CULTURAL RESOURCES INVESTIGATIONS OF THE 4-ACRE MARK CENTER VI PARCEL (AREA A) AND ONE ACRE OF THE 6-ACRE MARK CENTER BUILDINGS 2A, 2B, AND 3 PARCEL (AREA B) WITHIN THE MARK CENTER COMPLEX ON SEMINARY ROAD IN THE CITY OF ALEXANDRIA, VIRGINIA

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ABSTRACT

In May and June of 2008, on behalf of the Duke Realty Corporation, Cultural Resources, Inc. (CRI), conducted a Phase I cultural resources survey of four acres within the Mark Center VI parcel (Area A) and approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia. This project area was previously surveyed between 1979 and 1994 in multiple investigations conducted by Terry Klein of the Alexandria RPO and Robert Adams (1994). Following a review of the previous research, Alexandria Archaeology requested additional survey efforts to meet current cultural resources standards and guidelines. A portion of Area A was subject to shovel testing at that time, as were the upland terraces in Area B. Alexandria Archaeology requested 30-foot interval shovel testing and 5-foot interval metal detecting of all of Area A and the low lying terraces of Area B in an effort to provide 100% coverage of both areas and to relocate two shovel tests excavated in 1994 that were positive for prehistoric lithics.

In 1979 and 1980, Terry Klein of the Alexandria RPO conducted reconnaissance surveys of vacant property in western Alexandria, including the Mark Center tract. During these surveys, Klein identified 21 prehistoric sites, consisting primarily of lithic scatters, along with two historic mill sites in the immediate vicinity of the project areas (Adams 1994, VDHR Archives). The majority of the project area vicinity was investigated again in 1991-1994 by Robert M. Adams. The Phase I survey consisted of 50-foot interval shovel testing on the terrace tops with 25-foot interval shovel testing within identified sites, and pedestrian survey of the slopes. This effort resulted in the identification of 11 isolated finds consisting of prehistoric lithics, one prehistoric site (44AX0163) and one historic domestic site (44AX0162). Site 44AX0163 was subjected to Phase II testing, during which only five lithics and no features were identified and no further work was required for the site (Adams 1994). Site 44AX0162 was subjected to Phase II testing, resulting in the delineation of a former structure based on the distribution of nails. Further work was required for the site in the form of a Phase III investigation. The resulting analysis concluded that the former structure was a dwelling associated with the Terrett ownership of the property in the early-mid 19th century (Adams 1994).

CRI designed the investigations to identify all architectural and archaeological resources that may be present in the project areas and to obtain sufficient information to make recommendations about the further research potential of each resource based on their potential eligibility to the National Register of Historic Places (NRHP) and their significance under the criteria set forth by the Alexandria Archaeology Resources Protection Code (*The Zoning Ordinance of the City of Alexandria, Virginia Section 11-411: Archaeology Protection*).

Fifteen isolated finds and one archaeological site were identified during the Phase I survey of the parcel. ***CRI recommends that Isolated Archaeological Finds 1312IF-1 through 1312IF-15 are not significant, nor are they eligible for listing on the NRHP, and no further work is necessary for these resources.***

Site 44AX0205 was identified during Phase I shovel testing in Area A of the Mark Center project. The base of a Savannah River point and 15 pieces of lithic debitage were recovered from three shovel tests excavated within a 45-x-30-foot area. The Savannah River point indicates an occupation dating to the Terminal Archaic Period, circa 2,500-1,000 B.C. In addition to the Savannah River Point, excavation of five test units within Site 44AX0205 recovered five non-diagnostic stone tools, 1,083 pieces of debitage, and two historic artifacts. Quartzite constituted the overwhelming majority of lithic material recovered, with quartz a minor component of the assemblage. After the identification of Site 44AX0205 within the Mark Center VI Parcel (Area

A), a Phase II investigation of Site 44AX0205, consisting of the excavation of five test units, was conducted.

At the conclusion of the Phase I/II fieldwork, CRI recommended that Site 44AX0205 was not significant under Alexandria Archaeology criteria, nor was it eligible for listing on the NRHP due to the presence of only a single diagnostic artifact, the recovery of the vast majority of the assemblage from near-surface contexts, and the absence of cultural features. CRI, therefore, recommended no further work at the site. Alexandria Archaeology, however, found the site to be locally significant and requested additional excavations at Site 44AX0205. CRI conducted this additional work in October of 2008. The research design was developed in close consultation between CRI and Alexandria Archaeology, to refine the site boundaries and ensure the excavation of the entire core area of the site.

This additional work yielded approximately 2,717 lithic artifacts from 98 1.5-x-1.5 foot square excavation units within Site 44AX0205. All excavation units were centered on the core of the site, and extended out until the artifact density dropped consistently; ensuring that the entire core area of the site was excavated to subsoil. No subsurface features or diagnostic artifacts were identified during the additional excavations data recovery.

CRI recommends that no further cultural resources work is necessary within the four-acre Mark Center VI parcel (Area A) and approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia.

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I. INTRODUCTION

In May and June of 2008, on behalf of the Duke Realty Corporation, Cultural Resources, Inc. (CRI), conducted a Phase I cultural resources survey of four acres within the Mark Center VI parcel (Area A) and approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia (Figure 1). The survey was conducted at the request of Alexandria Archaeology to supplement a survey effort conducted on the property by Robert Adams in 1994. A portion of Area A was subject to shovel testing at that time, as were the upland terraces in Area B. Alexandria Archaeology requested 30-foot interval shovel testing and 5-foot interval metal detecting of all of Area A and the low lying terraces of Area B in an effort to provide 100% coverage of both areas and to further investigate areas that had yielded prehistoric lithics during the 1994 survey.

In 1979 and 1980, Terry Klein of the Alexandria RPO conducted reconnaissance surveys of vacant property in western Alexandria, including the Mark Center tract. During these surveys, Klein identified 21 prehistoric sites, consisting primarily of lithic scatters, along with two historic mill sites in the immediate vicinity of the project areas (Adams 1994, VDHR Archives). The majority of the project area vicinity was investigated again in 1991-1994 by Robert M. Adams. The Phase I survey consisted of 50-foot interval shovel testing on the terrace tops with 25-foot interval shovel testing within identified sites, and pedestrian survey of the slopes. This effort resulted in the identification of 11 isolated finds consisting of prehistoric lithics, one prehistoric site (44AX0163) and one historic domestic site (44AX0162). Site 44AX0163 was subjected to Phase II testing, during which only five lithics and no features were identified and no further work was required for the site (Adams 1994). Site 44AX0162 was subjected to Phase II testing, resulting in the delineation of a former structure based on the distribution of nails. Further work was required for the site in the form of a Phase III investigation. The resulting analysis concluded that the former structure was a dwelling associated with the Terrett ownership of the property in the early-mid 19th century (Adams 1994).

After the identification of Site 44AX0205 within the Mark Center VI Parcel (Area A), a Phase II investigation of Site 44AX0205, consisting of the excavation of five test units, was conducted. Following CRI's Phase II investigation, Alexandria Archaeology requested additional excavations at the site including 7.5-foot interval shovel testing and the excavation of 98 1.5-x-1.5 foot square units. This work was conducted by CRI in September and October 2008, in close consultation with Alexandria Archaeology. On a formal field visit on October 3, 2008, a representative from Alexandria Archaeology indicated that the fieldwork was completed to their satisfaction (Francine Bromberg, personal communication)

CRI designed the investigations to identify all architectural and archaeological resources that may be present in the project areas and to obtain sufficient information to make recommendations about the further research potential of each resource based on their potential eligibility to the National Register of Historic Places (NRHP) and their

significance under the criteria set forth by the Alexandria Archaeology Resources Protection Code (*The Zoning Ordinance of the City of Alexandria, Virginia Section 11-411: Archaeology Protection*). To accomplish this, both documentary research and archaeological field testing were conducted in compliance with the National Historic Preservation Act of 1966 (NHPA-PL89-665), as amended, the Archaeological and Historic Preservation Act of 1974, Executive Order 11593, and relevant sections of 36CFR660-666 and 36CFR800. The archaeological investigations were conducted with reference to city (*City of Alexandria Archaeological Standards* [Alexandria Archaeology Office of Historic Alexandria Jan. 1996, revised Oct. 2007]), state (*Guidelines for Archaeological Investigations in Virginia* [Virginia Department of Historic Resources {VDHR} 1996]) and federal guidelines (*Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* [United States Department of the Interior {USDI} 1983]) for conducting archaeological investigations. All aspects of this investigation adhered to OSHA regulations. Cultural materials collected during the 2008 fieldwork, in compliance with federal (*36 CFR 79*), state (*State Curation Standards* [VDHR 1993]), and city (*City of Alexandria Archaeological Standards* [Alexandria Archaeology Office of Historic Alexandria Jan. 1996, revised Oct. 2007]) guidelines, will be curated at the Alexandria Archaeology facility in accordance with the City of Alexandria's archaeological standards. The preparation of this report and any recommendations concerning the potential eligibility of archaeological resources identified during the survey were made with reference to the Advisory Council on Historic Preservation's (ACHP) *36 CFR Part 800: Protection of Historic Properties, Final Rule* (ACHP 2000); the Department of Interior's *36 CFR 60: National Register of Historic Places*; the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*; *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation* (USDI 1981, 1983, 1991). Additionally, the preparation of this report follows guidelines published by the VDHR including: *Guidelines for Preparing Identification and Evaluation Reports for Submission pursuant to Sections 106 and 110, National Historic Preservation Act, Environmental Impact Reports of State Agencies Virginia Appropriation Act, 1992 Session Amendments*; *How to Use Historic Contexts in Virginia: A Guide for Survey, Registration, Protection, and Treatment Projects*; *How to Complete Virginia Department of Historic Resources Archaeological Site Inventory Forms*; and *Guidelines for Archaeological Investigations in Virginia* (VDHR 1992a, 1992b, 1993, 1996).

