18Cv491, Block 1
Representative Utilized Flakes

FIGURE 81



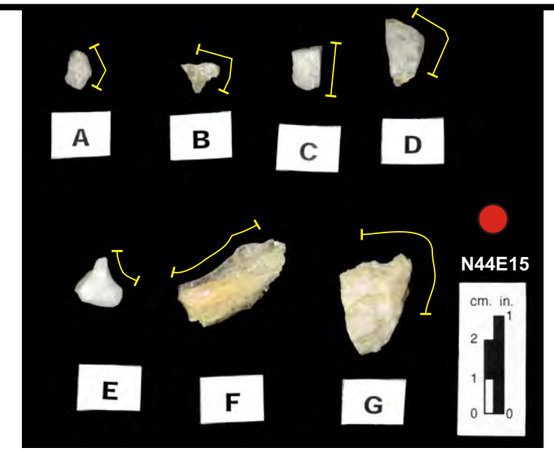
TU N45E6
A: utilized flake, quartz, TU N45E6, wall clean-up, Zone 1A (#333)
B: utilized flake, quartz, TU N45E6, level 3, Zone 1A (#319)
C: utilized flake, quartz, TU N45E6, level 3, Zone 1A (#319)
D: utilized flake, quartz, TU N45E6, SW quad, level 4, Zone 2 (#320)
E: utilized flake, quartz, TU N45E6, SW quad, level 4, Zone 2 (#320)
F: utilized flake, quartz, TU N45E6, NE quad, level 4, Zone 2 (#322)
G: utilized flake, quartz, TU N45E6, NE quad, level 4, Zone 2 (#322)
H: utilized flake, quartz, TU N45E6, SW quad, level 5, Zone 3 (#326)
I: utilized flake, quartz, TU N45E6, NW quad, level 5, Zone 2 (#325)
J: utilized flake, quartz, TU N45E6, NE quad, level 5, Zone 2 (#323)
K: utilized flake, quartz, TU N45E6, SW quad, level 6, Zone 4 (#329)
L: utilized flake, quartz, TU N45E6, SE quad, level 7, Zone 4 (#330)
M: utilized flake, quartz, TU N45E6, SW quad, level 7, Zone 4 (#331)



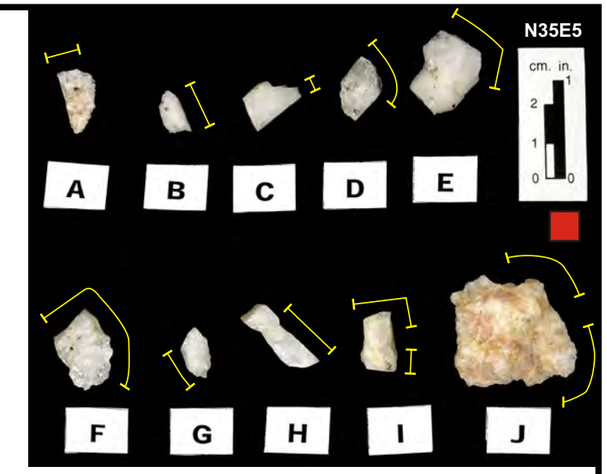
TU N45E25
A: utilized flake, quartz
TU N45E25, NW quad, level 7, Zone 1B (#353)

B: utilized flake, quartz
TU N45E25, NE quad, level 9, Zone 3 (#357)

C: utilized flake, quartz
TU N45E25, NE quad, level 10, Zone 4 (#359)

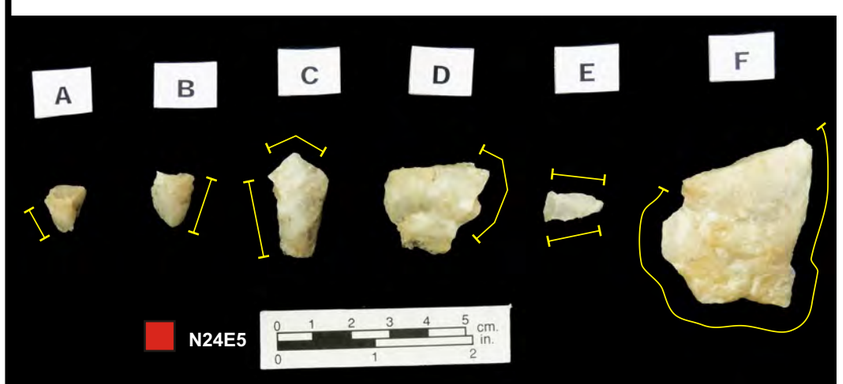


TU N44E15
A: utilized flake, quartz, TU N44E15, level 1, Zone 1A (#334)
B: utilized flake, quartz, TU N44E15, NE quad, level 2, Zone 1A (#336)
C: utilized flake, quartz, TU N44E15, NW quad, level 4, Zone 1B (#341)
D: utilized flake, quartz, TU N44E15, NW quad, level 4, Zone 1B (#341)
E: utilized flake, quartz, TU N44E15, SW quad, level 5, Zone 2 (#344)
F: utilized flake, quartz, TU N44E15, NW quad, level 5, Zone 2 (#345)
G: utilized flake, quartzite, TU N44E15, NE quad, level 5, Zone 2 (#346)

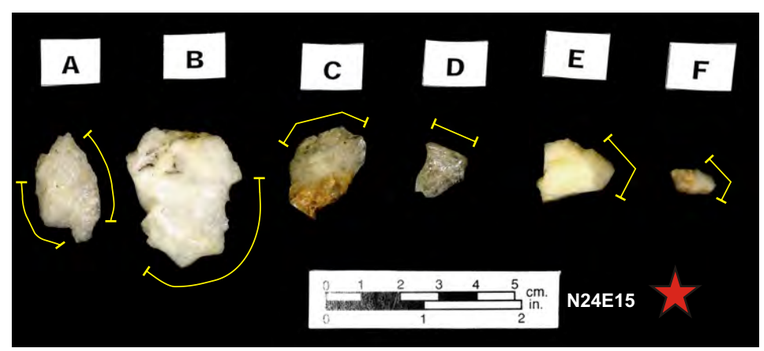


TU N35E5
A: utilized flake, quartz, TU N35E5, level 1, Zone 1A (#361)
B: utilized flake, quartz, TU N35E5, level 1, Zone 1A (#361)
C: utilized flake, quartz, TU N35E5, level 1, Zone 1A (#361)
D: utilized flake, quartz, TU N35E5, level 1, Zone 1A (#361)
E: utilized flake, quartz, TU N35E5, level 1, Zone 1A (#361)
F: utilized flake, quartz, TU N35E5, level 2, Zone 1A (#362)
G: utilized flake, quartz, TU N35E5, SW quad, level 3, Zone 1B (#363)
H: utilized flake, quartz, TU N35E5, SE quad, level 4, Zone 1B (#367)
I: utilized flake, quartzite, TU N35E5, NE quad, level 5, Zone 2 (#368)
J: utilized flake, quartzite, TU N35E5, NE quad, level 5, Zone 2 (#368)

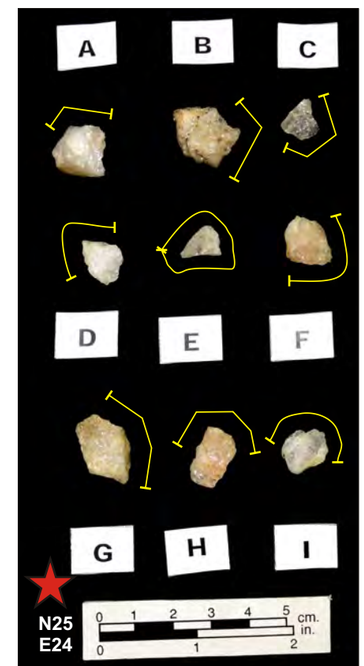
Artifact Recovery Key
Core Area Unit
Late Archaic Unit
Unassigned Lithic Scatter Unit



TU N24E5
A: utilized flake, quartz, TU N24E5, SW quad, level 2, Zone 1B (#387)
B: utilized flake, quartz, TU N24E5, SE quad, level 3, Zone 2 (#390)
C: utilized flake, quartz, TU N24E5, SW quad, level 3, Zone 2 (#388)
D: utilized flake, quartz, TU N24E5, NE quad, level 4, Zone 3 (#392)
E: utilized flake, quartz, TU N24E5, NE quad, level 7, Zone 4 (#393)
F: utilized flake, quartzite, TU N24E5, NE quad, level 7, Zone 4 (#393)



TU N24E15
A: utilized flake, quartz, TU N24E15, level 1, Zone 1A (#395)
B: utilized flake, quartz, TU N24E15, level 2, Zone 1A (#396)
C: utilized flake, quartz, TU N24E15, level 2, Zone 1A (#396)
D: utilized flake, quartz, TU N24E15, level 2, Zone 1A (#396)
E: utilized flake, quartz, TU N24E15, level 4, Zone 3 (#398)
F: utilized flake, quartz, TU N24E15, level 4, Zone 3 (#398)



TU N25E24
A: utilized flake, quartz
TU N25E24, level 1, Zone 1A (#399)

B: utilized flake, quartz
TU N25E24, level 1, Zone 1A (#399)

C: utilized flake, quartz
TU N25E24, level 1, Zone 1A (#399)

D: utilized flake, quartz
TU N25E24, SW quad, level 2, Zone 1B (#401)

E: utilized flake, quartz
TU N25E24, SW quad, level 2, Zone 1B (#401)

F: utilized flake, quartz
TU N25E24, NE quad, level 2, Zone 1B (#402)

G: utilized flake, quartzite
TU N25E24, SW quad, level 3, Zone 2 (#404)

H: utilized flake, quartz
TU N25E24, SW quad, level 3, Zone 2 (#404)

I: utilized flake, quartzite
TU N25E24, NE quad, level 3, Zone 2 (#405)

18Cv491, Sample Units
Representative Utilized Flakes

FIGURE 82

7. Worked/Tested Cobbles

The lithic subassemblage consists of eight cobbles that exhibit modification but no apparent use as tools. The cobbles, which include three quartzite and five quartz cobbles, vary in size and in material quality. The cobbles are pieces from which less than ten flakes have been removed. There is no regularity in the flake removal pattern on any of the artifacts. These artifacts may be results of quality testing efforts, or perhaps the need for one or two flakes. The more altered of these cobbles are shown in **Figure 65D** and **Figure 83 (C, D** and **I)**. All of these modified cobbles were recovered inside the Block 1/Feature B-Block 2/Feature A core area.

E. Hammerstones and Other Utilized Cobbles

The 18Cv491 assemblage contains five hammerstones. All five hammerstones are quartzite cobbles and were recovered from the core area of the site.

One hammerstone was recovered from TU N29E20 in Block 1/Feature B (**Figure 83A**). This hammerstone is bi-pitted and exhibits use wear suggesting that it may have also been utilized as a nutting stone.

The other four of the hammerstones were recovered from Block 2/Feature A in TU 1 (n = 2), TU 12 (n = 1), and TU 13 (n =1) (**Figure 51; Figure 83E-H**). One of the hammerstones from TU 1 is quarter fragment created by axis breaks (**Figure 83E**). The other TU 1 hammerstone is a full cobble. The wear on this oval-shaped hammerstone is near continuous on a path that that extends from one end to the other along one side of the cobble (**Figure 83F**). The hammerstone from TU 12 is a split cobble. Use wear on the split plane suggests that this hammerstone may have also served as an abrader (**Figure 83G**). Wear on one of the impact areas on the hammerstone from TU 13 suggests that parts of this hammerstone may have also been used as an abrader (**Figure 83H**).

One large cobble tool was recovered from 18Cv491. This tool is a circular, slightly flat quartzite cobble that exhibits use as an abrader-type implement. The tool has two primary planes of abrasion that are near perpendicular to one another (**Figure 83B**). This abrader tool was recovered from Block 1/Feature A in TU N29E20.

During laboratory analysis, physical evidence of minor use was identified on one of three cobble/cobble fragments retained as site samples. This sample is a large “D”-shaped quartzite cobble (~11 cm x ~17cm). The cobble exhibits some slightly off-center pitting and end wear. Little else can be said about this possible tool other than it may have functioned as a nutting stone. This utilized cobble was recovered from one of the test units associated with the Late Archaic component on the west side of 18Cv491, specifically TU N24E5 (**Figure 76**).

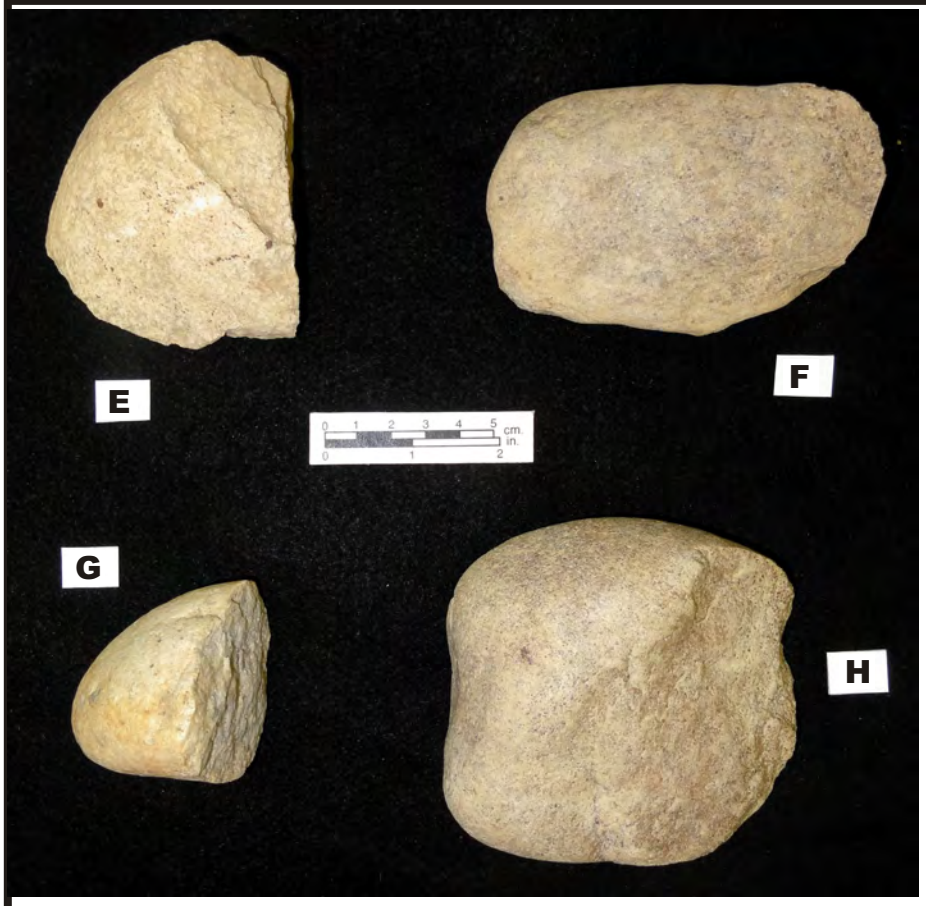
18Cv491: Block 1, Feature B

A: hammerstone (#55)
TU N30 E19, SE quad
level 5, Zone 3

B: cobble tool
quartzite (#21)
TU N29 E20
level 1, Zone 1A

C: tested/worked cobble
quartzite (#34)
TU N29 E20, NW quad
level 4, Zone 2

D: tested/worked cobble
quartz (#27)
TU N29 E20, SE quad
level 3, Zone 1B



18Cv491: Block 2, Feature A

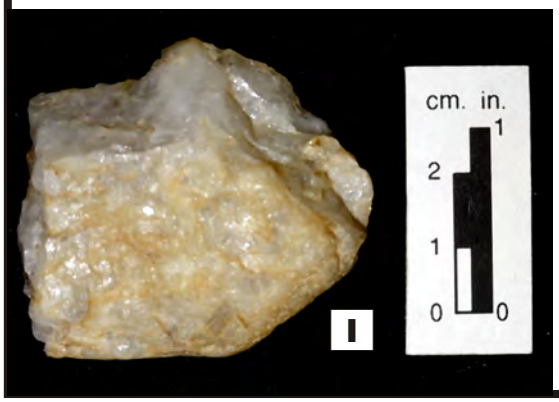
E: hammerstone (#85)
TU 1, NE quad
level 2, Zone 1B

F: hammerstone (#90)
TU 1, SW quad
level 4, Zone 2

G: hammerstone (#249)
TU 12, south wall
level 5, Zone 3

H: hammerstone (#255)
TU 13, north half
Level 4, Zone 2

I: worked cobble, quartz (#159)
TU 7, SE quad
level 4, Zone 2



18Cv491, Core Area Hammerstones and Worked/Tested Cobbles

FIGURE 83

F. Ceramic Artifacts

As noted earlier, the recovered ceramic assemblage contains one Marcey Creek sherd, three Accokeek sherds, and one Sullivan Cove Plain sherd. All five sherds are heavily-weathered and were recovered from Block 1/Feature B (**Figure 60; Table 19**).

The Marcey Creek sherd, recovered from TU N30E20, is a body sherd that is approximately six millimeters in thickness. The sherd is triangular in shape with a maximum width and maximum length of thirteen millimeters and twenty-one millimeters, respectively. The sherd is unburned (**Figure 60A; Table 19**). The interior and exterior surfaces of the sherd are smoothed. The temper consists of crushed steatite.

The three Accokeek ceramic sherds recovered from TU N30E19 are burned. The largest sherd is approximately twenty square millimeters in size and nine millimeters thick. The other two sherds are small rounded, sherds that are approximately ten millimeters in diameter (**Figure 60B; Table 19**). The temper consists of a mix of crushed quartz and sand.

The Sullivan Cove Plain sherd, recovered from TU N30E19, is a four-millimeter thick sherd that is approximately fourteen square millimeters in size. The sherd is almost an equilateral triangle with sides that are approximately twelve millimeters in length. The sherd is tempered with finely crushed shell and grit. The interior and exterior surfaces of the sherd are smoothed (**Figure 60C; Table 19**).

G. Fire-Cracked Rock

One-hundred and thirty-four (134) pieces of fire-cracked rock with a total weight of 6,096.75 grams were recovered from various locations at the site.

A total of thirty-one fire-cracked rock fragments with a collective weight of 1,629.99 grams were recovered from Block 1/Feature B. The distribution of these artifacts is shown in **Figure 56**. These artifacts do not exhibit any discrete patterning within Block 1/Feature B to suggest that they represent the remains of a hearth feature; however, the density of fire-cracked rock is slightly higher in the northeast corner of the block.

Eighty-seven fragments of fire-cracked rock with a collective weight of 3,906.90 grams were recovered from Block 2/Feature A. Heavy concentrations of fire-cracked rock in TU 5 (N= 13), TU 8 (n = 15) and TU 9 (n = 14) have been identified as the remains of a hearth feature (**Figure 42**). Collectively, these three units yielded forty-two of the eighty-seven pieces of fire-cracked rock recovered in Block 2/Feature A. The distribution of fire-cracked rock in Block 2/Feature A is shown in **Figure 51**. A small concentration of eleven pieces of fire-cracked rock in TU 16 may also represent the remains of a small heath feature.

The remaining sixteen fire-cracked rock fragments (559.86g) were recovered in random locations by the sample units excavated outside of the core area. No one unit, or collection of units, yielded more than four pieces (**Figure 57**). Based on the lack of any distinct artifact

patterning, these fragments outside of the core area have been concluded to be random finds that represent general debris.

H. Bone

Two small calcined bone fragments were recovered from TU 5 in Block 2/Feature A. Both pieces are less than one centimeter in maximum dimension and heavily deteriorated. Neither species nor anatomical position identification is feasible using standard laboratory procedures; however, based visual inspections, it is believed that one of the specimens may be an antler fragment.

I. Field Carbon

Although field carbon samples were regularly collected from the site, the samples recovered from seemingly undisturbed contexts were too small to submit for accurate radiocarbon dating.

J. Comparative Analysis of the Block 2/Feature A Postmold Features/House Pattern

A comparative analysis of the postmold features recorded in Block 2/Feature A was performed to identify any possible statistical patterning.

1. Intrasite Analysis of Postmold Features

The first step entailed comparisons of the Rank 1 (intact postmold features) and Rank 2 (probable postmold features) postmold subsets. **Table 37** and **Table 38** present tabulations of the maximum, minimum, averages, and standard deviations of diameter and depths of the postmolds at 18Cv491. The Rank 3 dataset, which was applied to highly questionable features, contains only one postmold feature. The single Rank 3 feature was excluded from individual comparative analysis but is included as a sample in the overall 18Cv491 dataset. The reader is advised to consult **Table 14** presented earlier in this document for the recorded diameters, depths, and rankings of individual postmolds. For plotted locations and graphic depictions of the postmold features, the reader is asked to refer to **Figure 42** and **Figure 49**.

Diameters of postmold features in the total 18Cv491 dataset range between four and eleven centimeters, with a mean value of 6.87 centimeters. The overall standard deviation of postmold diameters is 1.87. The range of diameters of the Rank 1 postmold features is between four and eight centimeters with a mean value of 6.46 centimeters and a standard deviation of 1.49. The Rank 2 postmold diameters range between eleven and 4.5 centimeters, have a mean diameter of 7.67 centimeters, and have a standard deviation of 2.37. If the postmold feature with the largest diameter, eleven centimeters, is omitted from the Rank 2 dataset, the standard deviation of the Rank 2 features is lowered to 2.02.

Table 37:
18Cv491 - List of 18Cv491 Block 2/Feature A Postmold Features

Post	Unit	Rank	Tilt	Dimensions (cm)		Position
				dia.	depth	
P2-1	6	1	None	8.0	6.5	perimeter
P2-2	3 & 6	1	SW-NE	7.0	8.0	perimeter
P2-3	3	1	None	8.0	5.0	perimeter
P2-4	2	1	W-E	5.0	5.0	perimeter
P2-5	1	1	W-E	8.0	5.5	perimeter
P2-6	1	2	E-W	5.0	<2.5	*perimeter**
P2-7	1	2	None	7.0	<2.5	interior
P2-8	4	2	None	4.5	<2.5	interior
P2-9	4	2	N-S	9.5	<2.5	interior
P2-10	4	1	W-E	6.5	4.5	perimeter
P2-11	4	1	W-E	4.0	7.0	*perimeter**
P2-12	8	2	W-E	11.0	compromised	perimeter
P2-13	8 & 9	3	None	7.0	disturbed	perimeter
P2-14	6	1	SE-NW	5.0	2.5	perimeter
P2-15	6	2	?	9.0	compromised	perimeter
P2-16	10	1	SE-NW	5.0	6.0	*perimeter**
P2-17	10	1	None	5.0	5.0	*perimeter**
P2-18	10	1	E-W	8.0	5.0	perimeter
P2-19	10	1	NE-SW	8.0	3.0	perimeter

**Perimeter postmold located at junction with interior post line*

Table 38:
18Cv491 - Summary of 18Cv491 Block 2/Feature A Postmold Diameters and Depths

Postmold Integrity Rank	Sample Size (n)	*Diameter (cm)*				*Depth (cm)*			
		max	min	mean	*st. dev.*	max	min	mean	*st. dev.*
Rank 1	12	8.00	4.00	6.46	*1.49*	8.00	2.50	5.25	*1.48*
Rank 2	6	11.00	4.50	7.67	*2.37*	2.50	2.50	2.50	*0.00*
Rank 3	1	7.00	7.00	7.00	*0.00*	n/a	n/a	n/a	*n/a*
18Cv491: overall	***19***	***11.00***	***4.00***	***6.87***	***1.87***	***8.00***	***2.50***	***5.25***	***1.54***

The range of diameter size and standard deviation of Rank 1 postmolds are notably tighter and less than those of the Rank 2 dataset. These findings are to be expected considering that the Rank 1 postmolds were those that were determined to possess the most uniform characteristics in the field.

Compared to the Rank 1 dataset, the diameters of the Rank 2 postmold features are less consistent. However, the variation of the Rank 2 postmold features may be related to the functional purposes of these features. Overall, the Rank 1 features generally correspond to the features that form the circumference of the house pattern feature. The most intact Rank 2 features are P2-7 through P2-9. Given that features P2-7 through P2-9 are interior posts and P2-6 is a perimeter post located at the junction of them, the variation within the Rank 2 could easily be a reflection of the range of post types or structural components that comprise a complete house feature.

Overall, the depths of the 18Cv491 postmold features vary between 8 and 2.5 centimeters below the buried plow zone horizon. The mean depth of the postmolds is 5.25 centimeters and the standard deviation is 1.54. If the posts that do not have definable shafts are omitted, the standard deviation is 1.48. Comparison of various combinations of postmold depth subsets do not reveal any apparent patterning other than that the postmolds along the northern perimeter of the pattern are better preserved than those located inside of the pattern.

2. Intersite Analysis of Postmold Features

The postmold dataset of 18Cv491 was compared to four Middle Atlantic sites. These sites are 28Mo9 (Dent 2005), 7NC-A-17 (Custer and Hodny 1989), 36La207 (Custer, Hoseth, et al. 1993), and 36Ch674 (Silber, Coleman and Doms 2003). These sites were selected for use in the comparative postmold analysis for several reasons. In addition to containing compatible house pattern features, these sites also contain ample and well-documented postmold datasets. Additionally, the projected time spans of these sites date to the beginning (7NC-A-17) and end (36La207; 28Mo9) periods of 18Cv491's occupation.

The Winslow site (18Mo9) is located near Seneca in Montgomery County, Maryland. This Early Archaic – Late Woodland multicomponent site is best known for its large Early and Late Woodland occupations. The Late Woodland occupation is a ca. A.D. 1300 Montgomery Complex palisaded village. To date, features recorded therein include two structures, a burial feature, as well as numerous refuse pits.

The oldest of the three comparison sites is 7NC-A-17 (Hockessin Valley Site), which is located in northern Delaware. The house pattern at 7NC-A-17 consists of a 7- by 5-meter area outlined by seven postmold features. The 7NC-A-17 house pattern is circular in shape and encompasses approximately twenty-five square meters. Based on a returned radio carbon date of 5205 B.P. $\pm$ 70 years from a hearth feature located in the center of the 7NC-A-17 house pattern, the house pattern has been concluded to date to the Late Archaic/Early Woodland Period (Custer and Hodny 1989).

Site 36Ch674 (Minnie Site) is a multi-component site located in southern Chester County, Pennsylvania. This site contains three 18-19 square meter oval house pattern features.

Forty-nine of the fifty-seven postmold features that were identified at 36Ch674, are associated with the three delineated house pattern features. Based on stratigraphic contextual data, the house pattern features at 36Ch674 were concluded to represent one Late Woodland Minguannan Complex occupation, a probable Early Woodland Wolfe Neck/Black Rock Complex occupation, and another Late Archaic/Early-Middle Woodland occupation of unknown cultural context (Silber, Coleman and Doms 2003).

Site 36La207 (Slackwater Site) is located in western Lancaster County, Pennsylvania. This site consists of the remains of a large Shenks Ferry/Funk Phase (Late Woodland) village site (Custer, Hoseth, et al. 1993). The village possesses a stockade/fence that encompasses approximately two acres within which lie fifty-seven houses, as well as a ceremonial structure. It has been projected that the site supported between 500 and 550 individuals and was occupied between one and two years. The projected date of 36La207 is ca. A.D. 1450 (Custer, Hoseth, et al. 1993).

Table 39 presents a summary of the comparative postmold feature data from 18Cv491, 18Mo9, 36Ch674, 36La207, and 7NC-A-17. For 18Mo9, 7NC-A-17, 36Ch674, all posts attributed to a delineated structure were included in this analysis. Since the postmold data from 36La207 includes several distinct post types associated with various structural components of a house pattern, only those identified as wall house posts (Type 2) were included in the comparative study. Although the ranges, maximum, minimum, average and standard deviations of the postmold diameters and depths at 18Cv491 are somewhat on the smaller side, the dimensions of the site's postmold features do fall well within ranges of the postmolds recorded at 28Mo9, 36Ch674, 36La207, and 7NC-A-17.

3. Intersite Analysis of House Pattern Floor Area

Table 40 presents a representative sample of house pattern features that have been recorded in Maryland, Delaware, and Pennsylvania. These sites include 18Mo9, 18An50, 7NC-G-101, 7NC-A-17, 36Ch674, and 36La207. Collectively, these sites and their structures span the time periods to which Block 2/Feature A could possibly date pursuant to the diagnostic artifacts recovered in and around it.

The configuration of the Block 2/Feature A postmolds define a house pattern with a minimum of 5.58 square meters of floor space. As is apparent in **Table 40**, this estimation is approximately half the size of structures recorded at 18Mo9, 7NC-G-101, 7NC-A-17, which range between thirteen to twenty-five square meters in areal size. The sizes of aforementioned structures are consistent with other reported structures throughout the Middle Atlantic Region including those that Dent (1995) has assembled as representative examples of house pattern features in the Chesapeake Region. In Dent (1995), the two smallest house pattern features noted are a 5.5m x 3.6m Early Woodland structure that was recorded at 44WR329 (522 Bridge Site; McClearen 1991) and a 4.9m x 3m Late Woodland structure that was recorded 44VB7 (Great Neck Site; Egghart 1986).

Although the Block 2/Feature A house pattern is smaller than regional averages, its small size does not prohibit it from representing a house structure. There are certainly taphonomic

Table 39:
Summary Table of Postmold Features by Site

	Site	Sample Size	Diameter (cm) max	min	mean	st.dev.	Depth (cm) max	min	mean	st.dev.
	18Cv491: overall	***19***	***11.00***	***4.00***	***6.87***	***1.87***	***8.00***	***2.50***	***5.25***	***1.54***
	Rank 1	12	8.00	4.00	6.46	1.49	8.00	2.50	5.25	1.48
	Rank 2	6	11.00	4.50	7.67	2.37	2.50	2.50	2.50	0.00
*	***28Mo9: both Str.***	***54***	***10.00***	***4.50***	***7.10***	***1.10***	***22.00***	***8.00***	***12.35***	***2.92***
	Str. One	21	10.00	5.50	6.88	*0.94*	22.00	8.00	14.33	*3.20*
	Str. Two	33	9.00	4.50	7.24	*1.17*	15.00	8.00	11.09	*1.83*
**	***36Ch674: overall***	***49***	***15.00***	***5.00***	***8.47***	***2.17***	***27.50***	***3.00***	***8.37***	***4.01***
	Str. A	17	15.00	6.50	9.12	*1.89*	15.50	5.00	9.21	*3.00*
	Str. B	19	15.00	5.00	8.61	*2.56*	14.50	3.80	7.21	*2.80*
	Str. C	13	10.00	5.00	7.42	*1.55*	27.50	3.00	8.96	*6.09*
***	***36La206: overall***	***340***	***90.00***	***2.00***	***10.80***	***8.98***	***68.00***	***1.00***	***12.71***	***11.42***
	Str. A	54	18.00	2.00	6.63	*2.88*	20.00	1.00	7.08	*3.76*
	Str. C	7	6.00	2.50	4.93	*1.54*	4.00	2.00	2.64	*0.94*
	Str. D	4	10.00	6.00	7.25	*1.89*	8.00	2.00	5.00	*2.58*
	Str. E	6	32.00	6.00	15.08	*9.58*	22.00	4.00	11.33	*6.31*
	Str. F	143	40.00	2.00	9.35	*5.38*	68.00	1.50	14.72	*12.32*
	Str. G	1	12.00	12.00	12.00		10.00	10.00	10.00	
	Str. H	3	45.00	20.00	31.00	*12.77*	57.00	3.50	29.50	*26.78*
	Str. O	57	35.00	5.00	11.23	*4.58*	25.00	4.00	10.84	*5.34*
	Str. P	2	40.00	28.00	34.00	*5.95*	55.00	30.00	42.50	*17.68*
	Str. Q	2	10.00	7.00	8.50	*2.12*	5.00	4.00	4.50	*0.71*
	Str. R	4	23.00	8.00	13.50	*6.66*	13.00	4.00	8.00	*3.74*
	Str. T	2	16.00	15.00	15.50	*0.71*	17.00	8.00	12.50	*6.36*
	Str. Z	1	25.00	25.00	25.00	*6.36*	10.00	10.00	10.00	
	Str. AA	1	40.00	40.00	40.00		62.00	62.00	62.00	
	Str. BB	2	30.00	12.00	21.00	*12.73*	18.00	10.00	14.00	*5.66*
	Str. EE	28	35.00	3.00	8.21	*6.26*	20.00	3.00	9.64	*4.89*
	Str. GG	3	5.00	4.00	4.67	*0.58*	11.00	5.00	7.33	*3.21*
	Str. HH	4	90.00	30.00	53.00	*25.85*	61.00	20.00	39.75	*17.46*
	Str. MM	4	28.00	5.00	10.75	*11.50*	12.00	4.00	7.50	*3.42*
	Str. NN	2	15.00	12.00	13.50	*2.12*	6.00	6.00	6.00	*0.00*
	Str. PP	1	27.00	27.00	27.00		20.00	20.00	20.00	
	Str. TT	2	23.00	22.00	22.50	*0.71*	54.00	7.50	30.75	*32.88*
	Str. VV	1	15.00	15.00	15.00		26.00	26.00	26.00	
	Str. YY	2	50.00	8.00	29.00	*29.70*	54.00	7.00	30.50	*33.23*
	Str. ZZ	1	40.00	40.00	40.00		22.00	22.00	22.00	
	Str. AD	1	35.00	35.00	35.00		24.00	24.00	24.00	
	Str. AG	2	35.00	20.00	27.50	*10.61*	33.00	20.00	26.50	*9.19*
****	***7NC-A-17: overall***	***7***	***28.00***	***7.50***	***17.14***	***7.78***	***19.00***	***3.00***	***10.36***	***6.30***

* ***Dent (2005:13-14)*** - calculations based on *Table 3: Postmold data from the Winslow site, 2002-2003*
** ***Silber,Coleman, and Doms (2003)***
*** ***Custer and Hodny (1989)***
**** ***Custer, Hoseth, Cheshaek, Guttman, and Iplenski (1993)*** *- only Type 2 wall posts included in table*

Table 40:
18Cv491 – Comparison of House Pattern Feature Sizes

	Site	Physiographic Province	Dimensions (L x W)	Area sq. m	Orientation (long axis)	Temporal Context
MD	18Cv491 (Dunkirk P&R 1) Block 2/Feature A	Coastal Plain	3.78m x 1.99m (extant postmolds) 4.6m x 2.6m (projected)	5.58 (extant postmolds) 10.5 (projected)	east-west	Early Woodland/ Late Woodland
	18An50 (Pig Point) Various	Coastal Plain	4.90m x 3.70m (average)	~13-14 (average)	east-west	Middle Woodland/Late Woodland (A.D. 230 – A.D. 1530) (Luckenbach 2009; Sperling et al. 2010)
	18MO9 (Winslow) Structure One Structure Two	Piedmont	4.30m x 3.90m (One) 5.20m x 4.35m (Two)	13.17 (One) 17.8 (Two)	east-west east-west	Late Woodland -*Montgomery Complex* Dent (2005)
DE	7NC-G-101 (Snapp) Feature 153	Coastal Plain	7.60m x 7.2m	~19.4	east-west	Early Woodland - *Clyde Farm Complex* (ca. 1200 B.C. – 700 B.C.) (Custer and Silber 1994)
	7NC-A-17 (Hockessin Valley)	Piedmont	7.00m x 5.00m	25	NW - SE	Late Archaic – Early Woodland (Custer and Hodny 1989)
PA	36Ch674 (Minnie) Structure A Structure B Structure C	Piedmont	6.00m x 4.00m (A) 6.50m x 3.50m (B) unknown (C=partial)	19.2 (A) 18.2 (B) ??	NE - SW east-west unknown	Late Woodland Early Woodland - *Wolfe Neck/Black Rock Complex* Late Archaic-Middle Woodland (Silber, Coleman, and Doms 2003)
	36La207 (Slackwater)	Piedmont	Various	20 -50 (sm. circ.) <50 (sm. oval)	various	Late Woodland - *Shenks Ferry/Funk Phase* (Custer, Hoseth et al. 1993)

*area estimates based on published sources.

and functional factors that can be used to justify the small size of the Block 2/Feature A house pattern.

Compared to the neighboring Piedmont province, discoveries of prehistoric postmold features have been substantially less in the Coastal Plain. The lack of these features in existing site databases is not an indicator of an absence of these features in the Coastal Plain, but rather, a by-product of physical conditions that are not conducive for their preservation. It has been recognized by many that these features, which were small and relatively shallow to begin with, are highly susceptible to loss due to plowing, erosion, leaching, as well as other forms of human/natural disturbances (Custer and Silber 1993). Researchers of the Pig Point Site (18An50) have also noted that even under optimal site conditions, the task of differentiating patterns amongst postmold features is often difficult at multicomponent sites since the structures were not built to last indefinitely (Sperling 2010 et al.). Repair, structure reconfiguration, and pilfering of posts for use in other structures are some of the human interventions that can result in the disturbance and alteration of postmold features and patterns beyond recognition.

Given the recurrent use of 18Cv491 and extent of both historic (i.e. plow gouging) and prehistoric disturbances in the southeastern quadrant of Block 2/Feature 2, it is obvious that the southern circumference of the 18Cv491 house feature have since been lost. The shallow shafts and poor preservation of the Rank 2 posts and ambiguity of the southern arc of the pattern are testaments to this supposition. Under this scenario, if it is assumed that the large concentration of fire-cracked rock and lithic debris in TU 8 and TU 9 actually represent the scattered remains of a central interior hearth feature, the house pattern can be re-projected in alignment with the hearth, the northwesterly-southeasterly trend of the prehistoric artifact assemblage (**Figures 40, 51, and 52**), the northwesterly-southeasterly direction of the intrusive plow scars (**Figure 42**), and notably the interesting trend of the quartz tool/utilized flake clusters described in ***Section VII.C.2*** and ***Section VII.D.6*** (**Figures 68 and 69**). The resulting re-projected house pattern subsequently yields and encompasses an oval area that is approximately 10.5 square meters, which though still small, is much more consistent with regional findings (**Figure 84**). The re-projection of the 18Cv491 house circumference also places an interior partition in the west side of the structure. For illustration purposes, **Figure 85** provides a digital overlay of the re-projected Block 2/Feature A house pattern and plotted distributions of quartz tools in and around the core area[12]. The quartz tool assemblage has been selected for this demonstration because 1) this assemblage contains the most tools; 2) distributions of these artifacts are consistent with the distribution of the overall artifact assemblage; and 3) this assemblage best reflects the aforementioned "tool clusters" that line the northern perimeter of the house. No doubt, there are several possible iterations of the house pattern, and it is important to recognize that it is also equally possible that the pattern expressed by the extant postmold features simply represents a small house. That said, it is believed that proposed configuration depicted in **Figure 84** and **Figure 85** takes into consideration the best fit of the archeological data that was recovered from the site.

[12] **Figure 85** is a variation of the previously presented **Figure 69**.

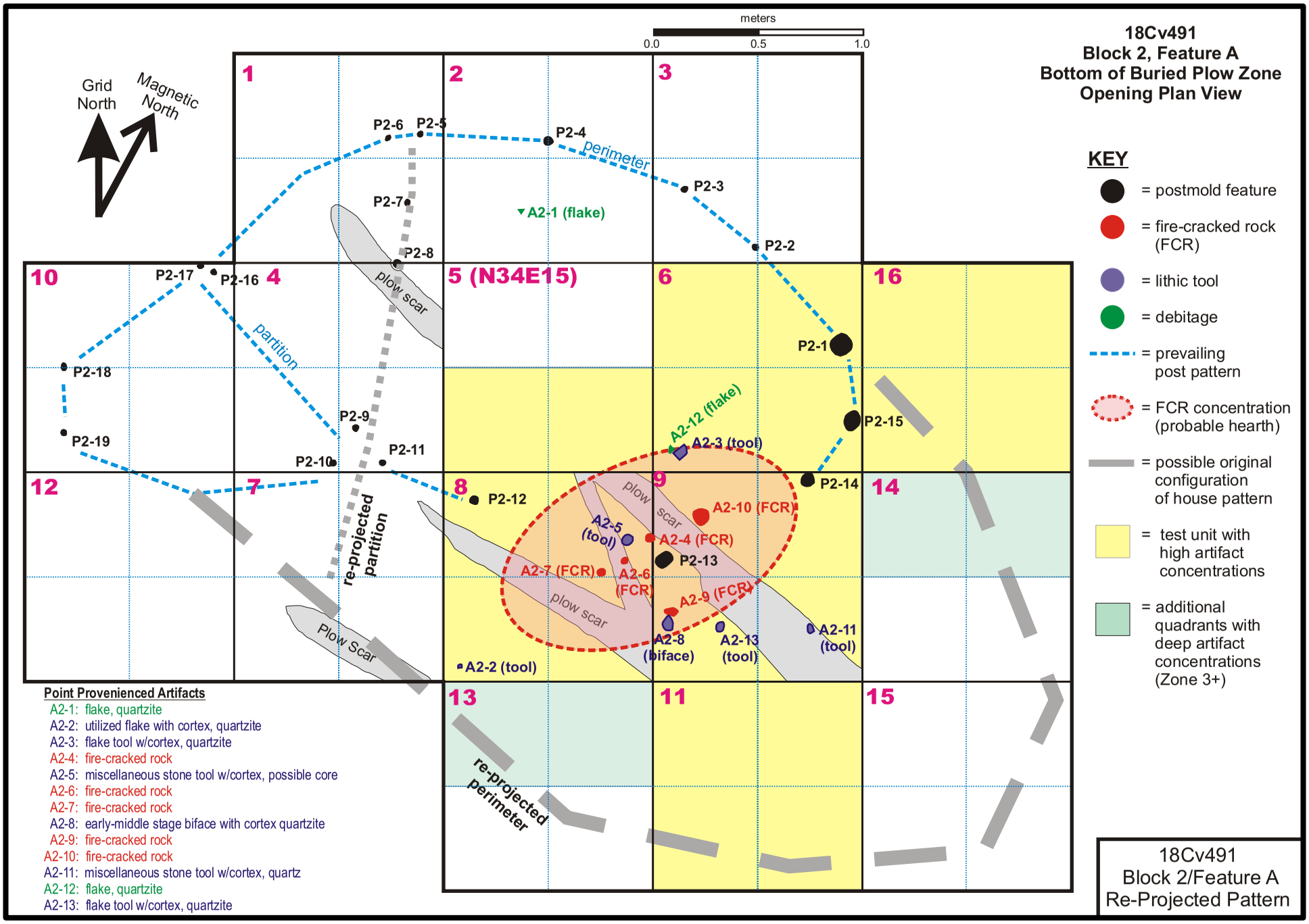

18Cv491
Block 2, Feature A
Bottom of Buried Plow Zone
Opening Plan View
meters
0.0
0.5
1.0
Grid North
Magnetic North
1
2
3
4
5 (N34E15)
6
7
8
9
10
11
12
13
14
15
16
P2-1
P2-2
P2-3
P2-4
P2-5
P2-6
P2-7
P2-8
P2-9
P2-10
P2-11
P2-12
P2-13
P2-14
P2-15
P2-16
P2-17
P2-18
P2-19
perimeter
partition
plow scar
re-projected partition
Plow Scar
re-projected perimeter
A2-1 (flake)
A2-2 (tool)
A2-3 (tool)
A2-4 (FCR)
A2-5 (tool)
A2-6 (FCR)
A2-7 (FCR)
A2-8 (biface)
A2-9 (FCR)
A2-10 (FCR)
A2-11 (tool)
A2-12 (flake)
A2-13 (tool)
KEY
= postmold feature
= fire-cracked rock (FCR)
= lithic tool
= debitage
= prevailing post pattern
= FCR concentration (probable hearth)
= possible original configuration of house pattern
= test unit with high artifact concentrations
= additional quadrants with deep artifact concentrations (Zone 3+)
Point Provenienced Artifacts
A2-1: flake, quartzite
A2-2: utilized flake with cortex, quartzite
A2-3: flake tool w/cortex, quartzite
A2-4: fire-cracked rock
A2-5: miscellaneous stone tool w/cortex, possible core
A2-6: fire-cracked rock
A2-7: fire-cracked rock
A2-8: early-middle stage biface with cortex quartzite
A2-9: fire-cracked rock
A2-10: fire-cracked rock
A2-11: miscellaneous stone tool w/cortex, quartz
A2-12: flake, quartzite
A2-13: flake tool w/cortex, quartzite
18Cv491
Block 2/Feature A
Re-Projected Pattern

FIGURE 84

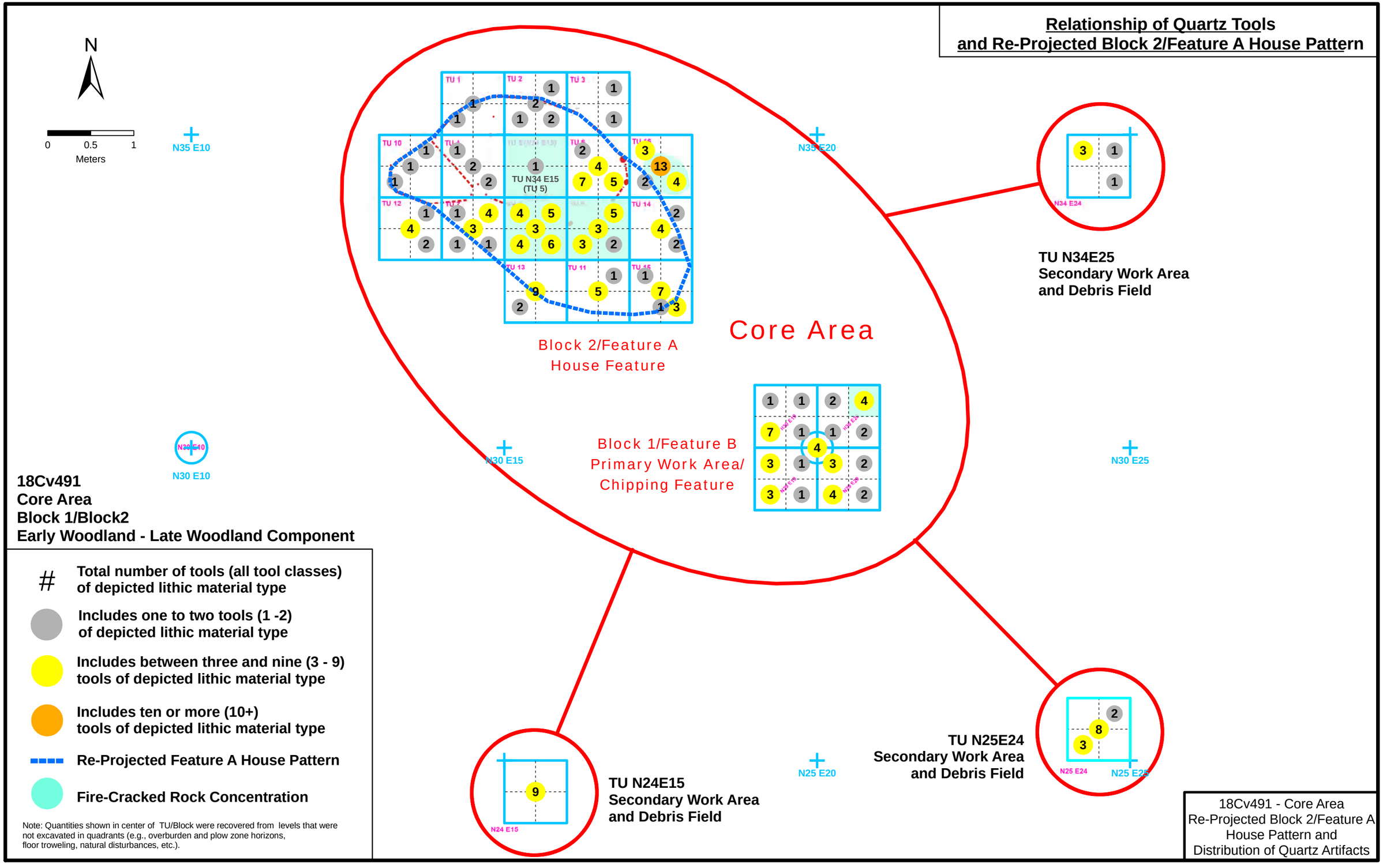

Relationship of Quartz Tools
and Re-Projected Block 2/Feature A House Pattern
N
0
0.5
1
Meters
N35 E10
N35 E20
N30 E10
N30 E15
N30 E25
N25 E20
N25 E24
N25 E25
N24 E15
TU 1
TU 2
TU 3
TU 10
TU 4
TU 6
TU 16
TU 12
TU 7
TU 14
TU 13
TU 11
TU 15
TU N34 E15
(TU 5)
Block 2/Feature A
House Feature
Core Area
Block 1/Feature B
Primary Work Area/
Chipping Feature
TU N34E25
Secondary Work Area
and Debris Field
TU N24E15
Secondary Work Area
and Debris Field
TU N25E24
Secondary Work Area
and Debris Field
18Cv491
Core Area
Block 1/Block2
Early Woodland - Late Woodland Component
Total number of tools (all tool classes) of depicted lithic material type
Includes one to two tools (1 -2) of depicted lithic material type
Includes between three and nine (3 - 9) tools of depicted lithic material type
Includes ten or more (10+) tools of depicted lithic material type
Re-Projected Feature A House Pattern
Fire-Cracked Rock Concentration
Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).
18Cv491 - Core Area
Re-Projected Block 2/Feature A
House Pattern and
Distribution of Quartz Artifacts

FIGURE 85

VIII. SUMMARY DISCUSSION OF 18CV491

This section discusses some of the implications of the interpretations of the archeological data recovered from 18Cv491. This section summarizes the data from the site as it relates to site chronology, spatial patterning, lithic resource use, and regional settlement patterns. Additional discussions are included in the last section of this report that addresses sites 18Cv491 and 18Cv492 collectively.

A. Site Summary and Temporal Occupations

The variety of points and ceramic wares with date ranges spanning the period between 5000 B.C. and A.D. 1700 recovered from the site are testaments to its intermittent and repeated reoccupation. The more definitive types and styles indicate that use of the site probably began during the Late Archaic period sometime after ca. 2000 B.C.