This report contains a description of the project area's physical and environmental setting, a general research design that summarizes field methods, previous research in the area, and the expected results, an outline of meaningful cultural contexts for the property, and finally, the survey results are described and recommendations made.

Principal Investigator Sara Ferland oversaw the project, and prepared the research strategy and authored this report with Principal Investigator Mike Klein. Field Director Earl Proper directed the fieldwork, and was assisted in the field by Archaeological Field Technicians Justin Bedard, Sarah Moore, Eric Troll, Jeff Brown, and Project Archaeologist Josh Duncan. Brian Schools assisted with the metal detection survey. Project Archaeologist Kevin Goodrich and Principal Investigator Mike Klein conducted

the lithic analysis. Copies of all field notes, maps, correspondence, and historical research materials are on file at CRI's office in Fredericksburg, Virginia.

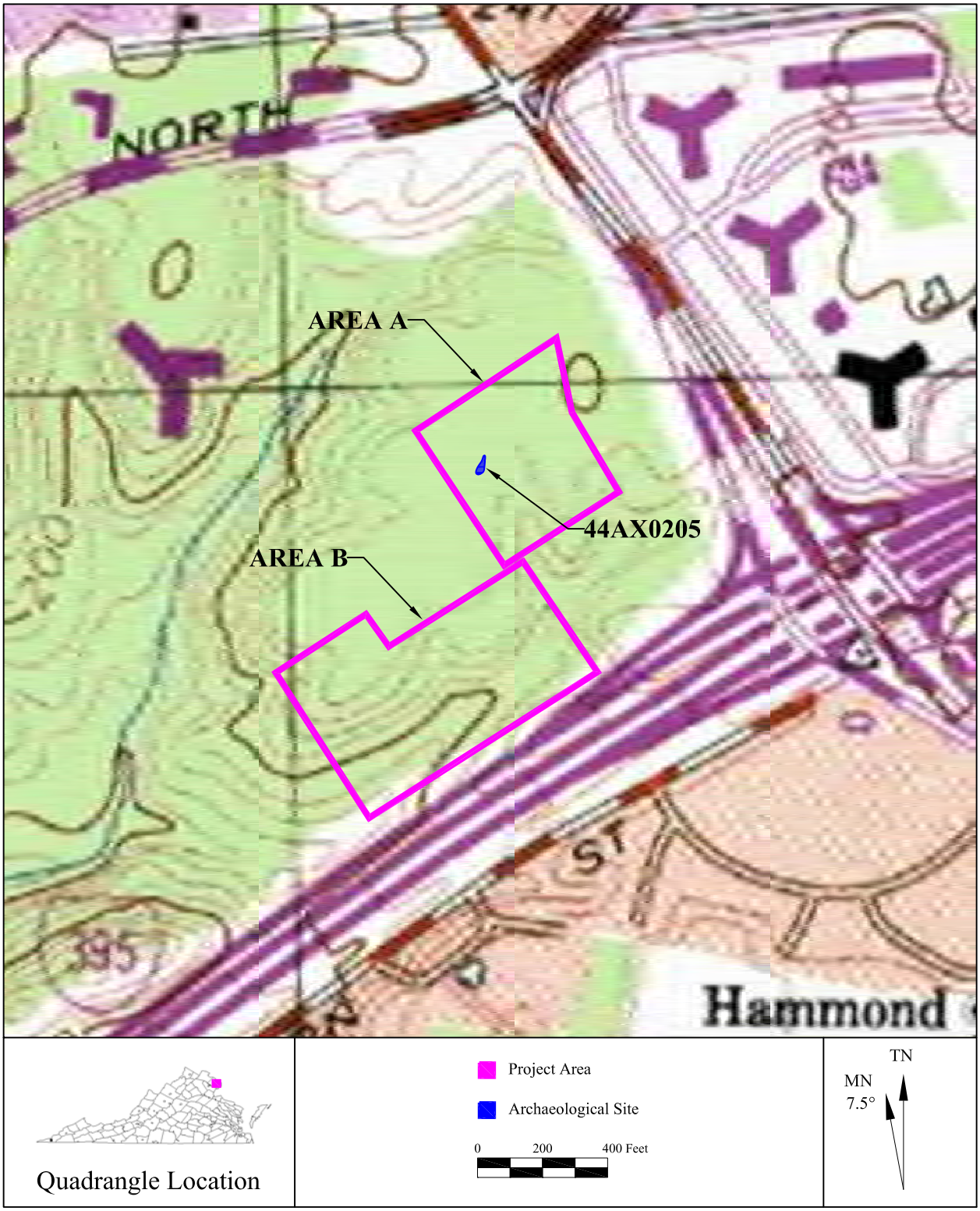

Figure 1. Detail of *Alexandria, VA* USGS Quadrangle Depicting the Project Area (USGS/Maptech 1998).

II. ENVIRONMENTAL CONTEXT

Physical Description and Environmental Setting

The project area is located at 4900 Seminary Road, Alexandria, Virginia, in the Mark Center complex. The Phase I area consists of a four-acre parcel bounded on the north and west by Mark Center Drive, and on the east and south by an unnamed paved road. The area consists of a landscaped park with trees planted at 30-40 foot intervals.

The Phase II area consists of a six-acre parcel in a wooded area, bounded on the north by an unnamed paved road and Mark Center Plaza IA Building 4, on the east by Mark Center Plaza IA Building 1, on the south by an unnamed drainage and I-395, and on the west by the Winkler Biological Preserve.

Geology and Topography

The project area is located at the interface of the Coastal Plain uplands and the Piedmont physiographic regions of Virginia. The project area is within the Fall Zone, an area where the sediments from the Piedmont dip below the Quaternary deposits of the Coastal Plain.

In general, broad and narrow ridges and a rolling topography dominate this region. The project area ranges in elevation from 180 feet above mean sea level (AMSL) along the creek in the Mark Center Buildings 2A, 2B, and 3 project area (Area B) to 240 feet AMSL in the Mark Center VI project area (Area A).

Hydrology

The project area overlooks an unnamed tributary of Holmes Run, which joins Camden Run to the south and drains into the Potomac River approximately five miles to the southeast. The project area is within the Potomac River basin.

Soil Morphology

Well-drained, acidic soils of the Sassafras-Marumsco complex predominate in the Mark Center VI project area (Area A). In the project area, Sassafras-Marumsco complex soils occur on slopes ranging from seven to 25 percent. As slope increases, erosion likely affected, if not destroyed, archaeological resources. Consequently, the relatively level (2-7 percent slope) band of deep, moderately well to somewhat poorly drained Sumerduck loam in the center of the Phase I project area appear best suited for the preservation of archaeological resources.

The Mark Center Buildings 2A, 2B, and 3 project area (Area B) is dominated by soils in the Lunt-Marumsco complex. Drainage properties of the Lunt-Marumsco soils range from moderately well drained to somewhat poorly drained. The high shrink-swell properties of Lunt-Marumsco soils likely hindered construction, though drainage appears

more relevant to the potential of the Lunt-Marmusco complex for short-term occupation (Table 1; Figure 2).

Natural Resources

The character of the topography, the proximity of water resources, and the type of soil all have a direct effect on the variety of flora that is attracted to the setting, and in turn the fauna that relies on that ecological setting for sustenance. The quantity and variety of both plants and animals in an area has a direct influence on human habitation. New settlers relied on available timber to build shelter, and in part on procurable plants and animals to augment the diet.

Prior to the modern era, the landscape in the area was composed of large tracts of hardwood and pine forests. A variety of wildlife species prosper in the upland setting and are typical of the mid-Atlantic region. Of the larger terrestrial wildlife in the area are deer, fox, raccoon, opossum, squirrel, rabbit, and groundhog. (Clay 1975:72).

Table 1. Soils Within the Project Area

SOIL SERIES	SYMBOL (S)	DESCRIPTION
Kingstowne sandy clay loam, 0 to 45% slopes	66	This soil is a well-drained, class 2e, non-hydric soil with moderate shrink-swell potential. The parent material consists of Earthy fill of fluviomarine deposits.
Lunt-Marumsco complex, 2 to 7% slopes	74B	This soil is a moderate to well-drained, class 2e and 2w, non-hydric soil with high shrink-swell potential. The parent material consists of fluviomarine deposits. This soil is found on terraces on coastal plains.
Sassafras-Marumsco complex, 7 to 15% slopes	91C	This soil is a moderate to well-drained, class 3e and 3w, non-hydric soil with moderate shrink-swell potential. The parent material consists of fluviomarine deposits. This soil is found on terraces on coastal plains.
Sassafras-Marumsco complex, 15 to 25% slopes	91D	This soil is a moderate to well-drained, class 6e and 6w, non-hydric soil with moderate shrink-swell potential. The parent material consists of fluviomarine deposits. This soil is found on terraces on coastal plains.
Sumerduck loam, 2 to 7% slopes	93B	This soil is a moderately well-drained, non-hydric, class 2w soil with moderate shrink-swell potential. The parent material consists of alluvium derived from schist and or alluvium derived from phyllite. This soil is found on drainageways on piedmonts.
Urban Land	95	Urban land consists of paved or otherwise covered areas associated with urban development.

Figure 2. Map of Soil Types in the Project Area Vicinity.

III. CULTURAL CONTEXT

The following section provides the prehistoric and historic background research with the goal of establishing the appropriate cultural context for the project area as defined by the Secretary of the Interior's *Standards and Guidelines* for Archaeology and Historic Preservation and VDHR's (1997) *How to use Historic Contexts in Virginia: A Guide for Survey, Registration, Protection, and Treatment Projects.*

Virginia's Native American prehistory is divided into three main periods, Paleoindian, Archaic, and Woodland, based on changes in material culture and settlement systems. Descriptions of major characteristics of the time periods and their locally diagnostic artifacts are presented below, along with comments on each period as they relate to the present project area.

Pre-Clovis (?-13,000 B.C.)

The strongest case for the pre-Clovis occupation of Virginia comes from the Cactus Hill site (44SX0202). The site, located along the Nottoway River, has provided evidence of potential Native American habitation in Virginia prior to the widely accepted date of 10,000 BP. The site has also produced artifacts that may predate the development Clovis technology: materials supporting the existence of a non-fluted lithic blade technology were recovered below stratigraphic levels associated with fluted Clovis points (McAvoy and McAvoy 1997).

Paleoindian Period (Prior to 8000 B.C.)

The Paleoindian occupation of Virginia, representing the initial presence of Native American peoples within the region, began prior to 8,000 B.C. or 10,000 years before present (BP) (Dent 1995; Ward and Davis 1999). The Paleoindian occupation of the greater southeastern United States began during the late glacial era, when sea levels were approximately 230 feet below modern sea levels (Anderson et al. 1996:3). This projected drop in sea level would have exposed the majority of the continental shelf along the eastern coastline of North America. During the Late Pleistocene period (14,000 - 10,000 BP) the Laurentide Ice Sheet still covered large portions of northern North America, and in Virginia the predominant forest type consisted of a mixture of a Jack Pine and Spruce (Delcourt and Delcourt 1981, 1983). These combined lines of evidence indicate that the Paleoindian period predates the formation of the Chesapeake Bay.

The majority of Paleoindian materials recovered in the Eastern United States represent isolated projectile point finds (Dent 1995; Ward and Davis 1999). The majority of Paleoindian remains in Virginia are also isolated projectile point finds. Although some larger, notable base camps are present within the state, these sites are relatively rare and usually associated with sources of preferred high quality lithic materials. Many Paleoindian sites may have been located along the Late Pleistocene coastline of Virginia, which was subsequently flooded during the formation of the Chesapeake Bay (Blanton

1996). As of 1995, there were 25 known Paleoindian sites located within the Chesapeake Region (Dent 1995).

Preservation biases have also had a substantial impact on our understanding of the Paleoinidian period. After 10,000 years, few artifacts survive the ravages of time besides stone tools and the debris associated with their manufacture. When compared to the wealth of archaeological materials contained on late prehistoric sites, there are relatively few traces remaining from the Paleoindian occupation of Virginia. There remains a general level of uncertainty for the period based on the extant lines of data (Kane and Keeton 1994).

Paleoindians favored the use of cryptocrystalline material for making projectile points and lithic tools, probably because of its flaking qualities and longer potential use-life (the capability of reworking and reusing the material). The Paleoindian tool kit included well-made bifaces, various scrapers, gravers, and adzes. These tools were curated and carried from place to place, possibly due to the extended use-life of the preferred lithic material (Binford 1980; Goodyear 1979). The Native American tool kit associated with the Paleoindian period is still not well understood. Most of the tools associated with Paleoindian projectile points are also found in association with diagnostic artifacts from the Early Archaic period. A further complication in understanding the tool kit of the Paleoindian is the assertion that the tools created by the Paleoindians may have been used for over 3,000 years, since they were made of cryptocrystalline lithic material (Goodyear et al. 1989:41).

The Paleoindians employed a collector strategy to take advantage of seasonally available flora and fauna throughout the year. This strategy included a seasonal base camp located either in a diverse environmental ecozone or near high-quality lithic quarries, supplemented by smaller procurement camps located some distance from the base camp (Anderson et al. 1996; Daniel 1996; Goodyear 1979). The procurement camps were seasonal and temporary stations where the Paleoindians would gather lithic material and/or flora, or hunt fauna (Anderson et al. 1996; Binford 1980). It is generally accepted that the range of a band of Paleoindians covered a relatively large area (Anderson et al. 1996; Gardner 1989).

Some researchers discuss the Paleoindian period as a single entity (Dent 1995) while others, mostly in the southeast, divide it into three sub-periods based on morphological differences in projectile point manufacture and technology (Anderson 1990; Ward and Davis 1999).

Early Paleoindian (9500 to 9000 B.C.)

The earliest occupation of the southeast and eastern North America occurred sometime before 9000 B.C. The diagnostic artifact associated with this sub-period is the fluted Clovis projectile point, thought to have been hafted on the end of a wooden shaft and utilized as a spear to be thrown or thrusted (Chapman 1994; Ward and Davis 1999). Sites associated with Clovis projectile points are scattered in low densities across the eastern

seaboard, with notable concentrations around Tennessee, the Cumberland and Ohio River Valley, western South Carolina, southern Virginia, and the northern Piedmont of North Carolina (Anderson 1990:164-71; Daniel 1998; Ward and Davis 1999). Some areas with ephemeral or even no traces of Paleoindian occupation may have only been occupied briefly at this time. Anderson (1990) has hypothesized that these areas of concentrated activity were staging areas or base camps occupied at particular times of the season, with smaller procurement camps located elsewhere throughout the region (Anderson 1990; Ward and Davis 1999).

Middle Paleoindian (9000 to 8500 B.C.)

During the Middle Paleoindian sub-period several other projectile points become characteristic of the changing environment and reuse of earlier projectile point forms. Typical projectile point types include Clovis variants, Cumberland points, Simpson points, and Suwannee points. Some of these projectile points are fluted (Cumberland, Simpson, and Clovis variants) while others are not (Suwannee). Most of the Middle Paleoindian projectile points are slightly "eared" at the base (Anderson et al. 1996; Ward and Davis 1999:31). Anderson (1990) sees the morphological changes in form and increased number of points associated with this sub-period as signifying a change in settlement patterning and subsistence strategies. During the Middle Paleoindian period, Native American peoples began to radiate out from their home ranges and exploit new environmental conditions (Ward and Davis 1999).

Late Paleoindian (8500 to 7900 B.C.)

By the end of the Late Pleistocene, the ice sheet had retreated to the north and the forest cover had changed to a mixture of conifers and northern hardwoods. It is also presumed that numerous Paleoindian sites were submerged with the retreat of the Laurentide Ice Sheet at the end of the last glacial period (approximately 10,000 years ago) (Anderson et al. 1996:3). Dalton projectile points and Hardaway projectile points are typical of the Late Paleoindian sub-period, with some variants (Coe 1964; Daniel 1998; Goodyear 1974, 1982). With the climate and environment changing to one more similar to the present and with the associated rise in sea levels more Late Paleoindian sites are present across the Southeast and Mid-Atlantic regions, suggesting a possible increase in population density.

Predictions call for any Paleoindian remains in Alexandria to be found in very low densities, with the most likely locations being situated in close proximity to quality lithic sources (Daniel 1998) or along high ridges over looking waterways (Anderson 1990; Anderson and Hanson 1988). The sole Clovis Point recorded from Alexandria was unearthed during fieldwork at the Friedmen's Cemetery, on a bluff immediately inland from Jones Point, near the confluence of Hunting Creek and the Potomac River. The project environs, however, do not appear to be of the type that would support Paleoindian sites. With the impact of commercial development within and around the project area, the probability of finding Paleoindian sites is low.

Archaic Period (8000 - 1200 B.C.)

The beginning of the Archaic period coincided with the start of the Holocene period around 10,000 BP. The Holocene is a geological period that began with the recession of the ice sheets that covered large portions of North America. The start of the Archaic is marked by a shift from a moist, cool climate to a warmer, dryer climate within the region, more similar to the temperate ecosystem of today. This warming trend was gradual and somewhat continuous throughout the first 5,000 years of the Archaic period. The shift in climate allowed for the development of diverse plant and animal communities, as currently found throughout the Middle Atlantic region. These changes in flora and fauna had a marked impact on the hunter-forager subsistence base of the Archaic period (Dent 1995:147, 164-5). The retreat of the ice sheets also caused the sea levels to rise, leading to the gradual formation of the Chesapeake Bay. Prior to the Archaic period the Chesapeake Bay was merely an extension of the Susquehanna river, emptying into the Atlantic Ocean several miles east of Virginia Beach, Virginia.

As with the Paleo-Indian period, our understanding of the cultural chronology of the Archaic is based primarily upon lithic artifacts: chipped-stone tools and the debris associated with their manufacture. More "biodegradable" forms of material culture have simply not survived in the archaeological record of the region and the items recovered are biased towards lithic materials (Geier 1990:82-83). The basic chronology of Archaic projectile points for the Mid-Atlantic region and the southeastern United States closely follows the sequence outlined by Joffre Coe (1964) for the North Carolina Piedmont, with regional variants. Coe's chronology has been modified and fine-tuned over the past 40 years but the basic typology remains intact (Broyles 1971; Dent 1995; Hranicky 2001; Justice 1995; Ward and Davis 1999).