Prior to the beginning of the Early Woodland period, the occupations were rather ephemeral. The best and least disturbed representation of the Late Archaic component consists of a series of small resource procurement/processing workstations that are located along the west edge of the site. These workstations are represented in the archeological record as small lithic scatters. The cultural material left behind at these stations is limited, consists mainly of a few exhausted tools. With the exception of two heavily-worn and broken Susquehanna broadspears (ca. 1700 B.C. – 1500 B.C), most of the tools are general scraper and cutting implements that were manufactured expediently from readily-available cobbles. The low quantities of debitage and fire-cracked rock, artifacts that are ubiquitous forms of general living debris, at these stations indicates that the lengths of stay during this early period of site habitation were short and probably centered around a specific task. The low quantities of debitage also indicate that lithic reduction activities at these workstations was limited to efforts necessary for the creation of expedient cobble-derived tools, and possibly resharpening of tools, for immediate use. The small lithic scatters encountered along the west side of the site are the tools that were abandoned after the task at hand was complete. Of the four small workstations encountered, the one with the heaviest use is located in the southwest corner of the site. The slightly higher complexity of this southwestern station is quite understandable since this station is the one that is located closest to the edge of the stream. The small lithic scatters encountered along the west side of the site are far from unique and no doubt, probably many more of them are scattered across the site. It is also quite probable that the artifact assemblage from the core area of the site also includes some artifacts associated with these short forays that, over time, were eventually mixed into broader assemblage by later occupations.

The archeological data indicates that around the Late Archaic/Early Woodland transitional period, pre-contact groups began to use the site for more general purposes and for longer periods of stay. The distribution of artifacts across the site indicates that for the most part,

these later occupations tended to establish themselves in the same general location, specifically a nearly level piece of terrain located in the center of the terrace on which the site is situated. Temporal correlations between projectile point styles and ceramic artifacts indicate that there were at least three occupations, two Early Woodland occupations and one Late Woodland occupation. Although the Early Woodland and Late Woodland residents never developed the site beyond a small seasonal encampment, it does appear that their lengths of stay were long enough to warrant house construction. The archeological investigations were able to identify at least one house, which was represented in the archeological record as a circular series of regularly-spaced stains, or postmold features, formed by the decayed support posts of the structure.

While many of the postmold features in the series were found to be disturbed, or since destroyed, others were found to be well- preserved. The excellent preservation condition of these postmolds can be attributed to the early and rapid burial of the site beneath slopewash derived from the higher slope to the north/northeast of the site. The portion of the house postmold pattern that was discovered to be the least intact is the series of posts that would have corresponded to the southeast corner of the structure. This disturbed area was also found to coincide with the portion of the site that was used, and reused, most during the pre-contact era, and because of this, the lack of intact postmolds in this area was a finding that was not at all surprising. In addition to prehistoric disturbances, the southeast corner of the house area had also been subjected to further subsurface impacts during the historic period due to deep plowing. It can be imagined that the plow scars that riddled the disturbed portions of the house pattern are results of the plower's exerted force against the remains of the prehistoric debris buried below.

The temporal overlaps, stratigraphic coincidences, and spatial proximities of Marcey Creek ceramic, Accokeek ceramic, a fishtail point, as well as several Piscatway and stemmed projectile points that were recovered in and around the house imply that initial construction and occupation of the house discovered by Phase III archeological investigations probably dates to sometime between ca. 1200 B.C. and 300 B.C. of the Early Woodland Period; however, it is possible that focused habitation of the general house area could have started earlier during the Late Archaic/Early Woodland transitional period.

A subsequent Late Woodland occupation was also established on top of the house pattern feature. This occupation is represented by two triangle points and a small sherd of ca. A.D. 1250 – A.D. 1600 Sullivan Cove pottery. Since these artifacts were recovered from a mixed context, the later site occupants' relationship to the house feature is not exactly known.

B. Discussion of the House Feature and Activity Area

Site analysis indicates that the constructed house was relatively small. It is estimated that the house was approximately 10.5 square meters, which is approximately one-half to three-quarters of the average size of smaller houses in the region. The small size of the house and overall low density of the site indicates that the house would have been the home of an individual nuclear family, or the base camp for a few individuals on a seasonal

hunting/resource procurement foray. At any given time in the past, there was probably only one household living at the site. The occupations were probably less than a year long and lasted for one or two seasons.

Concentrations of thermally-altered rock indicate that the house had a central interior hearth and was probably accessed from the south side. The inside of the house is also partitioned by a linear line of north-south interior posts that ran across the west side of the house. A deeper deposit of artifacts found along the east side of the house suggests that the house may have also included a small storage pit.

Examinations of the truncated postmolds of the former support posts of the house and the distribution of artifacts around them, imply that the house was probably re-organized, reconfigured, and or rebuilt roughly in kind at least once or twice.

Although debitage and exhausted tools recovered from the hearth feature and other areas within the postmold pattern circumference indicate that lithic reduction and resource processing activities did occur inside the house, the main work area was located to approximately two meters to the southeast of the structure. This work area is represented in the archeological record as a dense concentration of lithic artifacts within an approximate four meter square area, most of which consists of debitage. The broad range of debitage and exhausted tool types indicate that a diversity of activities associated with daily subsistence were performed regularly at this location. Small work areas were also located to the south and east of the main house and workshop. These smaller stations are similar to those associated with the Late Archaic component on the west side of the site, and were probably used once or twice for a particular task.

C. Discussion of Lithic Technologies

The lithic artifacts indicate that all of the site's occupants practiced a combination of biface and core reduction technologies. This is evidenced in the lithic assemblage, which though small, does contain a variety of early-mid and late stage bifaces, biface fragments, cores/core fragments, worked/tested cobbles, and projectile points. Although the lithic assemblage does contain some carefully curated tools, such as a well-formed, early-mid stage quartzite biface that is apparently a lost or forgotten item as well as a small number of artifacts made from non-local rhyolite, these types of artifacts are minor. Most of the lithic assemblage is composed of artifacts that are results of expedient cobble reduction performed for the purpose of manufacturing tools for immediate and/or general use. It is also quite apparent that most of the debitage was not the result of standard projectile point manufacturing or biface curation, but instead materials discarded during the creation and selection of flakes for use as tools.

Proportionally, the exhausted tool kit of 18Cv491 contains an overwhelming number of utilized flakes, which were found ubiquitously in association with all of the temporal occupations and across the site. These expedient tools outnumber the more prepared chipped stone implements by approximately 1.44 to one. General scraper-type and cutting

implements are the most common forms of tools amongst the utilized flakes, flake tools, and even the more diligently prepared miscellaneous tools. The tool kits also include several "multi-purpose" tools, or in other words, tools with more than one functional use.

D. Role of the Site in Regional Settlement Patterns

Throughout Maryland's Western Shore, small sites such as 18Cv491 have been noted with considerable frequency. Such sites, which can range from small lithic scatters to small base camp locales, can be found in a variety of small upland settings.

The excavation of 18Cv491 performed for this project has provided a new opportunity to examine the role of these small habitation locales in regional settlement patterns. The project has been able to acquire sufficient information to surmise the functional usage, and shifts in use, of 18Cv491 through time. Results of site excavations have revealed that 18Cv491 was subjected to several episodes of use that began during the Late Archaic Period and continued well into the Late Woodland Period.

The excavation results suggest that gradually, through episodes of occupation, the use of the site shifted from a procurement/processing locale to a base camp. The diversity of Late Archaic – Late Woodland Period point types within a, albeit small, projectile point assemblage reflects a continuity in the reuse of 18Cv491 during this time span. Although the ceramic assemblage contains only five sherds, the three wares represented therein also illustrate the temporal continuity of the site.

Site 18Cv491 is best classified as a site that functioned as a small seasonal habitation locale or camp that served as a temporary "hub" for longer hunting/gathering forays. Although by no means extensive, these sites often contain the same range of features and artifacts associated with everyday subsistence as those of larger more "village"-type sites. Site 18Cv491 has been found to contain a "household cluster," which is a combination of features consisting of a house and associated storage/processing features. The site fits regional models in that its main area of use is small, less than 0.5 hectares, and situated in an environmental setting of limited carrying capacity. The discovered household cluster at 18Cv491 joins a growing number of such features that have been discovered in upland settings. Like the house patterns at other sites (e.g. 36Ch674; 7NC-A-17), the house pattern at 18Cv491 is small, faint, and could have been easily overlooked. The recovery of the household cluster at 18Cv491 has provided information that can be used to examine the spatial layout of small, seasonal encampments in Calvert County. These smaller sites are an integral component that allows researchers to track the movement of groups between larger, more "village"-type sites (e.g.,18An50), which tend to be located on major waterways, to interior areas for the procurement/processing of plant and animal resources.

While ceramic yields of this site were low, it is believed that the low ceramic recovery is more due to the poor preservation of these friable artifacts rather than non-use. Site 18Cv491 occupies an area that is comparatively less well-drained than other portions of the environmental setting at large. As discussed earlier in this document, the water table is

highly susceptible to rapid rise during both cold and warm wet seasons and during this time, percolation is slow. In addition to providing a logical explanation for the low ceramic density at 18Cv491, it also has implications that can be used to deduce the site's seasonal usage. Although many studies have shown that use of interior upland settings in Calvert County could quite easily have transpired throughout the year due its abundance of resource-rich mesophytic and hardwood forests (Gilsen 1979; Steponaitis 1983), the predictability of the water table at 18Cv491 is something that warrants consideration. With this in mind, the optimal seasons for use and habitation of 18Cv491 would likely span the late spring through early winter months. The earlier (i.e. pre-Woodland), more transient use of 18Cv491 would have been less restricted by seasonal water retention and could have easily occurred year-round.

IX. EXCAVATION RESULTS OF 18CV492

The following discussion presents the basic excavation results and raw site data of the Phase III Data Recovery Investigations of 18Cv492. The interpretation of the site and its data are in subsequent sections of this document. The results of the artifacts analysis are detailed in **Section X.**

Site 18Cv492 is located on a slightly-sloped bench situated at the interior edge of a stream terrace. The center of the unnamed tributary to Halls Creek is located about thirty-one (31) meters south/southeast of the site. The landward side of the terrace lies at the toe of slope of a severely-eroded hill. A smaller deflated hill is also situated in the southwest quadrant of the site. The site encompasses approximately 460 square meters. The terrain of the site is wooded and is characterized by a mix of deciduous trees and scrub/shrub vegetation. The fine sandy loam of the site is very well-drained because of its very friable consistency; however, the terrain is very susceptible to water run-off from the hill to the north of the site (**Figure 86** and **Figure 87**).

A. Delineation of Core Area and Overview of Site Excavations

In 2008, it was recognized that the most intensive area of site use was located in the northeastern portion of the resource. At the onset of investigations in 2012, researchers discovered that the site had incurred severe surface damage due to a combination of sequential (pre-Hurricane Sandy) storm years and logging activities (**Figure 88** and **Figure 89**). The Phase II archeological grid monuments had also been destroyed by the aforementioned impacts. Visible surface evidence of the 2008 testing efforts had also been eradicated. The grid was subsequently re-established, but adjustments to the original Phase I/II testing grid were necessary in order to overcome the physical obstacles imposed by fallen trees and to relocate former test pits. Pursuant to the 2008 research design, the approximate 20-meter by 20-meter (400 sq. m) region between transects N14 and S5 was defined as the preliminary core area of the site and identified as the key target area for the Phase III investigations (**Figure 90**).

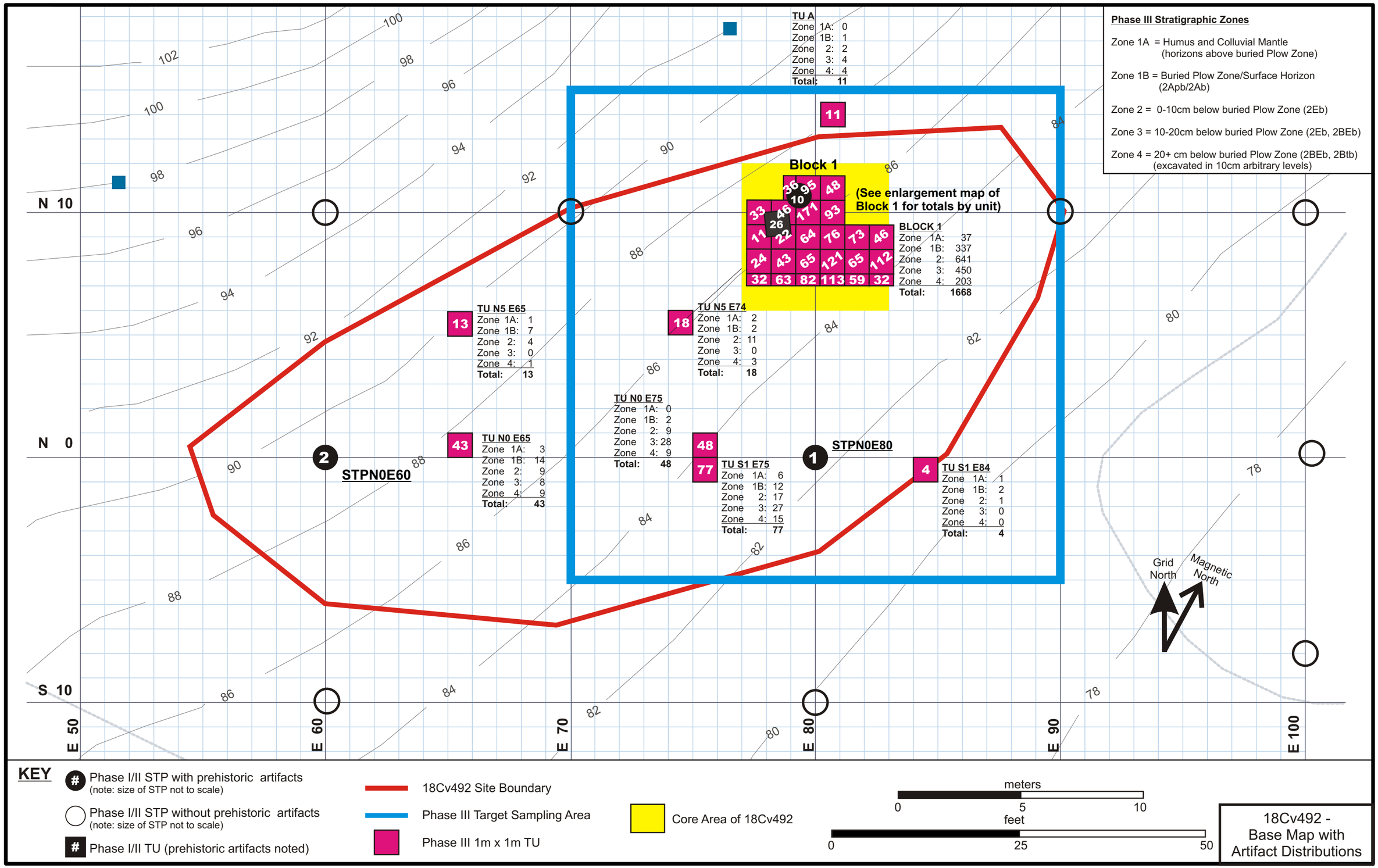
The equivalent of a total of 28.5 1m x 1m test units (TU) was excavated by the Phase III excavations at 18Cv492. The locations of all test excavations are presented in **Figure 90**. These excavations yielded a total of 1,846 prehistoric artifacts, which constitute approximately 97.93% of the combined Phase I, II, and III 18Cv492 assemblage (n = 1885) (**Table 3 and Table 41**). From this point forth, all artifact discussions will pertain to the combined Phase I/II/III prehistoric artifact assemblage.

FIGURE 86: View of south wall of 18Cv492/Block 1 showing storm damage cause by run off from hill to the north of the site. Photograph take on November 1, 2012, two days after Hurricane Sandy (October 29-30, 2012). Photograph taken facing southeast.

FIGURE 87: View of 18Cv492/TU N5E65 showing storm damage caused by run off from the hill to the north of the site. Photograph take on November 1, 2012, two days after Hurricane Sandy (October 29-30, 2012). Photograph taken facing north.

FIGURE 88: View of 18Cv492 at onset of excavations. Block 1 is located at fallen tree on the right side of the photograph. Photograph taken facing northeast (September 2012).

FIGURE 89: View of 18Cv492 – Block 1 at onset of excavations showing logging ruts, fallen trees, and heavy vegetation. Photograph taken facing northeast (September 2012).



18Cv492 - Base Map with Artifact Distributions

FIGURE 90

Table 41:
18Cv492 - Summary Artifact Catalog

	Block 1 Core Area			Sample Units Non-Block Areas			
ARTIFACTS	**Phase I/II**	**Phase III**	***subtotal***	**Phase I/II**	**Phase III**	***subtotal***	**TOTAL**
Lithic Artifacts (Chipped Stone)							
Flakes	11	569	*580*	2	109	*111*	**691**
Utilized Flakes		144	*144*		32	*32*	**176**
Flake Tools		26	*26*		5	*5*	**31**
Misc. Chipped Stone Tools		13	*13*		4	*4*	**17**
Projectile Points - diagnostic		8	*8*		0	*0*	**8**
Point Fragments - non-diagnostic		12	*12*		1	*1*	**13**
Early Stage Biface Reject		2	*2*		3	*3*	**5**
Late Stage Biface Reject		0	*0*		0	*0*	**0**
Biface Fragments		17	*17*		1	*1*	**18**
Worked Stone/Tested Cobble		3	*3*		3	*3*	**6**
Cores/Core Fragments		6	*6*		1	*1*	**7**
Shatter		61	*61*		7	*7*	**68**
Other Stone Artifacts							
Hammerstone		24	*24*		3	*3*	**27**
Fire-Cracked Rock - Count	4	130	*134*	1	43	*44*	**178**
Gorget Fragments		5	*5*		0	*0*	**5**
Ceramic							
Ceramic - steatite/soapstone Marcey Creek		1	*1*		0	*0*	**1**
Ceramic - crushed quartz/grit - Accokeek	17	535	*552*		0	*0*	**552**
Ceramic - crushed shell - Mockley	3	21	*24*		1	*1*	**25**
Ceramic - crushed quartz/sand/grit - Potomac Creek		2	*2*		0	*0*	**2**
Ecofacts							
Bone	1	52	*53*		1	*1*	**54**
Shell Fragment		1	*1*		0	*0*	**1**
TOTAL	**36**	**1632**	***1668***	**3**	**214**	***217***	**1885**

The archeological deposits that best characterize the site were recovered from a 21.5 square meter area that is situated at the toe of slope of the hill that rises to the north of the site. This area is generally bounded to the north, south, east, and west by transects N6, N12, E77, and E83, respectively (**Figure 90**). Although a few small artifact concentrations suggestive of secondary activity areas were identified beyond these points, overall the combined Phase I/II and Phase III excavations revealed that artifact densities and research quality of the archeological data decline substantially as one radiates away from the aforementioned 21.5 square meter area.

The combined Phase I, II, and III excavation efforts has resulted in the recovery of an approximate sixty percent (59.72%) sample from the core area of 18Cv492 and a 6.87 percent sample of the 20m by 20m target area. Non-critical site areas were also sampled through the excavation of one 1- by 1-meter test unit (TU) per ten meter grid block. The Phase III excavations have also resulted in the recovery of slightly over six percent (6.14%) of the total site area, which exceeds the 5.5 percent sampling proposed by the Phase III data recovery plan (**Appendix I**).

1. Summary of Excavations in 18Cv492 Block 1/Core Area

The core area of the site was excavated via one 21.5-unit block excavation loosely centered around Phase I/II STP N10E80 and Phase I/II TU 1 (**Figures 9, 10 and 90**). The 21.5-unit block was designated Block 1. A total of 1,668 prehistoric artifacts were recovered from Block 1. The Block 1 assemblage constitutes 88.49 percent of the total 18Cv491 artifact assemblage (**Table 41 and Table 42**). Only one of the diagnostic artifacts from 18Cv492, a single sherd of Mockley ceramic, was not collected from Block 1.

Table 42:
18Cv492 - Summary of Distribution of Artifacts by Site Area

By Site Section		Sum	%
Block 1 (site core)	Block excavation (21.5 units)	1668	88.49%
Peripheries	Sample Units (7 units, 2 individual STPs)	217	11.51%
	Sum	**1,885**	100.00%

The Block 1 core area of 18Cv492 is capped with slopewash and was found to contain well preserved, intact archeological deposits in sub-plow zone stratigraphic contexts; however, no discrete subsurface pit or structural features were encountered in Block 1. The sub-plow zone cultural deposits do not contain stratified datable contexts, but the artifacts do exhibit horizontal and spatial vertical patterning.

2. Summary of Excavations in 18Cv492 Non-Core/Non-Critical Site Areas

Seven individual TUs, averaging one TU per 10-meter grid block, were excavated to acquire representative samples of the site non-critical areas (**Figure 90**). A total of 217 prehistoric artifacts were recovered from the peripheral sample units. The peripheral unit assemblage is equivalent to 11.51 percent of the total 18Cv492 assemblage (**Table 41 and Table 42**).

The Phase III peripheral sample units were excavated in various positions on the landscape to acquire data for use in discerning temporal or functional differences in landscape use (i.e. siting and site layout). While several of the sample units did yield prehistoric artifacts from plow- and sub-plow zone contexts, these assemblages are not nearly as diverse as the Block 1 assemblage. The most notable peripheral units are TU N0E75 and TU S1E75, which collectively yielded thirty-six (36) pieces of fire-cracked rock as well as a small collection of non-diagnostic tools. The TU S1E75 assemblage also contains a Mockley ceramic sherd, which is the only diagnostic artifact that was recovered from a location outside of Block 1.

Aside from the small artifact concentration at TU N0E75/TU S1E75, no substantial artifact concentrations or discrete subsurface features were encountered in sub-plow zone stratigraphic contexts of the sample units. Although the small artifact scatters encountered in the sample units are not significant on their own, they do, nonetheless, provide supplemental information about site usage beyond the Block 1 area. The small tool assemblages recovered from the units suggest that some of these artifact scatters may represent remains of small work areas. TU N0E75/TU S1E75 is believed to represent the remains of a small hearth.

The data recovered by the combined Phase I, II, and Phase III have resulted in the acquisition of an accurate representative sample of the site's peripheries.

B. Summary of Site Stratigraphy

Site 18Cv492 spans several local, micro-positions within its general footslope location, and as noted earlier, most of the site is capped with approximately fifty centimeters of accumulated colluvium that has migrated from the higher slope. The colluvium mantle of 18Cv492 was noted to be thicker and less consolidated than at 18Cv491.

Typical soil profiles beneath the colluvium mantle consist of a buried plow zone horizon (2Apb) atop a stacked sequence of two E horizons (2Eb1 and 2Eb2). The E horizon was characterized as a dark yellow-brown to yellow-brown fine sandy loam and averaged approximately thirty-five (35) centimeters in collective thickness (Wagner 2013). The geomorphological analysis also revealed that the soil of 18Cv492 also contains a significant amount of naturally-amassed wash deposits that pre-date European settlement. In addition to having the potential for deeply buried cultural deposits, 18Cv492 also had a probability for containing separately stratified cultural deposits (Wagner 2013). In Block 1, the top of the buried E horizon was generally reached around sixty centimeters below the surface. In areas south and west of Block 1, which are downslope, the top of the E horizon was encountered at deeper depths due to a thicker slopewash mantle.

The BE horizon at 18Cv492 is located at approximately ninety-five centimeters below the surface. This horizon consists of an orange-brown fine sandy loam. The BE horizon contains artifacts. The top of the buried Btb horizon was reached at approximately 118 centimeters below the surface. The Btb horizon is characterized as an orange-brown very compacted, heavily mottled, dense fine-grained sandy loam. The Btb horizon generally

marks the top of cultural sterile subsoil; however, artifacts have migrated into the upper depths of the horizon through bioturbation.

Based on the results of the geoarcheological study, analysis of soil profiles, excavation data, and artifact densities, project researchers divided the soil profile into four basic stratigraphic contexts, or zones, germane to the horizontal and vertical distribution of artifacts across 18Cv492. From the surface downward, these zones were classified as Zones 1A, 1B, 2, 3, and 4. A general diagram of the soil horizons and stratigraphic zones of 18Cv492 is presented in **Figure 91**.

Representative soil profiles of the excavations at 18Cv492 are presented in **Figure 92** through **Figure 98**, as well as in Wagner (2013) **(Appendix III)**.

1. Zone 1A

This stratigraphic zone corresponds to the colluvial mantle composed of historic agricultural slopewash (**Figures 91 - 98**). Zone 1A ranges in thickness across the site, depending on the distance away from the higher slope. Zone 1A was noted to increase in thickness south and west of Block 1, which are downslope. Along the transect S1, the southernmost test transect, the Zone 1A colluvial mantle was observed to average approximately eighty centimeters in thickness. Substrata encountered during the removal of Zone 1A were excavated in natural levels.

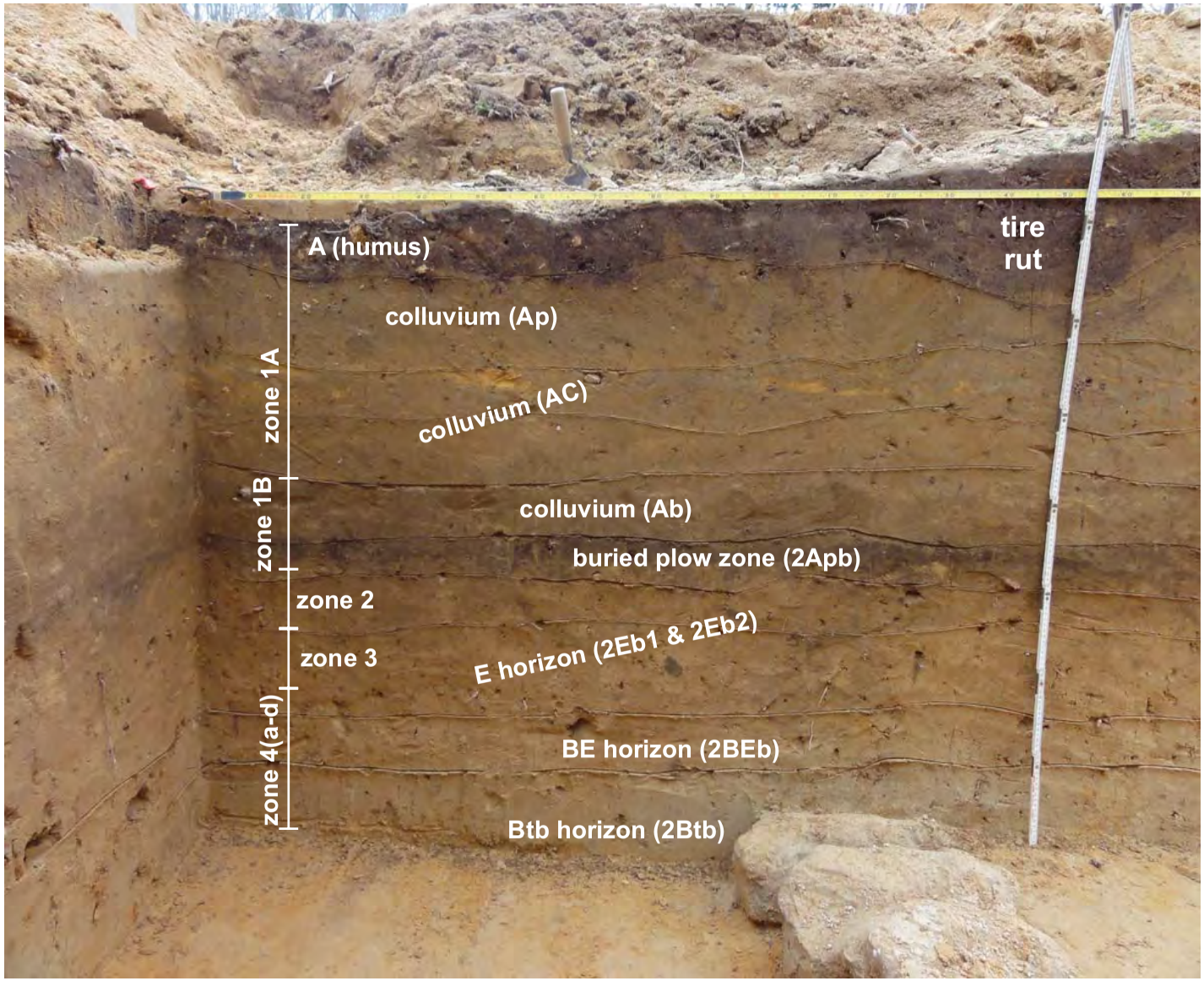
A total of 50 artifacts were recovered from Zone 1A.

2. Zone 1B

Zone 1B corresponds to the buried plow zone (2Apb)/surface (2Ab) horizon (**Figures 91 - 98**).

Although vertical and horizontal mixing of prehistoric cultural material has occurred in areas that have been plowed, the migration of artifacts in the lower depths of the buried plow zone has been somewhat less due to a combination of a rapid accumulation of slopewash and a brief history of tillage. Zone 1B was most often excavated as two natural levels. Whenever possible, the 2Ab and 2Apb soil horizons were excavated and screened as individual levels. The Zone 1B levels were also excavated as a 1m x 1m excavation levels; however, 0.5m quadrant excavations were occasionally implemented depending on observed artifact densities. Excavation of Zone 1B in 0.5m quadrants was also performed as precautionary measure when 1) irregularities in the thickness of the buried plow zone were noted; 2) the presence of a transitional horizon between Zone 1B and Zone 2 was encountered/suspected; or 3) differentiation between the 2Ab and 2Apb was not clear.

A total of 380 artifacts were recovered from Zone 1B.



General view of 18Cv492 closing profile at southeast corner of Block 1 showing surface tire rut, soil horizons, and stratigraphic zones.

Phase III Stratigraphic Zones

Zone 1A = Humus and Colluvial Mantle (horizons above buried Plow Zone)

Zone 1B = Buried Plow Zone/Surface Horizon (2Apb/2Ab)

Zone 2 = 0-10cm below buried Plow Zone (2Eb)

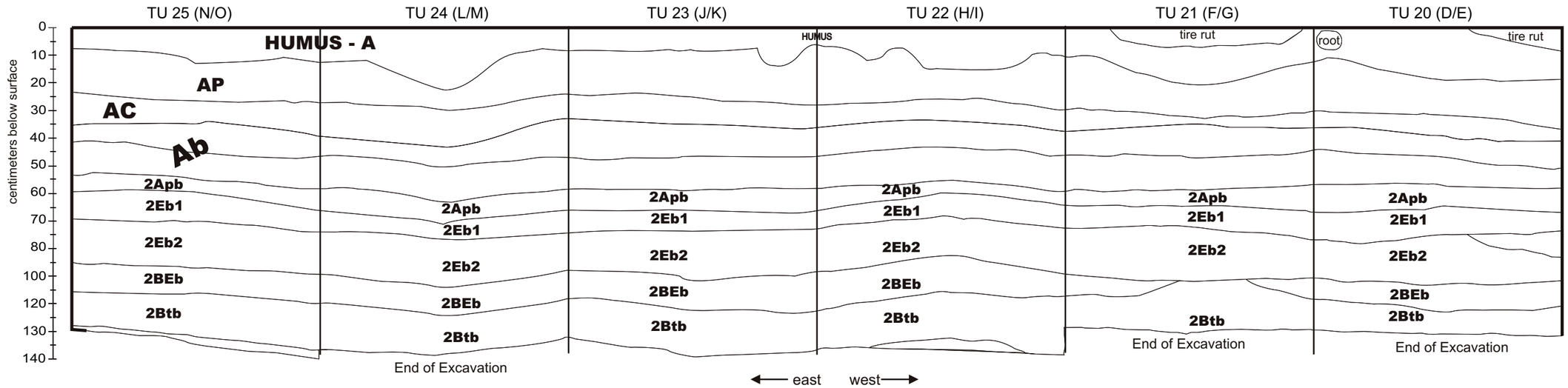
Zone 3 = 10-20cm below buried Plow Zone (2Eb, 2BEb)

Zone 4 = 20+ cm below buried Plow Zone (2BEb, 2Btb) excavated in 10cm arbitrary levels

18Cv492
General Diagram of Soil Horizons and Stratigraphic Zones

FIGURE 91

Block 1 South Wall



SOIL DESCRIPTIONS (Wagner 2013)

A Very dark grayish brown (10YR 3/2) very fine sandy loam; weak, medium granular structure; very friable consistence; abrupt, wavy boundary

Ap Brown (10YR 4/3) fine sandy loam to loamy fine sand; structureless, massive; very friable consistence; abrupt, smooth boundary

AC Brown (10YR 4/3) and dark yellowish brown (10YR 4/6) fine sandy loam; structureless, massive; friable consistence; clear, smooth boundary

Ab Brown (10YR 4/3) and minor yellowish brown (10YR 5/5) fine sandy loam; structureless, massive; very friable consistence; clear, smooth boundary

2Apb Dark brown (10YR 3/3) and dark yellowish brown (10YR 4/4) fine sandy loam; weak, medium platy structure; very friable consistence; clear, smooth boundary

2Eb1 Dark yellowish brown (10YR 4/4) fine sandy loam; weak, medium platy structure; very friable consistence; gradual, smooth boundary

2Eb2 Yellowish brown (10YR 5/4) fine sandy loam to loamy fine sand; weak, medium platy structure; very friable consistence; clear, smooth boundary

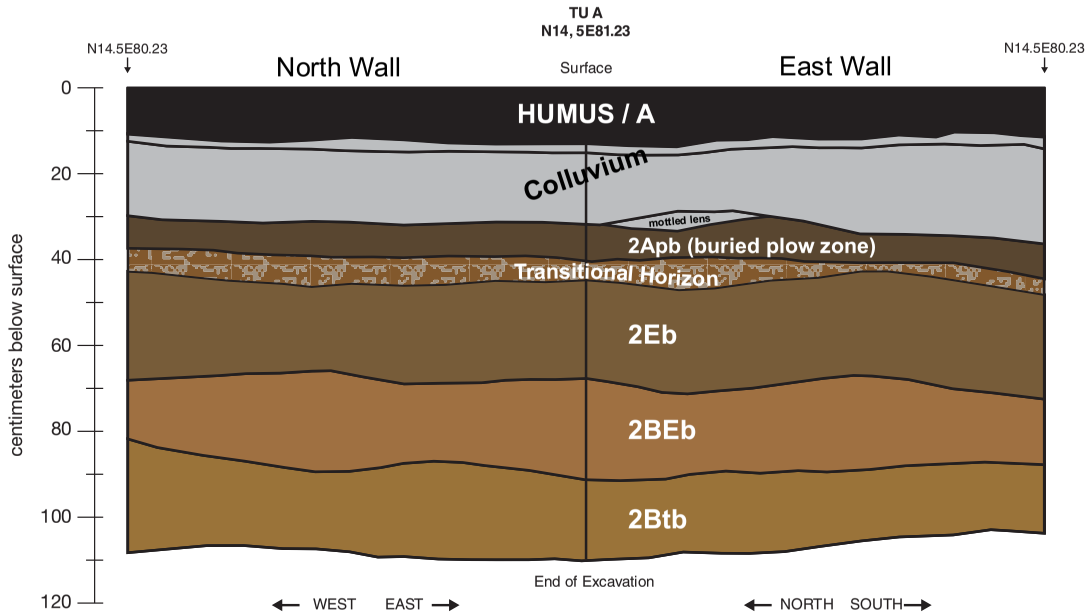
2BEb Strong brown (7.5YR 4/6) fine sandy loam; weak to moderate, coarse subangular blocky structure; friable consistence; clear, smooth boundary

2Btb Strong brown (7.5YR 4/6) heavy fine sandy loam; medium, coarse subangular blocky structure; discontinuous clay films on most ped surfaces; friable consistence

Wagner (2013)

18Cv492, Block 1
South Wall
Closing Profile

FIGURE 92



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

2Apb

Buried Plow Zone 2 (Apb Horizon)
Dark brown to dark yellow brown sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion
(10YR 3/3 - 4/4).

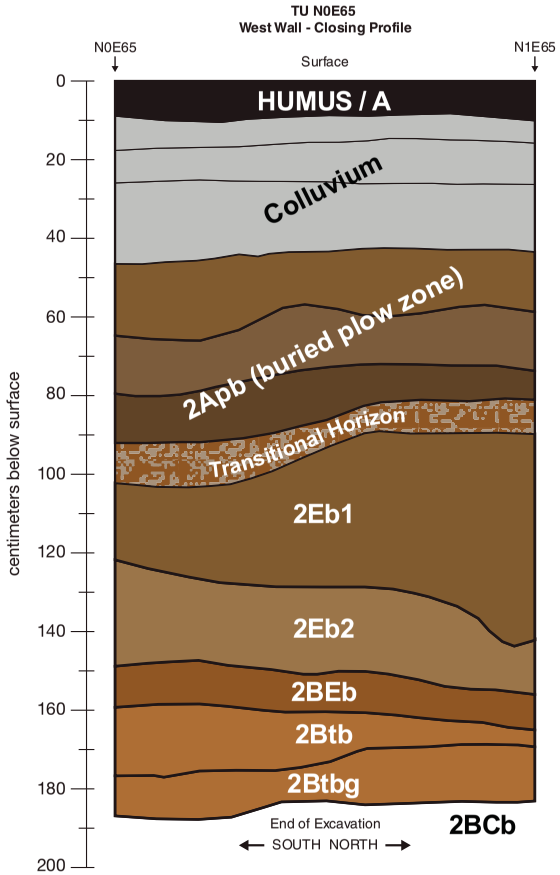
SUBSOIL: 2Eb Horizon
Dark yellow-brown to yellow-brown fine sandy loam to loamy fine sand. (10YR 4/4 - 10YR 5/4)

SUBSOIL: 2BEb Horizon
Strong bronw/orange-brown fine sandy loam. Becomes more clayey and more orange with depth. (7.5YR 4/6)

SUBSOIL: 2Btb Horizon
Orange-brown (7.5YR 4/6 - 7.5YR 5/6), heavy, moderately compacted, fine sandy loam, mottled with grey and yellow-brown coarse-grained sandy loam. Becomes more orange and more mottled with depth.

18Cv492, TU A
Closing Profiles

FIGURE 93



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

Buried Plow Zone (2Apb Horizon)
Dark brown to dark yellow brown sandy loam. Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion
(10YR 3/3 - 4/4).

SUBSOIL: 2Eb1 Horizon
Dark yellow brown fine sandy loam(10YR 4/4)

SUBSOIL: 2Eb2 Horizon
Yellow brown fine sandy loam to loamy fine sand (10YR5/4)

SUBSOIL: 2BEb Horizon
Medium yellow-brown to light strong brown (7.5YR 4/6) fine-grained sandy loam.

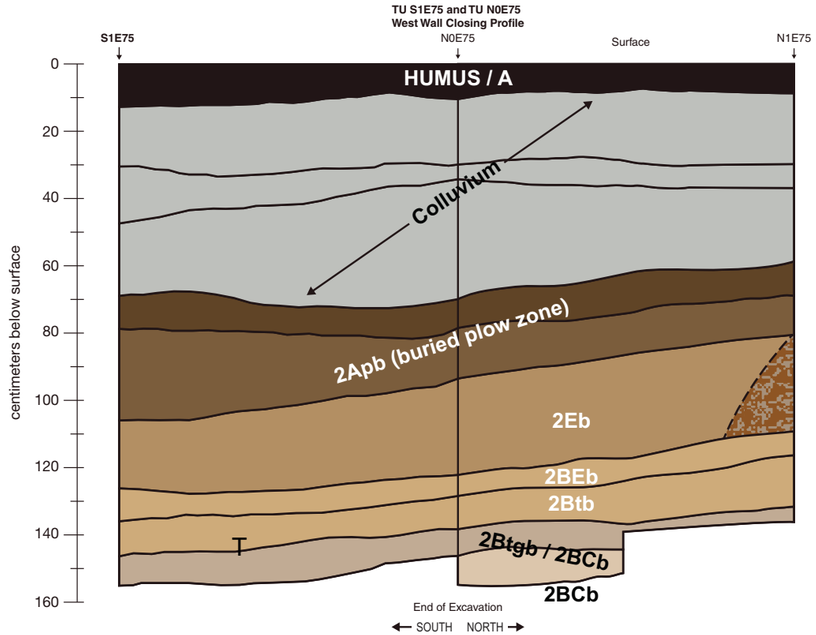
SUBSOIL: 2Btb Horizon
Orange-brown (7.5YR 4/6 - 7.5YR 5/6), heavy, moderately compacted, fine sandy loam, mottled with grey and yellow-brown coarse-grained sandy loam. Becomes more orange and more mottled with depth.

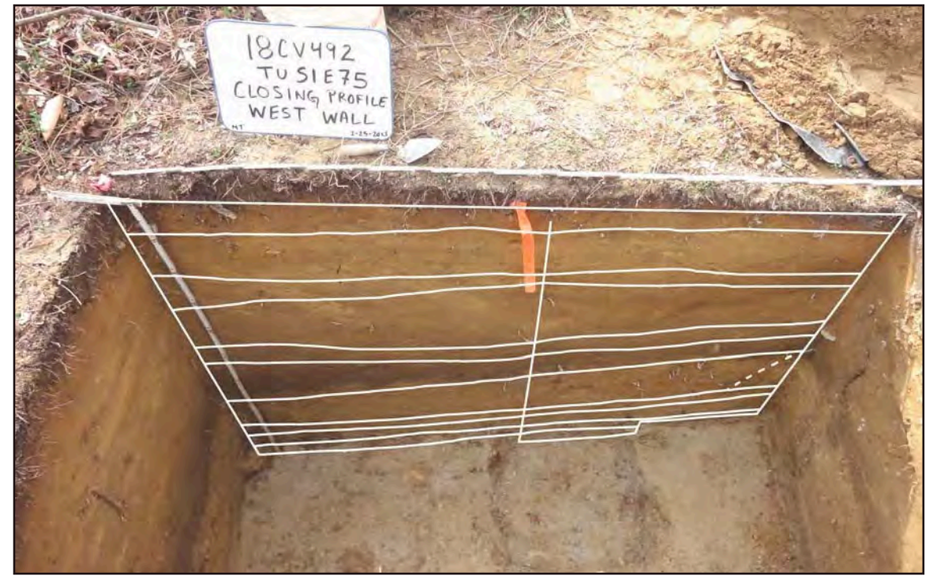
SUBSOIL: 2Btgb Horizon
Orange-brown to strong brown/orange (7.5YR 5/6 - 7.5YR 5/8),very gravelly, clay loam. Sand is corase-grained. Horizon is mottled with grey silty clay loam and strong coarse-grained sandy loam. Becomes more orange and more mottled with depth.

SUBSOIL: 2BCb Horizon
grey-brown to yellow-grey (10YR 7/2),very gravelly, coarse-grained, loamy sand. Gravel and sand content increases with depth.

18Cv492, TU N0E65
West Wall, Closing Profile

FIGURE 94





SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

Buried Plow Zone 2 (Apb Horizon)
Dark brown to dark yellow brown sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion
(10YR 5/3-4/3 and 10YR 4/2 - 4/3).

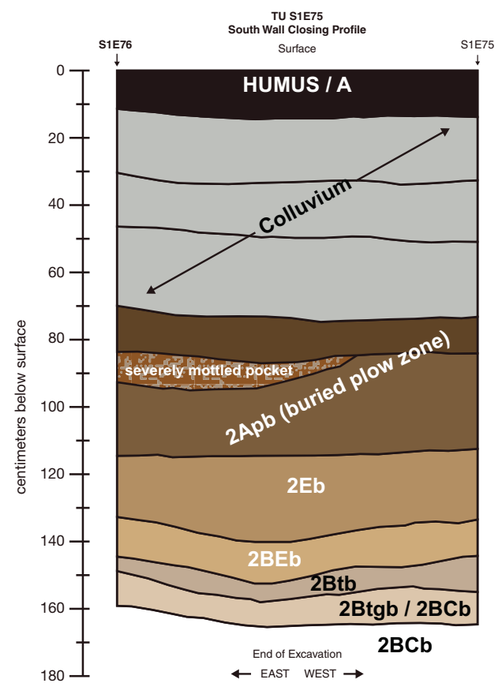
SUBSOIL: 2Eb Horizon
Brown to dark yellow brown fine sandy loam(10YR 6/3 -10YR 6/4)

SUBSOIL: 2BEb Horizon
Medium yellow-brown to light brown (10YR 7/3) fine-grained sandy loam.

SUBSOIL: 2Btb Horizon
Pale brown to yellow-brown (10YR 7/2), heavy, moderately compacted, fine sandy loam, mottled with grey and yellow-brown coarse-grained sandy loam. Becomes more grey and more mottled with depth.

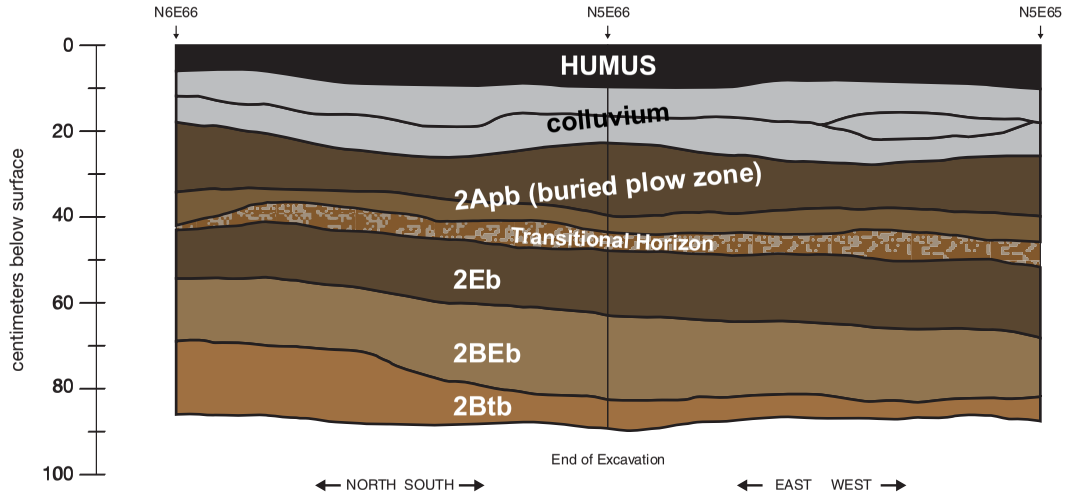
SUBSOIL: 2Btgb Horizon
Light grey brown to grey (10YR 8/1 - 10YR 8/2), very gravelly, ssandy loam. Sand is coarse-grained. Horizon is mottled with grey silty clay loam and strong coarse-grained sandy loam.
gravel content and mottles increase with depth.

SUBSOIL: 2BCb Horizon
grey (10YR 8/1),very gravelly, unconsolidated, coarse-grained, sand. Gravel increases in size and in content with depth.



18Cv492,
TU S1E75 and TU N0E75
Closing Profiles

FIGURE 95



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

2Apb

Buried Plow Zone (2Apb Horizon)
Dark brown to dark yellow brown sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion
(10YR 3/3 - 4/4).

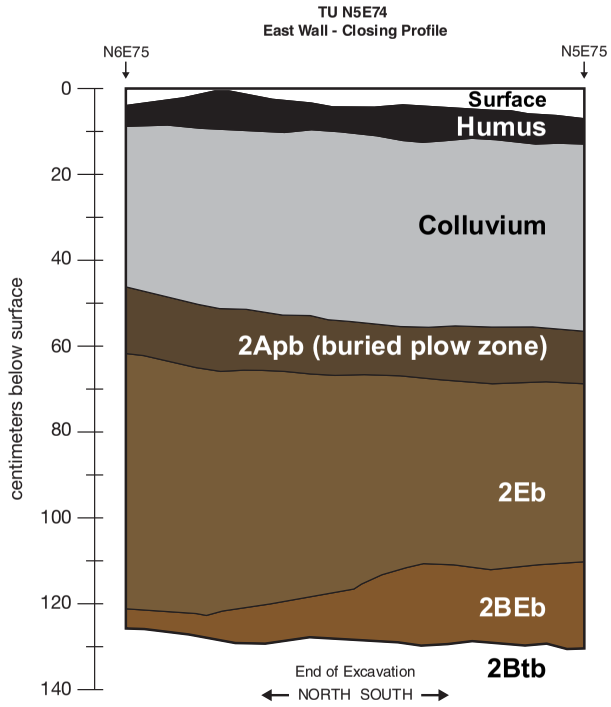
SUBSOIL: 2Eb Horizon
Dark yellow-brown to yellow-brown fine sandy loam to loamy fine sand (10YR4/4 -10YR 5/4)

SUBSOIL: 2BEb Horizon
Medium brown to yellow brown (10YR 5/4) fine-grained sandy loam.

SUBSOIL: 2Btb Horizon
Orange-brown (7.5YR 4/6 - 7.5YR 5/6), heavy, moderately compacted, fine sandy loam, mottled with grey and yellow-brown coarse-grained sandy loam. Becomes more orange and more mottled with depth.

18Cv492, TU N5E65
Closing Profiles

FIGURE 96



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

2Apb

Buried Plow Zone (2Apb Horizon)
Dark brown to dark yellow brown sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion (10YR 3/3 - 4/4).

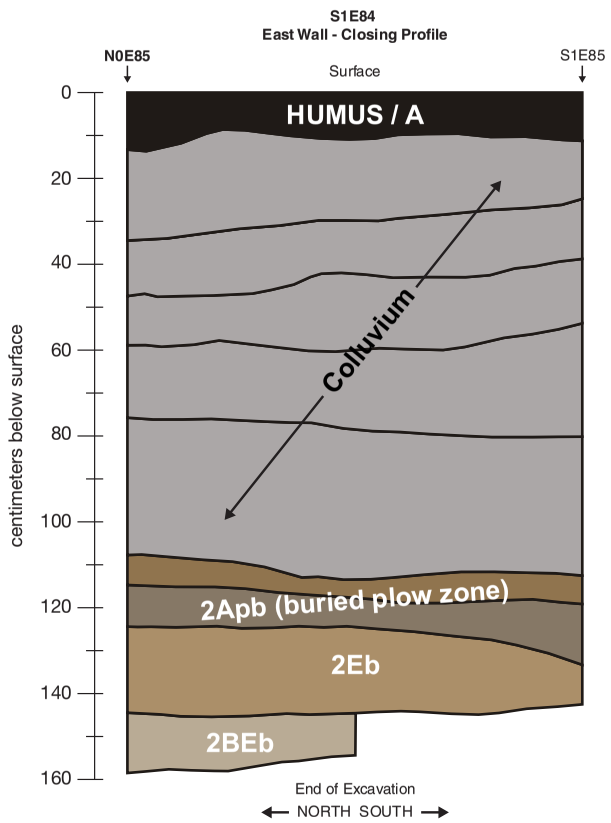
SUBSOIL: 2Eb Horizon
Dark yellow brown to yellow brown fine sandy loam to loamy fine sand (10YR 4/4 - 10YR5/4)

SUBSOIL: 2BEb Horizon
Medium yellow-brown to light strong brown (7.5YR 4/6) fine-grained sandy loam.

SUBSOIL: 2Btb Horizon
Orange-brown (7.5YR 4/6), heavy, moderately compacted, fine sandy loam, mottled with grey and yellow-brown coarse-grained sandy loam.

18Cv492, TU N5E74
East Wall, Closing Profile

FIGURE 97



SOIL DESCRIPTIONS

Humus/A Horizon
Very dark grayish-brown very fine sandy loam (10YR 3/2).

COLLUVIUM
Brown to dark yellow brown fine sandy loam (10YR 3/2 - 10YR 4/3).

2Apb

Buried Plow Zone (2Apb Horizon)
Dark brown to dark yellow brown sandy loam.
Lower portion of plow zone is darker, more grey, and has a higher organic content than upper portion (10YR 5/4 - 5/2).

SUBSOIL: 2Eb Horizon
Dark yellow brown to grey brown fine sandy loam(10YR 6/4)

SUBSOIL: 2BEb Horizon
Medium yellow-brown to light brown (10YR 7/2) fine-grained sandy loam.

18Cv492, TU S1E84
East Wall, Closing Profile

FIGURE 98

3. Zone 2

Zone 2 corresponds to the first 10 centimeters of the natural subsoil horizon beneath the surface (2Ab) horizon/buried plow zone (2Apb). Zone 2 corresponds with the upper 2Eb1 Horizon. Zone 2 was uniformly excavated in 50cm quadrants across the site as a 10-cm excavation level (i.e. 0.5m quadrants within units).

A total of 694 artifacts were recovered from Zone 2.

4. Zone 3

Zone 3 is the second 10 centimeters of the original subsoil horizon, specifically 10cm - 20cm below Zone 1B (2Apb/2Ab). Zone 3 corresponds best with the lower buried E horizon (2Eb2), but depending on location, sometimes included a portion of the upper buried E horizon (2Eb1). Zone 3 was excavated in 50cm quadrants as a single 10-cm excavation level across the site.

A total of 517 artifacts were recovered from Zone 3.

5. Zone 4

Zone 4 corresponds to the remainder of the soil profile excavated below Zone 3, specifically depths of 20+ centimeters beneath buried plow zone (Zone 1B). Zone 4 marks the vertical approach towards cultural sterile subsoil. Zone 4 was removed in arbitrary 10-centimeter excavation levels in 50cm quadrants. Excavations of Zone 4 were terminated after the removal of two culturally sterile levels.

At 18Cv492, the first twenty (20) centimeters of Zone 4 (Zone 4a and Zone 4b) correspond to the 2BEb horizon. Substantial decreases in artifact content were noted in Zone 4 after the removal of the first 10cm of this zone (i.e. 30cm below Zone 1B/2Apb). The deposition of most of the artifacts recovered from the lower portion of the 2BE horizon and the underlying 2Btb horizon can be attributed to bioturbation, especially those artifacts that were recovered 40 centimeters or deeper (Zone 4c+) below Zone 1B.

A total of 244 artifacts were recovered from Zone 4.

C. General Summary of Artifact Recovery

As a means for organizing the discussion and minimizing redundancy throughout the report, the following discussion presents general overviews of the artifact assemblages. Detailed discussions pertaining to area-, type-, and temporal-specific distributions, as well as the implications of these distributions in regard to site use and function, are presented in later sections of this document.

The purpose of this section is to provide the reader with basic information about the artifact yields of the four stratigraphic zones within Block 1 and amongst the peripheral sample units.

The vertical and general horizontal distributions of the 1,885 prehistoric artifacts recovered from 18Cv492 are summarized and depicted in various formats in **Tables 43-45,** and in **Figures 90, 99, 100, 101, 102, 103** and **104**. Summary artifact catalogs for individual test locations are provided in **Table 46** and **Table 47**.

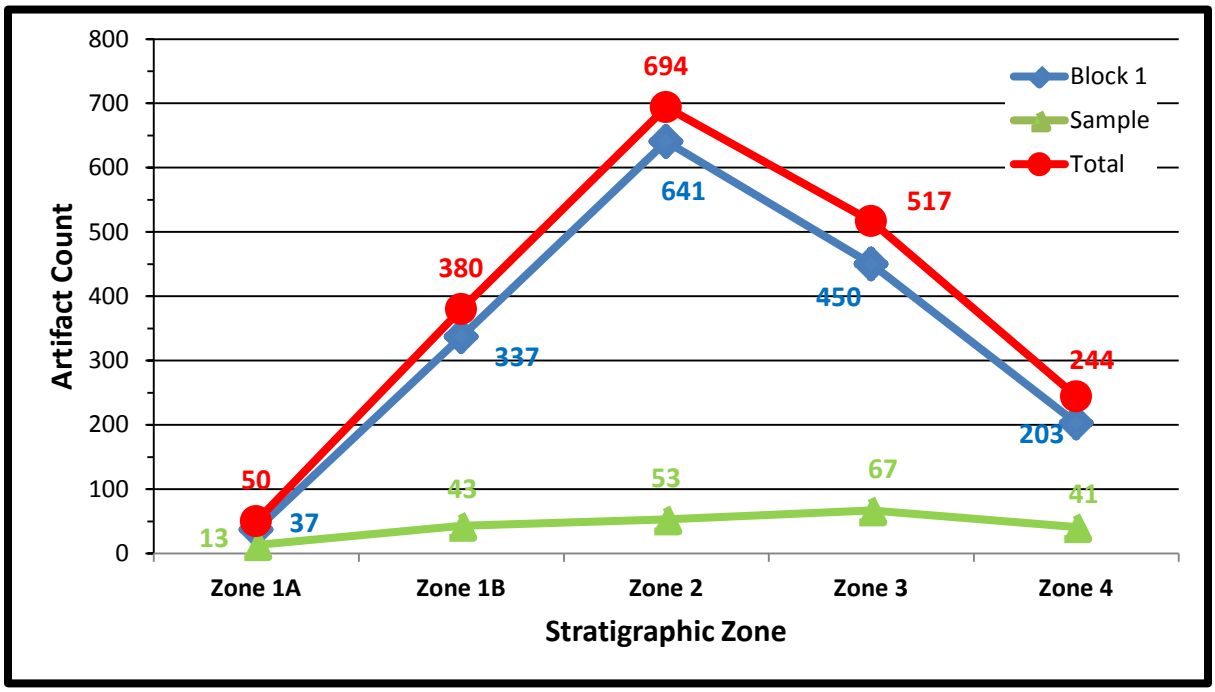


Figure 99: 18Cv492, Composite Summary of Artifact Distribution by Zone

1. Summary of Zone 1A and Zone 1B Artifact Recovery

Slightly less than one quarter of the total assemblage, 430 artifacts (22.81%), was recovered from the plowed and/or historically disturbed stratigraphic contexts of Zone 1A (slopewash mantle) and Zone 1B (2Apb/2Ab Horizon). Zone 1A and Zone 1B yielded 50 and 380 artifacts respectively (**Tables 43 – 45**). The Zone 1A and Zone 1B assemblages are 2.65 percent and 20.16 percent of the total 18Cv492 assemblage, respectively (**Table 43**).

The majority of the Zone 1A assemblage was recovered from the lower substrata of this zone, a circumstance that is easily explained by simply recognizing that most of the slopewash that constitutes Zone 1A lies well above, and isolated from, the pre-Contact era surface. In this regard, Zone 1A assemblage is essentially an extracted subset of Zone 1B.

The proportion of the artifacts contained in Zone 1A is higher in peripheral units than those located upslope in Block 1. Quantitatively, the overall "per unit" recovery of Zone 1A artifacts from the peripheral units and Block 1 units are 1.85 artifacts/unit and 0.58 artifacts/unit. These findings indicate that some downward migration of artifacts had occurred across the site before the complete isolation of the pre-Contact deposits. The Zone 1A artifact totals of the Block 1 units range from no artifacts to six (6) artifacts (**Table 44**). The Zone 1A assemblages from the peripheral units also range from no artifacts to six (6) artifacts (**Table 44**).

Table 43:
18Cv492 - Vertical Distribution of Artifacts by Section

Block 1		**Sum**	**%**	
plow disturbed	Zone 1A: colluvial mantle	37	2.22%	*22.42%*
	Zone 1B: buried plow zone/surface	337	20.20%	
intact subsoil	Zone 2: 0cm -10cm below buried pz	641	38.43%	*77.58%*
	Zone 3: 10cm -20cm below buried pz	450	26.98%	
	Zone 4: 20+ cm below buried pz	203	12.17%	
	Sum	**1668**	100.00%	

Sample Units		**Sum**	**%**	
plow disturbed	Zone 1A: colluvial mantle	13	5.99%	*25.81%*
	Zone 1B: buried plow zone/surface	43	19.82%	
intact subsoil	Zone 2: 0cm -10cm below buried pz	53	24.42%	*74.19%*
	Zone 3: 10cm -20cm below buried pz	67	30.88%	
	Zone 4: 20+ cm below buried pz	41	18.89%	
	Sum	**217**	100.00%	

Total Site		**Sum**	**%**	
plow disturbed	Zone 1A: colluvial mantle	50	2.65%	*22.81%*
	Zone 1B: buried plow zone/surface	380	20.16%	
intact subsoil	Zone 2: 0cm -10cm below buried pz	694	36.82%	*77.19%*
	Zone 3: 10cm -20cm below buried pz	517	27.43%	
	Zone 4: 20+ cm below buried pz	244	12.94%	
	Sum	**1885**	100.00%	

Table 44:
18Cv492 - Summary of Vertical Distribution of Artifacts by Provenience

Provenience	Zone 1A	Zone 1B	Zone 2	Zone 3	Zone 4	TOTAL
Block 1						
TU 1		32	48	22	10	**112**
TU 2		16	17	7	6	**46**
TU 3		23	19	23		**65**
TU 4	5	14	33	21		**73**
TU 5	2	17	47	38	17	**121**
TU 6	4	17	28	18	9	**76**
TU 7		15	33	15	2	**65**
TU 8	5	10	38	9	2	**64**
TU 9	1	16	9	17		**43**
TU 10		6	9	3	4	**22**
TU 11	4	3	7	8	2	**24**
TU 12	1	1	3	5	1	**11**
TU 13		13	27	4	2	**46**
TU 14	1	45	82	30	13	**171**
TU 15	6	8	10	5	4	**33**
TU 16		13	54	15	13	**95**
TU 17		9	12	15	12	**48**
TU 18	2	22	40	15	14	**93**
TU 19 (B/C)		8	9	7	12	**36**
TU 20 (D/E)		1	5	12	14	**32**
TU 21 (F/G)		4	17	26	16	**63**
TU 22 (H/I)	2	6	22	36	16	**82**
TU 23 (J/K)	1	3	33	63	13	**113**
TU 24 (L/M)	1	8	18	29	3	**59**
TU 25 (N/O)	2	5	13	5	7	**32**
Phase I/II TU 1		5	8	2	11	**26**
N10 E80 STP		10				**10**
Floor Scraping/Clean-Up		7				**7**
Sample Units						
TU A		1	2	4	4	**11**
N0 E65	3	14	9	8	9	**43**
N0 E75		2	9	28	9	**48**
S1 E75	6	12	17	27	15	**77**
S1 E84	1	2	1			**4**
N5 E65	1	7	4		1	**13**
N5 E74	2	2	11		3	**18**
N0 E60 STP		2				**2**
N0 E80 STP		1				**1**
TOTAL	**50**	**380**	**694**	**517**	**244**	**1885**

Table 45:

18Cv492 - Summary Artifact Catalog by Section and Stratigraphic Zone

	Zone 1A			Zone 1B			Zone 2			Zone 3			Zone 4			
	Horizons above Buried Plow Zone			Buried Plow Zone			0cm - 10cm below Buried Plow Zone			10cm - 20cm below buried Plow Zone			20cm+ below buried Plow Zone			
ARTIFACTS	Block 1	Sample Units	Subtotal	Block 1	Sample Units	Subtotal	Block 1	Sample Units	Subtotal	Block 1	Sample Units	Subtotal	Block 1	Sample Units	Subtotal	**TOTAL**
Lithic Artifacts (Chipped Stone)																
Flakes	8	7	*15*	75	27	*102*	172	30	*202*	218	26	*244*	107	21	*128*	**691**
Utilized Flakes	2	2	*4*	18	5	*23*	41	13	*54*	53	5	*58*	30	7	*37*	**176**
Flake Tools			*0*	3	2	*5*	6	1	*7*	13	2	*15*	4		*4*	**31**
Misc. Chipped Stone Tools		1	*1*	2		*2*	4		*4*	7	2	*9*		1	*1*	**17**
Projectile Points - diagnostic	1		*1*	2		*2*	3		*3*	2		*2*			*0*	**8**
Point Fragments - non-diagnostic			*0*	6		*6*	2		*2*	2		*2*	2	1	*3*	**13**
Early Stage Biface Reject			*0*	1	1	*2*	1	1	*2*		1	*1*			*0*	**5**
Late Stage Biface Reject			*0*			*0*			*0*			*0*			*0*	**0**
Biface Fragments			*0*	2		*2*	2		*2*	10		*10*	3	1	*4*	**18**
Worked Stone/Tested Cobble			*0*			*0*			*0*		1	*1*	3	2	*5*	**6**
Cores/Core Fragments			*0*		1	*1*	1		*1*	5		*5*			*0*	**7**
Shatter		1	*1*	4	1	*5*	28	1	*29*	23	2	*25*	6	2	*8*	**68**
Other Stone Artifacts																
Hammerstone			*0*	3		*3*	1		*1*	5	1	*6*	15	2	*17*	**27**
Fire-Cracked Rock - Count	1	1	*2*	10	6	*16*	59	7	*66*	53	27	*80*	11	3	*14*	**178**
Gorget Fragments			*0*			*0*	3		*3*	2		*2*			*0*	**5**
Ceramic																
Ceramic - steatite/soapstone Marcey Creek			*0*			*0*	1		*1*			*0*			*0*	**1**
Ceramic - crushed quartz/grit - Accokeek	18		*18*	186		*186*	292		*292*	39		*39*	17		*17*	**552**
Ceramic - crushed shell - Mockley	7	1	*8*	15		*15*	2		*2*			*0*			*0*	**25**
Ceramic - crushed quartz/sand/grit - Potomac Creek			*0*	1		*1*			*0*			*0*	1		*1*	**2**
Ecofacts																
Bone			*0*	8		*8*	23		*23*	18		*18*	4	1	*5*	**54**
Shell Fragment			*0*	1		*1*			*0*			*0*			*0*	**1**
TOTAL	**37**	**13**	***50***	**337**	**43**	***380***	**641**	**53**	***694***	**450**	**67**	***517***	**203**	**41**	***244***	**1885**

18Cv492
Block 1 - Core Area
Prehistoric Artifact Distribution
By Stratigraphic Zone

BLOCK 1
Floor Scrapings

Zone 1A:	0
Zone 1B:	7
Zone 2:	0
Zone 3:	0
Zone 4:	0
Total:	**7**

Phase I/II TU 1

Zone 1A:	*0*
Zone 1B:	*5*
Zone 2:	*14*
Zone 3:	*2*
Zone 4:	*5*
Total:	***26***

Phase III Stratigraphic Zones

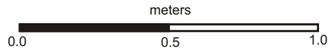
Zone 1A = Humus and Colluvial Mantle (horizons above buried Plow Zone)

Zone 1B = Buried Plow Zone/Surface Horizon (2Apb/2Ab)

Zone 2 = 0-10cm below buried Plow Zone (2Eb)

Zone 3 = 10-20cm below buried Plow Zone (2Eb, 2BEb)

Zone 4 = 20+ cm below buried Plow Zone (2BEb, 2Btb) (excavated in 10cm arbitrary levels)



19 (B/C)

TU 19

Zone 1A:	0
Zone 1B:	8
Zone 2:	9
Zone 3:	7
Zone 4:	12
Total:	**36**

16

TU 16

Zone 1A:	0
Zone 1B:	13
Zone 2:	54
Zone 3:	15
Zone 4:	13
Total:	**95**

17

TU 17

Zone 1A:	0
Zone 1B:	9
Zone 2:	12
Zone 3:	15
Zone 4:	12
Total:	**48**

15

TU 15

Zone 1A:	6
Zone 1B:	8
Zone 2:	10
Zone 3:	5
Zone 4:	4
Total:	**33**

13

TU 13

Zone 1A:	0
Zone 1B:	13
Zone 2:	27
Zone 3:	4
Zone 4:	2
Total:	**46**

14

TU 14

Zone 1A:	1
Zone 1B:	45
Zone 2:	82
Zone 3:	30
Zone 4:	13
Total:	**171**

18

TU 18

Zone 1A:	2
Zone 1B:	22
Zone 2:	40
Zone 3:	15
Zone 4:	14
Total:	**93**

12

TU 12

Zone 1A:	1
Zone 1B:	1
Zone 2:	3
Zone 3:	5
Zone 4:	1
Total:	**11**

10

TU 10

Zone 1A:	0
Zone 1B:	6
Zone 2:	9
Zone 3:	3
Zone 4:	4
Total:	**22**

8

TU 8

Zone 1A:	5
Zone 1B:	10
Zone 2:	38
Zone 3:	9
Zone 4:	2
Total:	**64**

6

TU 6

Zone 1A:	4
Zone 1B:	17
Zone 2:	28
Zone 3:	18
Zone 4:	9
Total:	**76**

4

TU 4

Zone 1A:	5
Zone 1B:	14
Zone 2:	33
Zone 3:	21
Zone 4:	0
Total:	**73**

2

TU 2

Zone 1A:	0
Zone 1B:	16
Zone 2:	17
Zone 3:	7
Zone 4:	6
Total:	**46**

11

TU 11

Zone 1A:	4
Zone 1B:	3
Zone 2:	7
Zone 3:	8
Zone 4:	2
Total:	**24**

9

TU 9

Zone 1A:	1
Zone 1B:	16
Zone 2:	9
Zone 3:	17
Zone 4:	0
Total:	**43**

7

TU 7

Zone 1A:	0
Zone 1B:	15
Zone 2:	33
Zone 3:	15
Zone 4:	2
Total:	**65**

5

TU 5

Zone 1A:	2
Zone 1B:	17
Zone 2:	47
Zone 3:	38
Zone 4:	17
Total:	**121**

3

TU 3

Zone 1A:	0
Zone 1B:	23
Zone 2:	19
Zone 3:	23
Zone 4:	0
Total:	**65**

1

TU 1

Zone 1A:	0
Zone 1B:	32
Zone 2:	48
Zone 3:	22
Zone 4:	10
Total:	**112**

20 (D/E)

TU 20 (D/E)

Zone 1A:	0
Zone 1B:	1
Zone 2:	5
Zone 3:	12
Zone 4:	14
Total:	**32**

21 (F/G)

TU 21 (F/G)

Zone 1A:	0
Zone 1B:	4
Zone 2:	17
Zone 3:	26
Zone 4:	16
Total:	**63**

22 (H/I)

TU 22 (H/I)

Zone 1A:	2
Zone 1B:	6
Zone 2:	22
Zone 3:	36
Zone 4:	16
Total:	**82**

23 (J/K)

TU 23 (J/K)

Zone 1A:	1
Zone 1B:	3
Zone 2:	33
Zone 3:	63
Zone 4:	13
Total:	**113**

24 (L/M)

TU 24 (L/M)

Zone 1A:	1
Zone 1B:	8
Zone 2:	18
Zone 3:	29
Zone 4:	3
Total:	**59**

25 (N/O)

TU 25 (N/O)

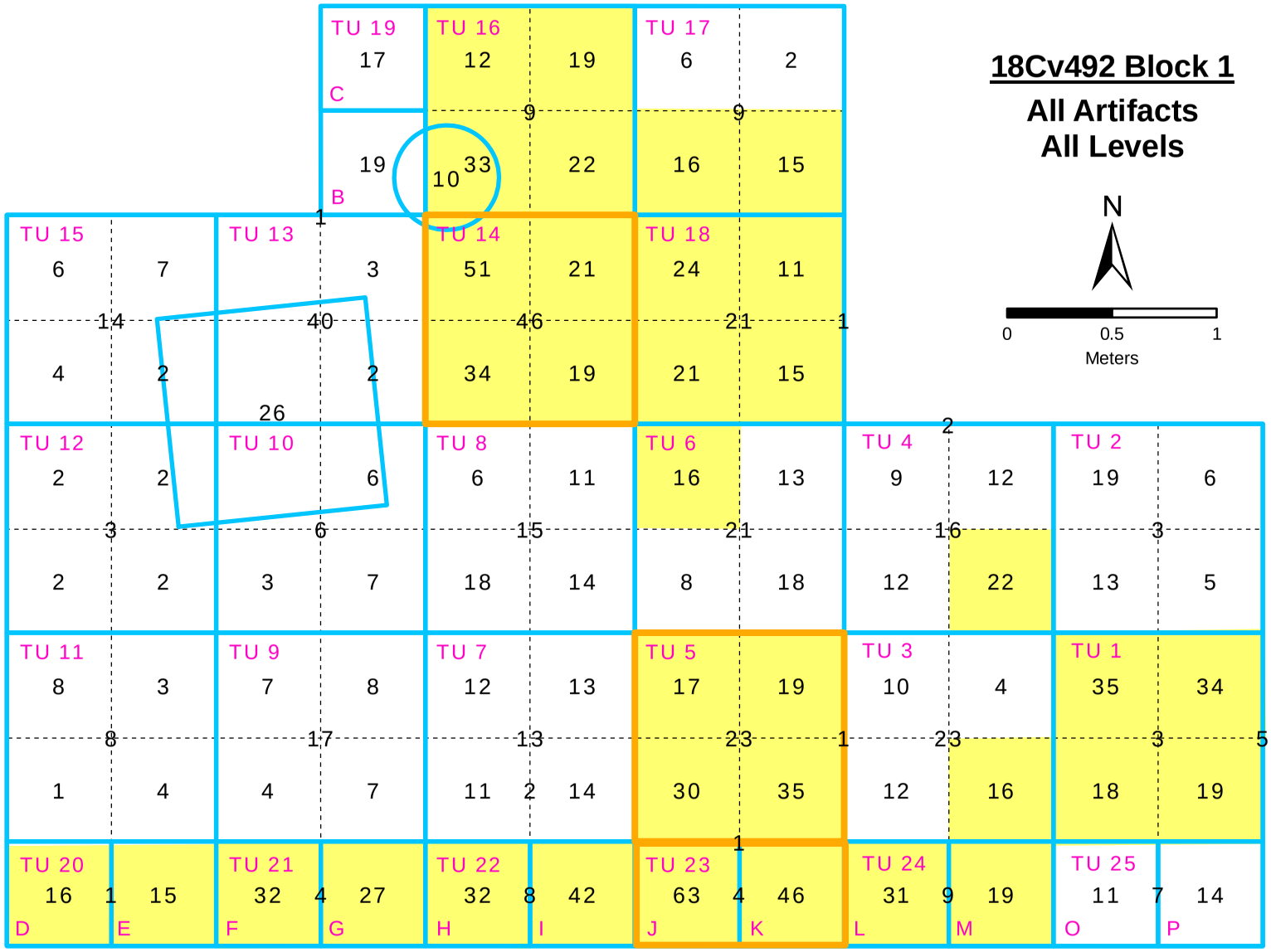
Zone 1A:	2
Zone 1B:	5
Zone 2:	13
Zone 3:	5
Zone 4:	7
Total:	**59**

BLOCK 1 TOTAL

Zone 1A:	37
Zone 1B:	337
Zone 2:	641
Zone 3:	450
Zone 4:	203
Total:	**1668**

18Cv492
Block 1 (Core Area)
Artifact Distributions

FIGURE 100



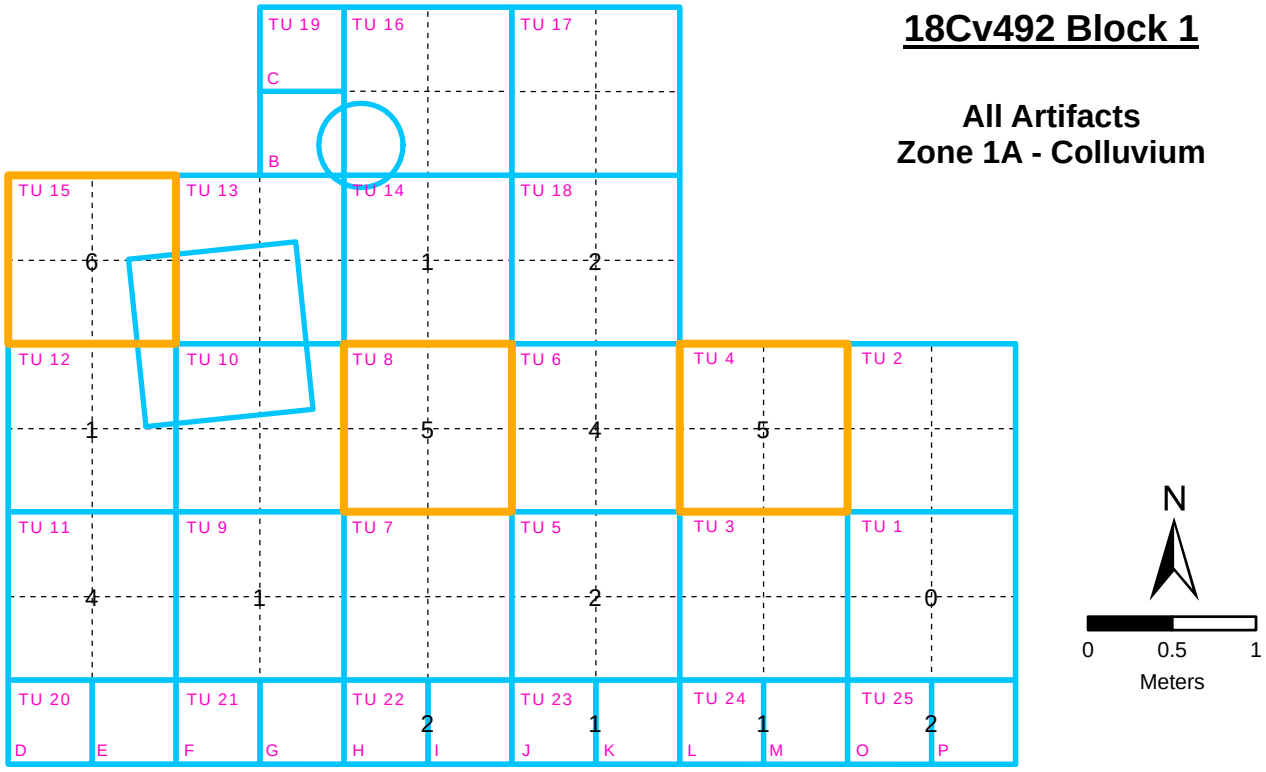
Note: Quantities shown in center of 1m x 1m TU were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

Three largest 1x1 TU assemblages

Prehistoric Artifact Concentration

18Cv492 - Block 1
Artifact Distribution
All Levels

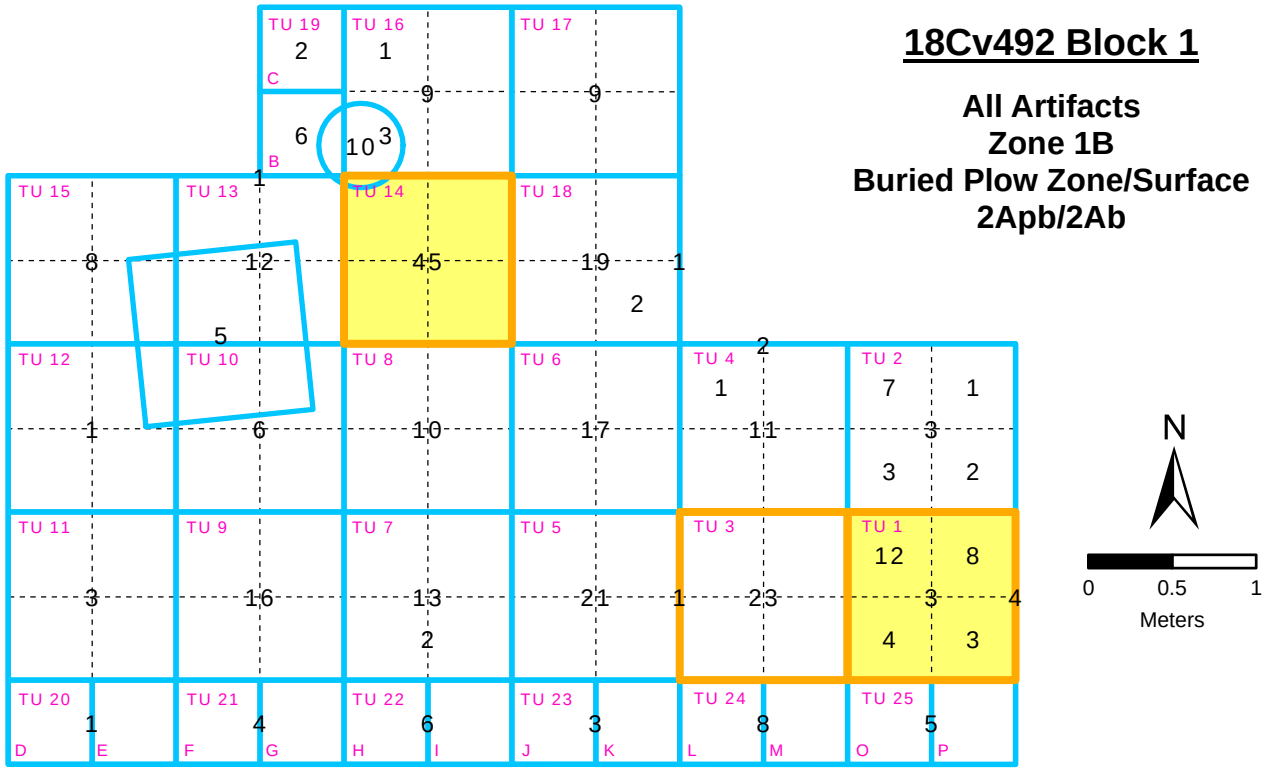
FIGURE 101



Three Largest 1x1 TU Assemblages

Prehistoric Artifact Concentration

Note: Quantities shown in center of 1m x 1m TU were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

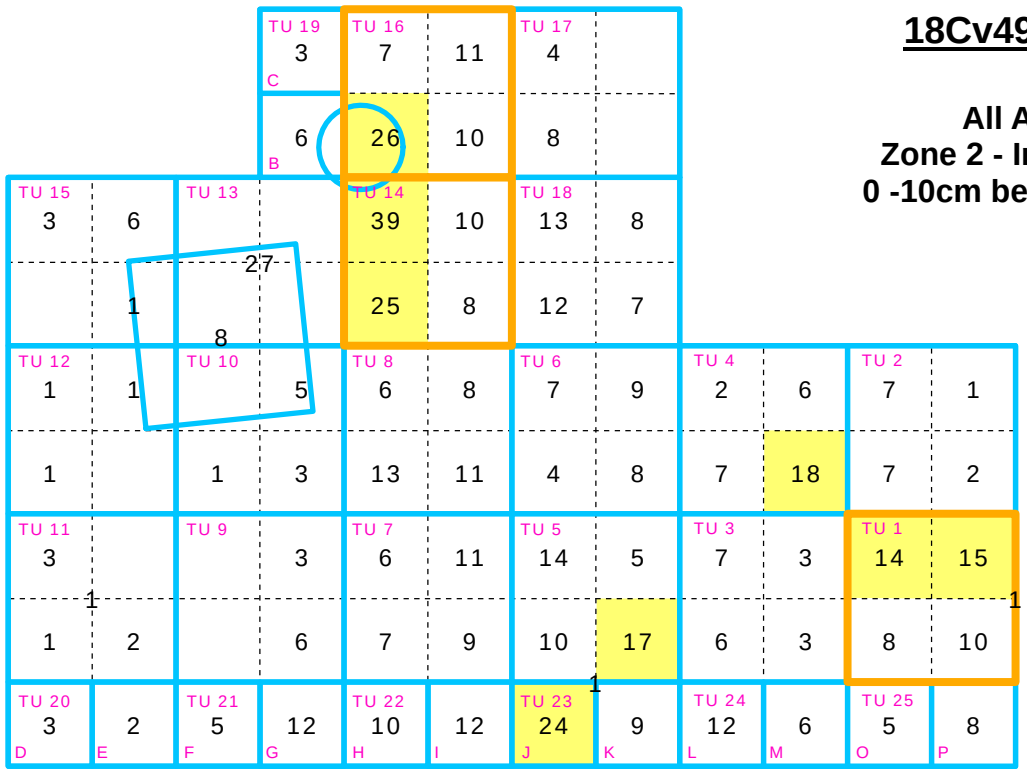


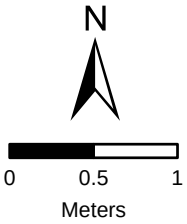
18Cv492 - Block 1
Zone 1A and Zone 1B
Artifact Distribution

FIGURE 102

18Cv492 Block 1

All Artifacts
Zone 2 - Intact Subsoil
0 -10cm below 2Apb/2Ab





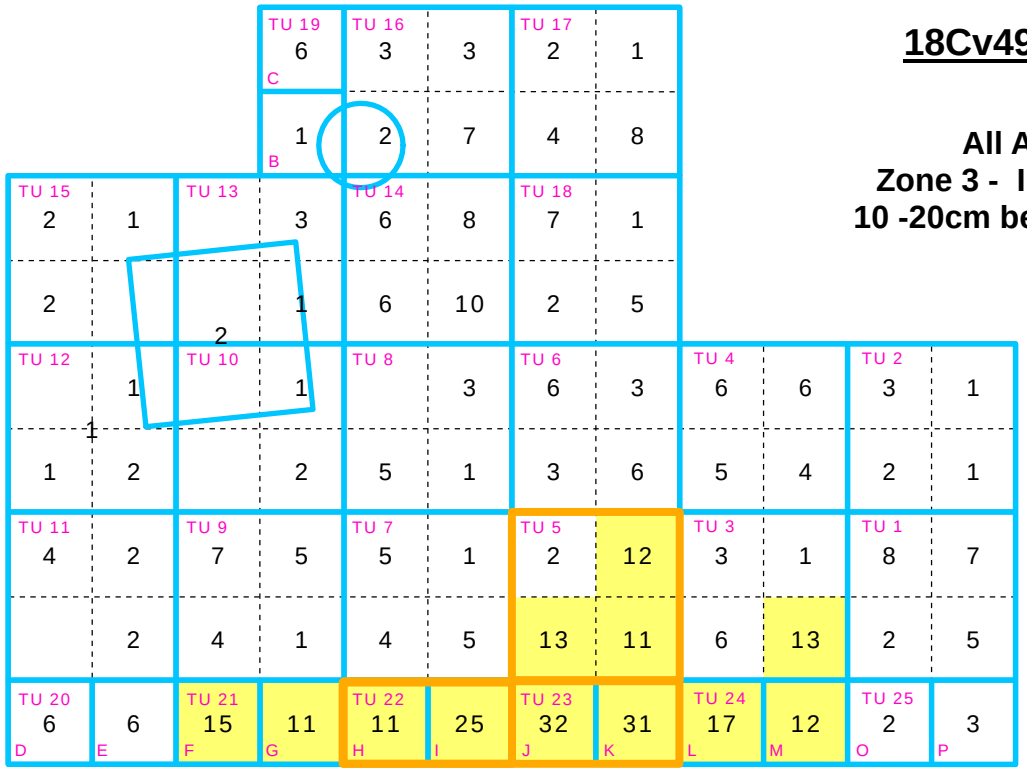
Three Largest 1x1 TU Assemblages

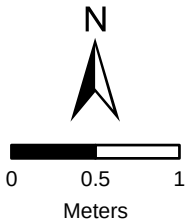
Prehistoric Artifact Concentration

Note: Quantities shown in center of 1m x 1m TU were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 Block 1

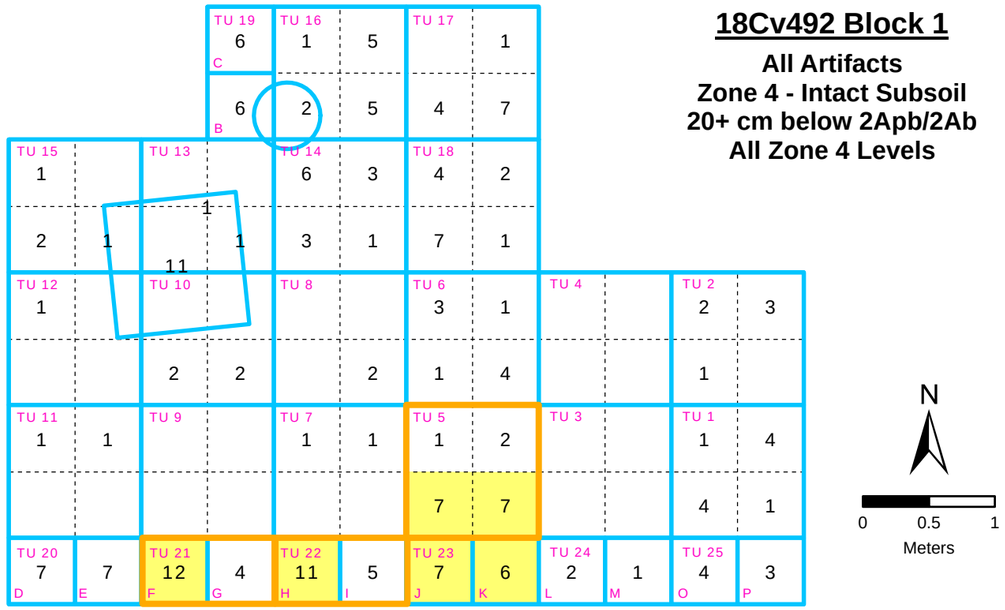
All Artifacts
Zone 3 - Intact Subsoil
10 -20cm below 2Apb/2Ab

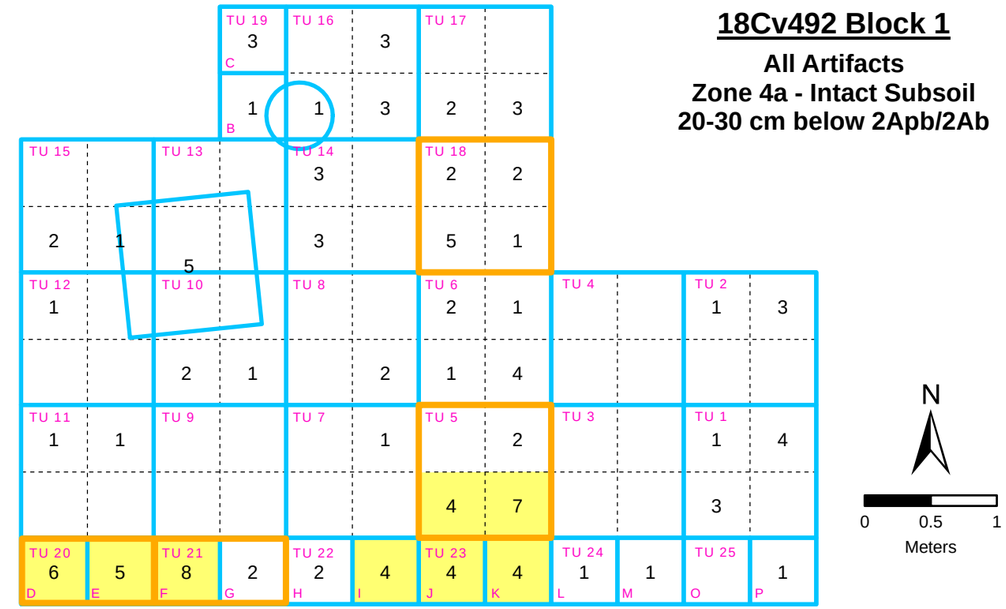




18Cv492 - Block 1
Zone 2 and Zone 3
Artifact Distribution

FIGURE 103

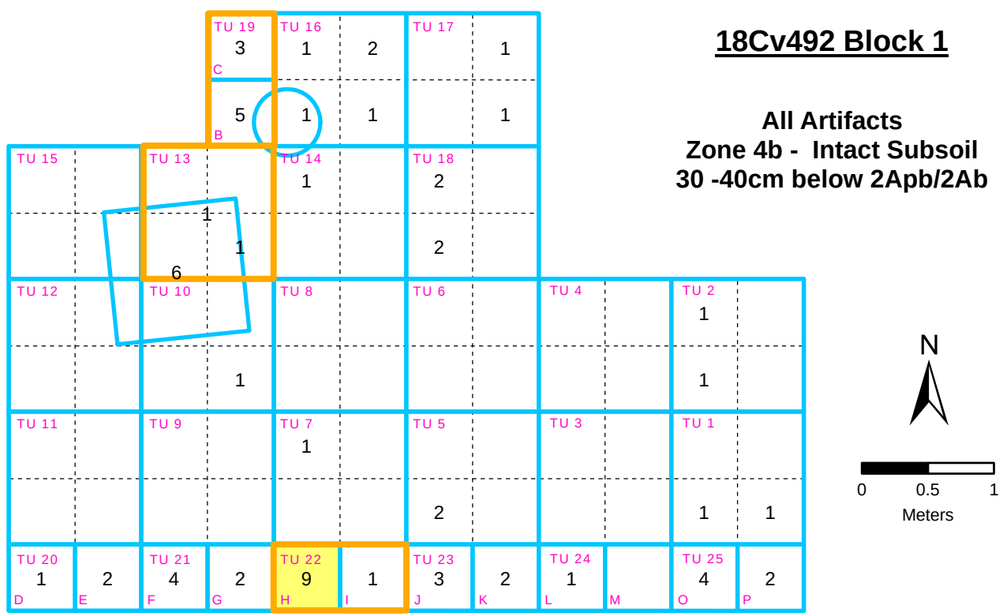


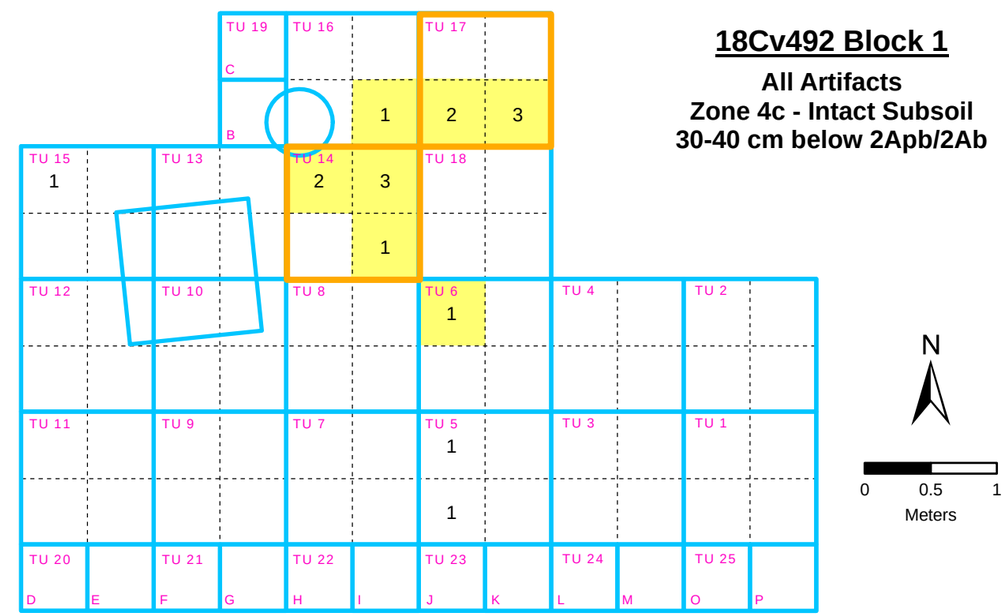


Three Largest 1x1 TU Assemblages

Prehistoric Artifact Concentration

Note: Quantities shown in center of 1m x 1m TU were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).





18Cv492 - Block 1
Zone 4 Artifact Distribution

FIGURE 104

Table 46:

18Cv492 - Summary Artifact Catalog of Block 1 Units by Provenience

ARTIFACTS	TU 01	TU 02	TU 03	TU 04	TU 05	TU 06	TU 07	TU 08	TU 09	TU 10	TU 11	TU 12	TU 13	TU 14	TU 15	TU 16	TU 17	TU 18	TU 19 (B/C)	TU 20 (D/E)	TU 21 (F/G)	TU 22 (H/I)	TU 23 (J/K)	TU 24 (L/M)	TU 25 (N/O)	STP N10 E80 (Phase I/II)	Phase I TU 1	Floor Scraping/ Clean Up	TOTAL
Lithic Artifacts (Chipped Stone)																													
Flakes	38	22	30	22	56	21	30	8	16	3	11	5	5	27	3	7	16	34	5	17	29	50	62	36	16		11		**580**
Utilized Flakes	6	1		3	14	6	8	9	1	3	3		6	12		12	6	16	1	1	8	7	15	3	1			2	**144**
Flake Tools		1	1		3	2	1		1		1			2	1	1	2	2			1	2	3	2					**26**
Misc. Chipped Stone Tools				1	1			4			2						2		1	1			1						**13**
Projectile Points - diagnostic						1	1	1		1				1			2					1							**8**
Point Fragments - non-diagnostic			1				1	2			1			2		2		1				2							**12**
Early Stage Biface Reject							1																					1	**2**
Late Stage Biface Reject																													**0**
Biface Fragments			1	1	1			2	2					3		2		2		1	1			1					**17**
Worked Stone/Tested Cobble														2						1									**3**
Cores/Core Fragments			1		1					1											1	1	1						**6**
Shatter	2			1	7	2	1	2	3		2	1		1	1	3	1	2	1	3	10	10	6	2					**61**
Other Stone Artifacts																													
Hammerstone		1		1									1	2		2	6				1		4		4			2	**24**
Fire-Cracked Rock - Count	9	5	8	20	17	6	8	1	1	1	1	1	1		1	5		2	1	6	9	4	9	11	2		4	1	**134**
Gorget Fragments																			5										**5**
Ceramic																													
Ceramic - steatite/soapstone - Marcey Creek																							1						**1**
Ceramic - crushed quartz/grit - Accokeek	54	16	15	18	19	35	14	35	13	13	2	4	33	111	12	54	8	31	18	1	3	3	10	4	9	10	7		**552**
Ceramic - crushed shell - Mockley									6		1				14												3		**24**
Ceramic - crushed quartz, sand/grit - Potomac Creek																			1	1									**2**
Ecofacts																													
Bone	3		8	6	2	3								8	1	7	5	3	2			2	1				1	1	**53**
Shell Fragment																			1										**1**
TOTAL	**112**	**46**	**65**	**73**	**121**	**76**	**65**	**64**	**43**	**22**	**24**	**11**	**46**	**171**	**33**	**95**	**48**	**93**	**36**	**32**	**63**	**82**	**113**	**59**	**32**	**10**	**26**	**7**	**1668**

Table 47:

18Cv492 - Summary Artifact Catalog of Sample Units by Provenience

ARTIFACTS	TU A	STP N0 E60 (Phase I/II)	TU N0 E65	TU N0 E75	STP N0 E80 (Phase I/II)	TU N5 E65	TU N5 E74	TU S1 E75	TU S1 E84	TOTAL
Lithic Artifacts (Chipped Stone)										
Flakes	6	1	23	23	1	6	14	34	3	**111**
Utilized Flakes			10	3		3	3	12	1	**32**
Flake Tools	1		1			1		2		**5**
Misc. Chipped Stone Tools			1	2				1		**4**
Projectile Points - diagnostic										**0**
Point Fragments - non-diagnostic				1						**1**
Early Stage Biface Reject	1		1					1		**3**
Late Stage Biface Reject										**0**
Biface Fragments			1							**1**
Worked Stone/Tested Cobble	1							2		**3**
Cores/Core Fragments						1				**1**
Shatter	1		2	1				3		**7**
Other Stone Artifacts										
Hammerstone								3		**3**
Fire-Cracked Rock - Count		1	4	18		2	1	18		**44**
Gorget Fragments										**0**
Ceramic										
Ceramic - steatite/soapstone - Marcey Creek										**0**
Ceramic - crushed quartz/grit - Accokeek										**0**
Ceramic - crushed shell - Mockley								1		**1**
Ceramic - crushed quartz/sand/grit - Potomac Creek										**0**
Ecofacts										
Bone	1									**1**
Shell Fragment										**0**
TOTAL	**11**	**2**	**43**	**48**	**1**	**13**	**18**	**77**	**4**	**217**

While the lack of artifacts in the upper portions of Zone 1A does not completely dismiss post-depositional migration of artifacts to, across, and from the site, it does:

- provide archeological validation of the geoarcheological results noting that the 2Apb/2Ab surface was subjected to only limited plowing prior to rapid/deep burial (Wagner 2013);
- imply that the overall post-depositional vertical and horizontal displacement of cultural material via colluvial forces or historic plowing within Zone 1B has been minimal and;
- imply that horizontal artifact patterns reflected in the buried plow zone (2Apb, Zone 1B) can be regarded with higher levels of confidence than that which is generally afforded to more "traditional plow zone" assemblages.

The 18Cv492 Zone 1A assemblage consists of fifteen (15) flakes, four (4) utilized flakes, one (1) miscellaneous chipped stone tool, one (1) projectile point, one (1) piece of shatter, two (2) pieces of fire-cracked rock, eighteen (18) Accokeek ceramic sherds, and eight (8) Mockley sherds.

The projectile point is a quartz triangle point that was recovered from Block 1 TU 8. All eighteen of the Accokeek ceramic sherds and seven of the Mockley sherds were recovered from various Block 1 proveniences. One Mockley sherd was recovered from peripheral unit TU S1E75 (**Tables 45-47**).