It is believed that Archaic populations were characterized primarily by band-level social organization with seasonal movements that corresponded to the availability of specific resources. Settlement during the Archaic Period probably involved the occupation of relatively large regions by single, band-sized groups living in base camps during part of the year. These band-sized groups would disperse on an as-needed or seasonal basis, creating smaller microband camps that may have consisted of no more than single families. Two settlement models have projected the seasonal range and focus of Archaic bands. Anderson and Hanson (1988) propose that the distribution of Archaic sites (primarily Early and Middle Archaic) were based along single river drainages. The Band-Macroband Model, as it had become better known as, suggests that a base camp was established in a rich environmental area near the Fall Line, and smaller procurement camps were established seasonally towards the coast and further inland to take advantage of seasonally available resources such as fish, shellfish, nuts and berries. An alternative model takes into account a continued, albeit gradually declining, reliance upon high-quality cryptocrystalline lithic resources during the Early and Middle Archaic periods. Daniel (1996, 1998) proposes that high-quality lithic resources were the central focus around which seasonal movements were geared, and that Early Archaic Native American bands traversed river drainages to gain access to high-quality lithic outcrops and quarries.

The Archaic period can be characterized by the development of more specialized resource procurement activities as well as the development of new technologies to accomplish these activities. These differences in the material culture are believed to reflect larger, more localized populations and changes in methods of food procurement and processing.

Early Archaic (8000 – 6500 B.C.)

Corner and side notching became a common characteristic of projectile points at the beginning of the Early Archaic, indicating potential changes in hafting technology and possibly the invention of the spear-thrower (atlatl). Notched point forms include Palmer and Kirk Corner-Notched and, in localized areas, various side-notched types. The end of the Early Archaic and the start of the Middle Archaic are marked by the appearance of a variety of bifurcate base projectile point forms which, within this area, are primarily represented by LeCroy points (Dent 1995; Justice 1995). Although less commonly identified than diagnostic points from later periods, Early Archaic points occur on a number of sites in Alexandria (e.g., 44AX185).

Middle Archaic (6500 - 3000 B.C.)

As a whole, the Middle Archaic is marked by the appearance of stemmed projectile point forms. In this area of Virginia, the most common Middle Archaic projectile point types are (from oldest to most recent) Lecroy, Stanly, Morrow Mountain and Guilford, followed by the side-notched Halifax type as the Middle Archaic transitions into the Late Archaic period between ca. 3500 and 3000 B.C. There is also a notable increase in the number of identified Middle Archaic components over the preceding Early Archaic period, which appears to indicate a rise in Native American population levels during this period (Dent 1995; Justice 1995). Middle Archaic diagnostics were identified at Sites 44AX0179 and 44AX0185, both situated east of the project area near Jones Point, and Halifax Points were unearthed during the excavation of Site 44AX0177, situated immediately north of Site 44AX0205.

Late Archaic (3000 – 1200 B.C.)

The Late Archaic is dominated by stemmed and notched knife and spear point forms, including various large, broad-bladed stemmed knives and projectile points that generally diminish in size by the start of the Early Woodland (e.g. Savannah River points and variants). Other point forms, while less common, include stemmed and notched-stem types identical to examples more commonly associated with Pennsylvania and adjoining parts of the northeastern United States (e.g. Susquehanna and Perkiomen points) (Dent 1995; Justice 1995).

Marked increases in population density, and decreased mobility in some areas, appear to characterize the Late Archaic in the Middle Atlantic region and eastern North America as a whole. Locally, there is an increase in the number of late Middle Archaic (Halifax)

sites and Late Archaic (Savannah River) sites over those of preceding periods, suggesting a population increase and/or an increasing use of this area of Virginia between about 3500 B.C. and ca. 1200 B.C.

The origins of agriculture within the Middle Atlantic region may have had its start during the Late Archaic period. Yarnell (1976:268), for example, states that sunflower, sump weed, and possibly goosefoot may have been cultivated as early as 2000 B.C. In the lower Little Tennessee River Valley, the remains of squash have been found in Late Archaic Savannah River contexts (ca. 2400 BC), with both squash and gourd recovered from Iddins period contexts of slightly more recent date (Chapman and Shea 1981:70).

Late Archaic sites and site components are the most common archaeological expression of the Archaic period, at both the local and regional levels. Within the Potomac River drainage late Middle Archaic and Late Archaic components are typically present in shallowly buried first terraces and floodplain sediments, as well as on adjoining high terraces/bluffs located above the floodplain.

Based on the work of Barber et al. (1992), as well as on studies conducted within nearby northern Virginia counties, Native American sites dating to the Middle and Late Archaic periods are the most likely type of site to be found within the project area. Early Archaic and Middle Archaic sites are found on both the largest streams and on small headwater tributaries, indicating movement from the major rivers to the interior headwaters and the exploitation of a broad range of both riverine and forest resources; Late Archaic sites are found in a wider range of environments (Barber et al. 1992:46-48). Late Archaic components exist at Site 44AX0177, situated above a tributary of Lucky Run, and at Sites 44AX0179 and 44AX0185, located on a bluff near the mouth of Hunting Creek, In addition, 25 prehistoric sites with an unknown temporal affiliation registered with the VDHR occur within a one-mile radius of the area under study. These sites consisted primarily of low densities of non-diagnostic lithics with an absence of ceramic artifacts that they may date to the Archaic Period. The probability of finding intact archaeological sites or site components related to the Archaic period would be moderate to high considering both the topography and location of the project area; however, that probability has been reduced to low due to the disturbance from commercial development.

Woodland Period (1200 B.C. – A.D. 1600)

The Woodland Period is characterized by ceramic technology, a gradually developing dependence on horticulture, and increased sedentism (Klein and Klatka 1991; Mouer 1991). Three subperiods (Early, Middle, and Late Woodland) have been designated, based primarily on stylistic and technological changes in ceramic and projectile point types as well as settlement patterns. Floral and faunal remains are not common in Woodland period assemblages; however, it has been suggested that intentional clearing of land increased the availability of edible plants such as goosefoot and sunflower (Stevens 1991). The broad projectile points characteristic of the Archaic period become less

common during the Early Woodland and were replaced with smaller point forms, including notched, stemmed, and lanceolate types.

Early Woodland (1200 - 500 B.C.)

The Early Woodland Period is generally defined by the appearance of ceramics in the archaeological record. The earliest Woodland ceramic wares, Marcey Creek Plain and variants, are rectangular or oval and resemble the preceding Late Archaic soapstone vessels. These ceramics are followed by cord-marked, soapstone-tempered Selden Island ceramics followed, in turn, by sand- and grit-tempered Elk Island (Accokeek) ceramics with both plain and cord-marked surfaces, and in the upper part of the Potomac drainage, cord-marked and plain ceramics tempered with quartz, shale and other crushed rock (Gardner and Nash 1987; McLearen 1991). In the less recent archaeological literature, the latter were referred to as Stony Creek ceramics, a type now known to subsume several Early, Middle, and Late Woodland ceramic series.

Also characteristic of the Early Woodland period across a broad region of the east is the complexity of and emphasis on ceremonialism especially that related to burial of the dead. In Virginia, this emphasis is not seen until about 500 B. C. when stone and earth burial cairns and cairn clusters occur in the Shenandoah Valley. However, this phenomenon did not extend into the Piedmont until much later when a second wave of burial mound ceremonialism occurs around the time of the Middle/Late Woodland transition, and accretional mounds are found in both the Ridge and Valley and Inner Piedmont provinces. However, mounds in the Piedmont appear to have been restricted to the Rivanna and Rapidan drainages. In the project vicinity, only short-term occupations dating to the Early Woodland have been identified (e.g., 44AX0127).

Middle Woodland (500 B.C. - A.D. 900)

Stephen Potter (1993:62) divides the Middle Woodland period into two sub-periods: the Early Middle Woodland (300 B.C. to A.D. 200) and the Late Middle Woodland (A.D. 200 to A.D. 900). Within the vicinity of the present project area, Pope's Creek ware is the most common ceramic series associated with the first half of the Middle Woodland period (Egloff and Potter 1982:99). The series was first described by Holmes (1903:153-155) and later refined by Stephenson et al. (1963:92-96). Pope's Creek ceramics are tempered with medium to coarse sand, with occasional quartz inclusions (Stephenson et al. 1963:94). Interior scoring has been recorded on a number of specimens (McLearen and Mouer 1989; Stephenson et al. 1963:95). Most Pope's Creek ceramics have net-impressed surfaces, while cord-marked surfaces have been observed as a rare variant (Egloff and Potter 1982:99; McLearen and Mouer 1989:5).

For the latter half of the Middle Woodland period, the dominant ceramic type found within coastal Virginia and Maryland is shell-tempered Mockely ware. Mockley ware first appeared around A.D. 200 and it has a distribution extending from Virginia to southern Delaware (Egloff and Potter 1982:103; Potter 1993:62). Surface treatments for this thick-walled ceramic series include cord-marked, net-impressed, and plain variants

(Egloff and Potter 1982:103). Lithic artifacts commonly found in association with Mockley ceramics are Selby Bay, Fox Creek and Nomini projectile points (Potter 1993:66-68). Middle Woodland Popes Creek sherds were identified at Site 44AX0185, located southeast of Site 44AX0205 along the Potomac River.