Across the site, excavations encountered a substantial increase in artifact content from Zone 1A to Zone 1B.

The peripheral test units recovered forty-three (43) artifacts from Zone 1B. The increase in artifacts per unit from Zone 1A to Zone 1B in these units is approximately thrice. The Zone 1B assemblages from the peripheral units contain between one (1) and fourteen (14) artifacts (**Table 44; Figure 90**).

In Block 1, Zone 1B yielded 337 artifacts, approximately nine times the amount of the thirty-seven (37) artifacts that were collected from the overlying Zone 1A. The Zone 1B artifact totals of the Block 1 units range between one and forty-five (45) artifacts (**Table 44; Figure 102**).

Overall, the horizontal distribution of the Zone 1B artifacts inside and outside of Block 1 are relatively consistent; however, higher frequencies of Zone 1B artifacts are apparent in Block TU 14 (n = 45) as well as in sample units TU N0E65 (n = 14) and TU S1E75 (n =12) (**Table 44; Figure 90** and **Figure 102**).

The only unit where fewer artifacts were recovered from Zone 1B than Zone 1A is TU 11, which yielded four (4) Zone 1A artifacts and three 93) Zone 1B artifacts. The difference between the Zone 1A and Zone 1B assemblages of TU 4 is inconsequential.

The 18Cv492 Zone 1B assemblage contains 150 chipped lithic artifacts, 202 ceramic sherds, three (3) hammerstones, sixteen (16) fragments of fire-cracked rock, eight (8) small bone fragments, and one (1) small shell fragment.

In addition to 102 flakes and five (5) pieces of shatter, the collective Zone 1B assemblage also contains twenty-three (23) unmodified utilized flakes, five (5) flake tools, two (2) miscellaneous stone tools, two (2) projectile points, six (6) point fragments, two (2) early-mid stage bifaces, two (2) biface fragments, and one (1) core/core fragment (**Table 45**). Both of the projectile points were recovered from Block 1. The points consist of one quartz Vernon/Halifax variant and a quartz triangle, which were recovered from TU 17 and TU 7, respectively.

The Zone 1B ceramic assemblage is a mixed assemblage that contains Early, Middle, and Late Woodland wares. Over ninety percent of the sherds are Accokeek. In addition to the 186 sherds of this Early Woodland ware, the Zone 1B ceramic assemblage also contains fifteen (15) Middle Woodland Mockley sherds and one (1) Late Woodland Potomac Creek sherd. All of the Zone 1B ceramic sherds were recovered from Block 1 proveniences (**Table 45**).

Given that both stratigraphic zones were plowed, albeit limited, the mixed temporal contexts of these artifacts is not surprising. That said, and as will be discussed later, some temporal differentiation is discernable in the horizontal and vertical distribution of the datable artifacts from the site.

2. Summary of Subsoil Artifact Recovery

A total of 1,455 prehistoric artifacts were recovered from the intact sub-plow zone stratigraphic contexts of Zone 2, Zone 3, and Zone 4. The subsoil artifacts comprise 77.19 percent of the total 18Cv492 prehistoric assemblage (**Table 43**).

Zone 2. The densest concentration of sub-plow zone artifacts at 18Cv492 is located in Zone 2, the first 10cm of the subsoil (2Eb1). The excavations recovered 694 artifacts, which is approximately 36.82 percent of the total 18Cv492 assemblage (**Table 43**).

Most of the Zone 2 artifacts, 641 artifacts, were recovered from Block 1. The Zone 2 assemblages of the Block 1 test units range from three (3) artifacts (TU 12) to eighty-two (82) artifacts (TU 14) (**Table 44**). The Block 1 test units with the three largest Zone 2 assemblages are, in descending order, TU 14 (n = 82), TU 16 (n = 54), and TU 1 (n=48). At the 50cm quadrant level, the artifacts are generally concentrated in the east half of the block. The three largest 50cm quadrant assemblages were recovered from three contiguous quadrants, specifically TU 16 SW (n = 26), TU 14 NW (n = 39), and TU 14 SW (n = 25) (**Figure 102**). The only other 50cm quadrant in Block 2 with an assemblage that is of similar size to the aforementioned quadrants is TU 23 NE (aka. "Quad J"), which yielded twenty-four artifacts. The remaining quadrants in Block 1 possess Zone 2 assemblages that range from no artifacts to eighteen (18) artifacts.

Fifty-three artifacts were recovered from Zone 2 in the sample units. These assemblages range from one (1) artifact (TU S1E84) to seventeen (17) artifacts (TU S1E75) in size (**Table**

44; Figure 90). The collective total of the seven sample unit assemblages is fifty-three (53) artifacts, which is approximately 7.63 percent of the total 18Cv492 Zone 2 assemblage.

Artifact type distributions within Zone 2 are compatible to those obtained in Zone 1A/Zone 1B; with a noted increase in the number of stone artifacts. In addition to 231 unmodified pieces of debitage (flakes = 202; shatter = 29), the non-diagnostic Zone 2 chipped lithic assemblage contains fifty-four (54) (unmodified) utilized flakes, seven (7) flake tools, one (1) core/core fragment, two (2) early-mid stage biface rejects/fragments, two (2) fragments from finished/ nearly completed bifaces, four (4) miscellaneous chipped stone tools, and two (2) undatable projectile point fragments. Other non-diagnostic artifacts include sixty-six (66) pieces of fire-cracked rock, one hammerstone, and twenty-three (23) small pieces of calcined bone (**Table 45**).

The Zone 2 assemblage contains the largest diagnostic artifact assemblage. Although the temporal contexts of the datable artifacts in this stratigraphic zone are mixed, Early Woodland artifacts are most prevalent. This time period is best represented by 292 Accokeek ceramic sherds (various), one (1) Marcey Creek ceramic sherd (TU 23), and three (3) gorget fragments (TU 19). The gorget fragments are from a single gorget manufactured from green schist. Other diagnostic artifacts that were recovered from Zone 2 include two (2) Mockley sherds (TU Phase I/II TU 1, TU 15), the proximal end of a rhyolite broadspear (TU 22), a quartz basal notched point (TU 10), and a quartzite Piscataway point (TU 17). The physical characteristics of the extant shoulders and stem of the rhyolite broadspear fragment are compatible to those that attributed to Savannah River variants.

Of the above noted artifacts, the only specimens that were not recovered from Block 1 are thirty (30) flakes, thirteen (13) utilized flakes, one (1) flake tool, one (1) early-mid stage biface, one (1) piece of shatter, and seven (7) fire-cracked rock fragments. These artifacts compose the 53-artifact Zone 2 assemblage that was recovered from the sample units (**Table 45**).

Zone 3. A total of 517 artifacts were recovered from Zone 3, which corresponds to the second 10cm level of the subsoil (i.e. 10-20 cm below 2Apb/2Ab). The Zone 3 artifact assemblage is the second largest stratigraphic assemblage from 18Cv492, and is equivalent to approximately 27.43 percent of the total site assemblage (**Table 43**). The Zone 3 assemblages of Block 1 and the peripheral units contain 450 and sixty-seven (67) artifacts, respectively (**Tables 43-45**).

The majority of the Zone 3 assemblage from the peripheral units, fifty-five (55) artifacts, were recovered from TU N0E75 and TU S1E75. The remaining ten artifacts were recovered form TU A (n = 4) and TU N0E65 (n = 8) (**Table 44; Figure 90**).

In Block 1, the Zone 3 artifacts are clustered along the south edge of the block (**Figure 103**). The highest number of artifacts recovered from a single 1-meter square unit is sixty-three (63) artifacts, which were recovered from the north half of TU 23. The artifact totals of the other twenty 1m by 1m test units in Block 1 range from two artifacts to thirty-eight artifacts

(**Table 44**). Artifact totals of individual 50cm quadrants range from no artifacts to thirty-two (32) artifacts (**Figure 103**).

The majority of the Zone 3 artifacts are lithic artifacts. In addition to 244 flakes and twenty-five (25) pieces of shatter, the chipped stone assemblage contains fifty-eight (58) utilized flakes, fifteen (15) flake tools, nine (9) miscellaneous chipped stone tools, two (2) projectile points, two (2) non-diagnostic point fragments, one (1) early-mid stage biface reject, ten (10) small biface fragments, one (1) worked/tested cobble, and five (5) core fragments. Other stone artifacts include six (6) hammerstones, two (2) gorget fragments, and eighty (80) pieces of fire-cracked rock. The gorget fragments (TU 19) consist of one piece that mends with the gorget fragment recovered from Zone 2 and the center section of a different, smaller gorget. This second gorget is also made of a green schist material.

The datable artifacts from Zone 3 consist of the two aforementioned projectile points and thirty-nine (39) Accokeek ceramic sherds. The points are a chert Early Archaic Amos/Palmer point and a quartz Late Archaic Vernon/Halifax point, which were recovered from TU 14 and TU 6, respectively. The mixed dates of these artifacts indicate that the temporal contexts of Zone 4 have been compromised.

Eighteen calcined bone fragments were also recovered from Zone 3.

Zone 4. Zone 4 corresponds to excavation levels situated twenty (20) or more centimeters below the 2Apb/2Ab horizon. The Zone 4 excavations represent the approach to culturally sterile subsoil (2Btgb). Artifacts were recovered from three consecutive 10cm levels excavated in this stratigraphic zone. In both Block 1 and the peripheral units, most of the 244 artifacts that were recovered from Zone 4 were collected from the portion of the soil profile situated between twenty and forty centimeters (20-40cm) below 2ApB/2Ab horizon, specifically Zone 4a (n = 147) and Zone 4b (n = 77). The only peripheral unit that yielded artifacts from Zone 4c, the third 10cm level of Zone 4, is TU N0E65. This unit contained four pieces of debitage at this depth. In Block 1, the deepest cultural deposits were located primarily in the northeastern units of Block 1. These artifacts were also recovered in the immediate vicinity of a severe root disturbance.

The Zone 4 assemblage of the peripheral units of Block 1contain forty-one (41) artifacts and 203 artifacts, respectively (**Tables 43-45**). Collectively, these artifacts are equivalent to approximately 12.94 percent of the total 18Cv492 assemblage (**Table 43**).

The more notable artifacts recovered from this stratigraphic zone are seventeen (17) Accokeek ceramic sherds, one (1) Potomac Creek ceramic sherd, and an interesting assemblage of seventeen hammerstones. All of the aforementioned ceramic artifacts and fifteen of the hammerstones were recovered from various locations in Block 1.

Other artifacts recovered from Zone 4 include 128 flakes, thirty-seven (37) utilized flakes, four (4) flake tools, one (1) miscellaneous chipped stone tool, three (3) non-diagnostic point fragments, four (4) biface fragments, five (5) worked/tested cobbles, eight (8) pieces of shatter, fourteen (14) pieces of fire-cracked rock, and five (5) pieces of calcined bone (**Table 45**).

D. General Summary of Excavated Artifacts

The following discussion presents a summary of the prehistoric artifact types that were recovered from the site. **Figure 105** presents graphic representations of the breakdown of artifact types within the assemblage and also by excavation area.

1. Lithic Artifacts (Chipped Artifacts)

The 18Cv492 is unusual in that chipped lithic artifacts do not drastically outnumber other artifact classes. The lithic assemblage contains 1,040 artifacts, which constitutes approximately half (55.17%) of the recovered prehistoric assemblage. This distribution is, for the most part, a reflection of the Block 1 assemblage. The proportion of lithic artifacts to other artifact classes is higher in the assemblage recovered by the peripheral sample units. In the peripheral sample units, three fourths of the recovered artifacts are lithic artifacts (**Figure 105**).

The lithic assemblages of Block 1 and the sample units contain 872 and 168 artifacts, respectively (**Figure 105**). The lithic artifact types and materials are summarized in **Table 48**.

Unsurprisingly, most of the lithic assemblage is unmodified debitage. This assemblage is composed of 691 flakes and sixty-eight (68) pieces of shatter.[13] Debitage constitutes approximately seventy-three (72.98) percent of the site's lithic artifacts and approximately forty percent of the entire 18Cv491 assemblage. The Block 1 debitage assemblage contains 144 flakes and sixty-one (61) pieces of shatter. A total of 111 flakes and seven (7) pieces of shatter were recovered in the peripheral units (**Table 48**).

The lithic tool assemblage is small but varied (**Table 48**). Most of the tools are non-diagnostic expedient forms such as utilized (unmodified) flakes (n=176), flake tools (n = 31), and other miscellaneous chipped stone tools (n =17); however, the assemblage also includes several early-mid stage bifaces (n = 5), several biface fragments[14] (n= 18), as well as a small number of cores (n =7) and tested/worked cobbles (n = 6).

The projectile point assemblage consists of thirteen (13) non-diagnostic fragments[15], mainly tips and medial sections, and eight (8) identifiable points. Points and point fragments are the only lithic tool types that were recovered exclusively from Block 1.

The point assemblage contains types that collectively span the Early Archaic through Late Woodland periods. The identifiable points consist of one Amos/Palmer variant, one Savannah River broadspear, two Vernon/Halifax variants, one Piscataway point, one basal notched point, and two triangle points. The only specimen within the assemblage that does not exhibit heavy use and/or severe damage is the Amos/Palmer point.

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[13] Debitage that does not exhibit characteristics of flaking or distinct evidence of thermal shock like common fire-cracked rock was classified as shatter.

[14] Artifacts that exhibit bifacial cross sections and are clearly pieces of bifaces. The production stage/form of the biface from which these fragments originated cannot be deduced from the extant fragment.

[15] Fragments for which types cannot be deducted from the extant fragment such as tips and medial sections.

Total Assemblage

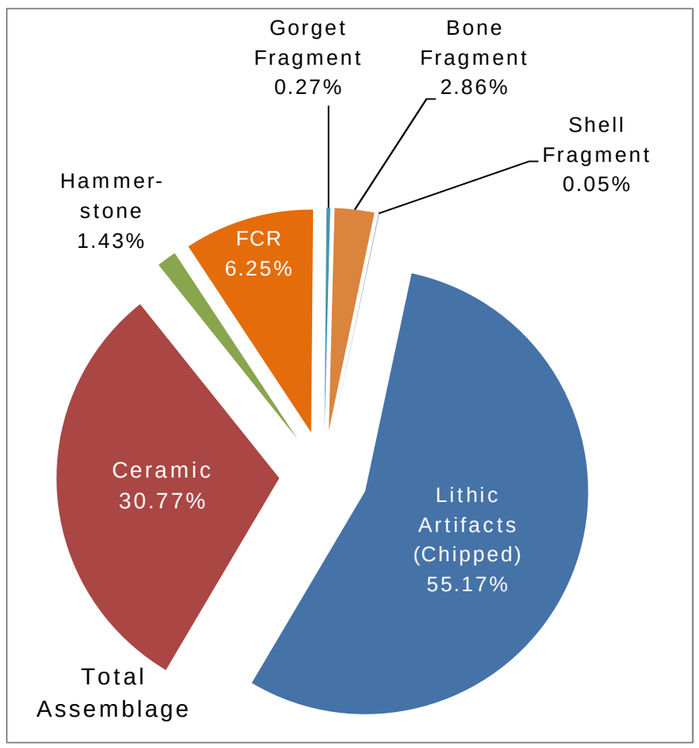
Artifact Type	Sum	%
Lithic Artifacts (Chipped)	1040	55.17%
Ceramic	580	30.77%
Hammerstone	27	1.43%
Fire-Cracked Rock	178	9.44%
Gorget Fragment	5	0.27%
Bone Fragment	54	2.86%
Shell Fragment	1	0.05%
Sum	**1885**	100.00%

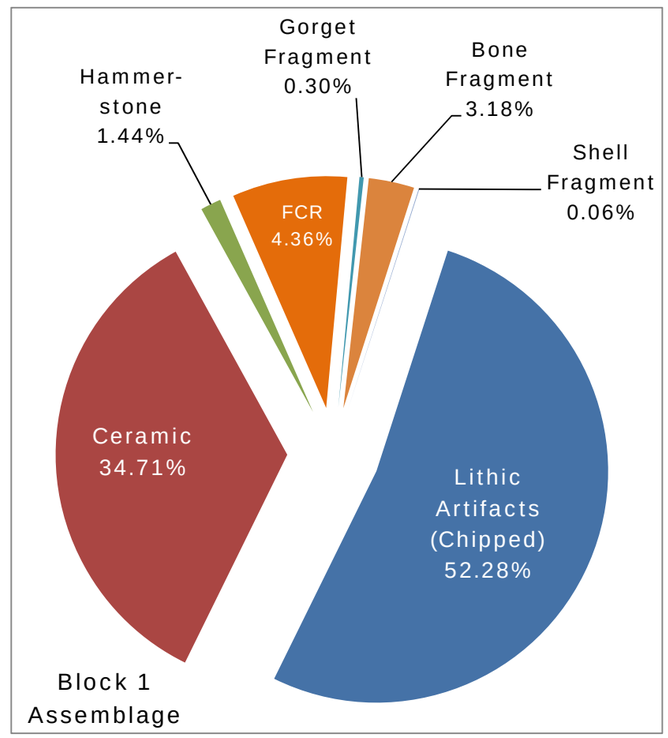
Distribution - Block 1

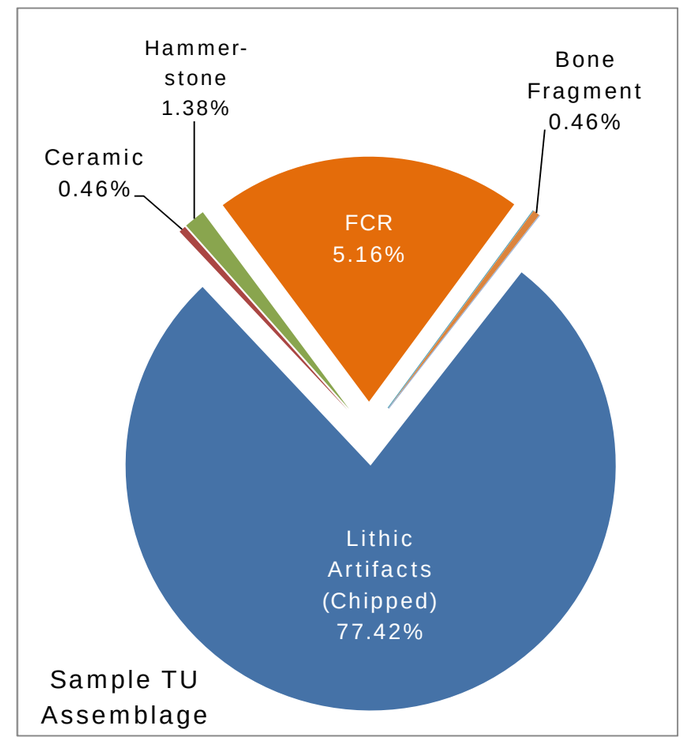
Artifact Type	Sum	% within	% *of total*
Lithic Artifacts (Chipped)	872	52.28%	*83.85%*
Ceramic	579	34.71%	*99.83%*
Hammerstone	24	1.44%	*88.89%*
Fire-Cracked Rock	134	8.03%	*75.28%*
Gorget Fragment	5	0.30%	*100.00%*
Bone Fragment	53	3.18%	*98.15%*
Shell Fragment	1	0.06%	*100.00%*
Sum	**1668**	100.00%	***88.49%***

Distribution - Sample Units

Artifact Type	Sum	% within	% *of total*
Lithic Artifacts (Chipped)	168	77.42%	*16.15%*
Ceramic	1	0.46%	*0.17%*
Hammerstone	3	1.38%	*11.11%*
Fire-Cracked Rock	44	20.28%	*24.72%*
Gorget Fragment	0	0.00%	*0.00%*
Bone Fragment	1	0.46%	*1.85%*
Shell Fragment	0	0.00%	*0.00%*
Sum	**217**	100.00%	***11.51%***







18Cv492 Artifact Type
Percentages within Assemblage

FIGURE 105

Table 48:
18Cv492 - Summary Catalog of Lithic Artifact Types and Material Types

18Cv492 Block 1
(TU 1 through TU 25, Phase I/II TU1, and STP N10E0)

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	253 (136)	309 (96)	13 (5)		4	1			**580** (237)
Utilized Flakes	1	141 (36)			1	1			**144** (36)
Flake Tools	5 (3)	20 (15)	1 (1)						**26** (19)
Miscellaneous Stone Tools	4 (2)	8 (2)	1						**13** (4)
Projectile Points - diagnostic	1	5	1		1				**8**
Point Fragment - non-diagnostic		11			1				**12**
Early Stage Biface Rejects	1	1							**2**
Late Stage Biface Rejects									**0**
Biface Fragments	3	14 (4)							**17** (4)
Worked Stone/Tested Cobble	1 (1)	2 (2)							**3** (3)
Cores	5 (2)	1 (1)							**6** (3)
Shatter	28 (22)	14 (12)	19 (10)						**61** (44)
TOTAL	**302 (166)**	**526 (168)**	**35 (16)**		**7**	**2**			**872 (350)**

18Cv492 Sample Units: 10m-Interval Units and STPs in Non-Block Area
(TU A; TUs N0E60, N0E75, N5E65, N5E74, S1E75, S1E84; STP N0E60 and STP N0E80

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	47 (21)	51 (20)	2 (2)		2			9 (4)	**111** (47)
Utilized Flakes	1 (1)	30 (7)						1	**32** (8)
Flake Tools	2 (1)	3 (3)							**5** (4)
Miscellaneous Stone Tools	2 (2)	2							**4** (2)
Projectile Points - diagnostic									**0**
Point Fragment - non-diagnostic		1							**1**
Early Stage Biface Rejects	2 (1)	1 (1)							**3** (2)
Late Stage Biface Rejects									**0**
Biface Fragments		1							**1**
Worked Stone/Tested Cobble	1 (1)	1 (1)	1 (1)						**3** (3)
Cores		1 (1)							**1** (1)
Shatter	2 (2)	4 (1)	1 (1)						**7** (4)
TOTAL	**57 (29)**	**95 (34)**	**4 (4)**		**2**			**10 (4)**	**168 (71)**

18Cv492 Total Assemblage

Lithic Artifact Type (#) = artifacts with cortex	Quartzite	Quartz	Chert	Jasper	Rhyolite	Argillite	Ironstone	Other	TOTAL
Flakes	300 (157)	360 (116)	15 (7)		6	1		9 (4)	**691** (284)
Utilized Flakes	2 (1)	171 (43)			1	1		1	**176** (44)
Flake Tools	7 (4)	23 (18)	1 (1)						**31** (23)
Miscellaneous Stone Tools	6 (4)	10 (2)	1						**17** (6)
Projectile Points - diagnostic	1	5	1		1				**8**
Point Fragment - non-diagnostic		12			1				**13**
Early Stage Biface Rejects	3 (1)	2 (1)							**5** (2)
Late Stage Biface Rejects									**0**
Biface Fragments	3	15 (4)							**18** (4)
Worked Stone/Tested Cobble	2 (2)	3 (3)	1 (1)						**6** (6)
Cores	5 (2)	2 (2)							**7** (4)
Shatter	30 (24)	18 (13)	20 (11)						**68** (48)
TOTAL	**359 (195)**	**621 (202)**	**39 (20)**		**9**	**2**		**10 (4)**	**1040 (421)**

2. Ceramic Artifacts

A total of 580 ceramic sherds were recovered by the Phase I, II, and III investigations at 18Cv492. These artifacts are equivalent to slightly less than one third of the total site assemblage (30.77%). Ceramic artifacts were recovered from all four stratigraphic zones. The assemblage contains two Early Woodland wares, one Middle Woodland ware, and one Late Woodland ware.

The sherd count of Accokeek ceramic, 552 individual sherds in all, far exceeds those of the other wares, and as such, the Early Woodland period subassemblage is also the largest ceramic subassemblage. The estimated minimum vessel count for Accokeek ceramic is three vessels. Although Accokeek sherds were recovered from Zone 1 through Zone 4, and as deep as Zone 4c, the majority of the sherds are associated with Zone 2 (n = 186) and Zone 3 (n = 292). The other Early Woodland ware that was recovered at 18Cv492 is Marcey Creek, which is represented by a single sherd recovered from Zone 2 in TU 23.

The Middle Woodland Period ceramic assemblage consists of twenty-five (25) Mockley sherds. The sherds were recovered from the upper depths of the profile, specifically Zone 1A through Zone 2. One of the Mockley sherds was recovered from TU S1E75. This Mockley sherd from TU S1E75 is the only ceramic sherd that was not recovered from Block 1. All of the sherds appear to be from one vessel.

The Late Woodland Period is represented in the ceramic assemblage by two (2) Potomac Creek sherds. One sherd each was recovered from TU 19 and TU 20, which are proveniences located along the north and south transects of Block 1, respectively. In addition to their recovery from opposite ends of the block, the sherds were also recovered from opposite ends of the vertical profile. The sherd from TU 19 was recovered from Zone 1B, whereas the sherd from TU 20 was recovered from Zone 4B.

The Marcey Creek sherd, many of the Mockley sherds, and both of the Potomac Creek sherds were recovered in direct association with Accokeek sherds.

3. Other Stone Artifacts

Twenty-seven (27) hammerstones of varying shapes, sizes, and degrees of wear were recovered from 18Cv492. These hammerstones were recovered predominately from Block 1 proveniences, and notably, from Zone 3 and Zone 4.

Five (5) gorget fragments were recovered from Zone 2 and Zone 3 in Block 1 TU 19. The fragments represent two (2) different green schist gorgets. A substantial portion of TU 19, including the quadrants from which the gorget fragments were recovered, has been disturbed by a large, intrusive tree root that runs vertically through, and horizontally across, this unit.

4. Fire-Cracked Rock

One hundred and seventy-eight (178) fire-cracked rock fragments were recovered from proveniences inside and outside of Block 1. The assemblage weighs 12,925.45 grams.

Forty-four (44) pieces of fire-cracked rock (2,750.93g) were recovered from non-Block 1 test locations. Thirty-six (36) of these fragments were recovered from S1E075 (n = 18; 1417.08g) and N0E75 (n = 18; 1034.40g). The other eight (8) fragments (299.45g) were recovered in random site locations. The Block 1 fire-cracked rock assemblage contains 134 fragments (10,174.52g). Most of the fire-cracked rock in Block 1 is concentrated in the south and southeastern units of the block.

5. Ecofacts

Fifty-four (54) bone fragments were recovered from 18Cv492. Most of the pieces are calcined. Most of the pieces are too deteriorated and/or too small to identify either species or anatomical position using standard laboratory procedures. One fragment has been identified as a fragment of an Artiodactyl sp. metapodial distal condyle. The fragment, which is probably deer, is of a juvenile individual.

E. Summary of Block 1 Excavations

The data recovery excavations of Block 1 entailed the controlled block excavation of eighteen (18) full one- meter by one-meter test units (TUs 1 –19) and seven (7) 1m by 0.5m "half units" (TUs 19 – 25) (**Figures 9, 10, 90, 100, 106, and 107**). The Block 1 excavations are equivalent to 21.5 square meters of excavations.

The intact cultural deposits of 18Cv492 Block 1 are located beneath the buried remains of a plow zone horizon (2Apb/2Ab). The buried plow zone is approximately twenty (20) centimeters thick and separates the intact deposits from the slopewash mantle that caps the site. On average, the top of the intact cultural deposits of Block 1 were unearthed at sixty (60) centimeters below the surface.

From top to bottom, the intact, sub-plow zone cultural material is confined to two buried E horizons (2Eb1 and 2Eb2), the underlying BE horizon (2BE), and at most, the top five to ten (5 -10) centimeters of the Bt horizon (2Bt). Most of the cultural material recovered from the lower depths of the soil profile, in the Bt horizon can be attributed to bioturbation. The top of culturally sterile soil was recorded at approximately 110 centimeters below the surface. All sub plow zone test excavations were conducted in 0.50 quadrant blocks. A representative soil profile of Block 1 is shown in the previously presented **Figure 92**.

The recovery of diagnostic lithic and ceramic artifacts with mixed dates in association with one another indicates that sub plow zone deposits are not temporally stratified. Although field carbon samples were regularly collected throughout the course of the excavations, the samples recovered from the least disturbed contexts were too small to submit for accurate radiocarbon dating. Two severe sub-plow zone disturbances were encountered in Block 1. Both disturbances were encountered in the north half of the block. One disturbance was a large tree root that crossed TU 19 (B/C), TU 16 and TU 17. The other disturbance, also a large tree root, was encountered in the corner formed by TU 18, TU 6, and TU 4 (**Figure 108 and Figure 109**).

FIGURE 106: Mid-Excavation View of 18Cv492 Block 1. Photograph taken facing north (October 2012).

FIGURE 107: Mid-Excavation View of 18Cv492 Block 1. Photograph taken facing southeast (October 2012).

FIGURE 108: Closing Profile of 18Cv492 Block 1 North Wall showing Root Disturbance at TUs 16 and TU 17 before excavation of TU 19. Photograph taken facing north (January 2013).

FIGURE 109: Closing View of 18Cv492 showing Root Disturbance at TU 18, TU 6, and TU 4. Photograph taken facing northeast (March 2013).

No discrete pit features or cultural features represented as soil discolorations were encountered during the block excavation. However, the distribution of artifacts across the site does exhibit vertical and spatial patterning that can be used to approximate activity areas within the block.

As noted earlier, during the near-end excavation field view, the collective project team transferred two of excavation units allocated to 18Cv491 to 18Cv492. The purpose of this transfer was to increase the recovery sample of the two aforementioned fire-cracked rock concentrations. One of these appropriated units was utilized to explore a concentration of fire-cracked rock and debitage noted in TU 5.

After reviewing artifact distributions of the 0.50 square meter blocks surrounding TU 5, the remaining appropriated test unit was divided into four 0.50 meter x 0.50 meter blocks. These four 0.50-meter square blocks (designated "quads I, J, K, and L") were aligned east-west of one another with the center two blocks (the equivalent of one half of a test unit) abutting the south side of TU 5. To accommodate the growing instability of the block excavation's south wall caused by Hurricane Sandy, additional 0.50-meter square blocks were excavated along the remaining segments of the original south wall of Block 1. Two similar blocks were also excavated to mitigate storm damage in the northwest corner of the block. These 0.50-meter quadrants form the 1m by 0.5-meter "half units designated TU 19 through TU 25.

The following discussions describe the distribution of artifacts in Block 1. In order to minimize redundancy in this discussion, the reader is advised to consult **Figure 90, Figures 100-104**, **Tables 44-46**, and **Appendix V** for detailed enumerations of the artifacts recovered by individual proveniences. That said, some reiteration of the artifact distribution data presented earlier in this document is necessary for the purposes of this discussion. **Figure 110** through **Figure 115** present a series of maps that show the distributions of select artifact classes.

As noted earlier, a total of 1,668 prehistoric artifacts were recovered from Block 1. Artifacts were recovered from all 21.5 test units within the block.

The recovered assemblage contains 580 flakes, 144 utilized flakes, twenty-six (26) flake tools, thirteen (13) miscellaneous chipped stone tools, eight (8) projectile points, twelve (12) point fragments, two (2) early-mid stage bifaces/biface rejects (ESBR), seventeen (17) biface fragments, three (3) worked/test cobbles, six (6) core fragments, sixty-one (61) pieces of shatter, twenty-four (24) hammerstones, 134 pieces of fire-cracked rock, five (5) gorget fragments, 579 ceramic sherds, fifty-three (53) small bone fragments, and one (1) small shell fragment.

The individual 1- by 1-m unit assemblages (TU 1 – TU 18) range from eleven (11) artifacts to 171 artifacts in size. The individual "half unit" assemblages (TU 19 – TU 25) range from thirty-two artifacts to 113 artifacts in size (**Table 44).** Seven artifacts were recovered from random floor and wall scraping locations.

The test units that yielded the five largest artifact assemblages are TU 14 (n=171), TU 4 (n=121), TU 23 (n=113), and TU 1 (n=112), and TU 16 (n=95), respectively (**Table 44** and **Table 46**). TU 14 also yielded the largest subsoil assemblage (i.e. Zone 2 – Zone 4) with a total of 125 artifacts (**Figures 100 - 104**).

1. Distribution of Diagnostic Points and Ceramic in Block 1

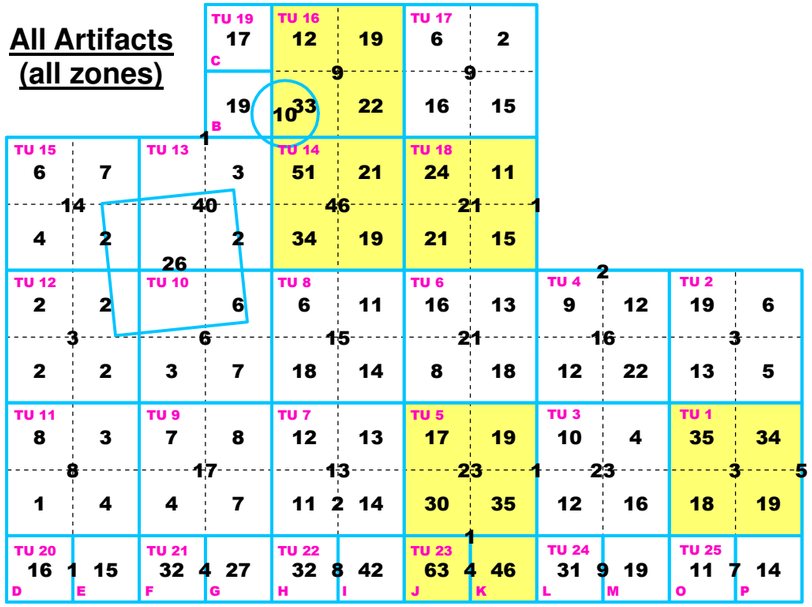
The diagnostic artifact assemblage of Block 1 is a mixed assemblage that contains point and ceramic types that collectively span the Early Archaic through Late Woodland period. The assemblage is vertically mixed. Older artifacts occur in association, as well as, above younger artifacts. Mixing has been most severe along the north-south axis of the block and along the southern edge of the block. These areas are also the portions of the block within which most of the artifacts are concentrated.

Accokeek ceramic, the predominant diagnostic artifact in the assemblage, was recovered from Zone 1A through Zone 4 (**Figures 113-115**). This ca. 900 B.C. 300 B.C. Early Woodland ware (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html) was recovered in sub-plow zone contexts in direct association with both the older ca. 1200 B.C. – 800 B.C. Marcey Creek sherd (Egloff and Potter 1982), as well the younger ca. A.D. 200 - A.D. 900 Mockley and one of the ca. A.D. 1300 – A.D. 1700 Potomac Creek sherds (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html). In fact, the two Late Woodland Potomac Creek ceramic sherds, which are the youngest sherds in the assemblage, were recovered not only from opposite ends of the block, but also opposite ends of the profile. One sherd was recovered from the north end of the block in Zone 1A in TU 19. The other sherd was recovered in Zone 4B in TU 20, which is located at the south end of the block (**Figure 113**). The two sherds do not mend and as such, it is not certain that they are from the same vessel. However, considering that they are the only two Potomac Creek sherds in the assemblage, it can be assumed that the sherds are from the same vessel.

The eight diagnostic points were recovered from seven units. These points consist of one chert Amos/Palmer point (TU 14/Zone 3), one rhyolite Savannah River broadspear (TU 22/ Zone 2), two quartz Vernon/Halifax points (TU 6/Zone 3 and TU 17/Zone 1B), one quartzite Piscataway point (TU 17/Zone 2), one quartz basal notched variant (TU 10/Zone 2), and two small quartz triangle points (TU 8/Zone 1A and TU 7/Zone 1B) (**Figure 110**).

Although it is becoming widely accepted that triangle points were not exclusive to Late Woodland Period, the triangle points recovered from 18Cv492 have been conservatively attributed to the Late Woodland Period. Since the identification of pre-Late Woodland triangle points is still heavily-reliant on contextual data, and to some degree physical characteristics, the 18Cv492 Block 1 triangles provide little to no analytical evidence that can be used to suggest that they are not of Late Woodland period deposition. Both points were recovered from the mixed Zone 1A and Zone 1B strata of the upper depths of the profile. The extant triangle points are also too broken and too worn to accurately assign them to a subtype.

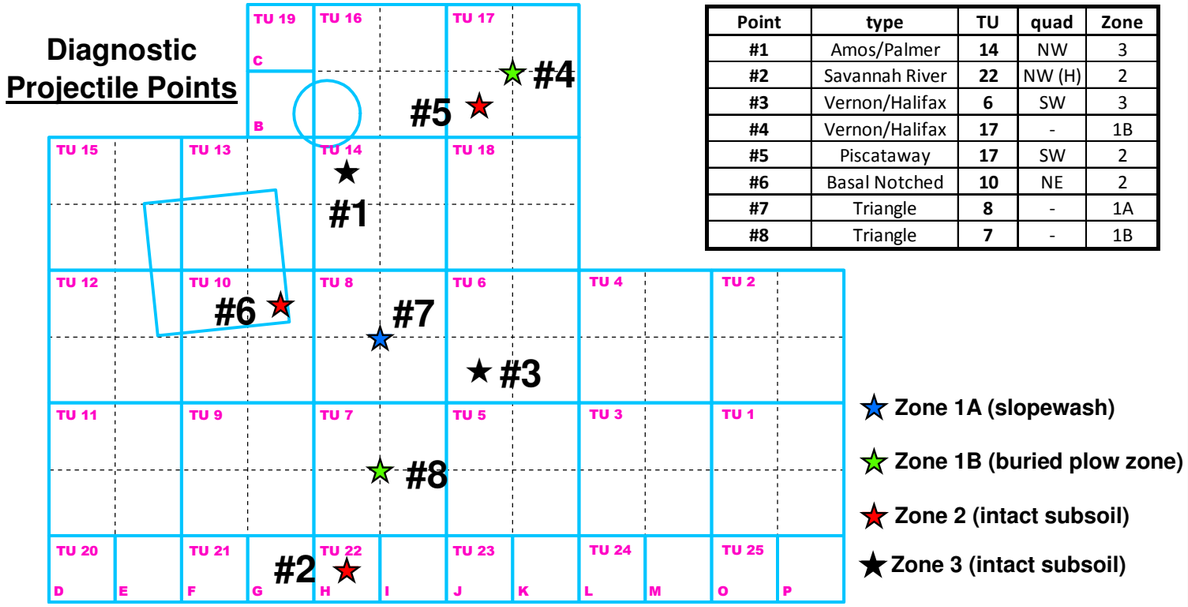
All Artifacts (all zones)



Artifact Totals

TU	Sum
1	112
2	46
3	65
4	73
5	121
6	76
7	65
8	64
9	43
10	22
11	24
12	11
13	46
14	171
15	33
16	95
17	48
18	93
19	36
20	32
21	63
22	82
23	113
24	59
25	32
PI/PII TU	26
PI/PII STP	10
Misc.	7
Sum	1668

Diagnostic Projectile Points



Recovered Points

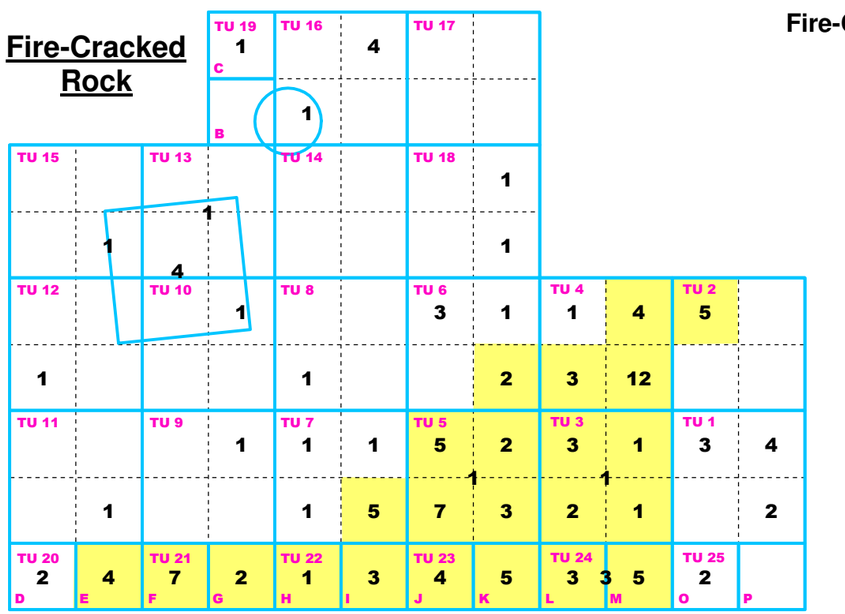
Point	type	TU	quad	Zone
#1	Amos/Palmer	14	NW	3
#2	Savannah River	22	NW (H)	2
#3	Vernon/Halifax	6	SW	3
#4	Vernon/Halifax	17	-	1B
#5	Piscataway	17	SW	2
#6	Basal Notched	10	NE	2
#7	Triangle	8	-	1A
#8	Triangle	7	-	1B

N

0 0.5 1
Meters

artifact concentration

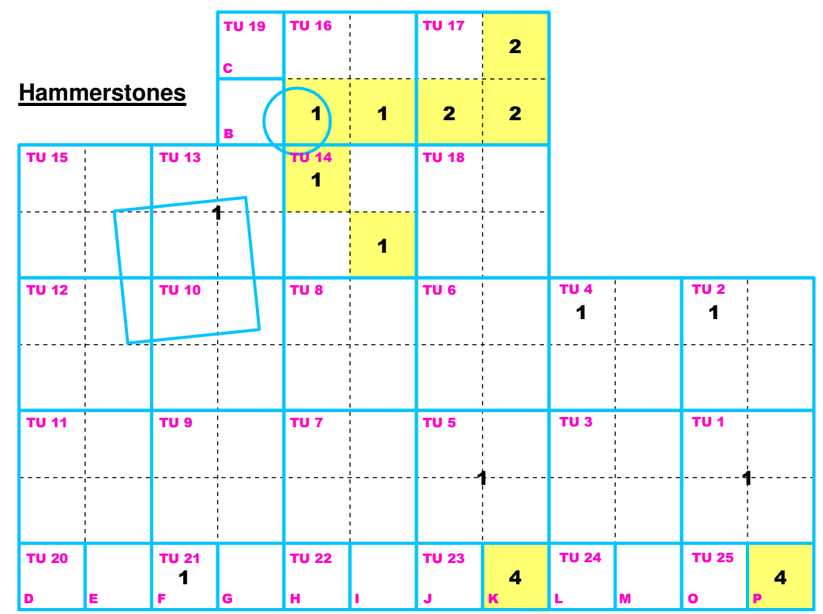
Fire-Cracked Rock



Fire-Cracked Rock Totals

TU	Sum
1	9
2	5
3	8
4	20
5	17
6	6
7	8
8	1
9	1
10	1
11	1
12	1
13	1
14	--
15	1
16	5
17	--
18	2
19	1
20	6
21	9
22	4
23	9
24	11
25	2
PI/PII TU	4
PI/PII STP	--
Misc.	1
Sum	134

Hammerstones



Hammerstone Totals

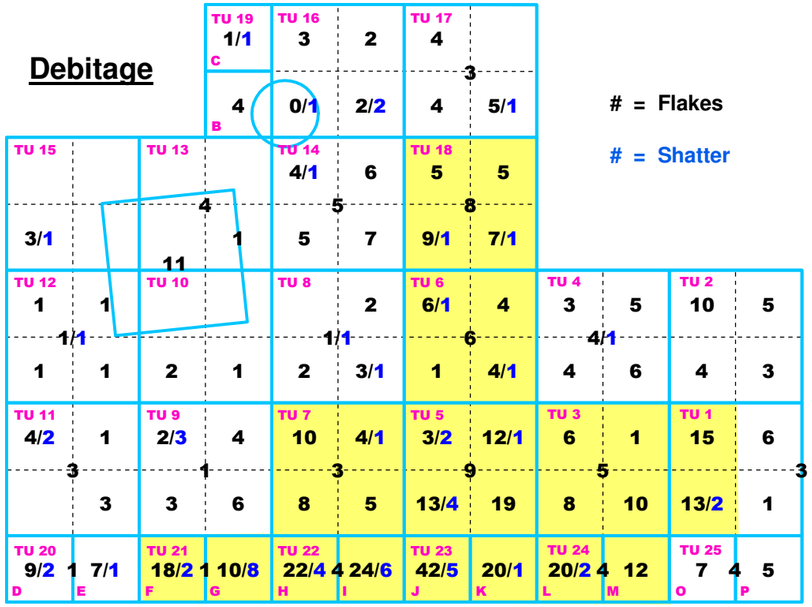
TU	Sum
1	--
2	1
3	--
4	1
5	--
6	--
7	--
8	--
9	--
10	--
11	--
12	--
13	1
14	2
15	--
16	2
17	6
18	--
19	--
20	--
21	1
22	--
23	4
24	--
25	4
PI/PII TU	--
PI/PII STP	--
Misc.	2
Sum	24

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1
Distribution of Total Assemblage, Points, FCR, and Hammerstones

FIGURE 110

Debitage



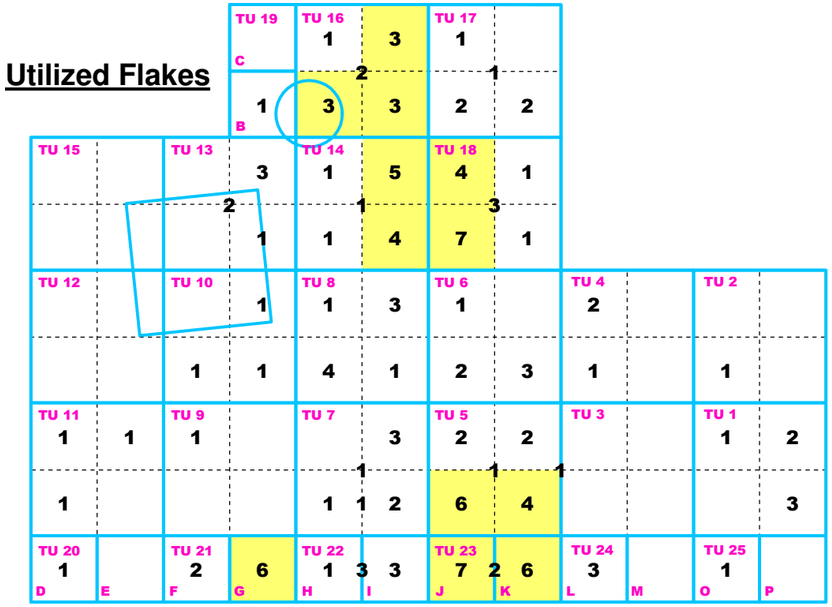
= Flakes

= Shatter

Debitage Totals

TU	flakes	shatter	sum
1	38	2	40
2	22	--	22
3	30	--	30
4	22	1	23
5	56	7	63
6	21	2	23
7	30	1	31
8	8	2	10
9	16	3	19
10	3	--	3
11	11	2	13
12	5	1	6
13	5	--	5
14	27	1	28
15	3	1	4
16	7	3	10
17	16	1	17
18	34	2	36
19	5	1	6
20	17	3	20
21	29	10	39
22	50	10	60
23	62	6	68
24	36	2	38
25	16	--	16
PI/PII TU	11	--	11
PI/PII STP	--	--	--
Misc.	--	--	--
Sum	580	61	641

Utilized Flakes



Utilized Flake Totals

TU	Sum
1	6
2	1
3	--
4	3
5	14
6	6
7	8
8	9
9	1
10	3
11	3
12	--
13	6
14	12
15	--
16	12
17	6
18	16
19	1
20	1
21	8
22	7
23	15
24	3
25	1
PI/PII TU	--
PI/PII STP	--
Misc.	2
Sum	144

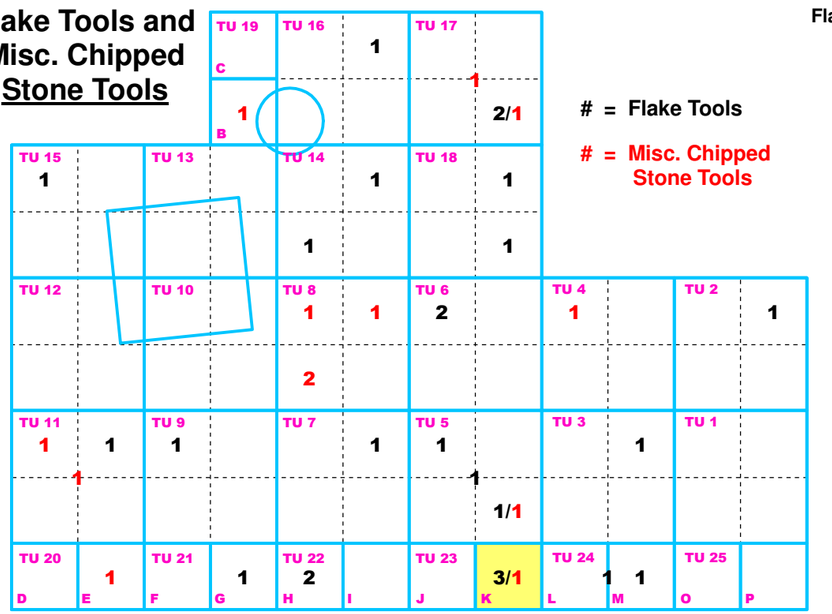
N

0 0.5 1

Meters

artifact concentration

Flake Tools and Misc. Chipped Stone Tools



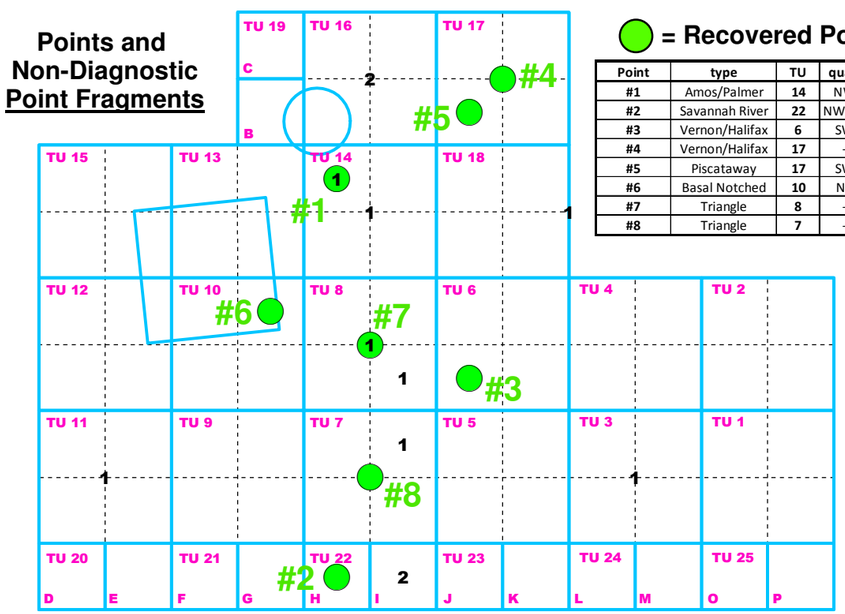
= Flake Tools

= Misc. Chipped Stone Tools

Flake Tools & Misc. Tools Totals

TU	flake tools	misc. tools	sum
1	--	--	--
2	1	--	1
3	1	--	1
4	--	1	1
5	3	1	4
6	2	--	2
7	1	--	1
8	--	4	4
9	1	--	1
10	--	--	--
11	1	2	3
12	--	--	--
13	--	--	--
14	2	--	2
15	1	--	1
16	1	--	1
17	2	2	4
18	2	--	2
19	--	1	1
20	--	1	1
21	1	--	1
22	2	--	2
23	3	1	4
24	2	--	2
25	--	--	--
PI/PII TU	--	--	--
PI/PII STP	--	--	--
Misc.	--	--	--
Sum	26	13	39

Points and Non-Diagnostic Point Fragments



= Recovered Point

Point	type	TU	quad	Zone
#1	Amos/Palmer	14	NW	3
#2	Savannah River	22	NW (H)	2
#3	Vernon/Halifax	6	SW	3
#4	Vernon/Halifax	17	-	1B
#5	Piscataway	17	SW	2
#6	Basal Notched	10	NE	2
#7	Triangle	8	-	1A
#8	Triangle	7	-	1B

Point Fragment Totals

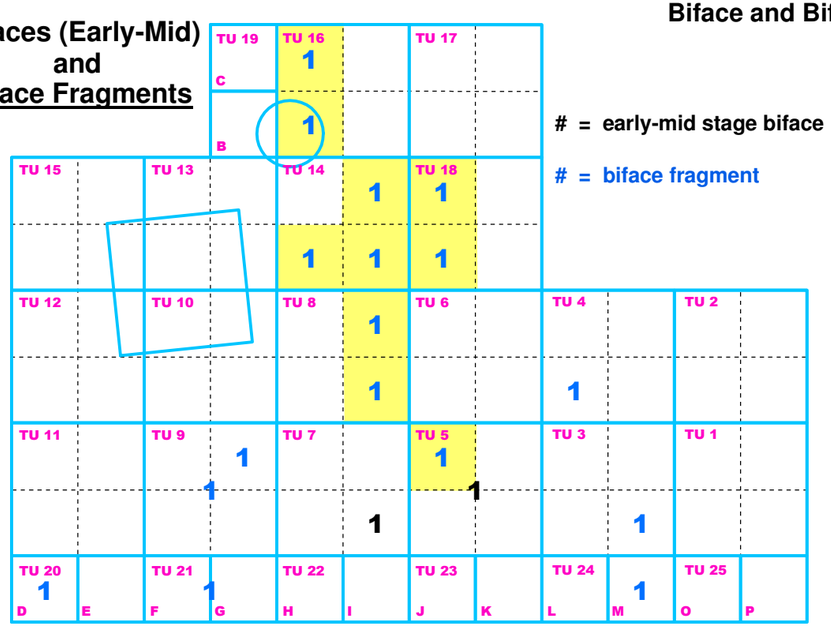
TU	point frag.
1	--
2	--
3	1
4	--
5	--
6	--
7	1
8	2
9	--
10	--
11	1
12	--
13	--
14	2
15	--
16	2
17	--
18	1
19	--
20	--
21	--
22	2
23	--
24	--
25	--
PI/PII TU	--
PI/PII STP	--
Misc.	--
Sum	12

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1
Lithic Artifact Distributions

FIGURE 111

Bifaces (Early-Mid) and Biface Fragments



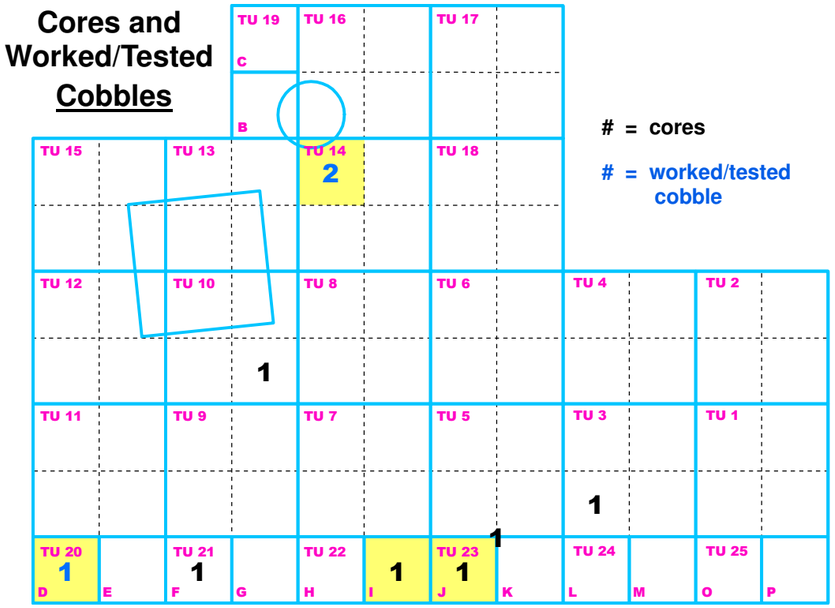
= early-mid stage biface

= biface fragment

Biface and Biface Fragments Totals

TU	Biface (early-mid)	Biface Frag.	sum
1	--	--	--
2	--	--	--
3	--	1	1
4	--	1	1
5	--	1	1
6	--	--	--
7	1	--	1
8	--	2	2
9	--	2	2
10	--	--	--
11	--	--	--
12	--	--	--
13	--	--	--
14	--	3	3
15	--	--	--
16	--	2	2
17	--	--	--
18	--	2	2
19	--	--	--
20	--	1	1
21	--	1	1
22	--	--	--
23	--	--	--
24	--	1	1
25	--	--	--
PI/PII TU	--	--	--
PI/PII STP	--	--	--
Misc.	1	--	1
Sum	2	17	19

Cores and Worked/Tested Cobbles



= cores

= worked/tested cobble

Worked/Tested Cobble Totals

TU	worked/ tested cobbles
1	--
2	--
3	--
4	--
5	--
6	--
7	--
8	--
9	--
10	--
11	--
12	--
13	--
14	2
15	--
16	--
17	--
18	--
19	--
20	1
21	--
22	--
23	--
24	--
25	--
PI/PII TU	--
PI/PII STP	--
Misc.	--
Sum	3

Core Totals

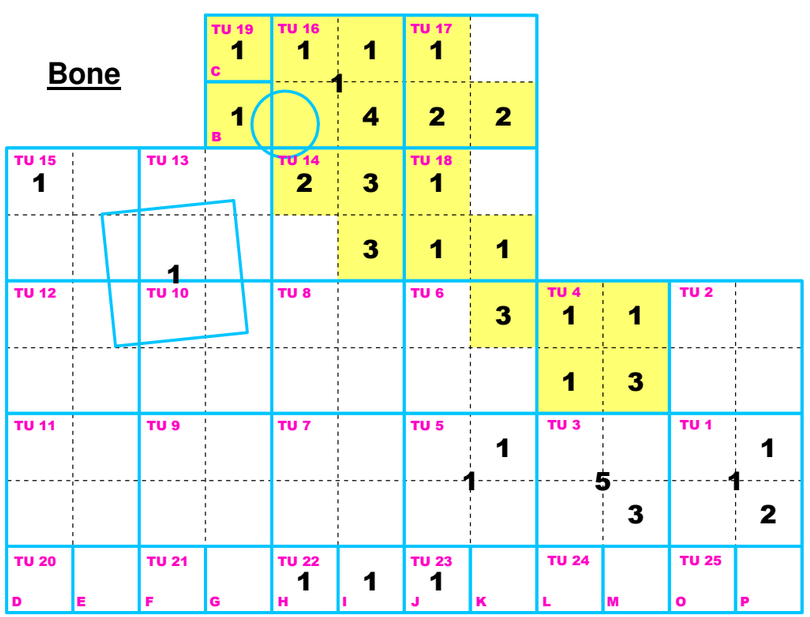
TU	cores
1	--
2	--
3	1
4	--
5	1
6	--
7	--
8	--
9	--
10	1
11	--
12	--
13	--
14	--
15	--
16	--
17	--
18	--
19	--
20	--
21	1
22	1
23	1
24	--
25	--
PI/PII TU	--
PI/PII STP	--
Misc.	--
Sum	6

N

0 0.5 1
Meters

artifact concentration

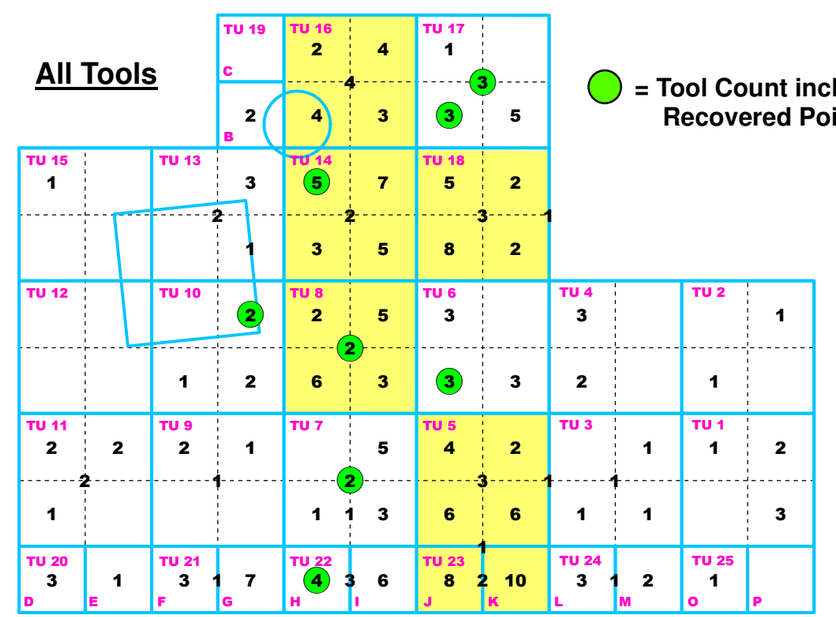
Bone



Bone Totals

TU	Bone_CT
1	3
2	--
3	8
4	6
5	2
6	3
7	--
8	--
9	--
10	--
11	--
12	--
13	--
14	8
15	1
16	7
17	5
18	3
19	2
20	--
21	--
22	2
23	1
24	--
25	--
PI/PII TU	1
PI/PII STP	--
Misc.	1
Sum	53

All Tools



= Tool Count includes Recovered Point

Tool Totals

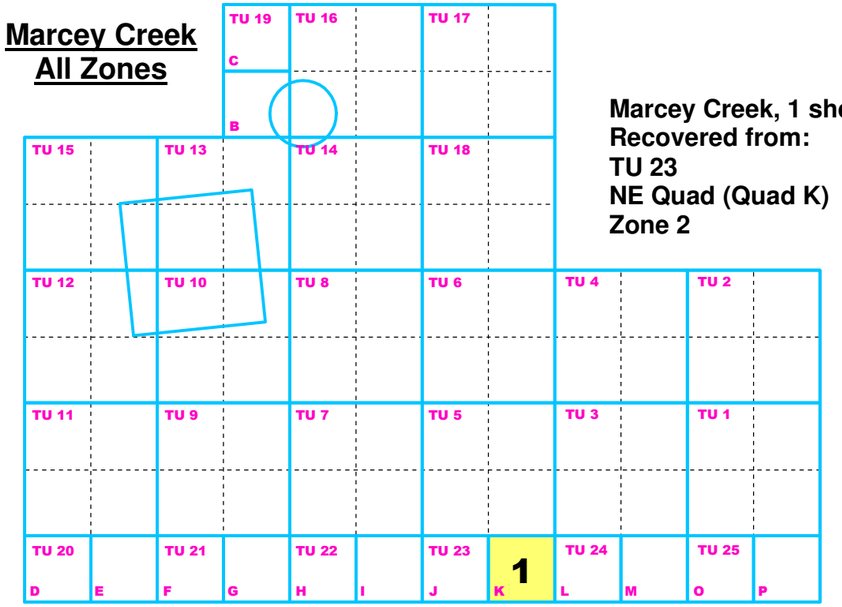
TU	all tools
1	6
2	2
3	4
4	5
5	20
6	9
7	12
8	18
9	4
10	5
11	7
12	--
13	6
14	22
15	1
16	17
17	12
18	21
19	2
20	4
21	11
22	13
23	20
24	6
25	1
PI/PII TU	--
PI/PII STP	--
Misc.	3
Sum	231

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1 Biface, Core, Bone and Overall Tool Distributions

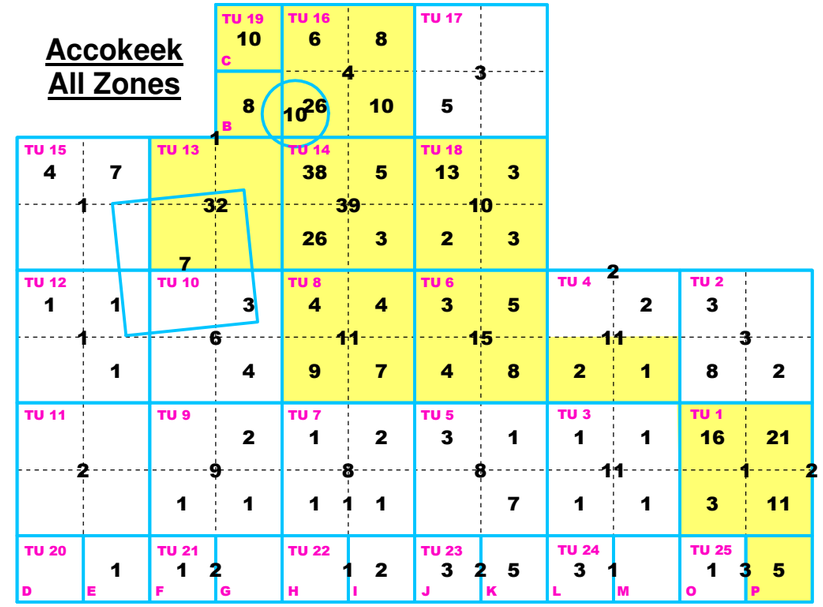
FIGURE 112

Marcey Creek All Zones



Marcey Creek, 1 sherd
Recovered from:
TU 23
NE Quad (Quad K)
Zone 2

Accokeek All Zones



Accokeek Totals

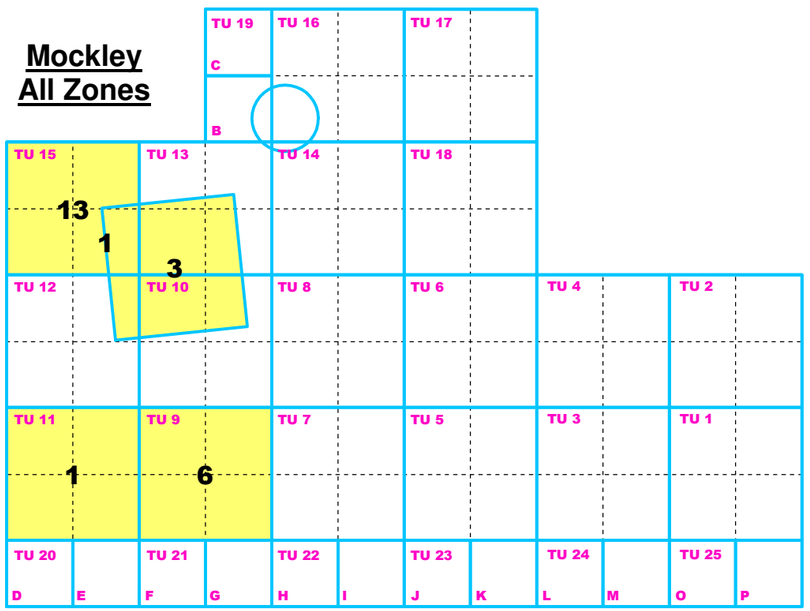
TU	Accokeek
1	54
2	16
3	15
4	18
5	19
6	35
7	14
8	35
9	13
10	13
11	2
12	4
13	33
14	111
15	12
16	54
17	8
18	31
19	18
20	1
21	3
22	3
23	10
24	4
25	9
PI/PII TU	7
PI/PII STP	10
Misc.	--
Sum	552

N

0 0.5 1
Meters

artifact concentration

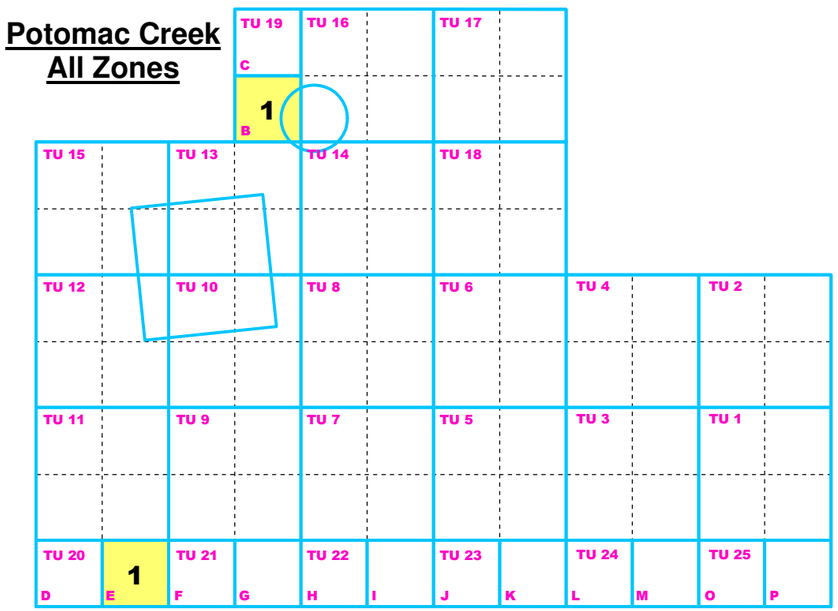
Mockley All Zones



Mockley Totals

TU	Zone 1A	Zone 1B	Zone 2	sum
1	--	--	--	--
2	--	--	--	--
3	--		--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7		--	--	--
8	--		--	--
9	--	5	1	6
10	--	--	--	--
11	1	--	--	1
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	6	7	1	14
16	--	--	--	--
17	--	--	--	--
18	--	--	--	--
19	--	--	--	--
20	--	--	--	--
21	--	--	--	--
22	--	--	--	--
23	--	--	--	--
24	--		--	--
25	--	--	--	--
PI/PII TU	--	2	1	3
PI/PII STP	--	--	--	--
Misc.	--	--	--	--
Sum	7	14	3	24

Potomac Creek All Zones



Potomac Creek, 2 sherds
Recovered from:

TU 19 (B/C)
SE Quad (Quad B)
Zone 1B

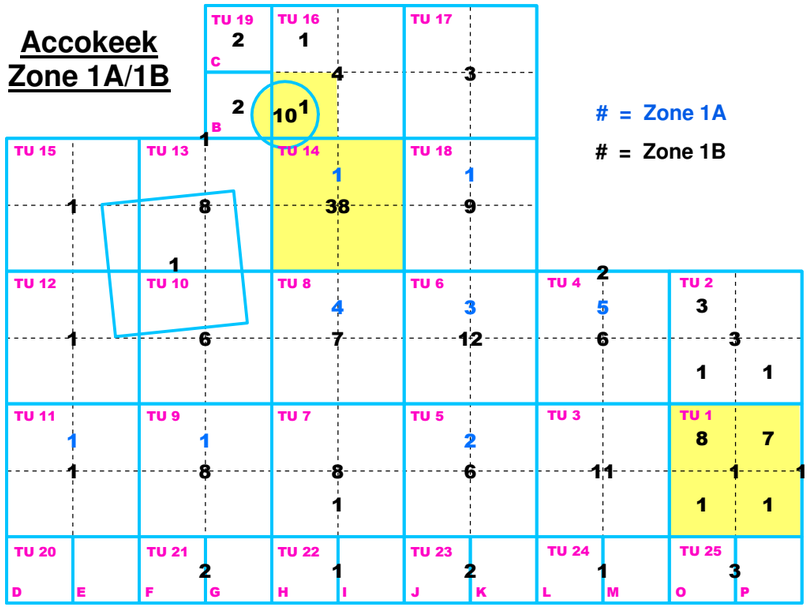
TU 20 (D/E)
NE Quad (Quad E)
Zone 4B

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1
Ceramic Distributions

FIGURE 113

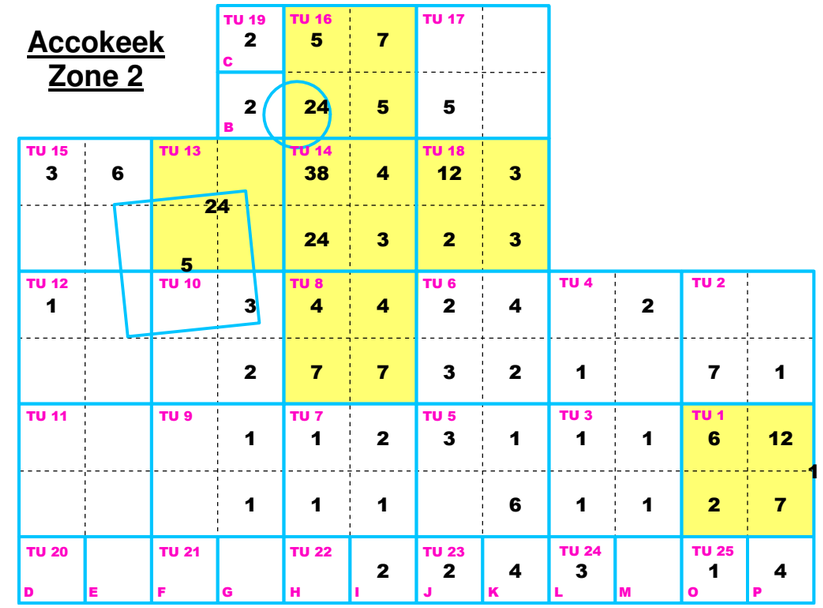
Accokeek Zone 1A/1B



Accokeek Totals

TU	Zone 1A	Zone 1B	sum
1	--	19	19
2	--	8	8
3	--	11	11
4	5	8	13
5	2	6	8
6	3	12	15
7		9	9
8	4	7	11
9	1	8	9
10	--	6	6
11	1	1	2
12	--	1	1
13	--	9	9
14	1	38	39
15	--	1	1
16	--	6	6
17	--	3	3
18	1	9	10
19	--	4	4
20	--	--	--
21	--	2	2
22	--	1	1
23	--	2	2
24	--	1	1
25	--	3	3
PI/PII TU	--	1	1
PI/PII STP	--	10	10
Misc.	--	--	--
Sum	18	186	204

Accokeek Zone 2



Accokeek Totals

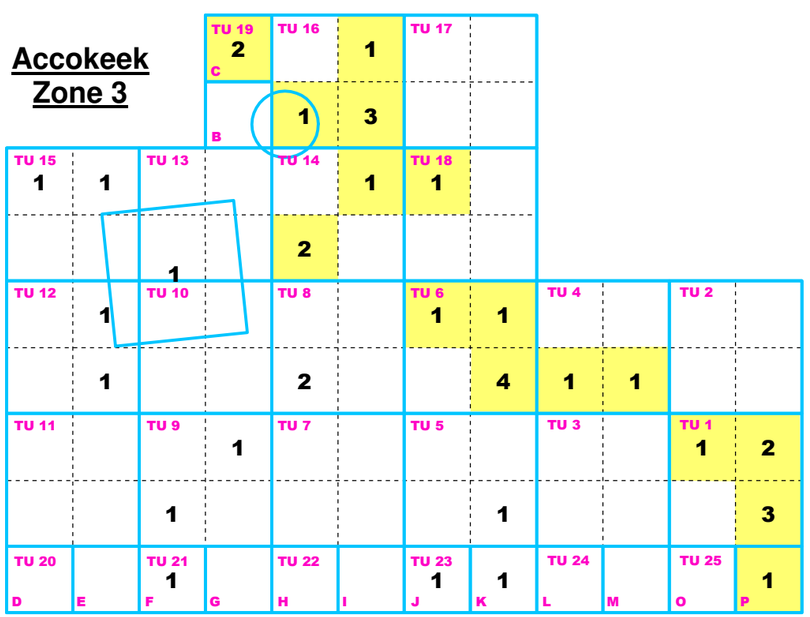
TU	Accokeek
1	28
2	8
3	4
4	3
5	10
6	11
7	5
8	22
9	2
10	5
11	--
12	1
13	24
14	69
15	9
16	41
17	5
18	20
19	4
20	--
21	--
22	2
23	6
24	3
25	5
PI/PII TU	5
PI/PII STP	--
Misc.	--
Sum	292

N

0 0.5 1
Meters

artifact concentration

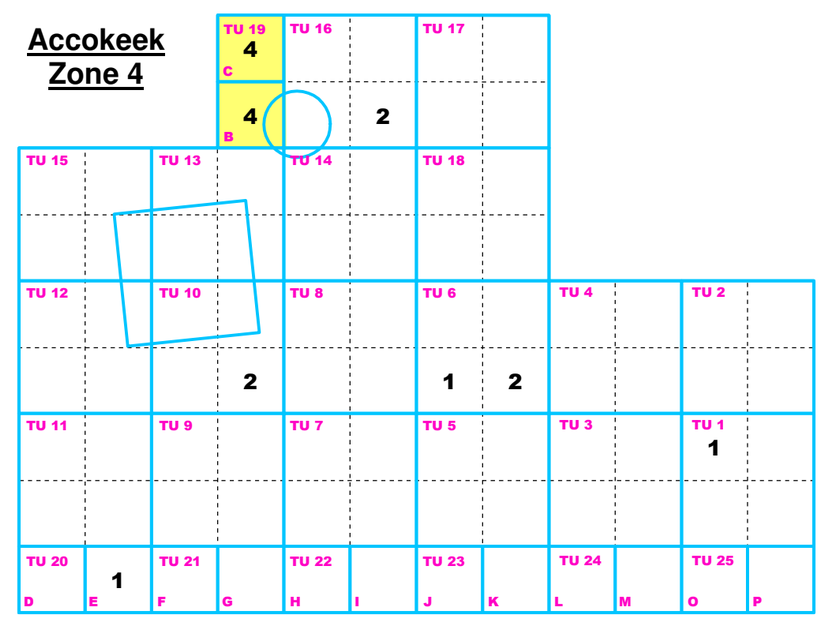
Accokeek Zone 3



Accokeek Totals

TU	Accokeek
1	6
2	--
3	--
4	2
5	1
6	6
7	--
8	2
9	2
10	--
11	--
12	2
13	--
14	3
15	2
16	5
17	--
18	1
19	2
20	--
21	1
22	--
23	2
24	--
25	1
PI/PII TU	1
PI/PII STP	--
Misc.	--
Sum	39

Accokeek Zone 4



Accokeek Totals

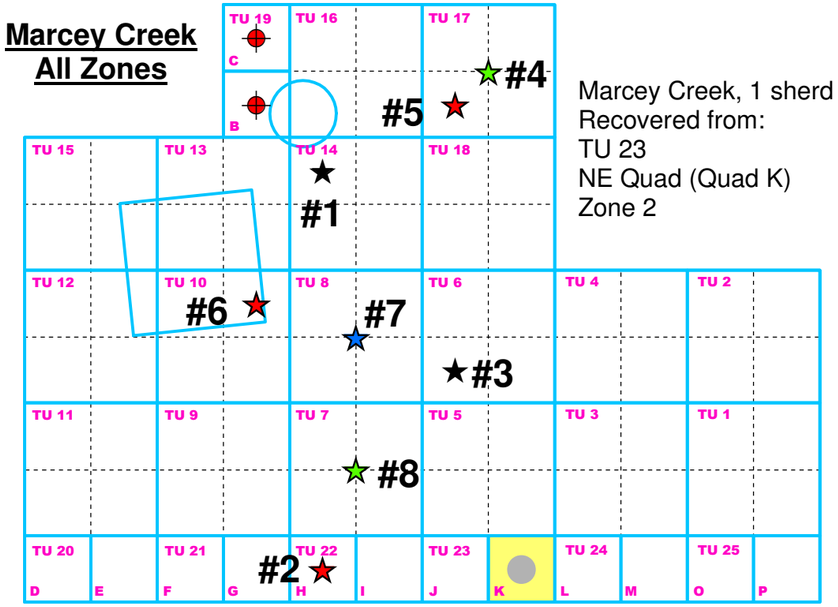
TU	Accokeek
1	1
2	--
3	--
4	--
5	--
6	3
7	--
8	--
9	--
10	2
11	--
12	--
13	--
14	--
15	--
16	2
17	--
18	--
19	8
20	1
21	--
22	--
23	--
24	--
25	--
PI/PII TU	--
PI/PII STP	--
Misc.	--
Sum	17

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1
Accokeek Distributions

FIGURE 114

Marcey Creek All Zones



Marcey Creek, 1 sherd
Recovered from:
TU 23
NE Quad (Quad K)
Zone 2

Recovered Points

Point	type	TU	quad	Zone
#1	Amos/Palmer	14	NW	3
#2	Savannah River	22	NW (H)	2
#3	Vernon/Halifax	6	SW	3
#4	Vernon/Halifax	17	-	1B
#5	Piscataway	17	SW	2
#6	Basal Notched	10	NE	2
#7	Triangle	8	-	1A
#8	Triangle	7	-	1B

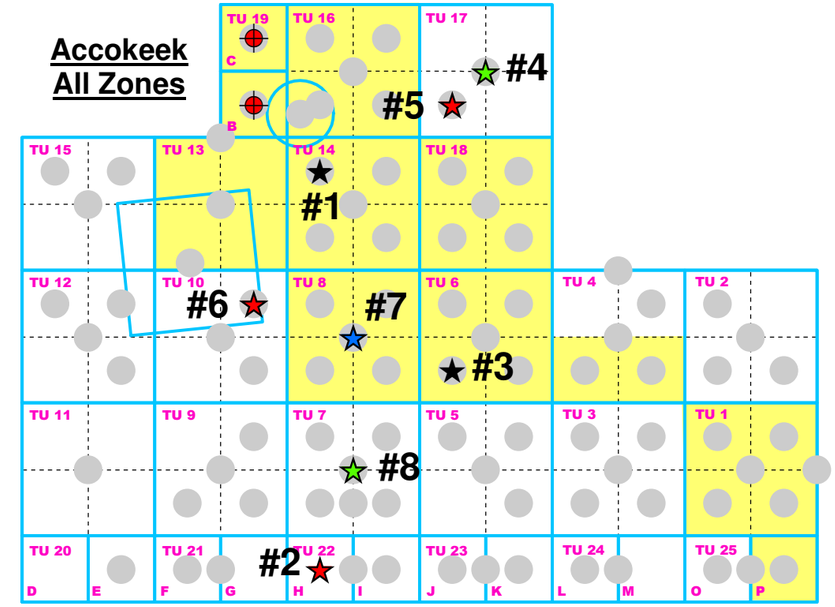
★ Zone 1A (slopewash)

★ Zone 1B (buried plow zone)

★ Zone 2 (intact subsoil)

★ Zone 3 (intact subsoil)

Accokeek All Zones



Accokeek Totals

TU	Zone 1A	Zone 1B	Zone 2	Zone 3	Zone 4	Sum
1	--	19	28	6	1	54
2	--	8	8	--	--	16
3	--	11	4	--	--	15
4	5	8	3	2	--	18
5	2	6	10	1	--	19
6	3	12	11	6	3	35
7		9	5	--	--	14
8	4	7	22	2	--	35
9	1	8	2	2	--	13
10	--	6	5	--	2	13
11	1	1	--	--	--	2
12	--	1	1	2	--	4
13	--	9	24	--	--	33
14	1	38	69	3	--	111
15	--	1	9	2	--	12
16	--	6	41	5	2	54
17	--	3	5	--	--	8
18	1	9	20	1	--	31
19	--	4	4	2	8	18
20	--	--	--	--	1	1
21	--	2	--	1	--	3
22	--	1	2	--	--	3
23	--	2	6	2	--	10
24	--	1	3	--	--	4
25	--	3	5	1	--	9
PI/PII TU	--	1	5	1	--	7
PI/PII STP	--	10	--	--	--	10
Misc.	--	--	--	--	--	--
Sum	18	186	292	39	17	552

provenience with sherd

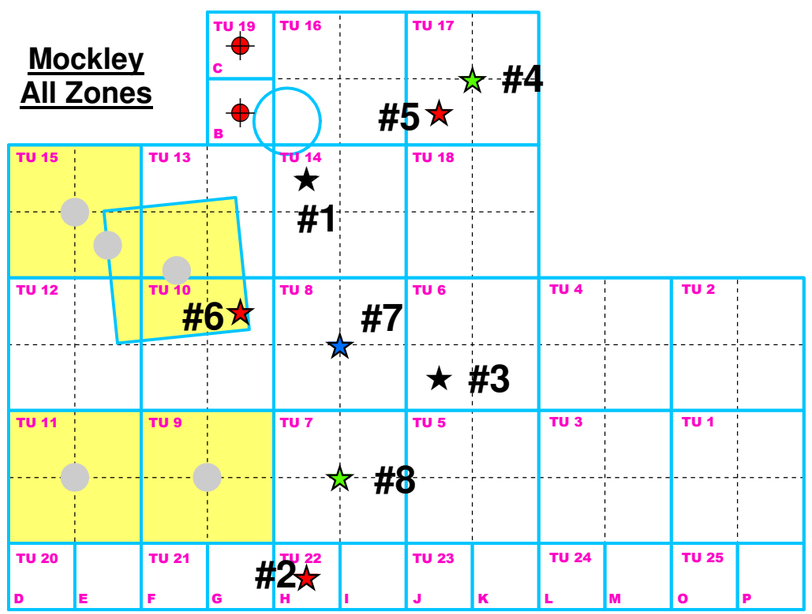
gorget fragment

N

0 0.5 1
Meters

ceramic concentration

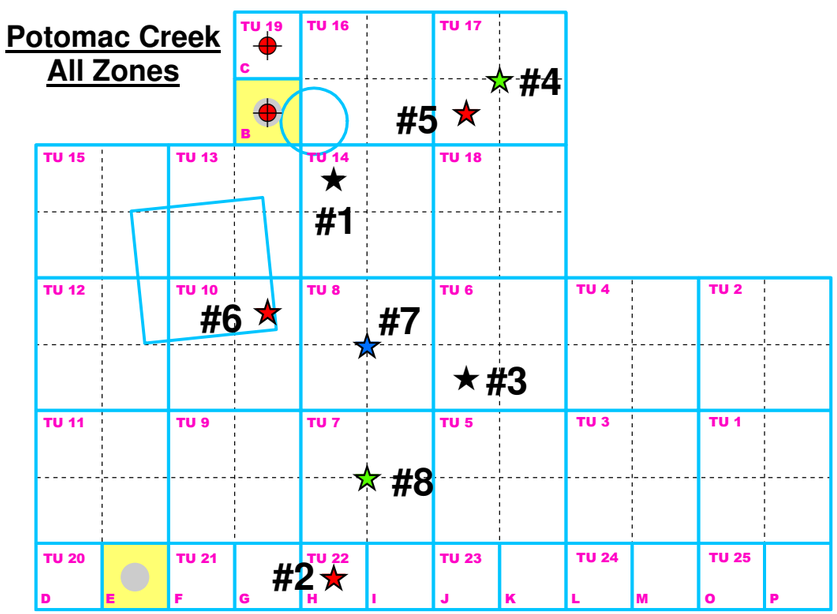
Mockley All Zones



Mocklev Totals

TU	Zone 1A	Zone 1B	Zone 2	sum
1	--	--	--	--
2	--	--	--	--
3	--		--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7		--	--	--
8	--		--	--
9	--	5	1	6
10	--	--	--	--
11	1	--	--	1
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	6	7	1	14
16	--	--	--	--
17	--	--	--	--
18	--	--	--	--
19	--	--	--	--
20	--	--	--	--
21	--	--	--	--
22	--	--	--	--
23	--	--	--	--
24	--		--	--
25	--	--	--	--
PI/PII TU	--	2	1	3
PI/PII STP	--	--	--	--
Misc.	--	--	--	--
Sum	7	14	3	24

Potomac Creek All Zones



Potomac Creek, 2 sherds
Recovered from:

TU 19 (B/C)
SE Quad (Quad B)
Zone 1B

TU 20 (D/E)
NE Quad (Quad E)
Zone 4B

Note: Quantities shown in center of TU/Block were recovered from levels that were not excavated in quadrants (e.g., overburden and plow zone horizons, floor troweling, natural disturbances, etc.).

18Cv492 - Block 1
Diagnostic Artifact Distributions

FIGURE 115

Five of the eight points were recovered from intact subsoil contexts, specifically Zone 2 and Zone 3. These points are the Amos/Palmer point, the Savannah River broadspear, one of the Vernon/Halifax points, the Piscataway point, and the basal notched point (**Figure 110**). The only points that were recovered within 0.50 meters of another point are a Vernon/Halifax point the Piscataway point. Both points were recovered from TU 17 but not in the same stratigraphic zone.

The Piscataway point and the basal notched point were recovered in direct association with Accokeek ceramic sherds. While the projected ca. 4050 B.C. - 50 B.C. date of the Piscataway point (Steponaitis 1980; http://www.jefpat.org/diagnostic/ Maryland_Projectile_Points/index-projectilepoints.html) coincides with the date range of Accokeek ceramic, the basal notched point is more of a Middle Woodland point (0 A.D. - 1000 A.D.; Custer 2001) that is more compatible with the Mockley ceramic (A. D. 200 – A. D. 900; http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints. html). The closest Mockley sherds to the basal notched point are three sherds, two from Zone 1B and one from Zone 2, that were recovered from the Phase I/II TU 1, which overlaps with the quadrant from which the point was recovered (**Figure 115**).

Three of the points, the Amos/Palmer (TU 14/NW quad/Zone 3), Savannah River broadspear (TU 22/NW quad/Zone 2), and the Vernon/Halifax points (TU 6/SW quad/Zone 3) were recovered from quadrants that did not contain any other diagnostic artifacts. The oldest point of this subgroup is the Amos/Palmer point, which can be attributed to the Early Archaic Period (ca. 8000 B.C. – 7000 B.C.; Custer 2001). The dates for the Vernon/Halifax, like the recovered Piscataway point, are somewhat generalized since both have been recovered in Late Archaic through Early Woodland contexts throughout the region (LeeDecker and Koldehoff 1991; Custer 2001; Steponaitis 1980; Ebright 1992).

The Amos/Palmer and Vernon/Halifax points were both recovered from a quadrant that is adjacent to a quadrant from which Accokeek ceramic was recovered from the same excavation level and same stratrgraphic zone. While the stratigaphic coincidence of Accokeek sherds, Vernon/Halifax points, and the aforementioned Piscataway point provides some means to suggest that the depositions of the points may have occurred toward the later years of their projected date ranges, it provides very little assistance in ascertaining the depositional history of the Amos/Palmer point. Because of this, the Amos/Palmer point is regarded as somewhat of an anomalous find.

The only subsoil point that is not located immediately adjacent to a quadrant with a diagnostic artifact from the same excavation level/stratigraphic zone is the Savannah River broadspear (ca. 2915 B.C. -1310 B.C.; http://www.jefpat.org/diagnostic/ Maryland_Projectile_Points/index-projectilepoints.html). However, this point was recovered from Zone 2, which as noted earlier, also contains an abundance of Accokeek ceramic, as well as other artifacts that postdate the broadspear were recovered from Zone 2. The depositional context of this broadspear is further questionable given its close proximity to the Potomac Creek sherd that was recovered from Zone 4B in the northeast quadrant of TU 20. This Late Woodland sherd postdates the Savannah River broadspear that was recovered fifty centimeters east and twenty centimeters above it by at least 1000 years.

The gorget fragments recovered Zone 2 and Zone 3 in TU 19 were recovered in association with Accokeek ceramic. The gorgets can be conservatively attributed to the Early Woodland Period in recognition that they could be associated with the Middle and/or Late Woodland occupations of the site.

Collectively, the date ranges of the diagnostic artifacts span the Early Archaic through Late Woodland Periods. Although the excavations found the sub-plow zone prehistoric deposits of Block 1 to be intact, they also revealed that they are not stratified enough to allow for accurate vertical definition of the site's Early – Late Archaic and Middle-Late Woodland components due to the overbearing presence of the Early Woodland occupation.

2. Distribution of Diagnostic Ceramic in Block 1

A total of 580 ceramic sherds were recovered from the site. The assemblage is composed of one (1) Marcey Creek sherd, 552 Accokeek sherds, twenty-five (25) Mockley sherds, and two Potomac Creek sherds. The Accokeek sherds are over ninety-five percent (95.17%) of the total ceramic assemblage. Mockley, which is the second largest subassemblage, constitutes approximately four percent (4.31%) of the ceramic assemblage. Marcey Creek and Potomac Creek comprise the remaining one percent.

Due to their small assemblages, little can be said about the distribution and depositional histories of the Marcey Creek and Potomac Creek sherds at the site.

Plotted distributions of the Mockley sherds indicate that this subassemblage is generally clustered in the western section of the block (**Figure 113** and **Figure 115**). These artifacts are also confined to the Zone 2 and higher. The subassemblage does not distinctly coincide with any other artifact class; however, as noted earlier, these sherds horizontally and vertically coincide with the recovered basal notched point, which is contemporaneous (**Figures 110-115**).

The Accokeek sherds are generally clustered in the north central and southeastern sections of the west. These clusters are best expressed by the distribution of sherds in Zone 2 (**Figure 114**). During the excavations, a dense concentration of sherds from a single vessel was encountered at the top of Zone TU 14 and TU 16 (**Figure 116**).

3. Distribution of Fire-Cracked Rock in Block 1

One hundred and seventy-eight (178) fragments of fire-cracked rock were recovered from Block 1. The majority of the fire-cracked rock assemblage, 112 pieces, was recovered from Zone 2 and Zone 3. These pieces are relatively evenly divided between these stratigraphic zones (Zone 2 = 59; Zone 3 = 53). The fire-cracked rock is concentrated along the southern/southeastern edge of the block in the vicinity of TU 5 (**Figure 110**). This concentration of fire-cracked rock is believed to represent the scattered remains of a hearth feature.

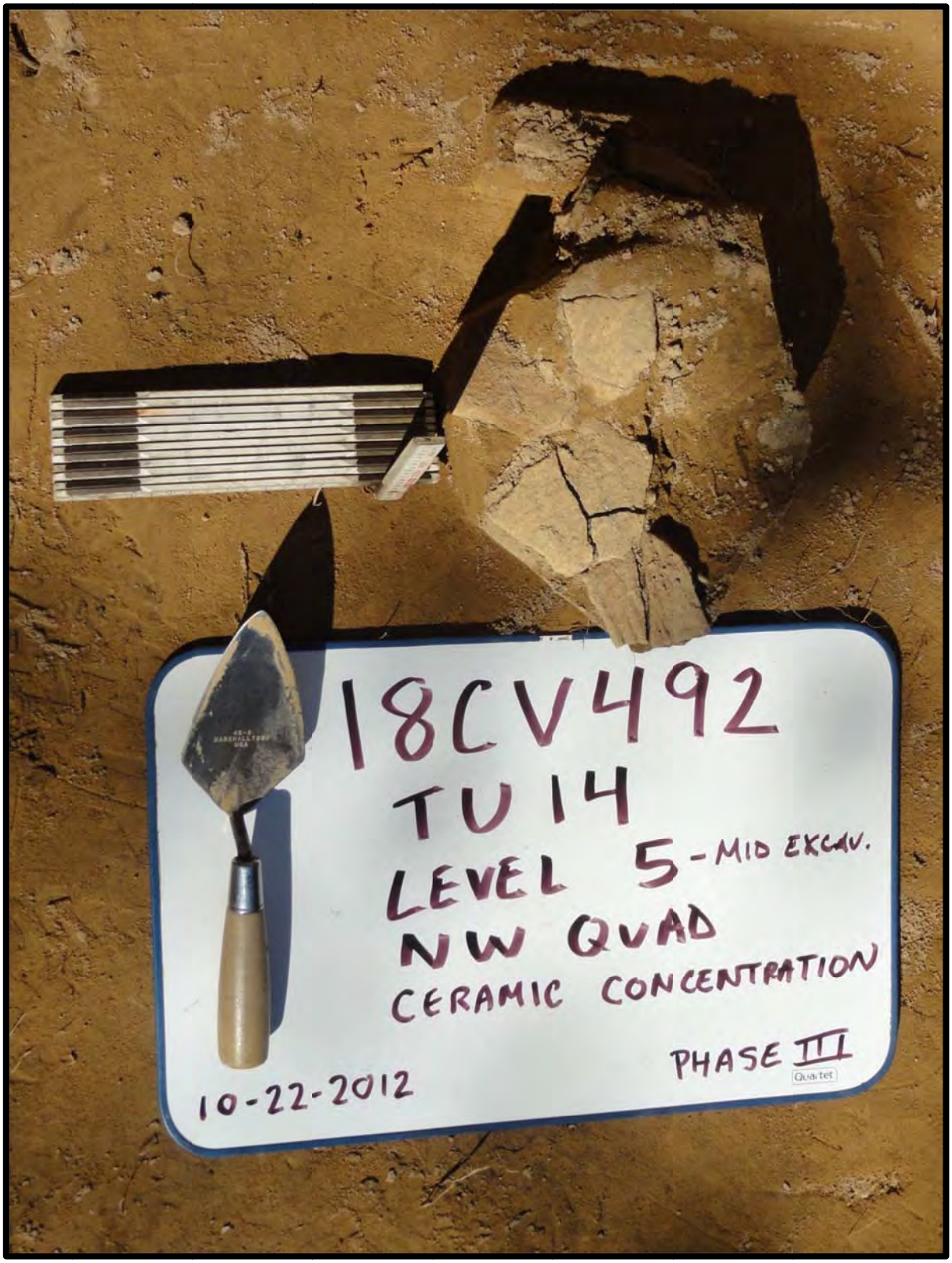


FIGURE 116: Mid-Excavation View of Ceramic Concentration in 18Cv492 Block 1 TU 14, Zone 2. Photograph taken facing north.

4. Distribution of Lithic Artifacts in Block 1

A total of 872 non-diagnostic chipped lithic artifacts were recovered from Block 1.

Five hundred and eighty (580) of the chipped lithic artifacts are unmodified flakes. The general debitage assemblage includes the aforementioned flakes and sixty-one (61) pieces of shatter. Although flakes were recovered from all of the block units, these artifacts are generally concentrated along the center north-south axis and in the south central portion of the block (**Figure 111**). The shatter assemblage mimics this distribution.

The non-diagnostic lithic assemblage contains 231 tools, most of which are expedient forms. As noted earlier, the tool assemblage is composed of 144 utilized flakes, twenty-six (26) flake tools, thirteen (13) miscellaneous stone tools, twelve (12) non-diagnostic point fragments, two (2) early-mid stage biface rejects/fragments (ESBR), seventeen (17) biface fragments, three (3) worked/tested cobbles, and six (6) cores/core fragments. Unlike the ceramic assemblage, which is concentrated in Zone 2, the tool assemblage is concentrated in Zone 3. The Zone 2 and Zone 3 tool assemblages contain fifty-seven (57) and ninety (90) tools, respectively. Aside from a few examples that could represent "lost" items, most of these artifacts are exhausted, small fragments, and/or severely damaged.

The overall non-diagnostic tools are generally concentrated along the center north-south axis of the block (**Figure 110 and Figure 111**). This tendency is a reflection of the utilized flake and biface fragment assemblage, which are the only two tool types that exhibit some level of distinct horizontal patterning.

Although utilized flakes were recovered with regular consistency across Block 1, these artifacts are concentrated most along the block's north-south center axis. Slightly higher concentrations of utilized flakes are located at the opposing ends of the axis. The biface fragments, though far fewer in number than utilized flakes, are also clustered along this axis. These artifacts are concentrated more so around the center of the axis in between the utilized flakes (**Figure 111**).

The projectile points are also positioned serpentine along this axis.

5. Distribution of Other Artifacts in Block 1

Two of the more interesting artifact type distributions are those of the 27-piece hammerstone and 54-piece bone assemblages.

The hammerstones, which include a variety of small to large stones of varying shapes, sizes, and wear use, are concentrated in the northeasternmost corner of Block 1. There is also a small collection of these artifacts along the southern edge of the block (**Figure 110**). The northern concentration and one of the southern concentrations are generally located along the area within which the debitage is most concentrated. The other southern hammerstone cluster is located within the debitage concentration area.

The bone assemblage is composed of many fragments that are too deteriorated or too small to accurately type by species. These ecofacts are distributed along a northwesterly-

southeasterly axis. A notably higher proportion of the bone fragments are located at the northwest end of the axis.

F. Summary Block 1 Excavation Results

Figure 117 presents a composite map that depicts feature clusters based on the artifact patterning within the block. The combination of these clusters reveals a series of Early Woodland work areas centered around a hearth. The Middle Woodland component appears to have been located towards the western edge of the block.

G. Summary of Peripheral Units

In order to minimize redundancy in this document, the reader is advised to consult **Figure 90**; **Tables 44, 45** and **47**; as well as **Appendix V** for complete artifact inventories of the peripheral units. Nonetheless, some repetition of the artifact distribution data presented earlier in this document is necessary to facilitate the discussion.