Late Woodland (A.D. 900 – 1600)

The transition from part-time horticulture to more intensive modes of agricultural production is the hallmark of the Late Woodland period throughout the greater region. Potter (1993:77-87) divides the Late Woodland into two distinct sub-periods, based upon the introduction of Potomac Creek ceramics within the Inner Coastal Plain of the Potomac River around A.D. 1300. The Late Woodland I period runs from A.D. 900 through A.D. 1300, which marks the start of the Late Woodland II period. Projectile points associated with the Late Woodland period are smaller triangular points, often referred to as Madison or Clarksville, and slightly larger Levanna triangles.

Shell-tempered Townsend ware is the dominant ceramic series associated with this period, with four distinct types of surface treatment: Rappahannock Fabric-Impressed, Rappahannock Incised, Townsend Corded, Townsend Herringbone (from southern Delaware) (Egloff and Potter 1982:107-109). It is commonly found in Virginia east of the fall line, except for in Dinwiddie and Greensville counties (Egloff and Potter 1982:109). While Rappahannock Fabric-impressed is common for the entire Late Woodland period, the presence of Rappahannock Incised and Curriomen Fabric-Impressed are associated for the Late Woodland I period (see Potter 1993:77-79).

The appearance of Potomac Creek ceramics within the inner Coastal Plain between Virginia and Maryland marks the start of the Late Woodland II period. Made with sand and quartz temper, these ceramics effectively replace the shell-tempered Townsend series within the region, and Potter (1993:137) believes that they are related to the earlier Montgomery focus in the Maryland piedmont. For the rest of Virginia and coastal Maryland, Townsend ceramics remain the dominant series for the Coastal Plain region. It should be noted that a distinction between ceramic "cultures" is clearly noted for the Fall Line by the start of the Late Woodland period, and, that in the Late Woodland II period, the appearance of ossuary burials (large multiple secondary interments) becomes a common archaeological feature across the regional landscape.

Drawings and journals of early European explorers describing Indian villages indicate that houses were constructed of oval, rectanguloid or circular frameworks of flexible green sapling poles set in the ground, lashed together, and covered with thatch or bark mats. Burial sites of the period were situated in individual pits or in ossuaries. Such historical accounts are consistent with data obtained from archaeological excavations of Late Woodland village sites (Hodges and Hodges 1994).

With the development of a more sedentary settlement-subsistence system culminating in the Late Woodland Period, permanent habitation sites gradually replaced base camps, which were characteristic of earlier foragers and hunter-gatherers. Various supporting

camps and activity areas were established in the daily procurement of food and other resources (i.e., short-term hunting and foraging camps, quarries, butchering locations, and re-tooling locations). Locations used partially or largely for ceremonial purposes were also present, usually in association with habitation sites.

John Smith mapped many "king's" and "ordinary" village sites within Virginia on his map, *Virginia: Discovered and Discribed [sic]* (Smith 1610). This map depicts villages of "ordinary houses" labeled "Assaomeck" and "Namoraughquend" in the project area vicinity (Figure 2). The scale and accuracy of Smith's map is poor by modern standards and it is impossible to pinpoint the exact location of the two villages; however, it is possible that cultural activities associated with this Native American village could have occurred within the bounds of the project area.

The large base camps, hamlets, and villages are typically located on bluffs, terraces or high floodplains adjacent to rivers or major tributaries. Small seasonal camps and non-seasonally based satellite camps supporting nearby sedentary villages and hamlets are located along smaller streams in the interior. Limited concentrations and sparse scatters of lithics and ceramics typically characterized these campsites. The majority of the Late Woodland sites that had been recorded at the time of the Barber et al. (1992) study were located along the major high order streams and rivers. It would therefore seem that the project area would not have been conducive to settlement by Woodland peoples, being located along a low-order stream amongst a rolling topography. As such, the most likely manifestation of Late Woodland sites would be hunting camps and hunting locales that would consist primarily of small scatters of lithics and some ceramics, indicative of temporary campsites, these being more numerous than nucleated villages.

A significant Late Woodland occupation, including structural remains and refuse pits, appeared beneath modern fill and a historic plow zone at Site 44AX0185, near Jones Point. Closer to the project area, recovery of a single chert triangular point at Site 44AX0177 identified an ephemeral occupation situated along a tributary of Lucky Run, a tributary of Four Mile Run. The probability of finding intact Woodland period sites within the project area, therefore, appears to be moderate, though disturbance within the project area and vicinity likely lowers the probability of discovering archaeological sites.

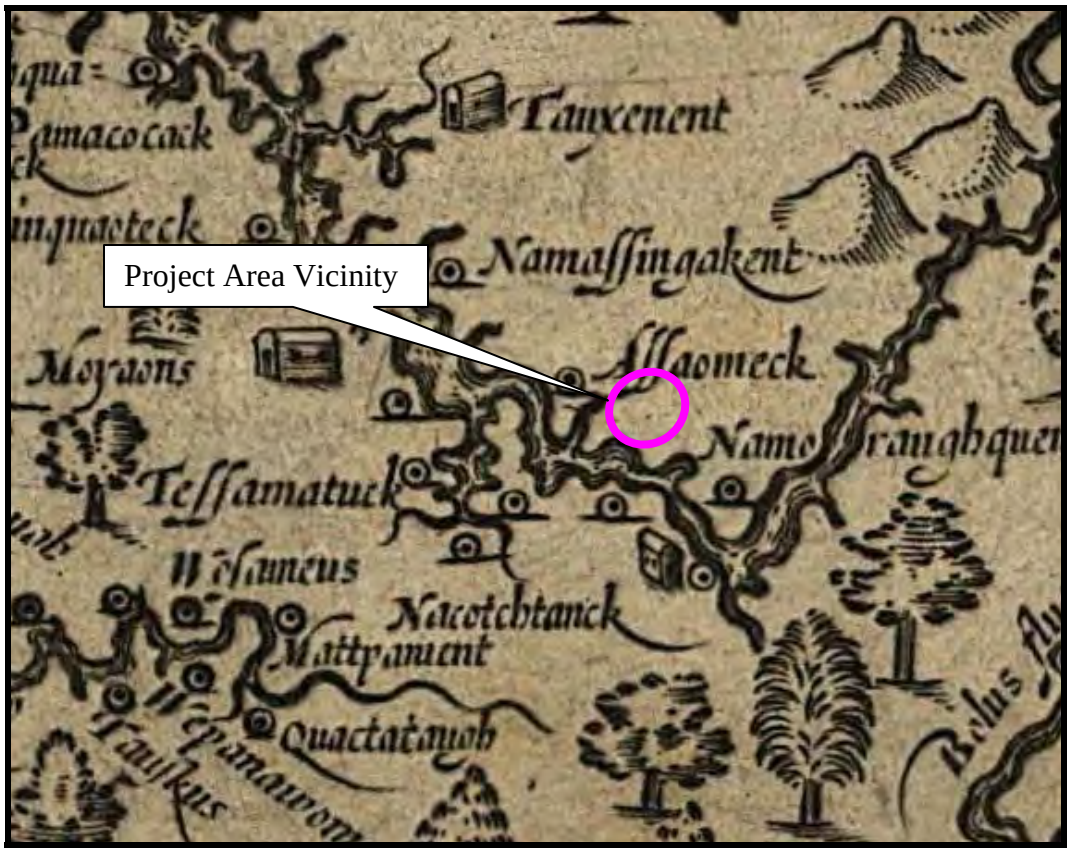

Figure 3. Detail of *Virginia Discovered and Discribed* [sic], depicting the project area vicinity (Smith 1610).

Settlement to Society (1607 - 1750)

At the time of European contact in the New World, present day Fairfax County and the City of Alexandria was occupied by several Native American tribes. One of the dominant tribes were the Dogue (or "Doeg") Indians, whose primary village, Tauxenent, was located on the Occoquan River. The Dogue were part of the Algonquian Federation (Brown 1994). John Smith encountered the Dogue and feasted with them on Dogue Island, at the convergence of the Potomac and Occoquan Rivers. Smith estimated the size of the tribe at about 135 to 170 people. The Dogue proved to be valuable friends; Smith was able to trade for corn to feed the colonists. The Dogue even showed the colonists how to hunt and fish, as well as their farming methods (Brown 1994; Waltmyer 1995).

With expansion of the colony and more settlers, settlement moved up the Potomac River, on the Maryland side first. Then with the defeat of the Dogue Indians in 1644, the area of Fairfax County and the City of Alexandria was opened up to European settlement. Some of the earliest land patents along the Occoquan River were issued in the 1650s. As the settlers began moving into the areas of present-day Fairfax and Prince William counties, tensions grew again between the Native Dogue and the new European settlers. In 1676, two more conflicts, the Susquehannock War and Bacon's Rebellion, caused settlers to retreat south towards Aquia Creek in present-day Stafford County. Soon after, the

English established forts along the upper Potomac River and settlers continued to move northward and westward (Sprouse 1975). By 1700, diseases had further decimated the Dogue as they began to move westward and leave their villages behind (Brown 1994; Waltmyer 1995). A map from this period shows the European settlement of this region beginning along the Potomac River (Figure 3).

The Native American trail, known as the Potomac Path, paralleled the Potomac River, and provided the settlers with a convenient trail that soon developed into a road. Present-day U.S. Route 1, more or less follows the Potomac Path up to State Route 611 (Telegraph Road). The Potomac Path would become the primary road between Alexandria and Fredericksburg (Sprouse 1975; Sweig 1992; Waltmyer 1995).

The project area was encompassed by the Northern Neck proprietary that was created by Charles II in 1649. The local colonial government began to grant lands within the proprietary in the 1650s (Netherton 1992). Original grantees held much of the large grants of land in this region well into the nineteenth century. These lands were held primarily for speculative purposes, and were leased to investors or tenants.

The founding of Alexandria dates to 1732, when a tobacco warehouse was relocated "upon Simon Pearson's land upon the upper side of Great Hunting Creek" (Harrison 1924:405; LBA 1991). In 1749, John West, Jr. and his assistant George Washington surveyed the site for the new town. The boundaries originally extended from Great Hunting Creek north to Ralphs Gut, a creek near the location of Oronocco and Pendleton streets (Artemel et al. 1987:11-12; LBA 1991).

No archaeological sites from this time period within a one-mile radius of the project area have been registered with VDHR. However, increased historic European habitation of this area along the Potomac began in the middle of the eighteenth century; in 1741 William Henry Terrett acquired 982 acres that apparently included the project area. Terrett apparently resided on the property by his death in 1758 (Gardner et al. 1995:5). Therefore, there would have been a low to moderate probability that cultural resources predating 1750 will be located within the project area; however, the disturbances within the project area decrease that probability to low.

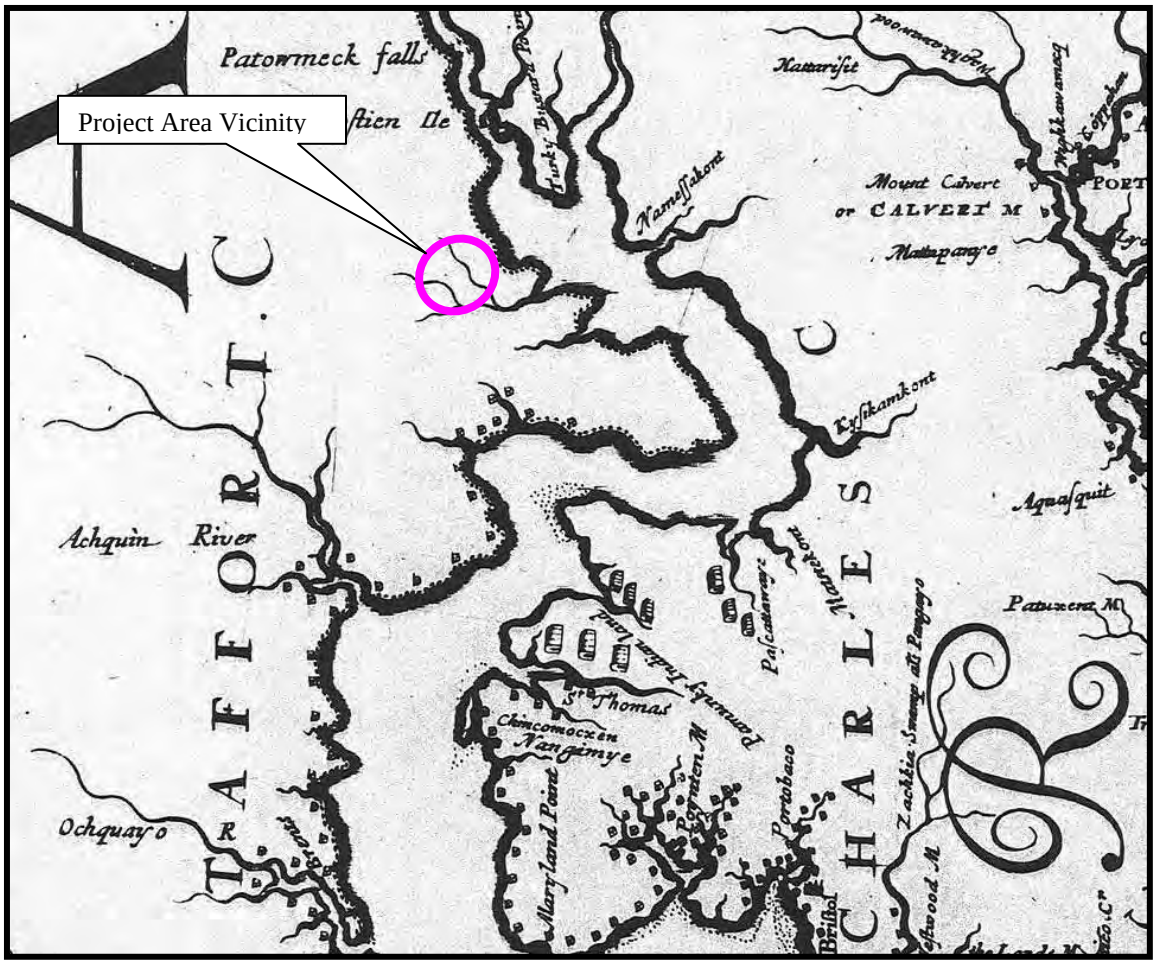

Figure 4. Detail of *Virginia and Maryland* depicting the project area vicinity (Herrman 1673).

Colony to Nation (1750 - 1789)

The Potomac Path continued to play a significant role in the development of Alexandria, Fairfax, and surrounding counties, as well as the nation as a whole. The importance of the Potomac Path is illustrated by the fact that it was named an official mail route by 1773. About the same time, the name of the road was changed to the King's Highway (Waltmyer 1995).

During the Revolutionary War, Generals Washington and Rochambeau used the King's Highway in the journey from Mount Vernon to Williamsburg and eventually to Yorktown. Rochambeau's French soldiers traveled south to Yorktown on this road, and then returned on it after the British surrender (Waltmyer 1995).

By the end of the eighteenth century, the City of Alexandria had grown from a sparsely settled rural area to an affluent colonial society. Alexandria served critical economic and commercial functions within the colony and the nation. In this capacity, it attracted other skilled labor and became a social and religious center (Cressey et al. 1982; LBA 1991). During the Revolutionary War, residents experienced a decline in available goods and

other commodities, but the effect of the war was minimal (Sweig 1992). The activities of surrounding counties centered on the town of Alexandria by the end of the Revolutionary War. All major roads passed through the town, and commercial opportunities were abundant (Sweig 1992). By 1790, Alexandria was one of the busiest ports in the newly formed country (Cressey et al. 1982:148).

Although the City of Alexandria was experiencing a considerable economic and social boom, the related expanses in population centered along the port town and not in the region surrounding the project area. One standing structure dating to this period that has been registered with the VDHR is located within a one-mile radius of the project area. Historic documents identify the project area as the property of William Henry Terrett. Terrett's land, willed along with an additional 112 acres acquired from Gabriel Adams, apparently extended to Holmes Run and included a dwelling by 1758. At his death, Terrett's estate included 21 slaves and an indentured servant. An overseer named Edward Hufsey probably resided on the Terrett property as well. In 1761, William Henry Terrett's son and namesake owned 1,002 acres. In 1785 William Jr. resided on Holmes Run with "five white souls" on a property that included a dwelling and four outbuildings (Gardner et al. 1995:5-6). Therefore, quarters and oubuildings associated with the Terrett plantation possibly exist within the project vicinity, though the evident disturbance implies that probability of locating sites associated with late Colonial and Revolutionary period in the project area is low.

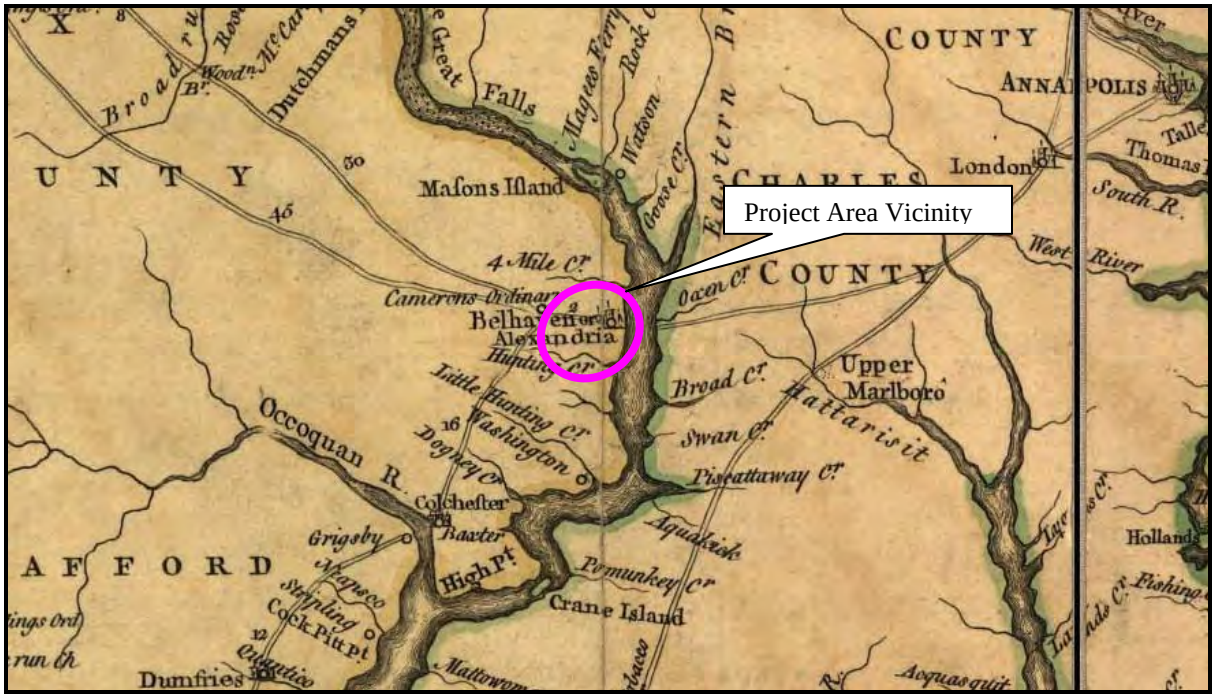

Figure 5. Detail of *A map of the most inhabited part of Virginia containing the whole province of Maryland with part of Pensilvania, New Jersey and North Carolina* depicting the project area vicinity (Fry and Jefferson 1751).