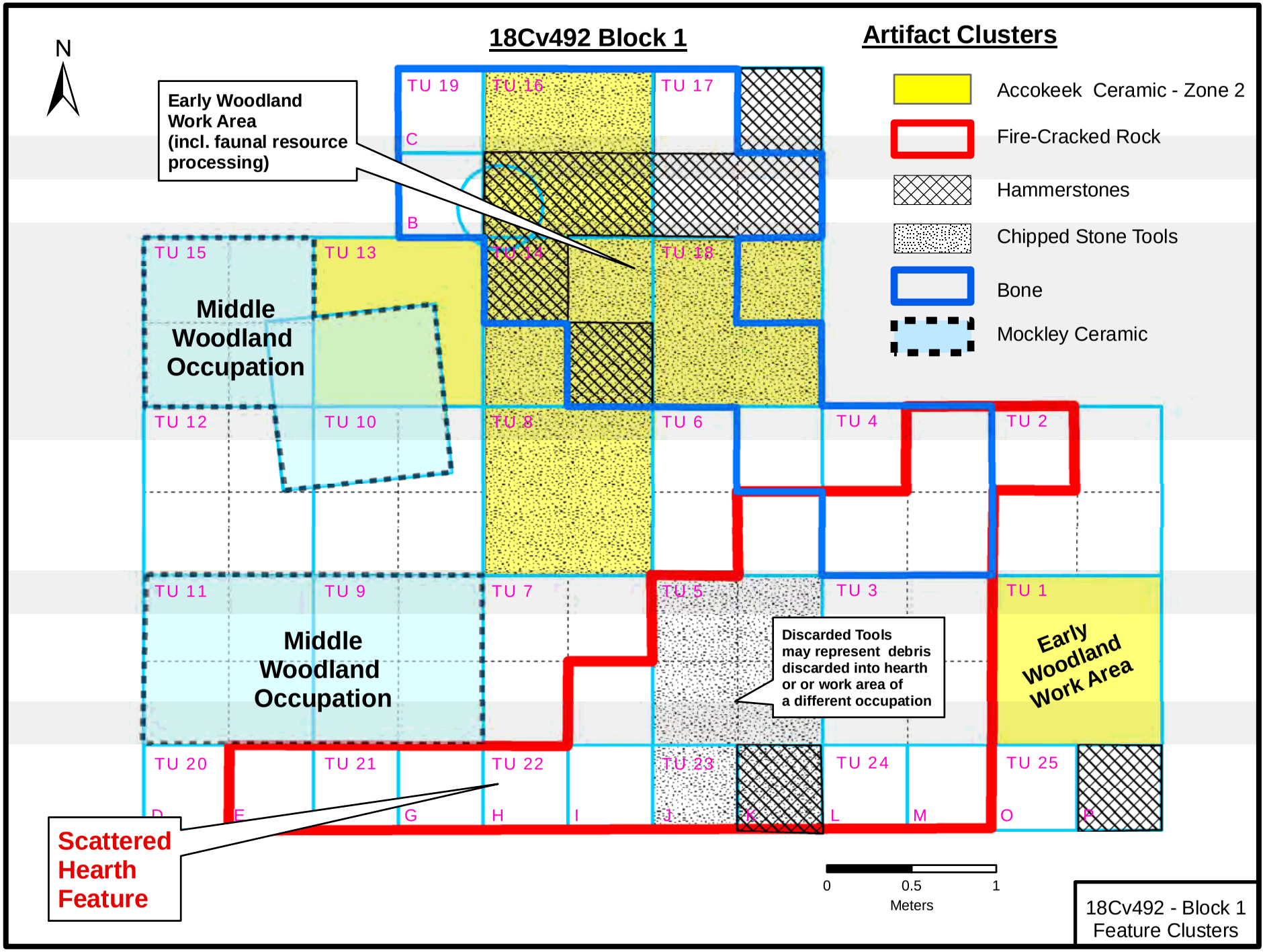
Prehistoric artifacts, including tools, were recovered from all of the peripheral sample units. The discovery of these small lithic scatters was not surprising. Given the recurrent use of the site, and notably, its use as a small base camp, it was expected that the peripheral excavations would encounter various forms of general debris across the site.

Most of the lithic scatters encountered in the peripheral sample units contain debitage and a few exhausted expedient tools.

The assortment of tools recovered by the peripheral sampling is compatible to that in the core area. In fact, nearly all of the forms recovered from the core area are also represented in the peripheral unit assemblage. However, most of individual unit assemblages also contain less than four tool forms and in several cases, these forms are represented by one artifact each. The peripheral assemblage contains very few artifacts that can be considered unique specimens. Most of the tools are simple, commonplace forms that possess virtually no unusual or extraordinary physical characteristics or use-wear traits. Utilized flakes, the most generalized tool form, are the only ubiquitous tool type amongst the units. They are also the only tool type that was consistently recovered in multiple numbers from a given unit.

Individually and collectively, neither the lithic scatters nor their individual assemblages are particularly interesting. The scatters are far from unique and, no doubt, they are only a few of many more similar, non-descript, scatters that exist throughout the region. Although the scatters encountered at 18Cv492 are not individually or collectively significant, the general relationships amongst themselves and, importantly, to the Feature A/Feature B core area are a part of the overall spatial patterning of the site.

The recordation of their locations, identification of their attributes, and acquisition of representative samples of their cultural material were accurately accomplished by the Phase



18Cv492 - Block 1
Feature Clusters

FIGURE 117

III studies. The data collected provides an accurate record of the scatters and their characteristics. The recovered samples also provide ample information that can be used to identify repetition at the site and interpret the roles of the scatters as they relate to site usage. Therefore, it has also been concluded that the scatters have been sufficiently sampled.

For detailed representative soil profiles of the individual test units, the reader is advised to consult **Figure 93** through **Figure 98**, which were presented as part of **Section IX.b**. The following discussion presents the peripheral units from west to east.

1. TU N5E65

TU N5E65 is located twelve meters west of Block 1 (**Figure 90**). Fourteen (14) artifacts were recovered from this unit. The artifacts recovered from this unit consist of six flakes, three utilized flakes, one flake tool, one worked/tested cobble, and two pieces of fire-cracked rock. Eight of the artifacts were recovered from Zone 1A/Zone 1B. The subsoil artifacts consist of three flakes and two utilized flakes. The assemblage contains a small variety of tool forms but none of the types are more uniquely represented in this assemblage than elsewhere at the site. At most, the artifacts in this unit may represent the diffuse remains of a small resource processing station.

2. TU N0E65

TU N0E65 is the southwesternmost unit excavated at 18Cv492. The unit is located five meters due south of TU N5E65. Forty-three (43) artifacts were recovered from this unit. Twenty-five of these artifacts are common debitage (23 flakes, 2 shatter). The tool assemblage from this unit consists of ten (10) utilized flakes, one (1) flake tool, one (1) miscellaneous stone tool, one (1) early stage biface reject, and one (1) biface fragment. This assemblage is one of the more diverse assemblages from a location outside of Block 1 and likely represents the remains of a small, single-use procurement/processing station. Due to the lack of any diagnostic artifacts, the temporal context of this scatter is not known.

3. TU N5E74

TU N5E74 is located approximately two meters southwest of Block 1. A total of eighteen (18) artifacts were recovered from this unit. These artifacts consist of fourteen (14) flakes, three (3) utilized flakes, and one (1) piece of fire-cracked rock. Given the close proximity of this unit to Block 1, it has been concluded that these artifacts represent a random collection of general debris that has migrated to and/or accumulated around the core living area of the site.

4. TU N0E75 and TU S1E75

TU N0E75 and TU S1E75 are two contiguous units that were excavated one meter west and six meters south of Block 1.

As noted earlier, during the near-end excavation field view, the collective project team transferred two of excavation units allocated to 18Cv491 to 18Cv492. TU S1E75 is one of these re-appropriated units. The excavation of TU S1E75 was initiated after the recovery of eighteen pieces of fire-cracked rock in TU N0E75. In addition to being the largest recovery

of a single artifact type outside of Block 1, it was also suspected that these artifacts could represent the remains of a subsurface hearth feature.

TU N0E75 and S1E75 yielded a collective total of 125 artifacts, of which thirty-six are fire-cracked rock. The collective debitage assemblage from these two units contains fifty-seven flakes and four pieces of shatter. In addition to fire-cracked rock and debitage, these two units also recovered a small assemblage of tools. This tool assemblage consists of fifteen (15) utilized flakes, two (2) flake tools, three (3) miscellaneous stone tools, one (1) non-diagnostic point fragment, one (1) early stage biface fragment, two (2) biface fragments, and three (3) hammerstones. The majority of these tools, twenty-one tools in all, were recovered from TU S1E75. The tool assemblage of this particular unit includes most of the utilized flakes (n =12), all three (3) hammerstones, the two (2) flake tools, one (1) of the miscellaneous stone tools, as well as the early stage biface and all of the biface fragments.

TU S1E75 is of additional note since it is the only test unit outside of Block 1 within which a diagnostic artifact was recovered. This artifact is a single Mockley sherd, which was recovered from the mixed stratum of Zone 1A. The sherd is small and heavily-weathered. The close proximity of TU N0E75/TU S1E75 to Block 1 suggested that this small artifact concentration functioned as a secondary activity area to the more intense occupation at Block 1.

While it is likely that the Mockley sherd is a random artifact that has migrated to this location, it is quite possible that this activity area was once associated with the Middle Woodland occupation that is oriented towards the western side of Block 1.

5. TU S1E84

TU S1E84 was excavated eight meters due south of the southeast corner of Block 1. This unit is situated on a slight bench that is located at a lower elevation than Block 1. Because of its topographic position, the unit was initially regarded as having a potential for yielding archeological deposits that could be associated with Block 1. A total of four artifacts, three flakes and one utilized flake, were recovered from this unit. Based on the dearth of artifacts, the scatter at TU S1E84 has been concluded to represent random debris that has migrated to and/or accumulated around the peripheries of the site's core occupation area.

6. TU A

TU A was excavated two meters due north of Block 1. The unit is in alignment with the center north-south axis of block. Like TU S1E84, TU A was originally anticipated as having the potential for yielding additional archeological materials associated with Block 1. While TU A did yield artifacts, overall, this area was discovered to contain very little cultural material. A total of eleven (11) artifacts were recovered from TU A. These artifacts consist of six flakes, one (1) piece of shatter, one (1) flake tool, one (1) early stage biface reject, one (1) worked/test cobble, and one (1) small piece of bone. Based on the low artifact density, this scatter was concluded to be part of the random debris field that surrounds the occupations at Block 1.

H. Summary of Peripheral Units

The results of the peripheral sampling has revealed that overall, the main occupation at 18Cv492 is generally confined to the Block 1 area. Most of the artifacts recovered from the lithic scatters in the peripheral areas of the site consist of commonplace forms that can be easily attributed to random debris generated over the course of the site's repeated occupation. That said, two of the lithic scatters have been identified as representing small, secondary, limited use work areas. These areas are located at TU N0E65 and at TU N0E75/S1E75. The activity area at TU N0E75/S1E75 is slightly more complex than the work area at TU N0E65. This is reflected in the small, but diverse, collection of tools from these two contiguous units and the recovery of fire-cracked rock, which suggests that the location at TU N0E75/TU S1E75 also included a small hearth.

X. ARTIFACT ANALYSIS AND INTERPRETATIONS OF 18CV492

This section presents a discussion of the interpretations of the excavation data from 18Cv492. In addition to discussions on the site chronology and trends and patterns exhibited in the artifact collection, this section also focuses on activity areas of the site as implied by the recovered data.

A. Site Chronology

A comprehensive site chronology was established for 18Cv492 using the diagnostic projectile points and ceramic artifacts. The established dates applied towards developing this chronology were those developed for Maryland (http://www.jefpat.org/diagnostic/ Maryland_Projectile_Points/index-projectilepoints.html). Regional classification systems presented in Custer (2001, 1996a, 1989), Steponaitis (1980), Stephenson and Ferguson (1963), Ritchie (1971), and Hranicky (1994) were also consulted for supplemental information.

The focus of this discussion involves the temporal contexts of the diagnostic artifacts. Discussions pertaining to physical attributes and artifact technologies are presented in separate discussions.

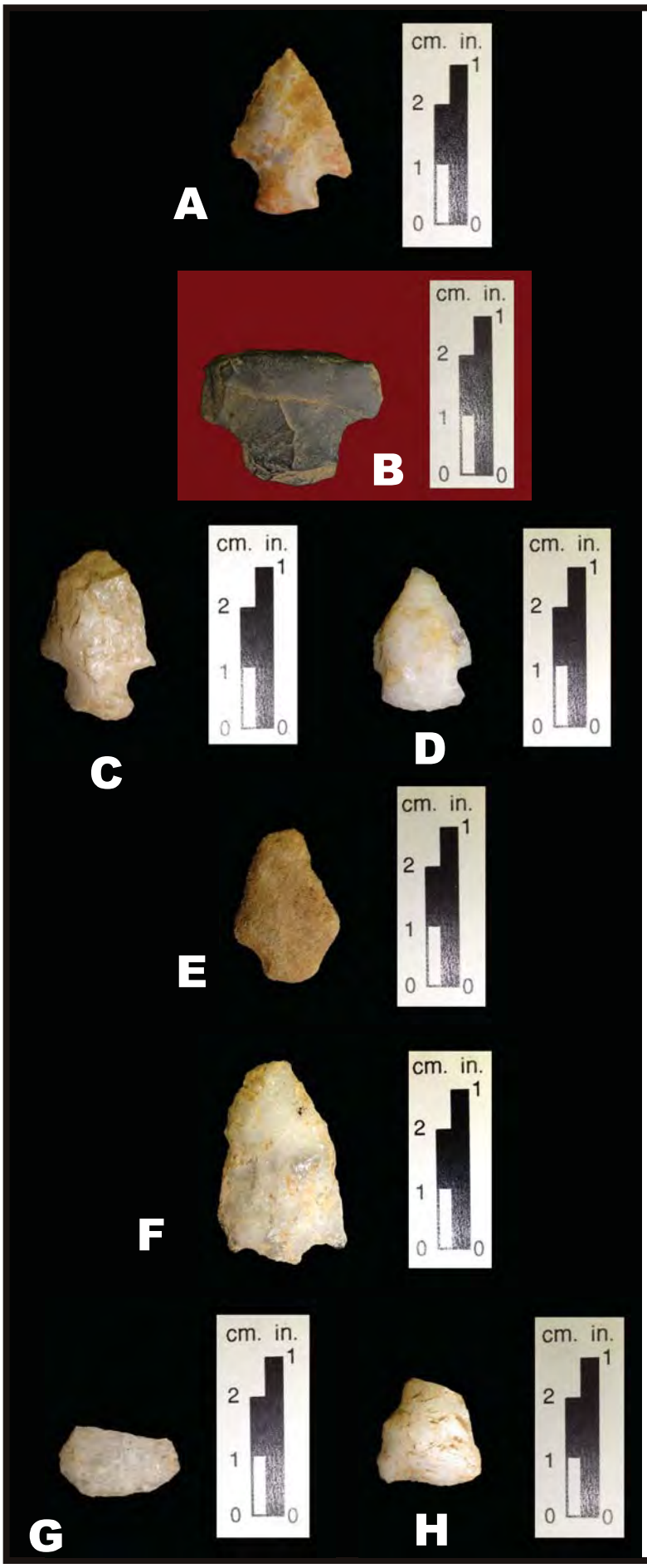
1. Diagnostic Points

A total of eight diagnostic points were recovered from 18Cv492. These points are shown in **Figure 118**. **Table 49** and **Table 50** present summary descriptions of their physical characteristics and their projected date ranges.

The recovered projectile points consist of one Amos/Palmer point (**Figure 118A**) one Savannah River broadspear stem (**Figure 118B**), two Vernon/Halifax variant points (**Figure 118C, D**), one Piscataway point form (**Figure 118E**), a basal notched point form (**Figure 118F**), and two triangle points (**Figure 58G,H**).

Nearly all of the points are either damaged or heavily resharpened, which suggests that these artifacts were discards. The most complete point is the chert Amos/Palmer from Block 1, TU 14. This point is complete from tip to base.

<u>*Amos/Palmer*</u>. This small corner notched point was recovered in the portion of Block 1 with the densest artifact concentrations. The point has been identified as an Amos variant, which is similar to Palmer points but smaller. In the Middle Atlantic region, Amos/Palmer points have general projected date range of ca. 8000 B.C. – 7000 B.C. (Custer 2001). The projected date range of Palmer points in Maryland is ca. 8050 B.C. -7350 B.C. (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html).



A: Amos/Palmer,
chert,
Block 1,TU 14,
NW quad,
level 6, Zone 3
(#230)

B: Savannah River Broadspear,
rhyolite,
Block 1, TU 22 (H/I),
NW quad/Quad H,
level 4, Zone 2
(#386)

C: Vernon/Halifax,
quartz,
Block 1, TU 6, SW quad,
level 6, Zone 3
(#157)

D: Vernon/Halifax,
quartz,
Block 1, TU 17,
level 4, Zone 1B,
(#263)

E: Piscataway,
quartzite,
Block 1, TU 17, SW quad,
level 5, Zone 2
(#264)

F: Basal Notched,
quartz,
Block 1, TU 10, NE quad,
level 5, Zone 2
(#325)

G: Triangle,
quartz,
Block 1, TU 8,
level 2, Zone 1A
(#179)

H: Triangle,
quartz,
Block 1, TU 7,
level 3, Zone 1B
(#163)

18Cv492
Diagnostic Points

FIGURE 118

Table 49:
18Cv492- Descriptive Summary of Recovered Datable Points

Cat. #	Provenience	Level/ Zone	Point Type	Lithic Material	length (mm)	width (mm)	Description
230	Block 1 TU 14 NW quad	level 6 Zone 3	Amos/Palmer	chert	28	21	basal grinding
157	Block 1 TU 6 SW quad	level 6 Zone 3	Vernon/Halifax	quartz	28*	19	tip damage, snap/pry break, basal grinding
263	Block 1 TU 17	level 4 Zone 1B	Vernon/Halifax	quartz	19	17	asymmetrically resharpened, impact fracture, basal grinding
386	Block 1 TU 22 (H/I) NW quad/Quad H	level 4 Zone 2	Savannah River Broadspear	rhyolite	28*	32	transverse fracture
264	Block 1 TU 17 SW quad	level 5 Zone 2	Piscataway	quartzite	27*	19	heavily worn, asymmetrically resharpened, possible impact fracture
325	Block 1 TU 10 NE quad	level 5 Zone 2	Basal Notched	quartz	34*	22	impact fracture and fractured base
179	Block 1 TU 8	level 2 Zone 1A	Triangle	quartz	18*	18	transverse fracture
163	Block 1 TU 7	level 3 Zone 1B	Triangle	quartz	11*	20	transverse fracture

*incomplete, dimension of remaining fragment

Table 50:
18Cv492- Projected Dates of Recovered Datable Points

Point Type	General Date Range (Middle Atlantic Region)	Projected Date Range Based on Regional Chronologies	Cultural Period	Total
Amos/ Palmer	ca. 8000 B.C. – 7000 B.C. (Custer 2001)	ca. 8050 B.C. – 7350 B.C. (www.marylandarcheology.org)	Early Archaic	**1**
Vernon/ Halifax	ca. 3550 B.C. - 2350 B.C. (LeeDecker and Koldehoff 1991) 5500 B.C. – 2000 B.C. (as a Pequea variant) (Custer 2001)	ca. 3050 B.C. – 2050 B.C. (Steponaitis 1980)	Late Archaic as Halifax/Pequea – may begin during Middle Archaic (Custer 2001) may extend into Early Woodland (Ebright 1992)	**2**
Savannah Broadspear	ca. 2500 B.C. -1700 B.C. (Custer 2001, 1996, 1989)	2915 B.C. – 1310 B.C. (www.marylandarcheology.org)	Late Archaic	**1**
Piscataway	ca. 940 B.C. – 50 B.C. (Mounier and Martin 1994)	4050 B.C. – 50 B.C. (www.marylandarcheology.org)	Late Archaic – Early Woodland	**1**
Basal Notched	ca. A.D. 0 – A.D. 1000 (Custer 2001)	ca. A.D. 0 – A.D. 1000 (Custer 2001)	Middle Woodland – Late Woodland	***1***
Triangle	ca. A.D. 1200 – A.D. 1700 *Potomac/Madison composite* (Scully 1951; Stephenson and Ferguson 1963; www.marylandarcheology.org)	ca. A.D. 1200 – A.D. 1700 (www.marylandarcheology.org)	Late Woodland	**2**

Savannah River Broadspears. Overall, broadspears are a tightly dated Late Archaic tool form that was commonly used more as knives than as projectile points. The Savannah River broadspear fragment was recovered from TU 22, which is located along the south edge of Block 1.

This broadspear specimen is devoid of its blade. The point has been classified as a Savannah River broadspear based on the characteristics of its straight-sided square stem, its shoulders, and the thickness and profile of the extant portions of its blade. All of the aforementioned are more compatible to those attributed to Savannah River broadspears than the characteristics noted for other broadspear variants (http://www.jefpat.org/diagnostic/ Maryland_Projectile_Points/index-projectilepoints.html).

In the Middle Atlantic region, Savannah River broadspears are generally attributed a date range of 2500 B.C. to 1700 B.C. (Custer 2001, 1996a, 1989). Comprehensive research has shown that in Maryland, these broadspears tend to date between 2915 B.C. and 1310 B.C. (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html).

Piscataway. One heavily weathered quartzite Piscataway point was recovered from the site (**Figure 118E**). For brevity, the reader is advised to consult **Section VII.A.1** for a discussion of this point type.

Vernon/Halifax. The classification , chronological placement, and differentiation of Vernon and Halifax point types are somewhat generalized since both have been documented as occurring in various Late Archaic through Early Woodland contexts (LeeDecker and Koldehoff 1991; Custer 2001; Steponaitis 1980; Ebright 1992). Elsewhere in the Middle Atlantic region, these points have been identified as related to Pequea points, which is a Late Archaic stemmed type that tends to date between ca. 5500 B.C. and ca. 2000 B.C. (Custer 2001). In traditional classification systems, Halifax points have been established as Middle-Late Archaic type with a projected date range of ca. 3550 B.C. – 2900 B.C., whereas Vernon points have been defined as a Late Archaic – Early Woodland point with a date range that spans 3550 B.C – 2050 B.C. (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/ index-projectilepoints.html). In various studies throughout the region, the points have been grouped together due to similarities in their physical characteristics. Since neither point was recovered from a stratigraphic context that is capable of refining the temporal contexts of these points at 18Cv492, both points have been conservatively identified as Vernon/Halifax. Of the two points recovered from 18Cv492, it can be said that the point from TU 6 (**Figure 118C**) is more similar to a Vernon form. In contrast, the characteristics of the point from TU 17 are much more like those attributed to Halifax points (**Figure 118D**).

Basal Notched. In the Middle Atlantic region, this point type is commonly attributed to ca. A.D. 0 – A.D. 1000, which places with the Middle Woodland Period; however, these points have also been documented in association with Late Woodland occupations (Custer 2001).

Triangle. Two quartz triangles were recovered from the 18Cv492. In deference to their recoveries from plow-disturbed mixed strata in the upper portions of the soil profiles, and the poor physical conditions of the points, both points have been attributed to the Late Woodland

Period. Attributing these plow zone points to the Late Archaic, Early Woodland, or Middle Woodland Periods with disregard to the *terminus post quem* (TPQ) of Late Woodland triangles would be both arbitrary and misleading. For this reason, the 18Cv492 triangle points are conservatively regarded as Late Woodland examples. For brevity, the reader is advised to consult **Section VII.A.1** for a discussion of the temporal placement of triangle points.

Based on the established date ranges of Potomac (A.D. 1200 – A.D. 1700; Stephenson and Ferguson 1963) and Madison (A.D. 1250 – A.D. 1450; Scully 1951) points, the composite date range for the 18Cv492 triangles has been set to ca. A.D. 1200 – A.D. 1700.

2. Ceramic Artifacts

Compared to the projectile point assemblage, which contains a variety of diagnostic types, there is less type variation within the recovered ceramic assemblage. The assemblage recovered from 18Cv492 contains four ceramic types.

The ware types therein are Marcey Creek, Accokeek (n=3), Mockley, and Potomac Cove, all of which are common wares of Maryland's Western Shore. Photographs of the sherds as well as three partially reconstructed Accokeek vessels are shown in **Figures 119 -123**. **Table 51** presents summary descriptions of the physical characteristics and projected date ranges of the 18Cv492 ceramic assemblages.

Marcey Creek. The Marcey Creek sherd is triangular body sherd that is 2.5 centimeters long and 2.2 centimeters wide. The sherd was recovered from TU 23 (**Figure 119A; Table 51**). For a discussion of Marcey Creek ceramic, the reader is advised to consult **Section VII.A.2**.

The dates of Marcey Creek vary by region. In more interior portions of Maryland, this Early Woodland ware tends to date between ca. 1000 B.C. and 750 B.C. (Stewart 1982:74). In coastal plain portions of the Middle Atlantic, which includes Calvert County, the ware appears a bit earlier, beginning around 1200 B.C. and lasting until ca. 800 B.C. (Egloff and Potter 1982:97) or ca. 900 (Custer 1989).

Accokeek

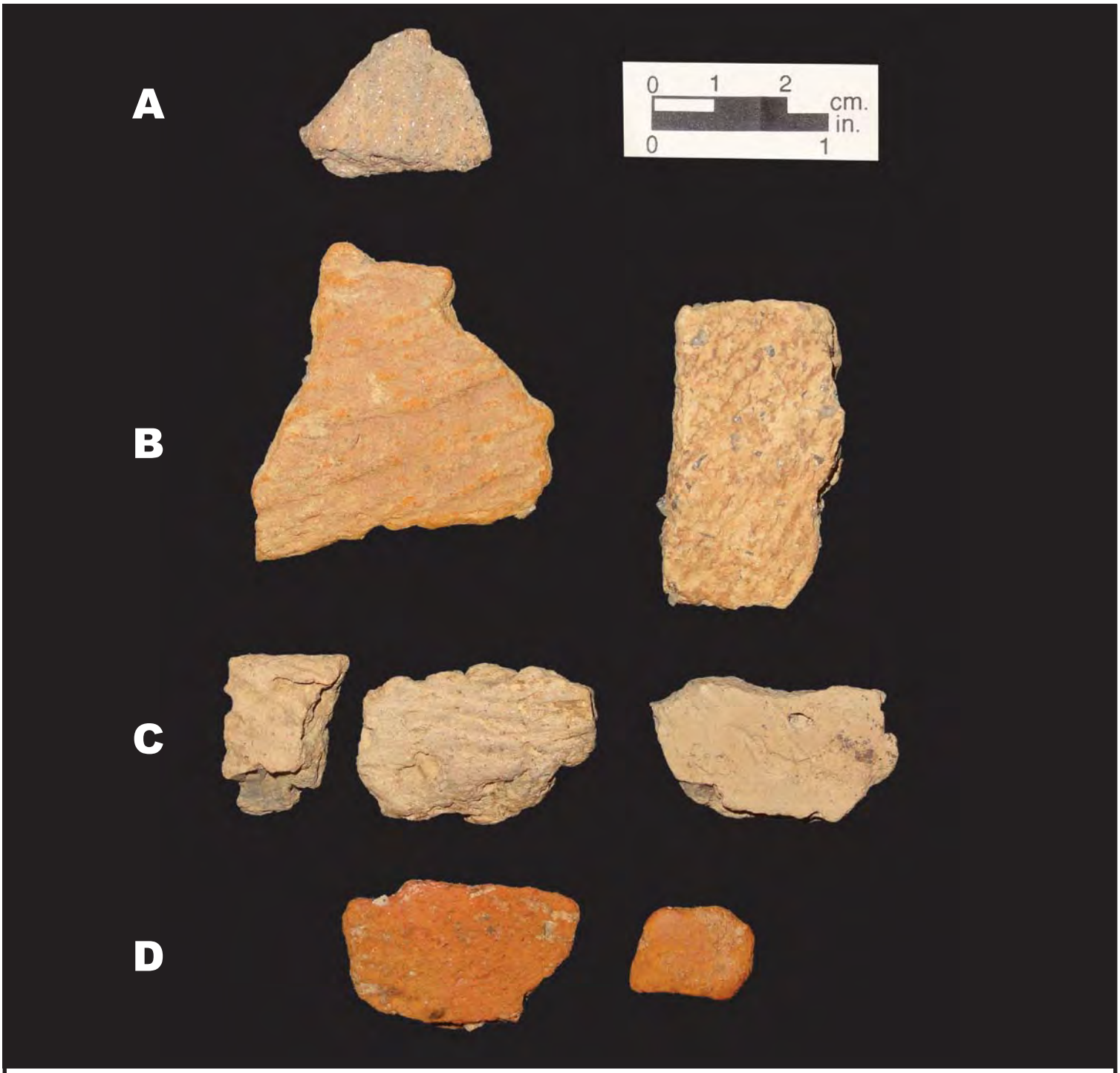
Over five hundred (500+) Accokeek ceramic sherds were recovered during the excavation of Block 1 at 18Cv492. (**Figure 119B, 120, 121, and 122B; Table 51**). The results of cross-mend analysis indicate that the assemblage represents the remains of a minimum of three vessels.

In Maryland, Accokeek ware has a well-established Early Woodland date range of ca. 900 B.C. to 300 B.C. For a detailed discussion of Accokeek ceramic, the authors request that reader consult **Section VII.A.2**.

Mockley. Twenty-five sherds of Mockley ceramic were recovered from Block 1. The sherds vary in size and physical condition. The sherds appear to be from a single vessel that, according to plotted distributions, was left on the west side of the site (**Figures 113, 117,**

Table 51:
18Cv492- Ceramic Sequence

Cat. #	Provenience	Level/ Zone	Ware Temper	Body Fragment Decoration Surface Treatment Other	Total # of sherds	Maximum Dimension W x L (mm)	Ave. Wall Thickness (mm)	Cultural Period/ Projected Date Range/
402	TU 23 NE quad (Quad K)	level 4 Zone 2	**Marcey Creek** crushed steatite	body sherd undecorated smoothed exterior/interior	1	2.5cm x 2.2cm	7mm	**Early Woodland** 1200 B.C. – 800 B.C. (Egloff and Potter 1982) 1000 B.C. – 750 B.C (Stewart 1982)
multiple	multiple	multiple	**Accokeek Variant 1** crushed quartz and sand	body and rim sherds cordmarked smoothed interior	176	varies	6mm	**Early Woodland** 900 B.C. – 300 B.C. (www.marylandarcheology.org)
multiple	multiple	multiple	**Accokeek (Standard)** crushed quartz and sand	body, rim, and base/near sherds cordmarked smoothed interior	376	varies	6mm- 7mm	**Early Woodland** 900 B.C. – 300 B.C. (www.marylandarcheology.org)
multiple	multiple	multiple	**Mockley** crushed shell	body and rim sherds	25	varies	10mm	**Middle Woodland** A.D. 200 – A.D. 900. (www.marylandarcheology.org)
355 373	TU 19 (B/C) SE quad (Quad B) TU 20 NE quad (Quad E)	level 3 Zone 1B level 7 Zone 4B	**Potomac Creek** crushed quartz and grit/sand	body sherds undecorated smoothed exterior/interior	2	3.5cm x 2.2cm 1.7cm X 1.1cm	5mm	**Late Woodland** A.D. 1300 – A.D. 1700 (www.marylandarcheology.org)



A: Marcey Creek
body sherd, exterior view, Block 1, TU 23 (J/K), NE quad/ Quad K, level 4, Zone 2 (#402)

B: Accokeek (left to right)
body sherd, exterior view, Block 1, TU 16, NE quad, level 5, Zone 2 (#246)
body sherd, , exterior view, Block 1, TU 14, NW quad, level 5, Zone 2 (#228)
body sherd, , exterior view, Block 1, TU 14, SE quad, level 6, Zone 3 (#229)

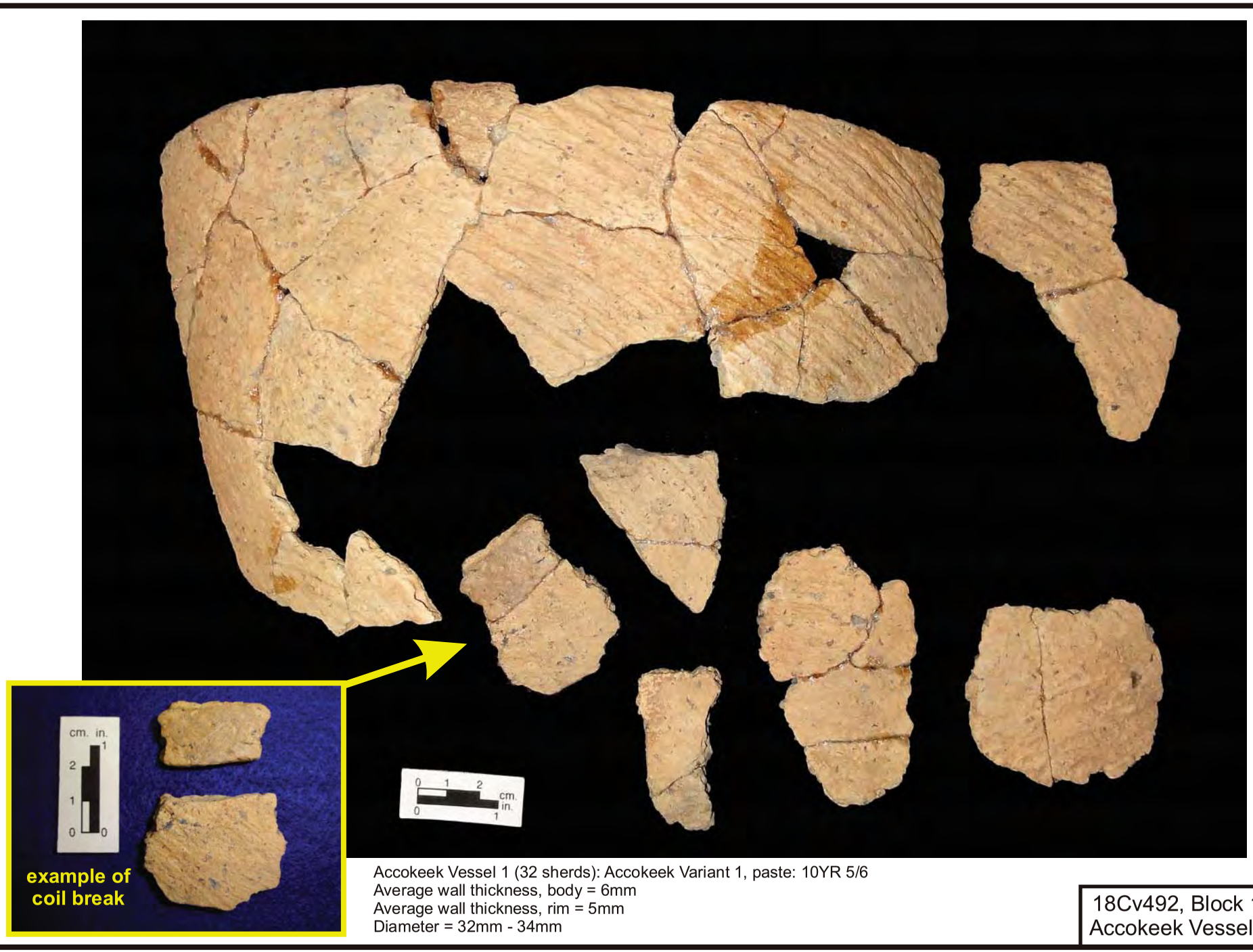
C: Mockley (left to right)
rim sherd, exterior view, Block 1, TU 15, level 2, Zone 1A (#331), rim

C: Mockley (left to right, continued)
body sherd, exterior view, Block 1, TU Phase I TU 1, level 3, Zone 1B (#004)
body sherd, interior view, Block 1, TU 9, level 5, Zone 1B (#195)

D: Potomac Creek (left to right)
body sherd, exterior view, Block 1, TU 19 (B/C), SE quad/ Quad B, level 3, Zone 1B (#355)
body sherd, exterior view,Block 1, TU 20 (D/E), NE quad/ Quad E, level 7, Zone 4B (#373)

18Cv492
Recovered Ceramic Wares

FIGURE 119



Accokeek Vessel 1 (32 sherds): Accokeek Variant 1, paste: 10YR 5/6
Average wall thickness, body = 6mm
Average wall thickness, rim = 5mm
Diameter = 32mm - 34mm

18Cv492, Block 1,
Accokeek Vessel 1

FIGURE 120

Accokeek Vessel 2 (65 sherds): Accokeek Standard Variant, paste: 7.5YR 5/6
Average wall thickness, body = 6mm
Average wall thickness, rim = 5mm
Diameter = 26mm - 34mm

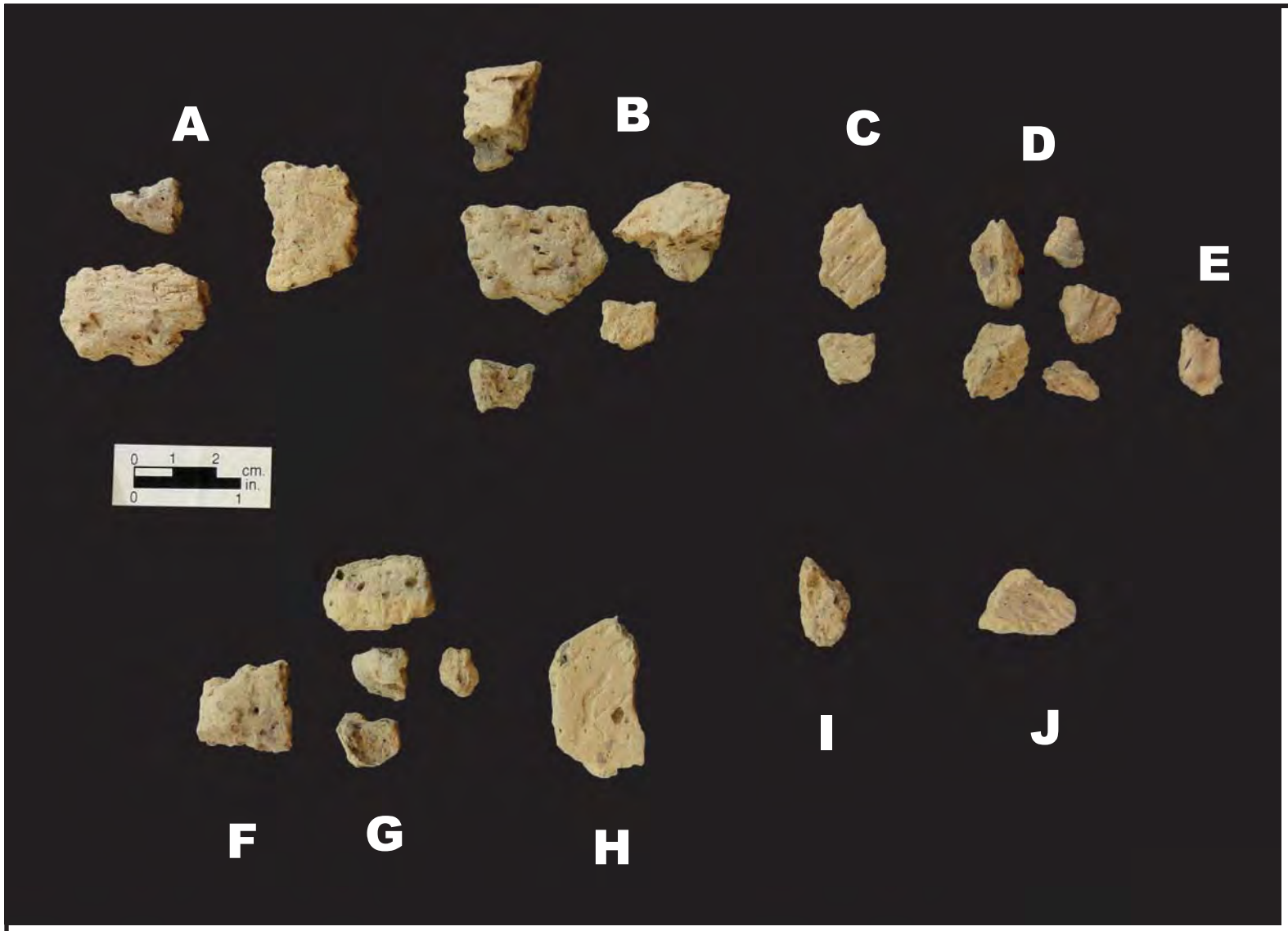
18Cv492, Block 1,
Accokeek Vessel 2

FIGURE 121

Accokeek Vessel 3 (50 sherds)
Accokeek Standard Variant, paste: 7.5YR 5/6
Average wall thickness, body = 7mm
Average wall thickness, rim = 5mm
Diameter = 28mm - 30mm

18Cv492, Block 1
Accokeek Vessel 3

FIGURE 122



A: Block 1, TU Phase I TU 1, level 3, Zone 1B (#4)
B: Block 1, TU Phase I TU 1, level 4a, Zone 2 (#5)
C: Block 1, TU 15, level 2, Zone 1A (#331)
D: Block 1, TU 15, level 3, Zone 1B (#332)
E: Block 1, TU 15, level 4, Zone 1B (#333)
F: Block 1, TU 15, SE quad, level 5, Zone 2 #335)
G: Block 1, TU 9, level 4, Zone 1B (#194)
H: Block 1, TU 9, level 5, Zone 1B (#195)
I: Block 1, TU 11, level 3, Zone 1A (#343)
J : Sample Unit, TU S1E75, level 2, Zone 1A (#303)

18Cv492
Representative Mockley
Ceramic Sherds

FIGURE 123

119C and 123; Table 51). In Maryland, the projected date range of this shell-tempered Middle Woodland ware is A.D. 200 – A.D. 900.

Potomac Creek. Two plain body sherds of Potomac Creek were recovered from random locations in Block 1. Little can be said about these sherds other than that they indicate use of the site during the Late Woodland period between A.D. 1300 and A.D. 1700 (http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/index-projectilepoints.html).

3. Diagnostic Artifact Associations, Comprehensive Site Chronology and Temporal Occupations

An overall site chronology for 18Cv492 was developed based on the recovered diagnostic projectile points and ceramic types. **Figure 124** presents a composite of the diagnostic artifacts from the site. Since Accokeek ceramic was recovered in all four stratigraphic zones and the excavations encountered several incidences where older artifacts were situated higher in the profile than younger artifacts, a single composite of the site is presented.

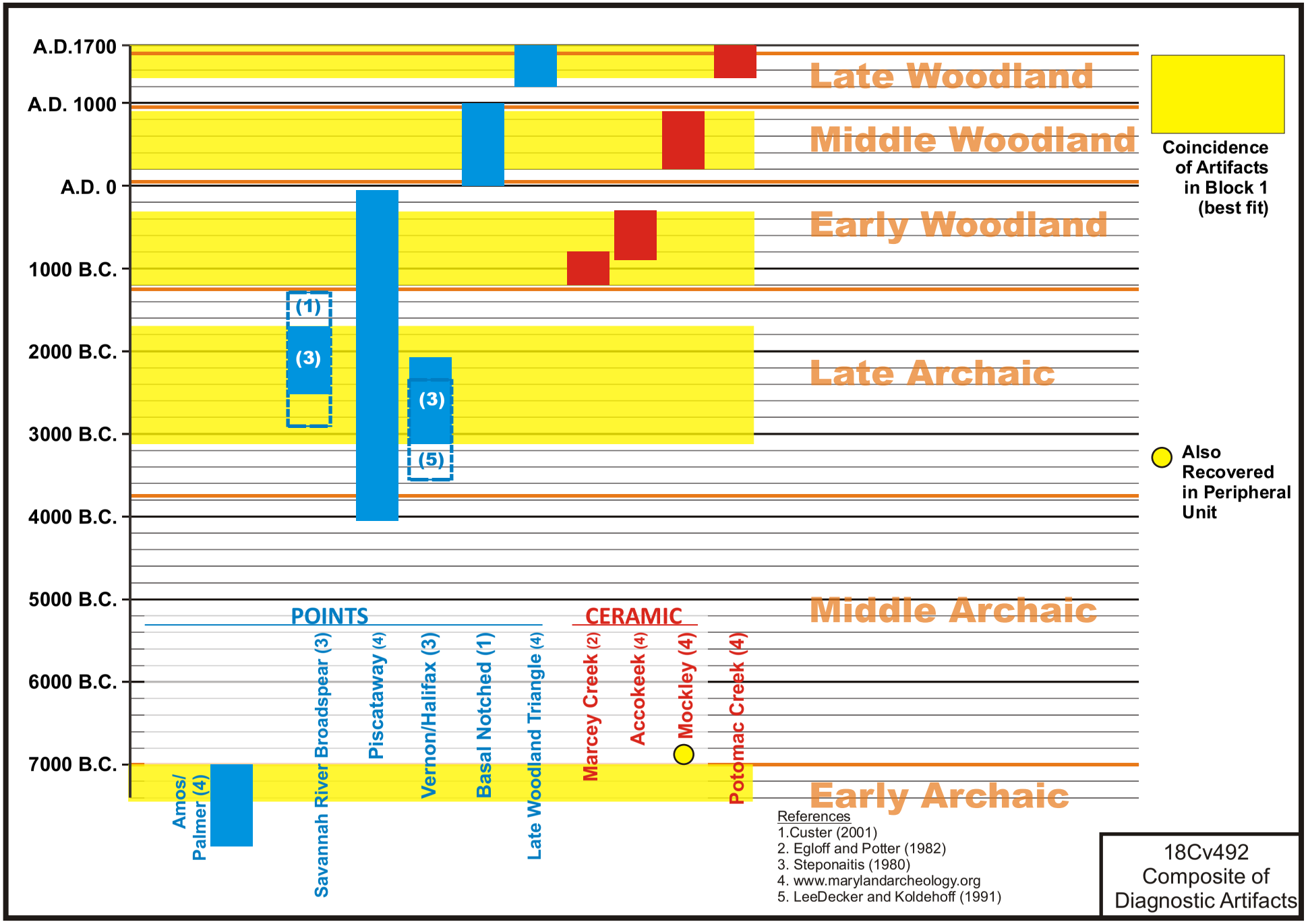
Although the Early Woodland component of 18Cv492 is best represented in the ceramic assemblage and in the overall archeological data, it is, interestingly, also the occupation that is least represented in the point assemblage. The best fit to the Marcey Creek and Accokeek sherds is the Piscataway point, which, in and of itself, has the broadest date range. The ambiguity of the Piscataway point in the 18Cv492 site chronology reflects both the continuity of site's use as well as the longevity of this point type.

The variation in the diagnostic artifacts from 18Cv492 reflects continuous and repeated, but somewhat limited, use of the site prior to and after the Early Woodland Period. The progressive sequence of the more distinctive point types and ceramic wares implies that use of the site began during the Early Archaic Period and continued into the end of the Late Woodland Period. Artifact quantities indicate that the site's most intensive period of use occurred during the Early Woodland Period sometime between 1200 B.C. and 300 B.C., with the ca. 900 B.C. and 300 B.C. date range of Accokeek ceramic marking baseline of the core area. The Early Woodland Marcey Creek Phase and Accokeek Phase cultural traditions are represented at the site.

The Middle Woodland period is solidly represented by the Mockley ceramic and basal notched point. The Mockley ceramic places the Middle Woodland use between ca. A.D. 200 – A.D. 900.

The Savannah River broadspear with its ca. 2915 B.C. – 1310 B.C. date range provides the minimum baseline for the Late Archaic component of 18Cv492. However, the Vernon/Halifax points and also the Piscataway, suggest that the Late Archaic component could both precede and postdate this projected date range.

The Late Woodland Period is represented by the two triangles and Potomac Creek sherds.



18Cv492
Composite of
Diagnostic Artifacts

FIGURE 124

As a final note, the recovered gorget could date to any one of the Early through Late Woodland occupations.

Based on the analysis of the diagnostic artifacts, it is estimated that the variation within the diagnostic artifact assemblage represents at least five primary episodes of occupation. These are:

- an Early Archaic component that occurred between ca. 8050 B.C. and 7350 B.C.;
- Late Archaic occupation that at minimum, dates between ca. 2915 B.C. – 1310 B.C. but site use may have occurred as early as the beginning of the Late Archaic and well through the Late Archaic/Early Woodland transitional period;
- a ca. 1200 B.C. and 300 B.C. Early Woodland occupation that spans the Marcey Creek-Accokeek Phase;
- a Middle Woodland occupation that dates to ca. A.D. 200-A.D. 900. The Selby Bay Phase is represented in this occupation by the Mockley ceramic;
- a Late Woodland occupation that dates to ca. A.D. 1300 – A.D. 1700. The Potomac Creek Complex is represented in this occupation.

The identified site components are listed in **Table 52**.

Table 52:
18Cv492- Summary of Site Components

Temporal Context	Cultural Context	Date Range of Tradition/Context	Functional Context
Early Archaic	Corner-Notched Tradition (Steponaitis 1983)	ca. 8050 B.C. – 735000 B.C.	procurement/ processing station
Late Archaic	Late Archaic and possibly Late Archaic/Early Woodland Transition	ca. 2915 B.C. – 1310 B.C.	procurement/ processing station possible short-term base camp
Early Woodland	Marcey Creek Phase	ca. 1200 B.C. – 800 B.C.	short-term base camp
	Accokeek Phase	ca. 900 B.C. – 300 B.C.	
Middle Woodland	Selby Bay Phase	ca. A.D. 200 – A.D. 900	short-term base camp
Late Woodland	Potomac Creek Complex	ca. A.D. 1300 – A.D. 1700	short-term base camp

B. Introduction to Analysis of Lithic Artifacts

Lithic artifacts were inventoried by class and material type. While the recovered lithic assemblage of 18Cv492 is a result of multiple episodes of site use, this assemblage reflects the range of activities associated with tool manufacturing and maintenance that were performed by the site's past Native American occupants.

As noted earlier and enumerated in the previously presented **Table 48**, the lithic assemblage contains 1,040 chipped stone artifacts. Other itemized artifact inventories can be found in various tables and list formats throughout this report (e.g., **Tables 41, 43, 45, 46** and **47; Appendix V**) as well in as plotted distributions of artifacts by stratigraphic zones and by type (e.g., **Figure 101-105**). These items will be referenced as needed throughout the following discussion. **Figure 125** through **Figure 134** present representative photographs of the tools recovered from 18Cv492.

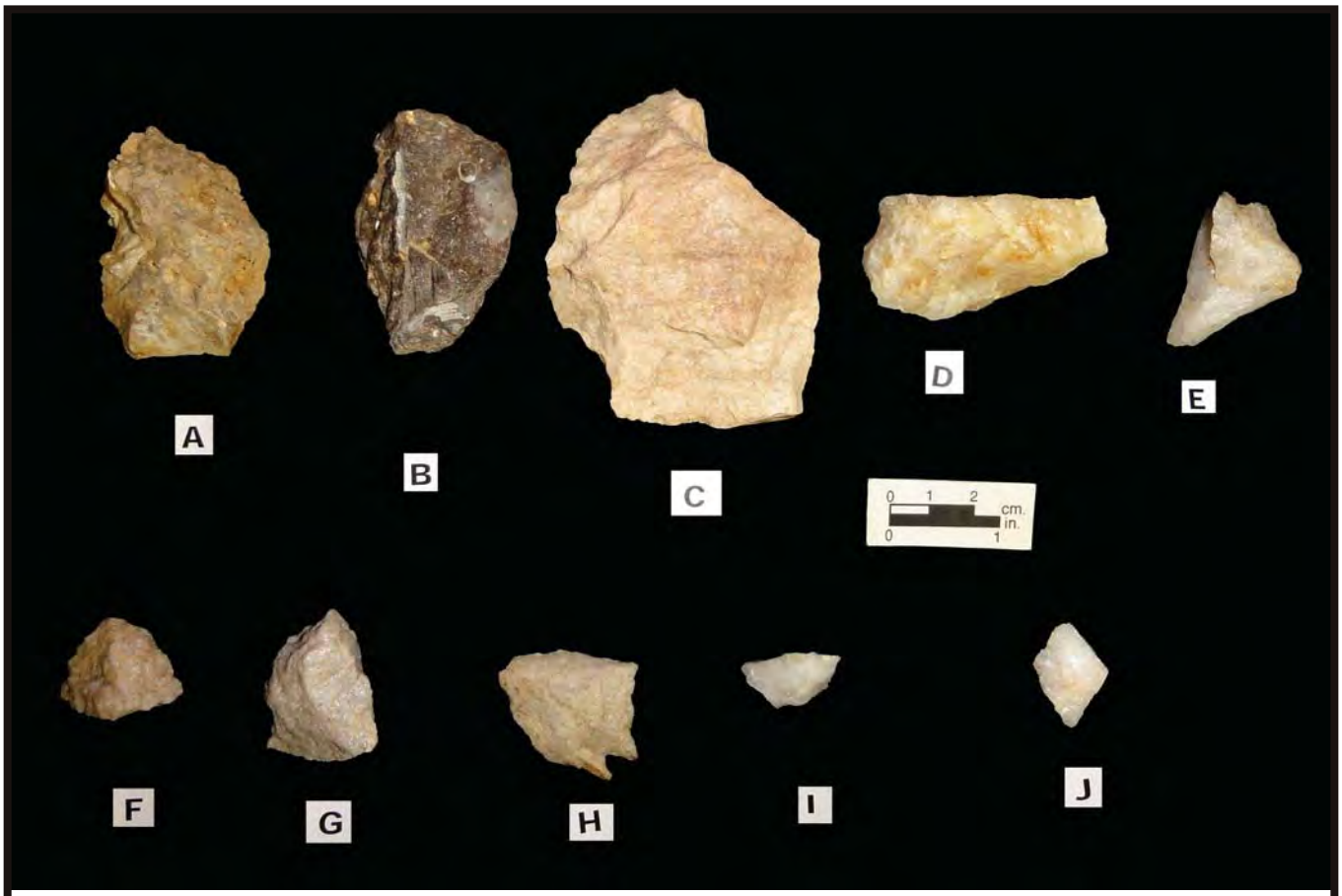
C. Distribution of Lithic Materials within the Assemblage

The lithic assemblage contains a diversity of chipped stone artifact forms but few material types. Cobble quartz and quartzite are by far the prevailing lithic material types within the assemblage (**Table 53**). Of these two materials, quartz artifacts outnumber quartzite artifacts. Over half of the lithic assemblage, 59.97 percent or 621 artifacts, are quartz artifacts. The 359 quartzite artifacts comprise 34.46 percent of the assemblage.

Table 53:
18Cv492 - Summary of Distribution of Artifacts by Material Type

Material Type	Sum	%
Quartzite	359	**34.52**%
Quartz	621	**59.71**%
Chert	39	**3.75**%
Rhyolite	9	**0.87**%
Argillite	2	**0.19**%
Chalcedony	10	**0.96**%
Sum	**1,040**	**100.00**%

The third most frequent material type is chert. The chert assemblage contains thirty-nine (39) artifacts and is equivalent to 3.75 percent of the total assemblage. Rhyolite, argillite, and other lithic materials are also present in the assemblage but the quantities of these material types are much lower than quartz, quartzite, and chert. The rhyolite and argillite assemblages consist of nine (9) artifacts and two (2) artifacts, respectively. The other lithic material in the assemblage consists of nine flakes and one utilized flake of a chalcedony-like cryptocrystalline material. These ten artifacts were recovered in the lithic scatter at peripheral unit TU N065.



Early Stage Bifaces

A: early stage biface, quartzite
Sample Unit, TU S1E75, level 3, Zone 1B (#305)

B: early stage biface, quartzite
Block 1, TU 5 and TU 6, South Wall Clean Up, Zone 1B (#427)

C: early stage biface, quartzite
Sample Unit, TU A, level 6, Zone 3 (#298)

D: early stage biface, quartz
Sample Unit, TU N0E65, NE quad, level 10, Zone 2 (#27)

E: early stage biface, quartz
Block 1, TU 7, SE quad, level 4, Zone 2 (#165)

Biface Fragments

F: biface fragment, quartzite
Block 1, TU 3, SE quad, level 6, Zone 3 (#100)

G: biface fragment, quartzite
Block 1, TU 21 (F/G), Quads F & G (North Half of TU), level 3, Zone 1B (#374)

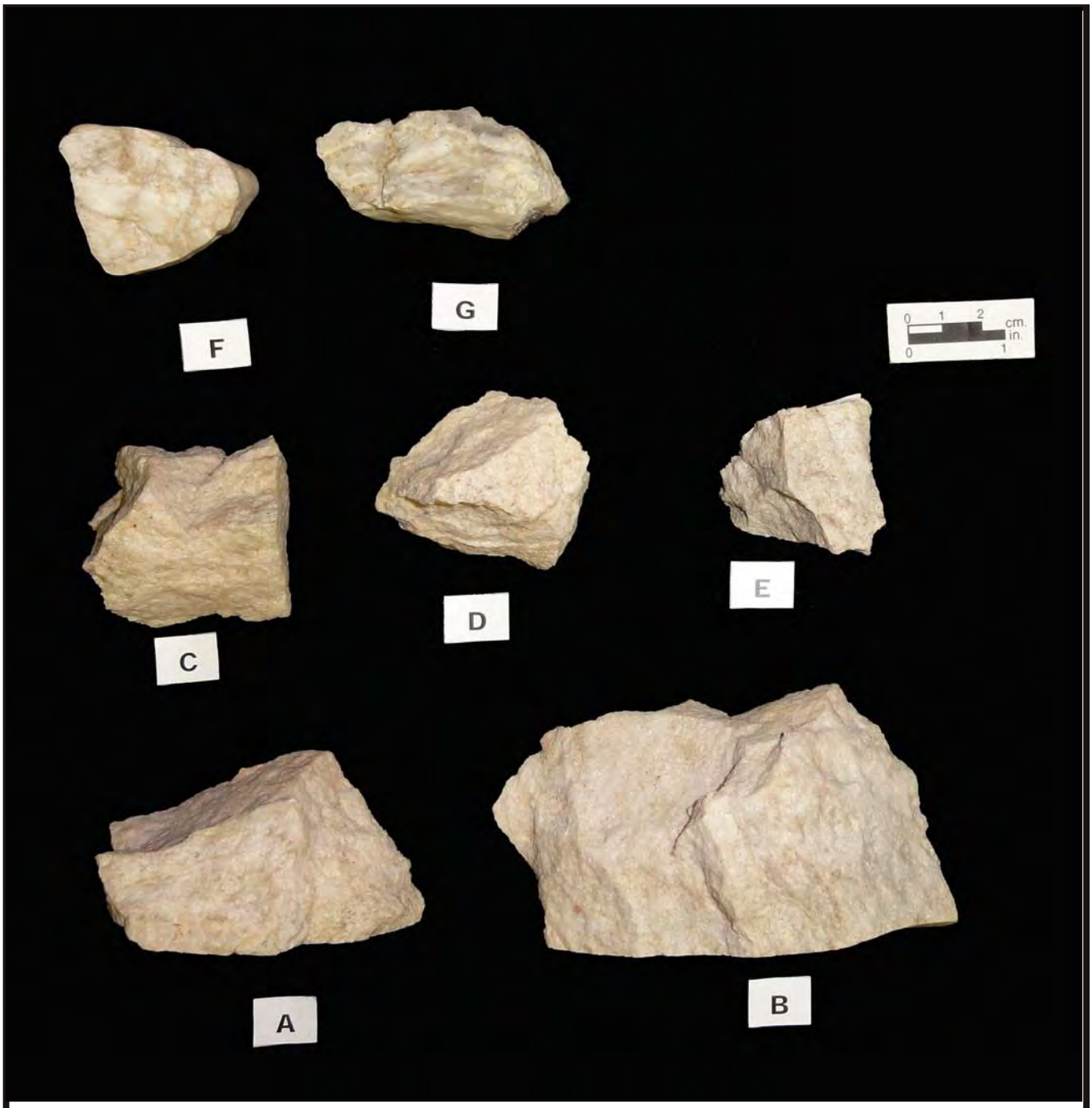
H: biface fragment, quartzite
Block 1, TU 18, SW quad, level 8, Zone 4B (#292)

I: biface fragment, quartz
Block 1, TU 4, SW quad, level 6, Zone 3 (#113)

J: biface fragment, quartz
Sample Unit, TU N0E65, NE quad, level 14, Zone 4B (#34)

18Cv492
Representative Bifaces

FIGURE 125



A: core, quartzite, Block 1, TU 10, SE quad, level 6, Zone 3 (#327)
B: core, quartzite, Block 1, TU 3, SW quad, level 6, Zone 3 (#101)
C: core, quartzite, Block 1, TU 23 (J/K), NW quad/Quad J, level 5, Zone 3 (#398)
D: core, quartzite, Block 1, TU 22 (H/I), NE-Quad I, level 5, Zone 3 (#391)
E: core, quartzite, Block 1, TU 5, level, South Wall/B Horizon, Zone 2 (#146)
F: core, quartz, Sample Unit, TU N5 E65, level 4, Zone 1B (#10)
G: core, quartz, Block 1, TU 21 (F/G), NW quad/Quad F, level 5, Zone 3 (#376)

18Cv492
Representative Cores

FIGURE 126

A - Obverse

A - Reverse

A: misc. stone tool, drill, chert, Block 1, TU 11, level 6, Zone 1B (#344)

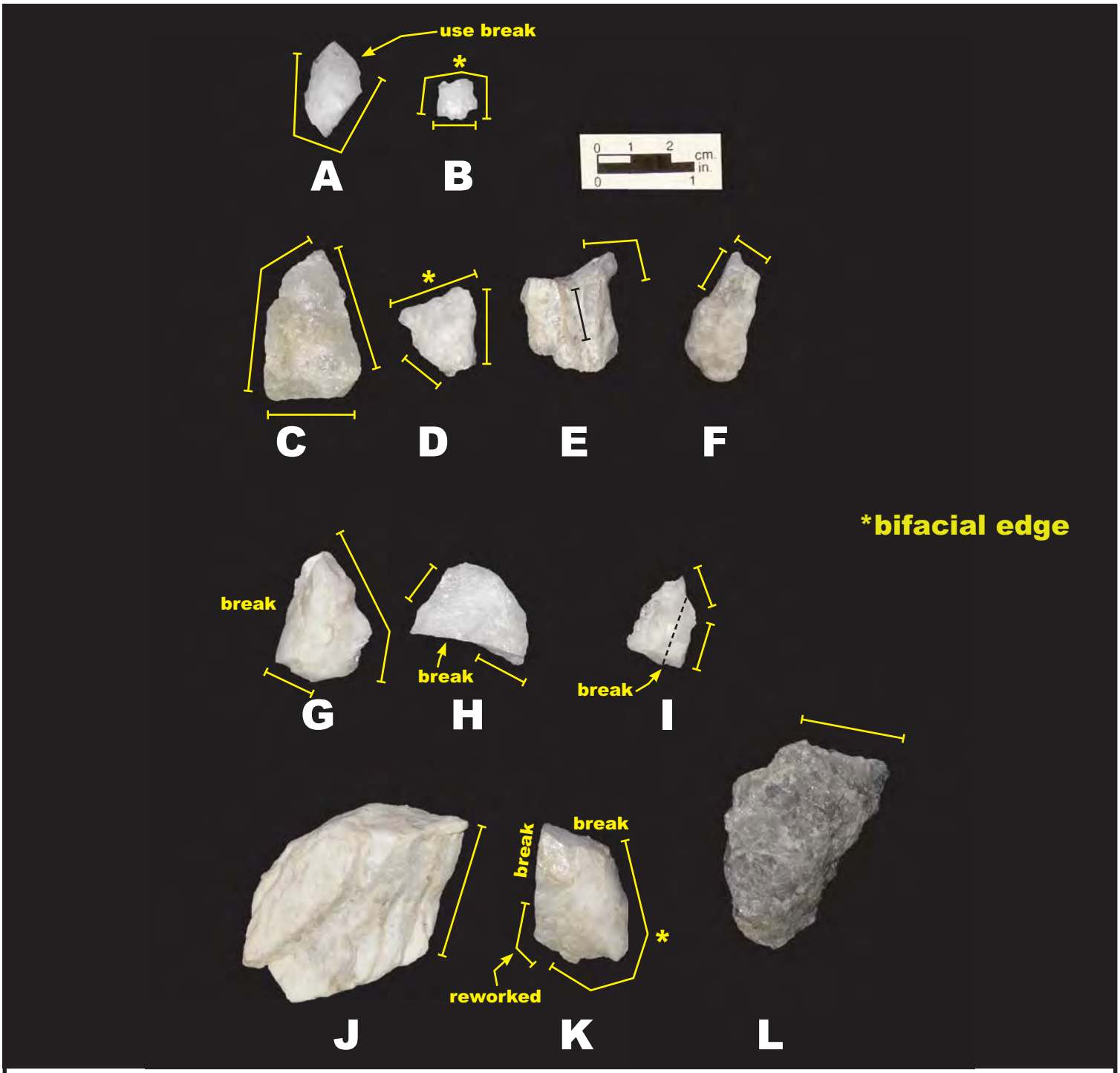
B - Obverse

B - Reverse

B: misc. stone tool, drill, quartzite, Block 1, TU 19 (B/C), SE quad/Quad B, level 4, Zone 2 (#356)

18Cv492
Drills

FIGURE 127



Sample Units

A: drill base, quartz, Sample Unit, TU N0E75, SW quad, level 12, Zone 3 (#124)

B: unclassifiable (possible microdisk), quartz, Sample Unit, TU S1E75, SW quad, level 6, Zone 4A (#316)

Block Units

C: scraper, quartzite, Block 1, TU 17, SE quad, level 6, Zone 3 (#266)

D: scraper, quartz, Block 1, TU 17, level 4, Zone 1B (#263)

E: burin/scraper, quartz, Block 1, TU 20 (D/E), NE quad/Quad E, level 4, Zone 2 (#370)

F: scraper, quartz, Block 1, TU 23 (J/K), NE quad/Quad K, level 5, Zone 3 (#403)

G: spokeshave/scraper, quartz, Block 1, TU 8, SW quad, level 5, Zone 2 (#187)

H: scraper, reworked early stage biface, quartz, Block 1, TU 8, NE quad, level 6, Zone 3 (#189)

I: scraper, reworked early stage biface fragment, quartz, Block 1, TU 8, SW quad, level 6, Zone 3 (#190)

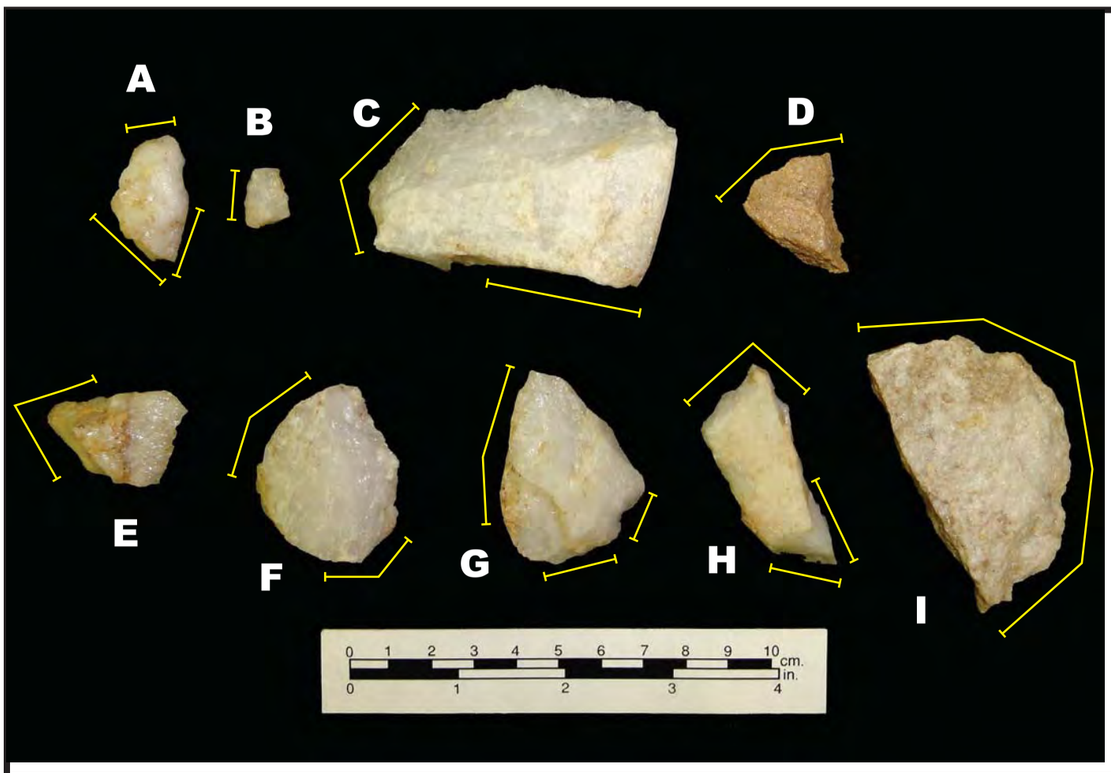
J: scraper, quartzite, Block 1, TU 11, NW quad, level 8, Zone 3 (#349)

K: burin/scraper, quartz, Block 1, TU 5, SE quad, level 6, Zone 3 (#138)

L: scraper, quartz, Block 1, TU 4, NW quad, level 6, Zone 3 (#112)

18Cv492
Miscellaneous Stone Tools

FIGURE 128



Zone 1A/1B

A: scraper, quartz,
TU 7, NE quad, level 4, Zone 2 (#168)

B: scraper, quartz,
TU 5, level 4, Zone 1B (#131)

C: scraper, quartz,
TU 18, SE quad,
buried Ap/B interface, Zone 1B (#295)

D: scraper, quartzite,
TU 24 (Quads L/M), North Half of TU
level 3, Zone 1B (#407)

Zone 2

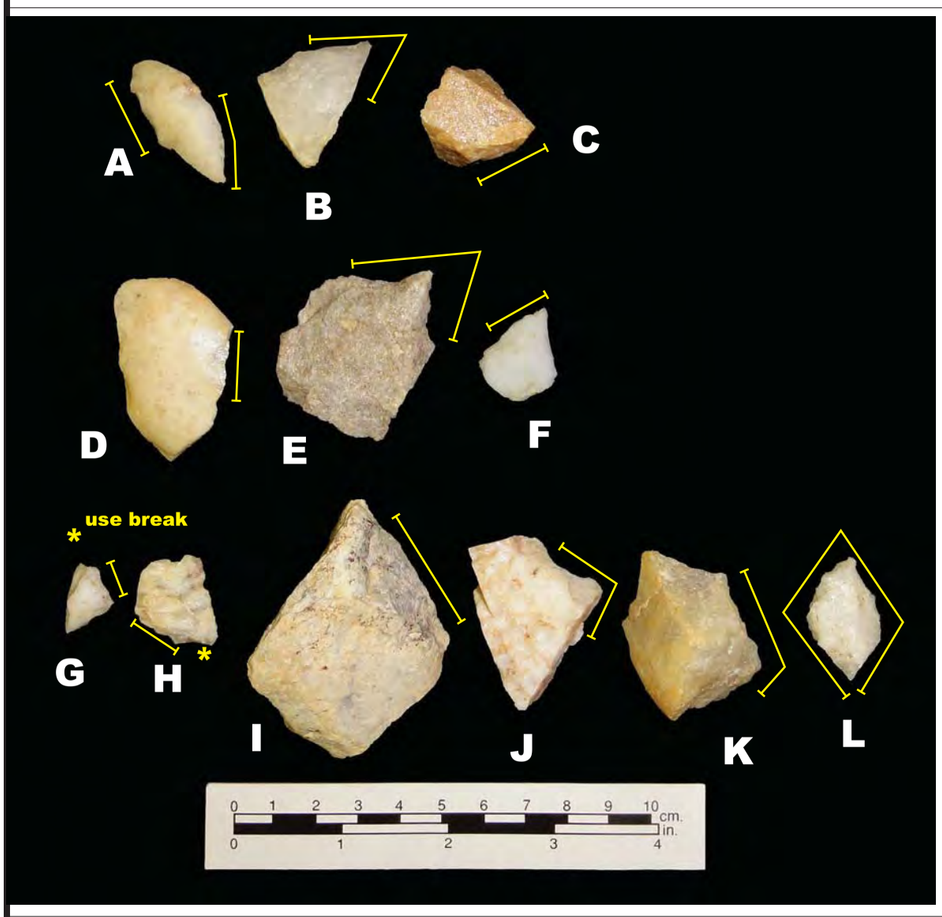
E: awl/punch, quartz,
TU 21 (F/G), NE quad/Quad G,
level 4, Zone 2 (#379)

F: scraper, quartz,
TU 5, NW quad, level 5, Zone 2 (#133)

G: spokeshave/scraper, quartz,
TU 6, NW quad, level 5, Zone 2 (#151)

H: awl/punch and scraper, quartz,
TU 18, NE quad, level 5, Zone 2 (#280)

I: knife, quartzite,
TU 3, NE quad, level 5, Zone 2 (#94)



Zone 3

A: scraper, quartz,
TU 14, SW quad, level 6, Zone 3 (#232)

B: awl/punch and scraper, quartz,
TU 14, NE quad, level 6, Zone 3 (#231)

C: scraper, quartzite,
TU 17, SE quad, level 6, Zone 3 (#266)

D: scraper, quartz,
Block 1, TU 11, NE quad, level 8, Zone 3 (#351)

E: burin/graver, quartzite,
TU 9, NW quad, level 7, Zone 3 (#199)

F: scraper, quartz,
TU 5, SE quad, level 6, Zone 3 (#138)

G: scraper, quartz,
TU 22 (H/I), NW quad/Quad H, level 5, Zone 3 (#387)

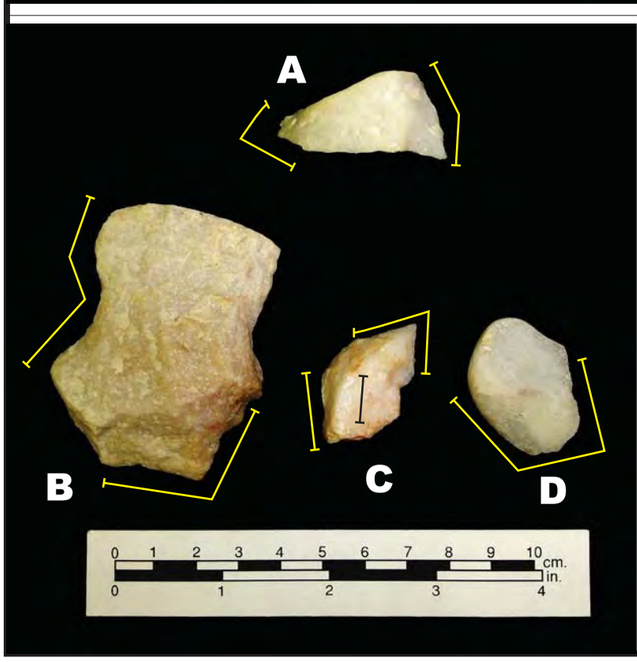
H: awl/graver, quartz,
TU 22 (H/I), NW quad/Quad H, level 5, Zone 3 (#387)

I: scraper, chert,
TU 23 (J/K), NE quad/Quad K, level 5, Zone 3 (#403)

J: burin/spokeshave, quartz,
TU 23 (J/K), NE quad/Quad K, level 5, Zone 3 (#403)

K: scraper, quartz,
TU 23 (J/K), NE quad/Quad K, level 5, Zone 3 (#403)

L: uniface, quartz,
TU 24 (L/M), NE quad/Quad M, level 5, Zone 3 (#413)



Zone 4

A: awl/punch and scraper, quartz,
TU 16, NE quad,
level 8, Zone 4B (#257)

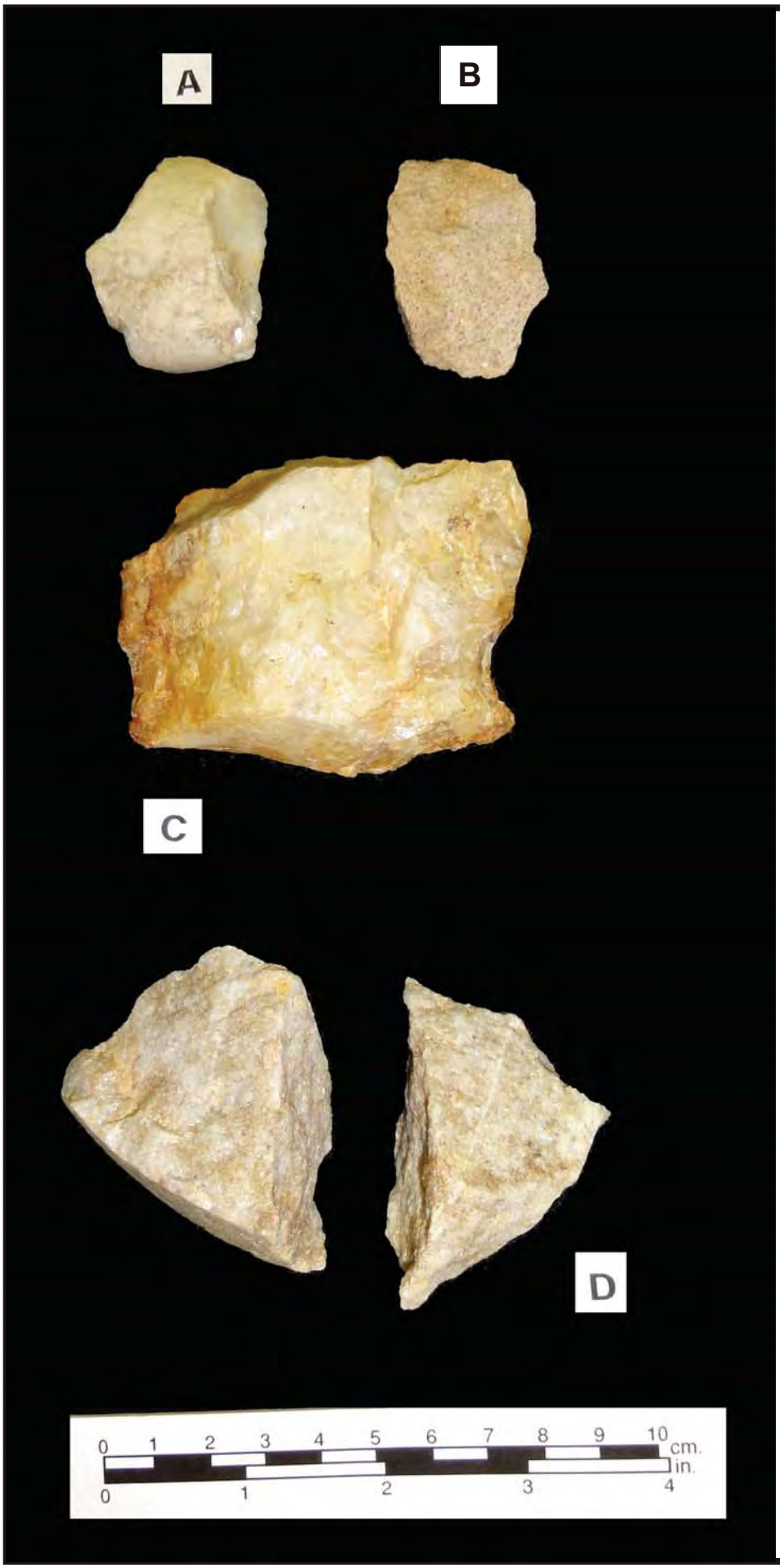
B: spokeshave/scraper, quartzite,
TU 15, NW quad,
level 9, Zone 4C (#342)

C: awl/punch and scraper, quartz,
TU 17, SE quad,
level 9, Zone 4C (#276)

D: scraper, quartz,
TU 6, NW quad,
level 9, Zone 4C (#162)

18Cv492
Block 1
Flake Tools

FIGURE 129



A: flake tool, scraper,
quartz,
TU S1E75,
level 3,
Zone 1B
(#305)

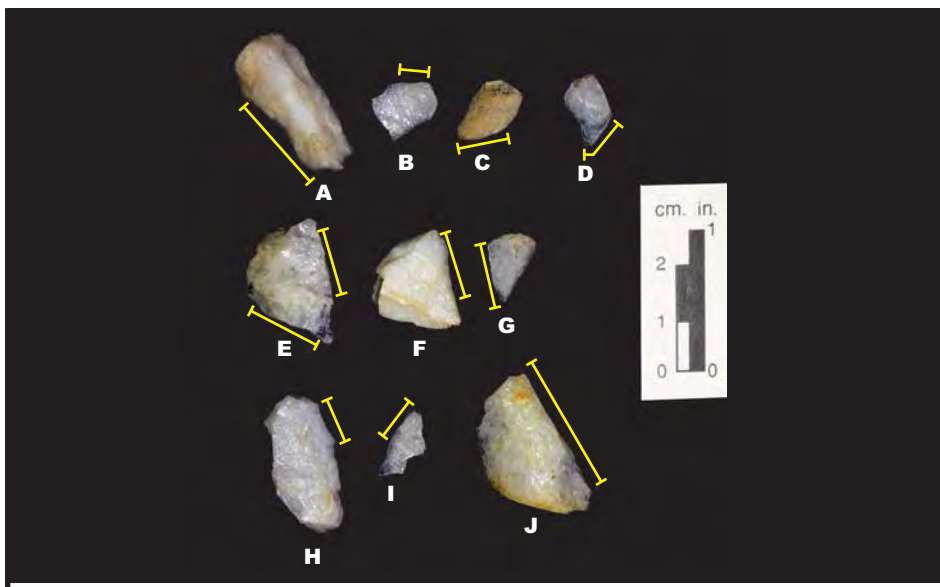
B: flake tool, scraper,
quartzite,
TU S1E75,
NE quad,
level 4,
Zone 2
(#307)

C: flake tool, scraper,
quartz,
TU N0E65,
NW quad,
level 11,
Zone 3
(#30)

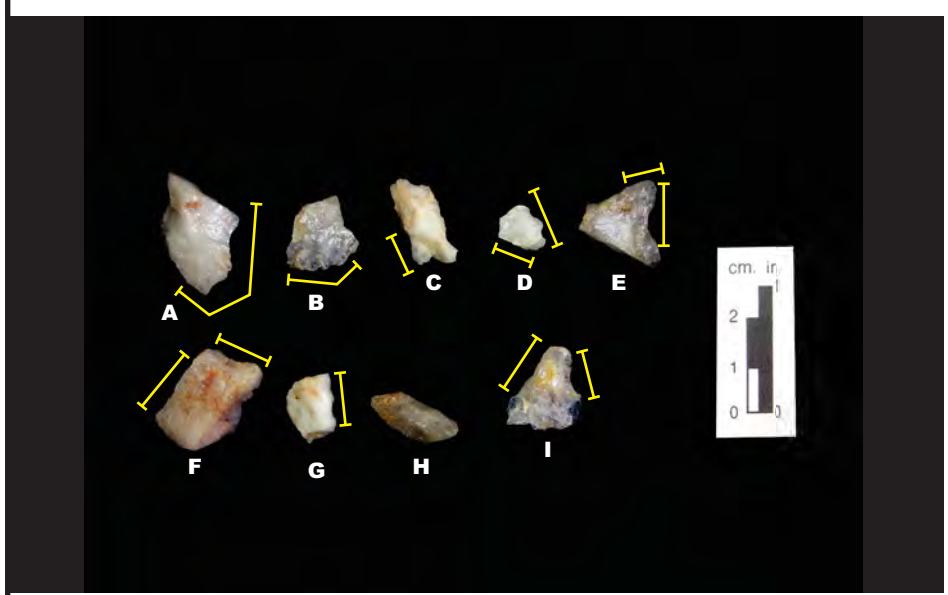
D: flake tool, chopper,
quartzite
TU N5E65,
NW quad,
level 5,
Zone 1B
(#12)

18Cv492
Sample Units
Flake Tools

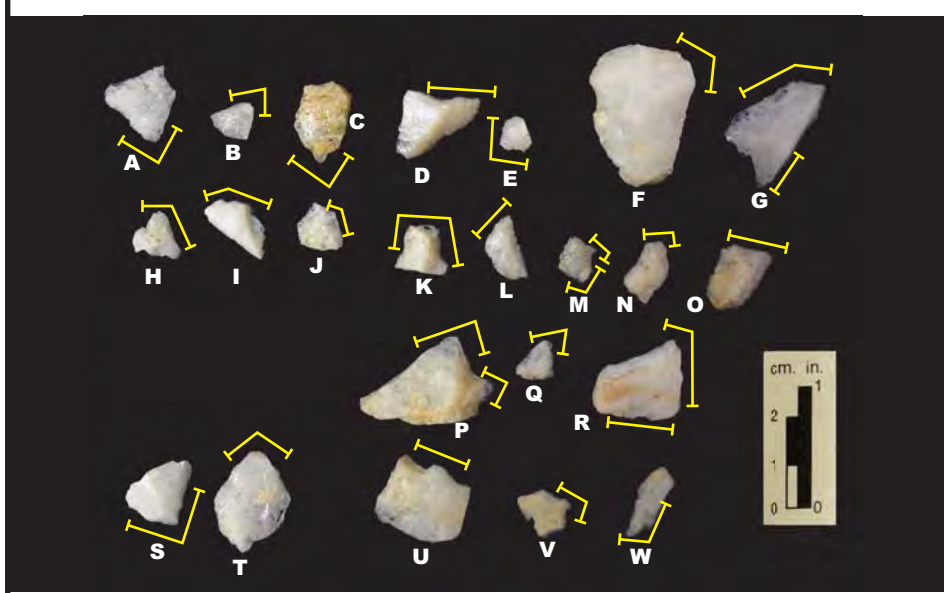
FIGURE 130



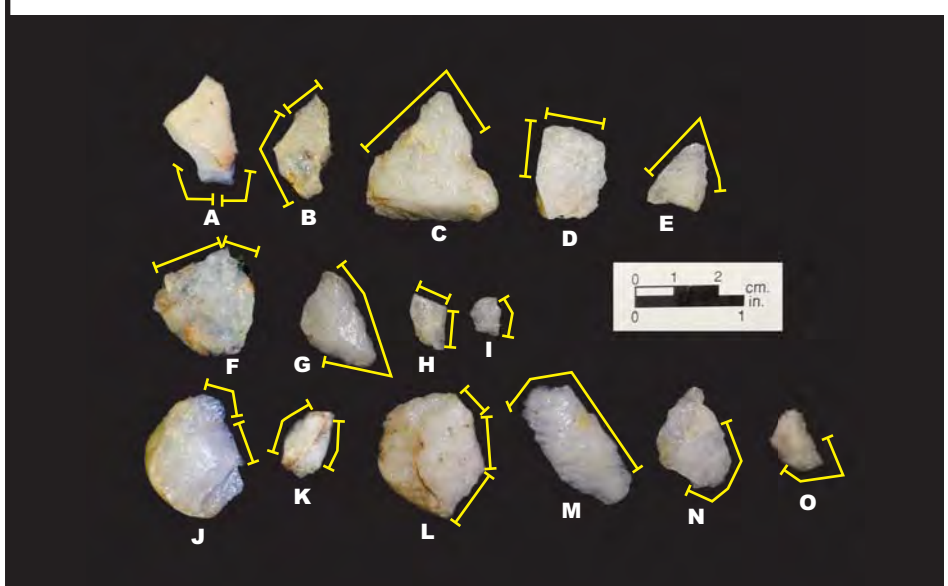
Flakes with Smooth/Polish Wear
A: quartz, TU 18, level 4, Zone 1B (#279)
B: quartz, TU 18, level 4, Zone 1B (#279)
C: quartz, TU 18, level 4, Zone 1B (#279)
D: quartz, TU 16, SE quad, level 5, Zone 2 (#247)
E: quartz, TU 4, NW quad, level 6, Zone 3 (#112)
F: quartz, TU 10, SE quad, level 6, Zone 3 (#327)
G: quartz, TU 17, NW quad, level 6, Zone 3 (#267)
H: quartz, TU 14, SW quad, level 7, Zone 4A (#237)
I: quartz, TU 18, SW quad, level 7, Zone 4A (#288)
J: quartz, TU 5, NW quad, level 9, Zone 4C (#144)



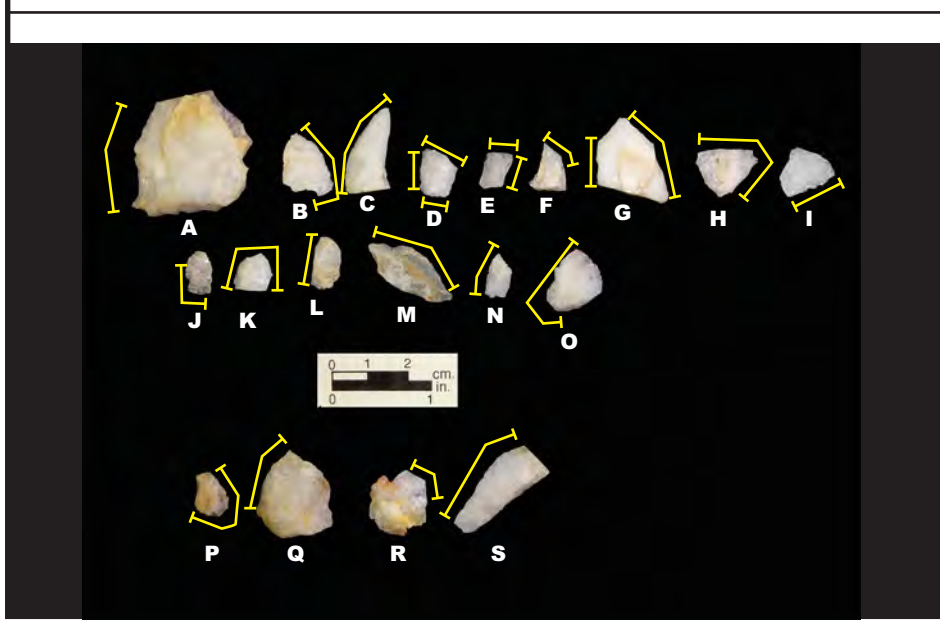
Flakes with Concave Edges
A: quartz, TU 1, SE quad, level 4, Zone 1B (#57)
B: quartz, TU 7, SW quad, level 4, Zone 2 (#167)
C: quartz, TU 7, NE quad, level 5, Zone 2 (#172)
D: quartz, TU 14, NW quad, level 6A, Zone 3 (#234)
E: quartz, TU 14, SE quad, level 6A, Zone 3 (#236)
F: quartz, TU 21 (F/G), NE-Quad G, level 5, Zone 3 (#380)
G: quartz, TU 23 (J/K), NW-Quad J, level 5, Zone 3 (#398)
H: quartz, TU 25 (N/O), NW-Quad N, level 5, Zone 3 (#418)
I: quartz, TU 16, NE quad, level 7, Zone 4A (#253)



Flakes with Utilized Points
A: quartz, TU 8, NE quad, level 4, Zone 2 (#182)
B: quartz, TU 8, NE quad, level 4, Zone 2 (#182)
C: quartz, TU 22 (H/I), Quad H & I (North Half of TU), level 3, Zone 1B (#385)
D: quartz, TU 22 (H/I), Quad H & I (North Half of TU), level 3, Zone 1B (#385)
E: quartz, TU 5, SW quad, level 5, Zone 2 (#135)
F: quartz, TU 6, SE quad, level 5, Zone 2 (#152)
G: quartz, TU 8, SW quad, level 5, Zone 2 (#187)
H: quartz, TU 23 (J/K), NW-Quad J, level 4, Zone 2 (#397)
I: quartz, TU 23 (J/K), NW-Quad J, level 4, Zone 2 (#397)
J: quartz, TU 23 (J/K), NW-Quad J, level 4, Zone 2 (#397)
K: quartz, TU 23 (J/K), NE-Quad K, level 4, Zone 2 (#402)
L: quartz, TU 5, NW quad, level 6, Zone 3 (#137)
M: quartz, TU 6, SW quad, level 6, Zone 3 (#157)
N: quartz, TU 14, NE quad, level 6A, Zone 3 (#235)
O: quartz, TU 14, NE quad, level 6A, Zone 3 (#235)
P: quartz, TU 22 (H/I), NE-Quad I, level 5, Zone 3 (#391)
Q: quartz, TU 22 (H/I), NE-Quad I, level 5, Zone 3 (#391)
R: quartz, TU 23 (J/K), NW-Quad J, level 5, Zone 3 (#398)
S: quartz, TU 5, SW quad, level 7, Zone 4A (#142)
T: quartz, TU 6, SE quad, level 7, Zone 4A (#160)
U: quartz, TU 16, SW (root and Phase I STP disturbed) quad, level 9, Zone 1B (#261)
V: quartz, TU 18, SW quad, level 7, Zone 4A (#288)
W: quartz, TU 21 (F/G), NW-Quad F, level 6, Zone 4A (#377)



Flakes with Multiple Utilized Edges
A: quartz, TU 22 (H/I), Quad H & I (North Half of TU), level 2, Zone 1A (#384)
B: quartz, TU 23 (J/K), Quad J & K (North Half of TU), level 3, Zone 1B (#396)
C: quartz, TU 7, SE quad, level 5, Zone 2 (#169)
D: quartz, TU 7, SE quad, level 5, Zone 2 (#169)
E: quartz, TU 21 (F/G), NE quad/Quad G, level 4, Zone 2 (#379)
F: quartz, TU 5, NE quad, level 6, Zone 3 (#136)
G: quartz, TU 13 NE quad, level 6, Zone 3 (#217)
H: quartz, TU 13 NE quad, level 6, Zone 3 (#217)
I: quartz, TU 13 NE quad, level 6, Zone 3 (#217)
J: quartz, TU 20 (D/E), NW quad/Quad D, level 6, Zone 4A (#368)
K: quartz, TU 23 (J/K), NW quad/Quad J, level 5, Zone 3 (#398)
L: quartz, TU 9, NW quad, level 7, Zone 3 (#199)
M: quartz, TU 19 (B/C), SE quad/Quad B, level 6, Zone 4A (#358)
N: quartz, TU 16, NE quad, level 8, Zone 4B (#257)
O: quartz, TU 18, NW quad, level 7, Zone 4A (#290)

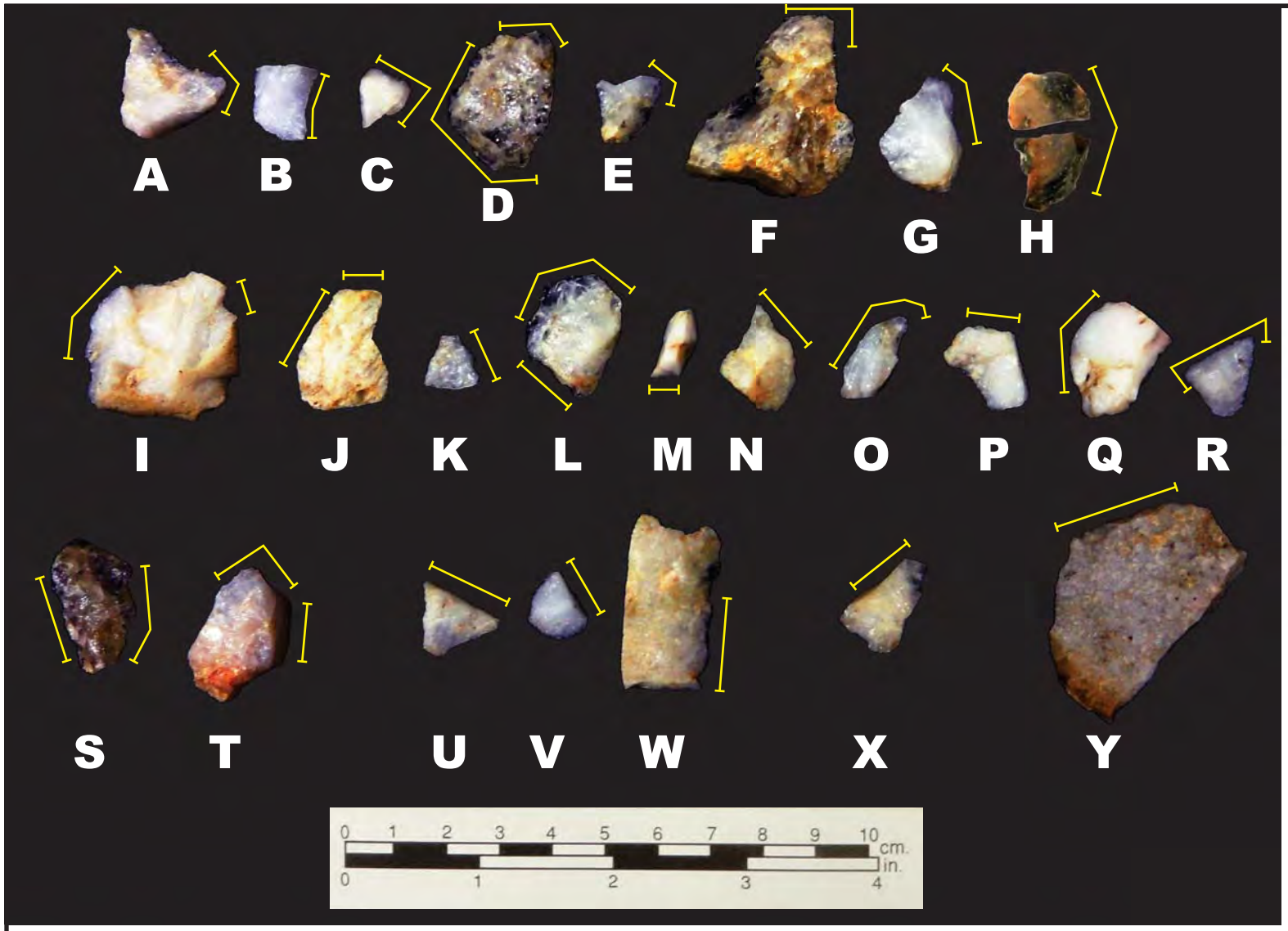


Flakes with Unifacial Side Use
A: quartz, TU 5 and 06, level, South Wall Clean Up, Zone 1B (#427)
B: quartz, TU 23 (J/K), Quad J & K (North Half of TU), level 2, Zone 1A (#395)
C: quartz, TU 7, NE quad, level 4, Zone 2 (#168)
D: quartz, TU 7, NE quad, level 4, Zone 2 (#168)
E: quartz, TU 21 (F/G), NE-Quad G, level 4, Zone 2 (#379)
F: quartz, TU 8, NE quad, level 5, Zone 2 (#186)
G: quartz, TU 8, SW quad, level 5, Zone 2 (#187)
H: quartz, TU 16, SW quad, level 5, Zone 2 (#245)
I: quartz, TU 18, SE quad, level 5, Zone 2 (#283)
J: quartz, TU 4, SW quad, level 6, Zone 3 (#113)
K: quartz, TU 14, SE quad, level 6A, Zone 3 (#236)
L: quartz, TU 21 (F/G), NE-Quad G, level 5, Zone 3 (#380)
M: argillite, TU 21 (F/G), NE-Quad G, level 5, Zone 3 (#380)
N: quartz, TU 18, SW quad, level 7, Zone 4A (#288)
O: quartz, TU 18, SW quad, level 7, Zone 4A (#288)

Flakes with Bifacial Side Use
P: quartz, TU 7, South Half, level 3A, Zone 1B (#164)
Q: quartz, TU 17, level 4, Zone 1B (#263)
R: quartz, TU 18, NW quad, level 6, Zone 3 (#285)
S: quartz, TU 23 (J/K), NW-Quad J, level 5, Zone 3 (#398)