Early National Period (1789 - 1830)

During the late eighteenth and early nineteenth centuries, the counties surrounding the City of Alexandria underwent a radical transition from tobacco to a new diversified grain-based economy that would characterize the region throughout the nineteenth century and well into the twentieth. By the time of the American Revolution all arable land in the Tidewater and Piedmont regions of Virginia had been planted in tobacco at least once, and most areas were experiencing the effects of severe soil depletion. Between 1790 and 1820 as many as 250,000 Virginians moved from the older settled parts of the state to the recently opened southwest frontier, taking approximately 150,000 black slaves with them. The virtual collapse of the tobacco economy and the concomitant out-migration of significant numbers of people had a revolutionary effect on the social and economic character of the Piedmont and Tidewater. Large plantations that had relied on slave labor were increasingly subdivided into smaller-scale farmsteads that grew corn and wheat rather than tobacco (Evans 1988; Kulikoff 1986:422, 429).

Despite the obvious benefits of the transition from tobacco to grain crops, the farming methods of the late eighteenth and early nineteenth centuries continued to have a deleterious effect on exhausted soils. Under the traditional three-crop rotation system, a field would first be planted in corn, the following year planted in wheat, and then left unplowed the third year to provide grazing for cattle and hogs. Recognizing the need for improved agricultural practices, Loudoun County farmer John A. Binns spearheaded the agricultural reform movement in Virginia. His 1803 *Treatise on Practical Farming*, which won the admiration of President Thomas Jefferson, outlined a formula for improving crop yields that would come to be known as the "Loudoun System." In his widely read book, Binns recommended deep plowing, the use of gypsum to restore soil productivity, and revising the old crop rotation pattern to include a third year of clover (Poland 1976:84-88).

But ample harvests were of little use to the farmers of the northern Virginia counties if agricultural produce could not be moved cheaply and efficiently to the region's major transportation centers, principally the port of Alexandria. As a result, Northern Virginia experienced a boom in turnpike construction in the early years of the nineteenth century, with the goal of linking Virginia's Piedmont "breadbasket" with hungry eastern and international urban markets.

William Terrett and his wife Amelia soled 133.25 acres near Lucky Branch to Ludwell Lee in 1793. In 1799, Lee deeded the land to Benjamin Dulany. Thomas Watkins acquired the land from the trustees of Dulany's will, Daniel F. Dulany and William Herbert, in 1815 (Gardner et al. 1995:5-11). Civil War maps, however, do not depict Watkins residing in the project vicinity, but do illustrate Terrett's residing north and east of the project vicinity (Figure 6).

Two archaeological sites and one standing structure dating to this era have been registered with VDHR within a one-mile radius of the project area, including a cemetery and two dwellings. The probability of identifying a site from this period within the project area is low to moderate.

Antebellum Period (1830-1860)

By the mid-nineteenth century railroad developers were building rail lines throughout much of northern Virginia. By the 1850s, the Manassas Gap Railroad joined the Orange and Alexandria line at what was now commonly called Manassas Junction. As with turnpikes earlier in the nineteenth century, the construction of rail lines had a tremendous economic and social effect on the area, facilitating the export of farm produce (Hennessy 1989).

By the 1840s and 1850s, the departure of numerous Fairfax farming families for the West had opened a considerable amount of land to outside purchase at low cost. With the advantage of new transportation routes and proximity to the growing markets of Alexandria, Georgetown, and Washington, this region proved attractive to northern farmers and recent immigrants. By the early 1850s, about 200 Northern families had moved to neighboring Fairfax and invested more than $200,000 in land, which they set about improving with vigor and ingenuity that impressed their new Virginia neighbors. In 1850, roughly one in three adult white males in Fairfax hailed from the northern states or European countries. Most were farmers who took up moderately sized parcels, typically between 150 and 200 acres. These Yankee newcomers, including many Pennsylvania and New Jersey Quakers, were inherently anti-slavery but not aggressively so. By improving their farms with free white labor, they hoped to show Southerners that black slavery was not simply immoral, but also economically unsound (Netherton 1992:251-59). This influx of newcomers provided an impetus for growth and the region began to thrive. Commerce and urban growth in Alexandria increased with the shift away from tobacco and the expanded emphasis on grains, vegetables, and cattle (LBA 1991).

Site 44AX0162 identifies the archaeological remnants of a small structure situated at the southwestern edge of Area B. Although few unambiguous structural features were identified, the distribution of nails and other artifacts, stone, and brick suggested that the earliest portion of the dwelling was constructed around 1800. A later, western addition apparently was constructed during the second quarter of the nineteenth century. Fire destroyed the building by approximately 1870. Artifacts identified the economic status of the inhabitants as low to middling, perhaps tenants or slaves who labored for the Terrett family (Adams 1994:I, 143-228).

An additional five cultural resources from the Antebellum Period have been registered with VDHR within a one-mile radius of the project area. These resources include a seminary, two mills, an historic trash scatter, a dwelling, and Strathblane plantation house. Given the absence of additional sites encountered during previous survey, the probability of identifying sites from this period within the project area is no more than moderate.

Civil War (1861 - 1865)

By the 1860s, the issues of slavery and states' rights finally provoked an armed conflict. Alexandria fell to the Union army on May 24, 1861. Alexandria became a Union stronghold focused on the Confederate forces around Manassas. The lands between Alexandria and Manassas, "had been destroyed as effectively as possible and a long deep cut filled in with trees and earth" (U.S. Dept. of War 1881:720). The Union worked quickly to make Alexandria an effective port and depot for the Army of the Potomac, and protected it with defensive fortifications laid out in a ring around the city (Figures 4, 5, and 6). These defenses served the greater purpose of an extra line of defense on the Union capital of Washington, D.C. (LBA 1991)

Numerous troops and fortifications occupied Alexandria and the surrounding lands. From atop Ft. Ellsworth in November 1861, J. Howard Kitching wrote, "[looking] out over the surrounding country, every hill crowned with a breastwork or fortifications, and every valley holding a camp, or camps, with martial music sounding on every side, you would find it hard to believe that were not in some fairyland" (Miller 1983:89).

Numerous maps of the region were drafted at this time to assist in the strategies of war. These maps show the project area vicinity in varying detail (Figures 6 and 7); however they do not show any structures within the project area. Cultural resources registered with the VDHR within a one-mile radius of the project area that date to the Civil War-era include an encampment, Fort Ward and associated structures. Taking into account the nearby camps, forts, and roads, there would be a moderate probability of finding intact Civil War-era sites within the project area; however, because of disturbance within the area under study, the probability is low.

Figure 6. Detail of *Detailed map of part of Virginia from Alexandria to the Potomac River above Washington, D.C.* Depicting the Project Area Vicinity (Army Corp of Engineers, 186-).

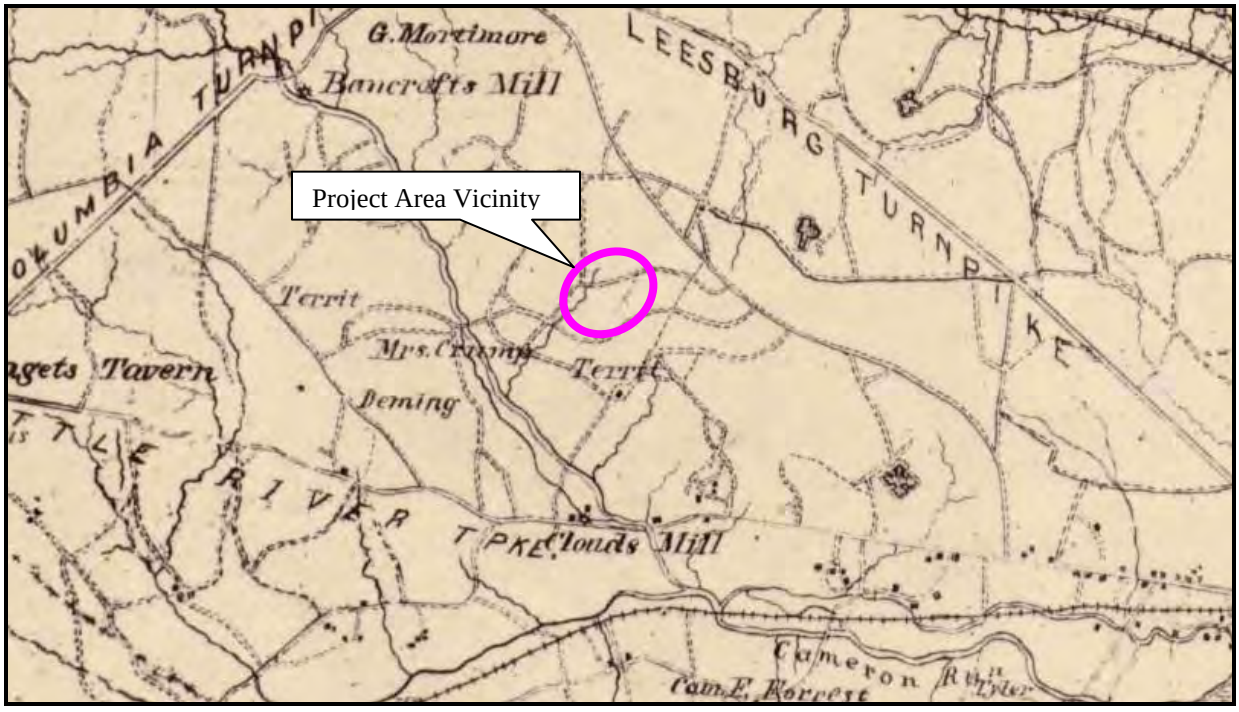

Figure 7. Detail of *Map of Fairfax and Alexandria counties, Virginia, and parts of adjoining counties* Depicting the Project Area Vicinity (Michler 1864).