18Cv492
Utilized Flakes,
Smooth, Concave, Pointed,
Multiple, Side Use

FIGURE 131



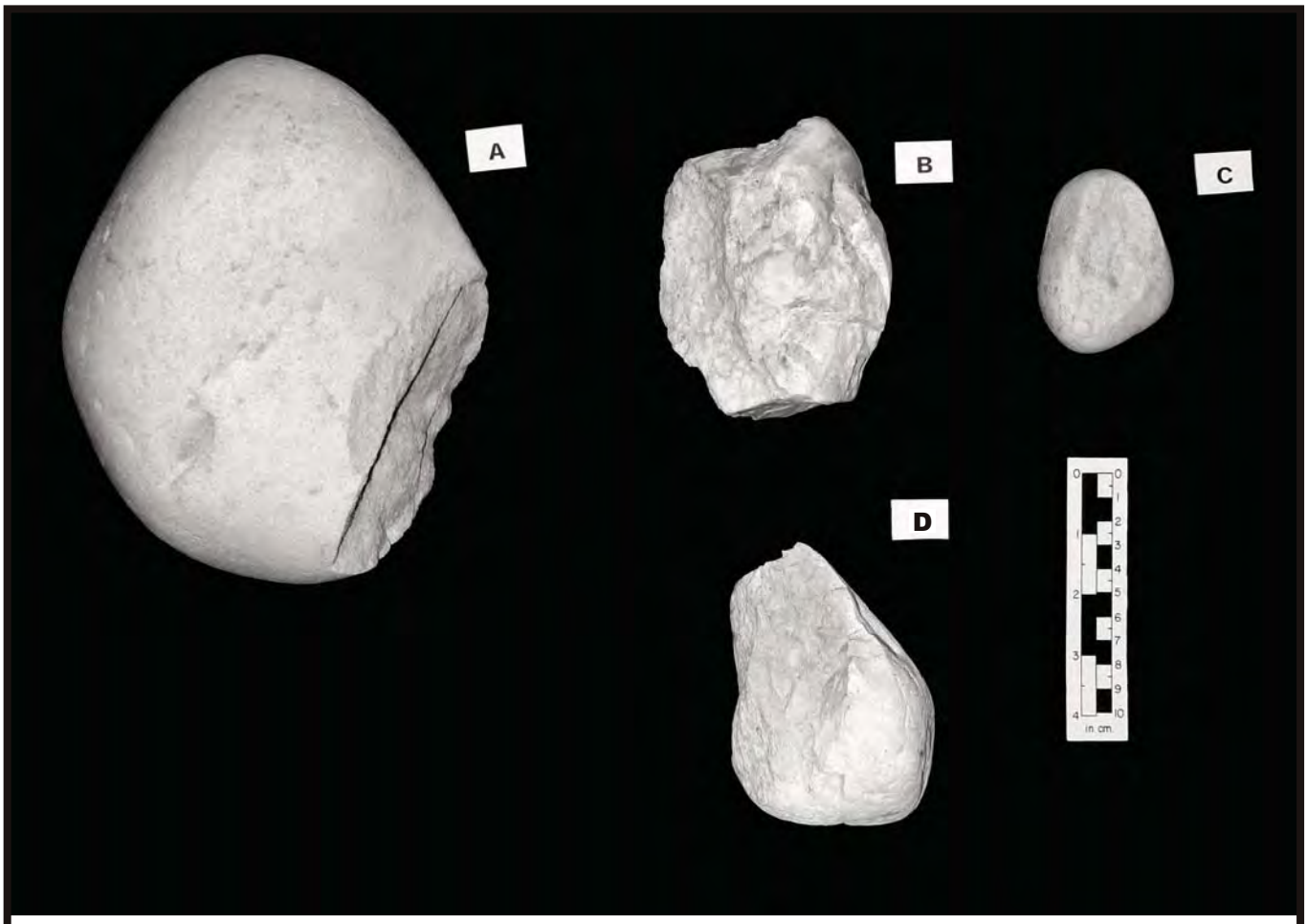
A: quartz, TU N0E65, level, Wall Scraping, Zone 1B (#39)
B: quartz, TU N0E65, level 4, Zone 1A (#19)
C: quartz, TU N0E65, SE quad, level 9, Zone 1B (#24)
D: quartz, TU N0E65, SE quad, level 10, Zone 2 (#26)
E: quartz, TU N0E65, SE quad, level 10, Zone 2 (#27)
F: quartz, TU N0E65, NW quad, level 14, Zone 4B (#35)
G: quartz, TU N0E65, NW quad, level 14, Zone 4B (#38)
H: chert, TU N0E65, NW quad, level 14, Zone 4B (#38), two pieces

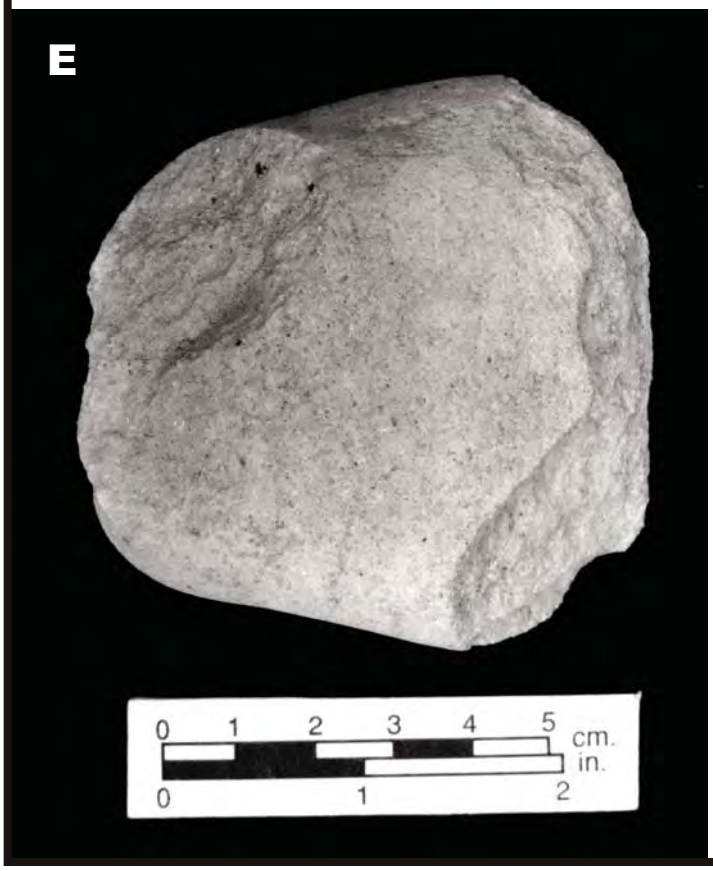
I: quartz, TU S1E75, level 2, Zone 1A (#303)
J: quartz, TU S1E75, level 3, Zone 1B (#305)
K: quartz, TU S1E75, level 3, Zone 1B (#305)
L: quartz, TU S1E75, NW quad, level 4, Zone 2 (#306)
M: quartz, TU S1E75, NW quad, level 4, Zone 2 (#306)
N: quartz, TU S1E75, NE quad, level 4, Zone 2 (#307)
O: quartz, TU S1E75, NE quad, level 4, Zone 2 (#307)
P: quartz, TU S1E75, NW quad, level 5, Zone 2 (#310)
Q: quartz, TU S1E75, SW quad, level 5, Zone 3 (#312)
R: quartz, TU S1E75, SW quad, level 5, Zone 3 (#312)

S: quartz, TU N5E74, SE quad, level 7, Zone 2 (#44)
T: quartz, TU N5E74, SE quad, level 10, Zone 4B (#49)
U: quartz, TU N5E65, level 4, Zone 1B (#10)
V: quartz, TU N5E65, NW quad, level 6, Zone 2 (#14)
W: quartz, TU N5E65, NW quad, level 6, Zone 2 (#14)
X: quartz, TU N0E75, SE quad, level 11, Zone 2 (#119)
Y: quartz, TU S1E84, NE quad, level 12, Zone 2 (#52)

18Cv492
Utilized Flakes,
Sample Units

FIGURE 132





Worked/Tested Cobbles

A: quartzite, Sample Unit, TU A, NE quad, level 6, Zone 3 (#299)

B: quartz, Sample Unit, TU S1E75, SE quad, level 6, Zone 4A (#317)

C: quartzite, Block 1, TU 14, NW quad, level 7, Zone 4A (#238)

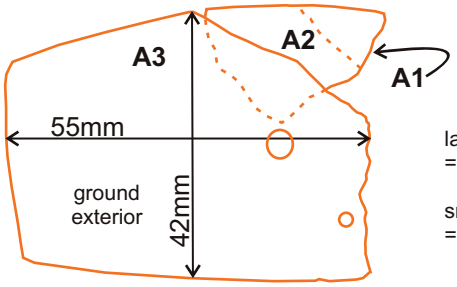
D: chert, Sample Unit, TU S1E75, SE quad, level 7, Zone 4B (#320)

Miscellaneous Stone Tool

E. large cobble tool, quartzite
Sample Unit, TU N0E75, SW quad, level 12, Zone 3, (#124)

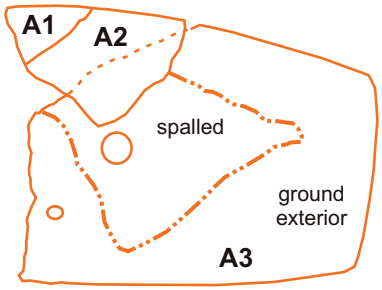
18Cv492
Representative Worked Cobbles and Cobble Tool

FIGURE 133



large (upper) hole
= 4mm diameter

small (lower) hole
= 2mm diameter



Gorget A, greenstone/slate

A1: TU 19 (B/C), SE quad/Quad B, level 4, Zone 2 (#356)
A2: TU 19 (B/C), NE quad/Quad C, level 3, Zone 2(#361)
A3: TU 19 (B/C), NE quad/Quad C, level 4, Zone 3 (#362)

hole = 3mm diameter

width = 29mm

height = 26mm

Gorget B, greenstone/slate
TU 19 (B/C), NE quad/Quad C, level 4, Zone 3 (#362)

18Cv492, Block 1
Gorgets

FIGURE 134

Cortex is present on 421 of the artifacts (**Table 48**).

Only nine of the recovered tools are not quartz or quartzite. These non-cobble quartz/quartzite tools consist of four (4) chert tools, three rhyolite tools, one argillite tool, as well as the aforementioned chalcedony utilized flake from TU N0E65. The chert tools are a flake tool, (**Figure 129[Zone 3]I**), a drill (**Figure 127A**), the Amos/Palmer point (**Figure 118A**), and a worked/tested cobble (**Figure 133D**). The only chert tool that was not recovered from Block 1 is the worked/tested cobble. The three rhyolite tools are a utilized flake, the broken Savannah River broadspear (**Figure 118B**), and a non-diagnostic point fragment. The point fragment is a fragment that appears to have been removed, or broken, from a base. The argillite tool is a utilized flake.

D. Analysis of Lithic Tool Types

The following presents a discussion about some of the more noteworthy specimens and trends within the lithic artifact assemblage at 18Cv492. For plotted distributions of individual artifact classes, the reader is advised to consult **Figures 110-115**, which were presented earlier in this document.

The 18Cv492 assemblage contains 281 tools. Aside from a few exceptions, the majority of the tools are heavily-worn and broken. Most of the tools assemblage is composed of expedient tools such as utilized flakes and tools created by modifying flakes (i.e. flake tools); however, the assemblage also contains a few curated forms (**Table 48** and **Table 54**). As noted earlier, only nine tools are not manufactured from local cobble quartzites and quartzes (**Table 48** and **Table 55**). The quality of the cobble lithic materials varies.

Table 54:
18Cv492 - Summary of Lithic Tool Types

Artifact Type	Sum	%
Utilized Flakes	176	*62.63%*
Flake Tools	31	*11.03%*
Miscellaneous Stone Tools	17	*6.05%*
Projectile Points – diagnostic	8	*2.85%*
Point Fragment - non-diagnostic	13	*4.63%*
Early Stage Biface Rejects	5	*1.78%*
Biface Fragments	18	*6.41%*
Worked Stone/Tested Cobble	6	*2.14%*
Cores	7	*2.49%*
Sum	**281**	***100.01%***

Table 55:
18Cv492 - Summary of Lithic Materials within Tool Assemblage

Material Type	Sum	%
Quartzite	29	*10.32%*
Quartz	243	*86.48%*
Chert	4	*1.42%*
Rhyolite	3	*1.07%*
Argillite	1	*0.36%*
Other (chalcedony)	1	*0.36%*
Sum	**281**	*100.00%*

1. *Projectile Points and Point Fragments*

Most of the recovered projectile points are either damaged or heavily resharpened, which clearly suggests that these artifacts were discards (**Table 50, Figure 118**). The one exception to this is the chert Amos/Palmer point, which is complete (**Figure 118A**). The other seven points are incomplete and have damaged or missing tips (**Figure 118B-H**). The Savannah River broadspear possesses a snapped stem.

Three of the points (**Figure 118B, F, G** and **H**), the broadspear and both triangles, have transverse fractures. Tip damage due to a snap/pry break is apparent on one of the Vernon/Halifax points (**Figure 118C**). Impact fractures have resulted in the broken tips on the other Vernon/Halifax, the Piscataway, and the basal notched points (**Figure 118D-F; Table 50**). The basal notched point also has a fractured base (**Figure 118F, Table 50**). The Piscataway point and one of the Vernon/Halifax points have been heavily resharpened.

The assemblage contains twelve quartz point fragments and one rhyolite point fragment. Most of these fragments are small pieces of tips, medial, or base sections that are too small to determine the point type from which they originated and the action that caused them to become separated.

Table 56 summarizes the distribution of lithic materials in the point and point fragments.

Table 56:
18Cv492 - Summary of Lithic Materials within Point/Point Fragment Assemblage

Material Type	Sum Points	Sum Fragments	% Points+Fragments
Quartzite	1	*0*	*4.76%*
Quartz	5	*12*	*80.95%*
Chert	1	*0*	*4.76%*
Rhyolite	1	*1*	*9.52%*
Sum	**8**	**13**	*100.00%*

2. *Other Bifaces*

This category includes early stage bifaces and biface fragments.

Early Stage Bifaces. The 18Cv492 non-diagnostic biface assemblage contains five early-mid stage bifaces. These bifaces consist of three quartzite bifaces and two quartz bifaces that are of varying sizes and material quality. Two of the bifaces, one quartz and one quartzite, were recovered from Block 1. The other three bifaces were recovered from peripheral unit locations. One of the quartzite bifaces and one of the quartz bifaces, both from peripheral units, retain cortex. The other biface specimens within the assemblage do not retain any cortex. The bifaces are shown in **Figure 125**.

Biface Fragments. The 18Cv492 lithic assemblage contains eighteen (18) biface fragments. The fragments consist of shattered pieces of bifaces (e.g., **Figure 125H**) as well as pieces of tips (e.g. **Figure 125F**), bifacial edges, and medial sections (e.g., **Figure 125J**) that are too small in size to determine the form from which they were derived. These latter fragments are likely refuse that was created via the breakage of bifacial tools and/or refuse resulting from the salvaging/alteration of other tools such as biface fragments that were repurposed into scrapers (e.g., **Figure 128H**). The majority of the fragments are unremarkable. The biface fragment assemblage contains three quartzite specimens and fifteen quartz specimens. All but one of these fragments was recovered from Block 1.

The higher proportion of quartz biface fragments in the assemblage is not surprising given the preferences for quartz in the overall tool assemblage, especially for flake-derived tools (i.e. utilized flakes, flake tools) (**Table 48; Figures 128-132**).

3. *Cores*

Seven cores, five quartzite and two quartz, were recovered from 18Cv492 (**Table 48; Figure 126**). Cortex is present on two of the quartzite cores and both quartz cores. Only one core, a quart core with cortex, was not recovered from a Block 1 provenience (**Figure 126F**).

4. *Miscellaneous Chipped Stone Tools*

This lithic subassemblage consists of chipped stone tools with utilized edges, but is not manufactured from flakes. Artifacts therein include tools that were manufactured by reworking fragments of preforms (e.g., **Figures 128H, 79A, and 79J**); distinctly unique tools (e.g., **Figure 127A, B**); as well as tools that do not conform to any standard classification due to ambiguous physical characteristics. The 18Cv492 tool assemblage contains seventeen such tools. Sixteen of the tools are manufactured from quartz or quartzite cobble material (**Table 48**). Cortex is present on four of the quartzite tools and two of the quartz tools. Two of the more notable tools are two drills, a chert drill and a quartzite drill, that were recovered from Block 1 (**Figure 127**). Another interesting artifact is a small circular quartz tool that was recovered from the small secondary activity area at TU S1E75 (**Figure 128B**). The tool is well-used. While it has a bifacial edge, it is somewhat similar in size and in form to the micro-disks tools that have been reported at various regional sites, amongst which include 18An50 (Luckenbach et al. 2010; Sperling 2010). The miscellaneous tool assemblage contains various recognizable functional forms such as burins and spokeshaves; however, majority of these tools are scraper variants (**Figure 127**).

5. *Flake Tools*

Thirty-one flake tools (modified debitage) were recovered from 18Cv492 (**Table 48**). The only tool that is not derived from cobble quartz (n = 23) or cobble quartzite (n = 7) is a crude chert scraper-type implement (**Figure 129/Zone 3:I**). Cortex is present on twenty-three of the flake tools. Representative samples of the flake tools recovered from Block 1 and the peripheral sample units are provided in **Figure 129** and **Figure 130**, respectively.

In addition to common end and side scrapers, the flake tool assemblage contains tools that can be loosely categorized as general cutting forms (e.g., **Figure 129/Zone 2:I**), awls/punches/drills (e.g. **Figure 129/Zone 2:E, H**), burin/graver-type implements (e.g., **Figure 129/Zone 3:E**), as well as spokeshave-type tools (e.g., **Figure 129/Zone 4:B**). Several of the tools exhibit secondary features indicating that they served as multi-purpose tools and/or were repurposed.

6. *Utilized Flakes*

A total of 176 utilized (unmodified) flakes were recovered from 18Cv492 (**Table 48**). This tool subassemblage is equivalent to 62.63 percent of the tool assemblage and approximately 16.92 percent of the total assemblage. An overwhelming percentage of these utilized flakes are quartz. The quartz utilized flake assemblage is composed of 171 specimens, which is equivalent to approximately ninety-seven percent (97.15%) of the site's utilized flake assemblage and approximately sixty percent (60.85%) of the site's overall tool assemblage. The non-quartz utilized flakes consist of two (2) quartzite specimens, one (1) rhyolite specimen, one (1) argillite specimen, and one (1) [chert]/chalcedony specimen. Cortex is present on one (1) of the quartzite utilized flakes and forty-three (43) of the quartz utilized flakes. One hundred and forty-four (144) of the utilized flakes were recovered from Block 1.

The majority of these tools are utilitarian blades, scrapers, and other generalized multi-purpose implements that do not particularly conform to traditional tool classification systems. Artifacts within this expedient tool assemblage range from single-edge/single-use flakes that were used for only a short time before being tossed aside to flakes that were rotated and flipped repeatedly until all edges had been exhausted. The utilized portions of the tools exhibit a broad range of impacts amongst which include polishing, step fractures, pry/snap breaks (bending), transverse fractures, and tip damage. Many of the utilized flakes also exhibit multiple types of wear, several areas of use, and more than one tool feature. In addition to cutting and scraping implements, this assemblage of flakes used "as is" also contains various specimens with physical/wear traits that resemble those attributed to spokeshave-, awl-/punch-, and burin-type implements. **Figure 131** presents a representative sample of utilized flakes from the Block 1 assemblage that exhibits some of the aforementioned traits, characteristics, and use wear. A representative sample of the thirty-one (31) utilized flakes recovered from the peripheral unit is provided in **Figure 132**. The sample from the peripheral units includes many of the utilized flakes from TU N0E65 and TU S1E75, which yielded the two largest assemblages of this expedient tool type.

The disposable nature of these utilized flakes is not just evident in the broad and arbitrary ranges of sizes and shapes within the 18Cv492 assemblage (**Figure 132** and **Figure 133**), but also in the wide and indiscriminant abandonment of these tools across Block 1 (**Figure 111**),

at the TU N0E65 and TU S1E75/TU N0E75 work stations, as well as in arbitrary locations across the broader site area.

It is interesting to note that only three of the 1m x 1m Block 1 test unit (TU 3, 15, and 12) and only one of the peripheral units (TU A) were devoid of utilized flakes.

7. *Worked/Tested Cobbles*

The lithic subassemblage consists of six cobbles that exhibit modification but no apparent use as tools. The cobbles, two (2) quartzite, three (3) quartz, and one (1) chert, vary in size and in material quality. All six of the cobbles retain much of their cortex. The cobbles are pieces from which less than ten flakes have been removed. There is no regularity in the flake removal pattern on any of the artifacts. These artifacts may be results of quality testing efforts, or perhaps the need for one or two flakes. The more altered of these cobbles are shown in **Figure 133A-E**. The worked/tested cobble assemblage is evenly divided between Block 1 and the peripheral units. The Block 1 assemblage contains one quartzite cobble and two quartz cobbles. These cobbles were recovered from TU 14 (1 quartzite, 1 quartz) and TU 20 (1 quartz). The peripheral units yielded one cobble each of quartzite, quartz, and chert. Two of the peripheral unit cobbles, a quartz specimen and the chert specimen, were recovered from the work area at TU S1E75. The peripheral unit quartzite cobble was excavated from TU A.

E. Gorget Fragments

Five gorget fragments that represent two gorgets were recovered from 18Cv492. All five fragments were recovered Block 1 TU 19. The four largest fragments are depicted in **Figure 134**. Both gorgets are manufactured from a green schist/slate material.

The largest recovered fragment was recovered from Zone 3 in the northeast quadrant ("Quad C") of TU 19. This fragment is estimated to represent one half of a gorget that was at least 110 millimeters (11cm) in length. The full width of the recovered fragment is nearly intact and indicates that the maximum width of the original gorget was between forty-two and forty-four (42-44) millimeters. The recovered fragment has two rows of intact drilled holes, which suggests that the original gorget was a four-hole specimen. The larger of the two extant holes is four (4) millimeters in diameter. The four millimeter (4mm) hole is aligned along the lengthwise center axis of the gorget. The two millimeter (2mm) hole is located halfway between the aforementioned axis and the edge. The two millimeter (2mm) hole is located closer to the center widthwise axis than the four millimeter hole. This fragment mends with two edge pieces that were recovered from Zone 2 in the northeast ("Quad C") and southeast ("Quad B") quadrants of TU 19 (**Figure 134A**).

The smaller of the two gorgets is represented by a heavily weathered medial fragment. This fragment was also recovered from Zone 3 in the northeast quadrant ("Quad C") of TU 19. The recovered fragment is twenty-nine (29) millimeters by twenty-six (26) millimeters in size. The edges are no longer intact on the recovered fragment. Large portions of the surface area are also spalled. The fracture line of the fragment transects the diameter of the hole.

Based on the extant fragment, it is estimated that the hole(s) of the gorget was three (3) millimeters in diameter (**Figure 134B**).

The fifth gorget fragment is a small fragment that was recovered from Zone 2 in the southeast quadrant ("Quad B") of TU 19 in association with one of the edge pieces of the larger gorget. The fragment is small and does not readily mend with any of the other recovered fragments.

F. Hammerstones

The 18Cv492 assemblage yielded a notable collection of hammerstones (**Figure 135**). This assemblage contains twenty-seven (27) hammerstones, of which twenty-four were recovered from Block 1.

The Block 1 hammerstones were recovered from three relatively discrete concentrations. One of these concentrations was encountered at the north end of the north-south center axis of the block (**Figure 110**). Six of the hammerstones were recovered from TU 17 in this concentration (**Figure 135J, T, W, X, Z, AA**).

The other Block 1 hammerstone concentrations are located along the south wall of the block. The concentrations, which consist of four hammerstones each, were encountered in the northeast quadrant ("Quad K") of TU 23 (**Figure 135I, O-Q**) and in the northeast quadrant ("Quad O") of TU 25 (**Figure 135G, K, R, U)**. These small concentrations are believed to represent small caches.

All three of the non-Block 1 hammerstones were recovered from the small work area at S1E75 (**Figure 135A, B, C**).

The hammerstone are of varying sizes. The extent of wear ranges from minor to heavy. On several hammerstones, the wear is near continuous along paths that circle the tool (e.g. **Figure 135E**). Use wear on two of the hammerstones, a split cobble from peripheral unit TU S1E75 (**Figure 135B**) and a split cobble from Block 1 TU17 (**Figure 135J**), may have also been used as abraders.

G. Ceramic Artifacts

As noted earlier, the recovered ceramic assemblage contains one (1) Marcey Creek sherd, 552 Accokeek sherds, twenty-five (25) Mockley sherds, and two Potomac Creek sherds. All but one heavily-weathered Mockley sherd were recovered from Block 1. The single non-Block 1 sherd was recovered from the Zone 1A slopewash deposit at peripheral unit TU S1E75.

Due to the dearth of specimens in the Marcey Creek and Potomac Creek assemblages, little can be said other than the sherds are all body sherds. The sherds exhibit the characteristics that define these wares (**Table 52; Figure 119**).

A: Sample Unit, TU S1E75, SW quad, level 7, Zone 4B (#319)

B: Sample Unit, TU S1E75, NE quad, level 5, Zone 3 (#311)

C: Sample Unit, TU S1E75, SE quad, level 7, Zone 4B (#320)

D: Block 1, TU 1, 2, & 3, south & east wall clean up, Zone 1B (#425)

E: Block 1, TU 5 & 6 Vicinity, Post Hurricane Sandy Wall Clean Up, Zone 1B (#428)

F: Block 1, TU 13, level, floor scraping, Zone 4B (#220)

G: Block 1, TU 25 (N/O), NE-Quad O, level 5, Zone 3 (#422)

H: Block 1, TU 2, NW quad, level 5, Zone 2 (#81)

I: Block 1, TU 23 (J/K), NE-Quad K, level 5, Zone 3 (#403)

J: Block 1, TU 17, NE quad level 6, Zone 3 (#269)

K: Block 1, TU 25 (N/O) NE-Quad O level 6, Zone 4A (#423)

L: Block 1, TU 4, NW quad level 6, Zone 3 (#112)

M: Block 1, TU 14, SE quad level 6, Zone 3 (#229)

N: Block 1, TU 14, NW quad level 6, Zone 3 (#230)

O: Block 1, TU 23 (J/K) NE-Quad K level 6, Zone 4A (#404)

P: Block 1, TU 23 (J/K) NE-Quad K level 6, Zone 4A (#404)

Q: Block 1, TU 23 (J/K) NE-Quad K level 6, Zone 4A (#404)

R: Block 1, TU 25 (N/O), NE-Quad O level 7, Zone 4B (#424)

S: Block 1, TU 21 (F/G) NW-Quad F level 7, Zone 4B (#378)

T: Block 1, TU 17 SW quad level 7, Zone 4A (#270)

U: Block 1, TU 25 (N/O), NE-Quad O, level 7, Zone 4B (#424)

V: Block 1, TU 16, SE quad, level 8, Zone 4B (#258)

W: Block 1, TU 17, SE quad, level 8, Zone 4B (#272)

X: Block 1, TU 17, NE quad, level 8, Zone 4B (#273)

Y: Block 1, TU 16, SW quad (root & Phase I STP disturbed), level 9, Zone 1B (#261)

Z: Block 1, TU 17, SW quad, level 9, Zone 4C (#275)

AA: Block 1, TU 17, SE quad, level 9, Zone 4C (#276)

AB: Block 1, TU 14, NW quad, level 9, Zone 4C (#242)

18Cv492
Hammerstones

FIGURE 135

Ceramic inventorying and analysis revealed that the 18Cv492 Accokeek assemblage contains a minimum of three vessels. Images and descriptions of the crossmended vessels are presented in **Figure 120** through **Figure 122**.

While many of the mends were encountered within proveniences, a fair share of the mends was also identified horizontally and vertically across proveniences. Plotted distributions of crossmends also do not exhibit any distinctly discrete patterning that differs substantially from patterns reflected by the overall assemblage. For example, the sherds that comprise Accokeek Vessel 1 (**Figure 120**) were recovered from the general concentrations of Accokeek ware that are located in the southeast corner and the north end of Block 1. Several of the Vessel 1 crossmends also include random proveniences within the block. The findings suggest that fragmented remains of the Accokeek vessels were subjected to quite a bit of postdepositional mixing.

The distribution of the smaller and more heavily-weathered Mockley assemblage is more discrete. As can be seen in **Figure 113**, these sherds are generally clustered in the western half of the site. Although the physical characteristics of the sherds imply that they are of the same vessels, no apparent direct mends were encountered amongst the sherds. A representative sample of the recovered Mockley sherds is presented in **Figure 123**.

H. Fire-Cracked Rock

One hundred and seventy-eight (178) fire-cracked rock fragments were recovered from proveniences inside and outside of Block 1. The assemblage weighs 12,925.45 grams.

A total of forty-four (44) pieces of fire-cracked rock with a collective weight of 2,750.93 grams were recovered non-Block 1 test locations. Thirty-six (36) of these fragments were recovered from S1E075 (n = 18; 1417.08g) and N0E75 (n = 18; 1034.40g). These fragments are believed to represent the remains of a small hearth that was established at this location. The other eight (8) fragments (299.45g) were recovered in random site locations and do not exhibit any discrete horizontal or vertical patterning.

The Block 1 fire-cracked rock assemblage contains 134 fragments (10,174.52g). Most of the fire-cracked rock in Block 1 is concentrated in the south and southeastern units of the block (**Figure 110**). This concentration of fire-cracked rock is believed to represent the remains of a primary hearth of at least one of the site's occupations. Spatial analysis of artifact classes suggests that the hearth feature is likely associated with the site's Early Woodland component (**Figure 117**).

I. Bone

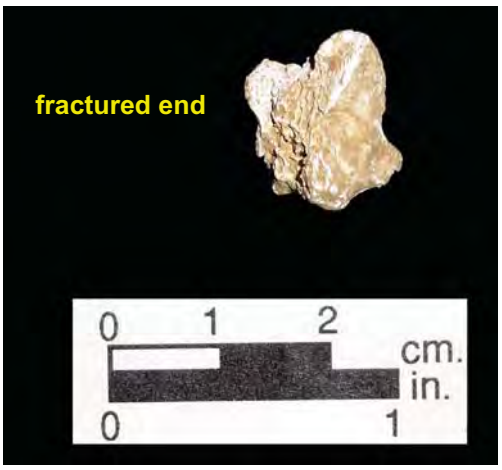
Fifty-four small calcined bone fragments were recovered from 18Cv492. In Block 1, the bone is most concentrated along a northwesterly-southeasterly axis. Most of the bone fragments are less than one centimeter in maximum dimension and are heavily deteriorated.

Although neither species nor anatomical position identification is feasible via standard laboratory procedures for most of the assemblage, visual inspections have been able to type one of the recovered specimens (**Figure 136**). This specimen is a fragment of an Artiodactyl sp. metapodial distal condyle. The fragment, which is probably deer, is of a juvenile individual. The condyle fragment was recovered from Block 1 TU 14 amidst the aforementioned concentration of bone.

J. Field Carbon

Although field carbon samples were regularly collected from the site, the samples recovered from seemingly undisturbed contexts were too small to submit for accurate radiocarbon dating.

Views of Artiodactyl sp. metapodial distal condyle (deer)



recovered from:
Block 1, TU 14
NW quad
level 5, Zone 2
(#228)

18Cv492, Block 1
Bone (Deer)

FIGURE 136

XI. SUMMARY DISCUSSION OF 18CV492

This section discusses some of the implications of the interpretations of the archeological data recovered from 18Cv492. This section summarizes the data from the site as it relates to site chronology, spatial patterning, lithic resource use, and regional settlement patterns. Additional discussions are included in the last section of this report that addresses sites 18Cv491 and 18Cv492 collectively.

A. Site Summary and Temporal Occupations

The variety of points and ceramic wares in the 18Cv492 data collection indicate that the site was utilized repeatedly from the Early Archaic through Late Woodland Periods. Collectively, the projected date ranges of the points and ceramic wares span the period between ca. 8050 B.C. and A.D. 1700. The coincidence of these artifacts in close proximity to one another is indicative of repeated use of the site, and notable, a continuity of siting on the same plot of land.

Prior to the end of the Late Archaic Period, the occupations were rather ephemeral. The discernable cultural material associated with these early occupations is limited to projectile points recovered from mixed stratigraphic contexts. While it is more than like that many of the recovered non-diagnostic tools are those that were manufactured and left behind by the site's Early – Late Archaic occupants, the evidence that can be used to verify this supposition has since become overshadowed by the more robust Woodland Period occupations.

The archeological data indicate that around the beginning of the Early Woodland transitional period, precontact groups began to use the site for more general purposes and for longer periods of stay. The distribution of artifacts across the site indicates that, for the most part, these later occupations tended to establish themselves in the same general location used by their forbearers, specifically a slightly sloped piece of terrain located at the footslope of broader terrace on which the site is situated.

Temporal correlations between projectile point styles and ceramic artifacts indicate that 18Cv492 had at least five occupations, an Early Archaic occupation, a Late Archaic occupation, an Early Woodland occupation, a Middle Woodland occupation, and a Late Woodland occupation. The Early Woodland period occupation includes two distinct, overlapping cultural traditions, which could, in theory, easily represent two different episodes of occupation.

Although the Early Woodland, Middle, and Late Woodland residents never developed the site beyond a small seasonal encampment, it does appear that their lengths of stay were rather long and entailed a diversity of general activities. The toolkits that have been appropriated to these occupations through data analysis indicate that, while the kits are rather small, they do contain a broad range of tool types that are suitable for resource processing and tool

manufacturing. Ceramic vessels, informal caches of hammerstones, primary and secondary activity areas, as well as a relatively dense hearth, are only few of the physical remains that imply the intensity of these small, occupations.

The temporal overlaps that exist within the site's diagnostic artifacts are noteworthy. The points and ceramic conform to established regional models and chronological systems. Collectively, the artifacts form a near seamless chronology of site use that spans the Late Archaic through Late Woodland Period. The contexts of contemporaneous artifacts are also sound.

The Early Archaic period is represented by a single Amos/Palmer point. This point, which has a regional date of ca. 8050 B.C. – 7330 B.C. provides the date for when use of 18Cv492 could have begun.

The Late Archaic period is most represented by two point types, the ca. 3050 B.C. -2050 B.C. Vernon/Halifax points and the ca. 2915 B.C. – 1310 B.C. Savannah River broadspear fragment. The Vernon/Halifax points and also the site's ca. 940 B.C. -50 B.C Piscataway point are interesting. Under many circumstances, seriation of these points is often difficult since both have been documented in association with the Middle Archaic through Early Woodland period occupations. In the case of 18Cv492, these points emphasize the continuity of the site's occupation through time.

The site's Early Woodland period occupation is least represented in the point assemblage, but best represented in the ceramic collection. This occupation is represented by Marcey Creek (ca. 1200 B.C. – 800 B.C.) and Accokeek (900 B.C. – 300 B.C.), which is a well-documented regional sequence (Marcey Creek-Accokeek Phase). The Middle Woodland occupation is represented by the contemporaneous basal notched point (ca. A.D. 0 – A.D. 1000) and Mockley ceramic (A.D. 200 – A.D. 900). This occupation follows the regionally established Selby Bay Phase. The subsequent Late Woodland Potomac Creek Phase is represented in the site's projectile point and ceramic assemblages by the triangle points (ca. A.D. 1200 – A.D. 1700) and Potomac Creek sherds (ca. A.D. 1300 – A.D. 1700).

B. Discussion of Activity Areas

Site analysis indicates that the core area of the site, designated as Block 1 during the excavations, repeatedly served as the primary area of the use and habitation. This fact is demonstrated by the concentration of diagnostic artifacts within Block 1, and the overall low density of artifact concentrations beyond it.

Only two areas outside of Block 1 yielded archeological material that can be attributed to more than just random debris. One of these areas is a small, rather ephemeral, resource procurement/processing workstation west of Block 1. The workstations are represented in the archeological record as small lithic scatter. The cultural material left behind at the station is limited, and consists mainly of a few exhausted tools.

The other workstation is located just southeast of Block 1. This station is slightly more complex than the other in that it appears to have included a small hearth feature. While the cultural material assemblage recovered at this small hearth/workshop is larger than others that were obtained outside of Block 1, this activity area lacks the other ubiquitous forms of general living debris. The low density of artifacts such as debitage indicates that use of this activity area was far less than in Block 1, and probably limited to completion of a particular task or a short foray.

The activities performed inside of Block 1 were much more intense, substantial, and diverse. Importantly, the artifact assemblage clearly reflects an accumulation of debris and refuse of repeated use. Although the repeated use of the Block 1 area has resulted in horizontal/vertical mixing of artifacts and probably the loss of more subtile features, patterns are still discernable in the form of artifact distributions. Delineation of a large hearth feature, a chipping/work station, and a work area associated with the processing of faunal resources are evident in the distribution of fire-cracked rock, discarded tools, debtiage, and bone.

C. Discussion of Lithic Technologies

The lithic artifacts indicate that all of the site's occupants practiced a combination of biface and core reduction technologies. This is evinced in the lithic assemblage, which though small, does contain a variety of early-mid and late stage bifaces, biface fragments, cores/core fragments, worked/tested cobbles, and projectile points. Although the lithic assemblage does contain some carefully curated tools as well as a small number of artifacts made from non-local rhyolite, these types are artifacts are minor. Most of the lithic assemblage is composed of artifacts that are results of expedient cobble reduction performed for the purpose of manufacturing tools for immediate and/or general use. It is also quite apparent that most of the debitage was not the result of standard projectile point manufacturing or biface curation, but instead materials discarded during the creation and selection of flakes for use as tools.

Proportionally, the exhausted tool kit of 18Cv492 contains a large number of utilized flakes, which were found ubiquitously in association with all of the temporal occupations and across the site. These expedient tools outnumber the more prepared chipped stone implements. General scraper-type and cutting implements are the most common forms of tools amongst the utilized flakes, flake tools, and even the more diligently prepared miscellaneous tools. The tool kits also include several "multi-purpose" tools, or in other words, tools with more than one functional use.

D. Role of the Site in Regional Settlement Patterns

Throughout Maryland's Western Shore, small sites such as 18Cv492 have been noted with considerable frequency. Such sites, which can range from small lithic scatters to small base camp locales, can be found in a variety of small upland settings.

The excavations of 18Cv492 performed for this project have provided a new opportunity to examine the role of these small habitation locales in regional settlement patterns. The project has been able to acquire sufficient information to surmise the functional usage, and continuity of use, of 18Cv492 through time. Results of site excavations have revealed that 18Cv492 was subjected to several episodes of use that began during the Early Archaic Period and continued well into the Late Woodland Period.

The excavation results suggest that gradually, through episodes of occupation, the use of the site shifted from a procurement/processing locale to a base camp. The large quantities of ceramic artifacts and fire-cracked rock are common artifacts that are generally attributed to base camp locales. The variation in the projectile point and ceramic assemblage is a tight sequence that illustrates the temporal continuity of the site.

Site 18Cv492 is best classified as a site that functioned as a small seasonal habitation locale or camp that served as a temporary "hub" for longer hunting/gathering forays. Although by no means extensive, these sites often contain the same range of features and artifacts associated with everyday subsistence as those of larger more "village"-type sites. The site fits regional models in that its main area of use is small, less than 0.5 hectares, and situated in an environmental setting of limited carrying capacity. The recovery of 18Cv492 has provided information that can be used to examine the spatial layout of small, seasonal encampments in Calvert County. These smaller sites are an integral component that allows researchers to track the movement of groups between larger, more "village"-type sites (e.g.,18An50), which tend to be located on major waterways, to interior areas for the procurement/processing of plant and animal resources.

Many studies have shown that use of interior upland settings in Calvert County could have quite easily transpired throughout the year due to its abundance of resource-rich mesophytic and hardwood forests (Gilsen 1979; Steponaitis 1983). Unlike the neighboring 18Cv491, which was probably utilized during dry seasons due to its temperamental water table, the use of 18Cv492 could very well have occurred year-round. The site is situated on a well-drained plot of land with a southern face.

XII. CONCLUSIONS AND SUMMARY DISCUSSION OF PROJECT

The Phase III field investigations of 18Cv491 and 18Cv492 has recovered and recorded field data that can be used to accurately and comprehensively describe and interpret the site and its NRHP-defining characteristics.

The Phase III field investigations have fulfilled the goals for the fieldwork component of the site studies. The field investigations have resulted in the creation of a written, visual, and artifact record that are accurate representations of the archeological remains of 18Cv491 and 18Cv492. The field investigations have recorded horizontal and vertical provenience information of artifacts, features, and landscape characteristics located within and around the sites.

Evaluation of the recovered data has concluded that the data is scientifically sound and an accurate record of the site. Analyses of the sites' artifacts, features, landscape, and other attributes, have provided important information pertaining to:

- the functional uses of the sites,
- lithic technologies practiced at the sites, and
- the role of the sites in regional settlement patterns.

Importantly, it has also been concluded that the Phase III archeological investigations have provided the means through which to address the site-specific and regional research issues as detailed in the project's data recovery plan that constitutes Exhibit A of the MOA.

The following briefly discusses some of the implications of the interpretations of the archeological data recovered by the Phase III archeological investigations at 18Cv491 and 18Cv492.

A. Functional Use

The data recovery excavations have resulted in the acquisition of data that can be used to address the functional uses of 18Cv491 and 18Cv492 as they relate to regional settlement patterns.

One of the key research issues was to determine for what purpose the sites were used, and if the functional use of the site may have varied over time. The results of the study have revealed that although neither site developed beyond a small encampment, the habitation at the site increased in duration and in intensity over time.

Prior to the transitional period between the Late Archaic, the sites, and probably the broader landscape within which they are located, were visited intermittently for the purposes of

resource procurement. The lengths of stay were short, and visits probably centered around a specific task. The remains of these sites are manifested in the archeological records as a series of small lithic scatters that represent the abandoned remains of a small work station. Although there is some variation in the complexities, sizes, and assemblages of these temporary occupations, for the most part, the cultural material within these scatters is limited to exhausted tools and the debitage resulting from the creation of disposable "as needed" tools, or the quick resharpening of existing tools, for immediate use. Most of the abandoned tools are general scraper and cutting forms. Occasionally, the remains include a small hearth, which suggests that the occupation at hand included a few overnight stays.

At 18Cv491, it was discovered that these earlier occupations, notably Late Archaic and earlier, seemed to have favored a different part of the site than the Woodland Period inhabitants. At 18Cv492, it was revealed that the general plot of land was repeatedly and intermittently re-occupied. These findings are of interest as they may be related to adaptations in environmental conditions and/or seasonal use. Given their close proximity to one another, it is quite possible that site 18Cv491 and 18Cv492 represent different activity areas of a much larger site. This latter supposition was viewed with much interest over the course of the project, but no data could be used to directly link the sites to one another.

If the sites are viewed in this manner, the studies have revealed that use of this stretch of the unnamed tributary to Halls Creek began during the Early Archaic period and continued for several millennia. The longevity of the sites repeated, and intermittent use, reveals that 18C491/18Cv492 was clearly regarded as a favorable resource locale for the acquisition of resources. Given the diversity of the floral and faunal species that would have been supported by the environment, as well as the abundance of readily-available cobbles for expedient tool manufacturing, this is quite understandable.

The collective chronological sequence of 18Cv491/18Cv492 is of regional interest since it provides meaningful temporal and spatial data that assists with tracking the movement of prehistoric populations through interior settings of Maryland's Western Shore.

The onset of the Early Woodland Period marks a shift in the use of both sites. The archeological data indicates that around the Late Archaic/Early Woodland transitional period, precontact groups began to use the site for more general purposes and for longer periods of stay. The distribution of artifacts across the site indicates that, for the most part, these later occupations tended to establish themselves in the same general location. At 18Cv491, this location is a nearly level piece of terrain located in the center of the terrace on which the site is situated. At 18Cv492, the preferred location for settlement was the same as that of earlier occupations.

Temporal correlations between projectile point styles and ceramic artifacts indicate that collectively, 18Cv491/18Cv492 was visited throughout the Woodland period, but it is interesting that certain time frames are present at one site but not the other. While the Middle Woodland is well-represented at 18Cv492, it is not at 18Cv491. The evidence of an Accokeek Phase occupation is extremely apparent at 18Cv492, but although present, it is less readily-apparent at 18Cv491.

Although the Early Woodland and Late Woodland residents of 18Cv491 never developed the site beyond a small seasonal encampment, it does appear that their lengths of stay were long enough to warrant house construction. The archeological investigations were able to identify at least one house, which was represented in the archeological record as a circular series of regularly-spaced stains, or postmold features, formed by the decayed support posts of the structure.

While archeological studies did not encounter a house pattern feature at 18Cv492, researchers were able to differentiate activity areas that include a large hearth feature, a chipping/work station, and a work area associated with the processing of faunal resources. These activity areas were identified through spatial analysis of artifact distributions.

B. Lithic Technologies

The data recovery investigations were conducted with the intent to ascertain the types of lithic reduction activities conducted at the site. Studies of the lithic assemblages from 18Cv491 and 18Cv492 were performed in order to examine the stone toolmaking technologies that were practiced by the sites' past occupants. To explore the lithic technologies represented at the site, the investigations strived to deduce the methods of, and the reasons that prompted, the manufacturing of tools.

The lithic artifacts indicate that the occupations of 18Cv491/18Cv492 practiced a combination of biface and core reduction technologies. This is evidenced in the lithic assemblages, which, though small, do contain a variety of early-mid and late stage bifaces, biface fragments, cores/core fragments, worked/tested cobbles, and projectile points. Although the lithic assemblages do contain some carefully curated tools that are apparently a lost or forgotten item, as well as a small number of artifacts made from non-local material such as rhyolite, these types are artifacts are minor. Most of the lithic assemblages are composed of artifacts that are results of expedient cobble reduction performed for the purpose of manufacturing tools for immediate and/or general use. It is also quite apparent that most of the debitage was not the result of standard projectile point manufacturing or biface curation, but instead materials discarded during the creation and selection of flakes for use as tools.

Proportionally, the exhausted tool kits of 18Cv491/18Cv492 contain an overwhelming number of utilized flakes, which were found ubiquitously in association with all of the temporal occupations and across the site. These expedient tools outnumber the more prepared chipped stone implements by approximately 1.5 to one. General scraper-type and cutting implements are the most common forms of tools amongst the utilized flakes, flake tools, and even the more diligently prepared miscellaneous tools. The tool kits also include several "multi-purpose" tools, or in other words, tools with more than one functional use. Several of the tools exhibit use wear on opposing faces, often along different edges, which suggests that the tools were rotated and flipped to maximize edge use.

C. Role in Regional Settlement Patterns

Throughout Maryland's Western Shore, small sites such as 18Cv491 and 18Cv492 have been noted with considerable frequency. Such sites, which can range from small lithic scatters to small base camp locales, can be found in a variety of small upland settings.

The excavations of the sites performed for this project have provided a new opportunity to examine the role of these small habitation locales in regional settlement patterns. The project has been able to acquire sufficient information to surmise the functional usage, shifts in use, and continuity of use at the two sites through time.

Both sites are best classified as small, seasonal habitation locales or camps that served as a temporary "hub" for longer hunting/gathering forays. Although by no means extensive, both sites were found to possess the same range of features and artifacts associated with everyday subsistence as those of larger more "village"-type sites.

Site 18Cv491 has been found to contain a "household cluster", a combination of features consisting of a house and associated storage/processing features. The site fits regional models in that its main area of use is small, less than 0.5 hectares, and situated in an environmental setting of limited carrying capacity. The discovered household cluster at 18Cv491 joins a growing number of such features that have been discovered in upland settings. Like the house patterns at other sites (e.g. 36Ch674; 7NC-A-17), the house pattern at 18Cv491 is small, faint, and could have been easily overlooked. The recovery of the household cluster at 18Cv491 has provided information that can be used to examine the spatial layout of small, seasonal encampments in Calvert County.

Site 18Cv492 was found to contain a small collection of features, in the form of artifact concentrations that reflect the performance of general activities. The features, which are clustered around hearth, include a series of closely-knit work areas.

Variations in the siting of the various occupations at and across the site suggest that the sites may have been utilized during different seasons.

The data recovery has acquired significant new information about prehistoric habitation and utilization of interior, low order wetland settings of Maryland's Western Shore. It has long been recognized that small, short-term, limited-use habitation sites like 18Cv491 and 18Cv492 were integral parts of regional settlement patterns. While many prehistoric sites like 18Cv491 and 18Cv492 have been recorded along first- and second-order waterways throughout the state, to date, few such sites in southern Maryland have been subjected to intensive-level investigations. Limited artifact assemblages, absences of datable deposits, lack of discrete spatial patterning, and/or poor physical integrity are only some of the many reasons why these smaller, temporary habitation sites are often dismissed from studies beyond the basic identification/evaluation level.

The primary occupations of 18Cv491 and 18Cv492 date to the Early Woodland Period, a time period that is marked by increases in gradual trends toward sedentism. Most of the changes consisted of subtle shifts in subsistence-settlement strategies associated with increased usage of stable estuarine and riverine settings, a trend which began during the later portion of the Late Archaic Period (Dent 1995; Custer 1994; Steponaitis 1983). As is apparent by the intact house pattern feature at 18Cv491 and large ceramic assemblage from 18Cv492, both sites are clearly testaments to the rise of more sedentary lifestyles, especially in interior settings, that characterize much of the Early Woodland Period. The pre-Late Woodland house pattern feature at 18Cv491 is a new addition to Maryland's known assemblage of prehistoric house pattern features. The 18Cv491 house feature and feature cluster identified at 18Cv492 are new additions for site types that are not well-represented in the existing databases of Maryland archeological data.

In sum, the discoveries of sites 18Cv491 and 18Cv492, and the analysis of the data contained at them, contributes significant new information about the activities performed, technologies practiced, and subsistence strategies employed at small interior-area prehistoric encampments in Calvert County, southern Maryland, and the Western Shore.

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XII. QUALIFICATIONS OF INVESTIGATORS

Contributing Authors:

Barbara Chi Hsiao Silber (McCormick Taylor), Principal Investigator and Primary Author
M.A. in Anthropology, Northwestern University; B.A. in Anthropology, University of Delaware. Twenty-eight years of experience in cultural resources research in the Middle Atlantic. Ms. Silber has conducted, directed, and managed more than thirty archeological field projects in Maryland, Delaware, New Jersey, and Pennsylvania for McCormick Taylor. These projects have ranged from initial scoping efforts to large-scale archeological data recovery excavations of complex, multi-componential prehistoric and historic sites. As Senior Archeologist and Principal Investigator, she has developed implemented and coordinated field, laboratory, research, technical report, and public involvement/awareness methods. Ms. Silber's professional and technical experience also includes the application of GIS technologies, technical report/popular scientific writing, development of research problems and methods, as well as statistical database development. Ms. Silber has conducted and managed cultural resources compliance projects for the Maryland Transit Administration, Maryland Transportation Authority, Prince George's County (MD), New Jersey Department of Transportation, Pennsylvania Department of Transportation, and New Castle County (DE).

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2012
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Richard Freedman

Marianne Ballentyne

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Missing from photo: Jason Smith

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