Reconstruction and Growth (1865 - 1917)

Four years of war had a devastating effect throughout Virginia, and Alexandria, and Fairfax County had seen heavy occupation between 1861 and 1863. As a major staging area for military activity, much of its critical infrastructure had been destroyed. The combined loss of manpower and draft animals, the neglect of agricultural lands, and the emancipation of the slave population had a detrimental effect on the county's economic and social landscape in the postwar era. Property values plummeted: land that had sold for $10 per acre before the war was valued at only $1.00 to $3.00 following the hostilities. In fact, the real estate market was so depressed that, during the 1869-70 session, the General Assembly enacted a law prohibiting the sale of land for less than 75 percent of its assessed value (Kaplan 1993: 153-56).

In a pattern reminiscent of the early nineteenth century, postwar agricultural difficulties prompted local and regional farmers to seek alternative sources of income. The solution for many was to sell timber for cash. Others simply left the county for jobs in Washington or elsewhere. Those who continued to farm joined the "Grange," or "Patrons of Husbandry," a fraternal order established in 1867 and dedicated to helping farmers learn new agricultural methods. Though Virginians were initially slow to join, by 1876 the organization claimed 18,000 members in Virginia in 685 local chapters. Although the Grange had lost most of its power by the 1890s, it was replaced by similar organizations, including the Farmers' Assembly and Farmers' Alliance, and the annual Farmers' Institutes.

The first two decades of the twentieth century saw Fairfax County and Alexandria's economy grow. The emergence of Fairfax County as a leading dairy producer spurred on the construction of better roads and rail services, enhancing the business connection with Alexandria and Washington D.C. With better transportation came more residents and businesses to the region (Netherton 1992).

Nine previously identified cultural resources associated with this period and have been registered with VDHR are located within a one-mile radius of the project area. They include four archaeological sites (two cemeteries, a domestic site, and an historic artifact scatter), and five historic structures (four dwellings and Howard Hall). Period maps, despite illustrating houses scattered along the main roads, depict an uninhabited rural landscape in the immediate vicinity of the project. Moreover, although the economy of the region was on the rise during the latter half of this period, therefore, the low acreage of the project area and the disturbances therein indicate a low probability for containing intact cultural resources associated with this period.

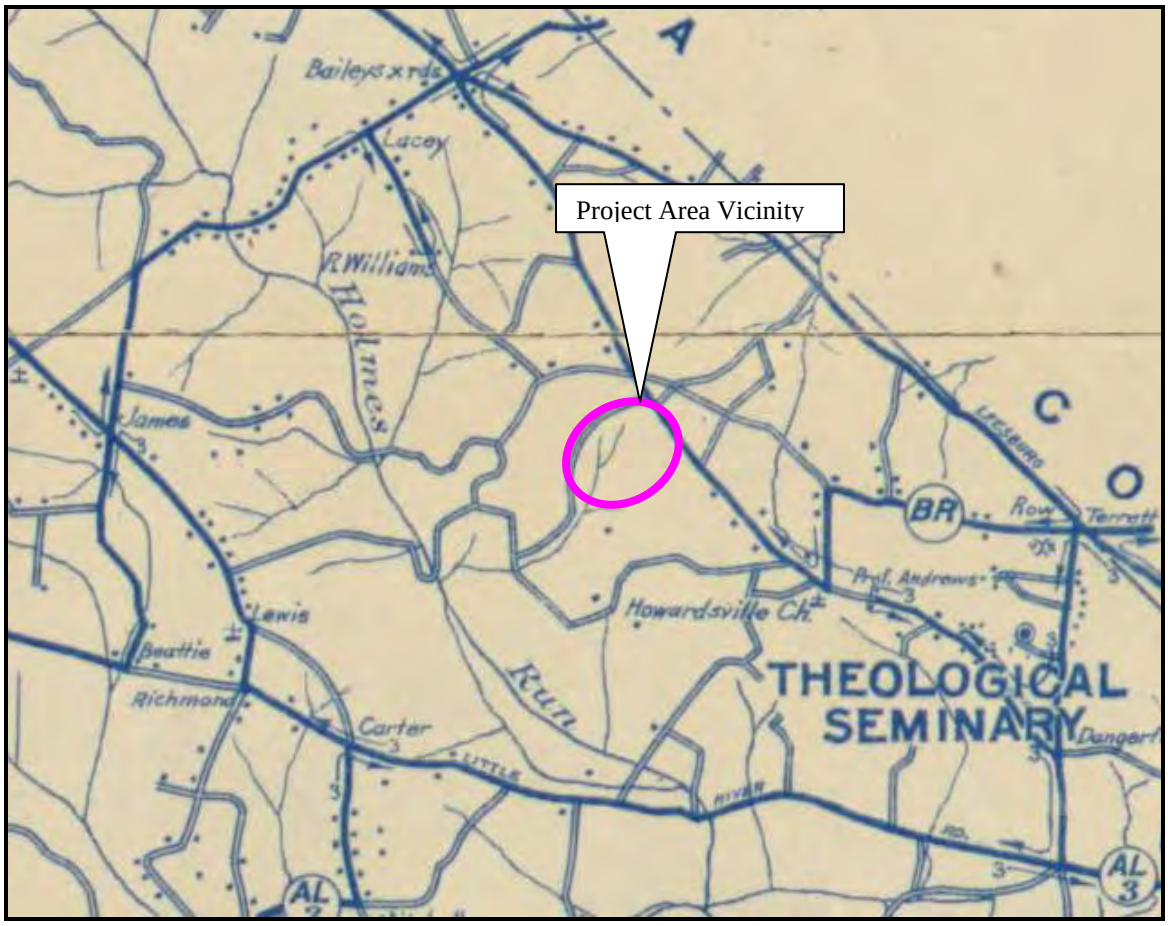

Figure 8. Detail of *Rural Delivery Routes; Fairfax County, Va.* Depicting the Project Area Vicinity (US Post Office Dept, 1912).

World War I to World War II (1917 – 1945)

With the outbreak of World War I, Fairfax County and Alexandria residents supported the War effort in any way possible. Twenty-two county branches of the American Red Cross lent much time and support to the War effort, as well as the local farmers. In turn, the government helped farmers with the use of experimental techniques to increase agricultural yields. The government also established Camp A. A. Humphreys (later named Fort Belvoir) in Fairfax, creating more jobs and boosting the economy (Reed 1992).

The faltering postwar economy caused prices to fall, and farmers could no longer afford to produce their crops. To make matters worse, the government shifted their focus from the agricultural economy to the growth of urban centers. While farmers were still suffering hardships related to the Great Depression, the region was experiencing an overwhelming influx of new residents. By 1940, rising land values, a result of urban and suburban growth, forced many farmers to sell their land and move elsewhere (LBA 1991). Furthermore, with the onset of World War II and the expansion of the federal bureaucracy, the county's population continued to grow, and prices continued to rise on property.

The decades between the wars marked the beginning of the suburbanization of the land surrounding Alexandria. Four historic structures, including three single dwellings and the Fairlington Historic District, dating to this period located within a one-mile radius of the project area have been registered with VDHR. Although the probability of finding sites associated with this time period is moderate, the likelihood of their being eligible for listing on the NRHP is low.

The New Dominion (1945-Present)

By the end of World War II, Fairfax County and the City of Alexandria had become one of the major suburbs of Washington D.C. With disappearing farmsteads being replaced by new subdivisions, commercial farming and urban lifestyles were becoming more popular. During the 1940s and 1950s, the population of Fairfax County increased from 40,900 to 98,500, and in the 1960s the population grew to almost 500,000 residents (Netherton and Netherton 1992).

To accommodate the increasing population of the region, I-95 was commissioned in 1956 under subsidies provided by the Federal Highway Act and completed in 1965. In 1973, Fairfax County and the City of Alexandria established that I-95 would be the boundary between the two jurisdictions.

Five resources have been registered with VDHR that date to this period are located within a one-mile radius of the project area, including three single dwellings, the Claremont Historic District, and the Virginia Heights Historic District. A USGS topo map from 1945 depicts the project area as undeveloped, though the area grew quickly

immediately after World War II. The probability of identifying sites related to this period within the project area is moderate.

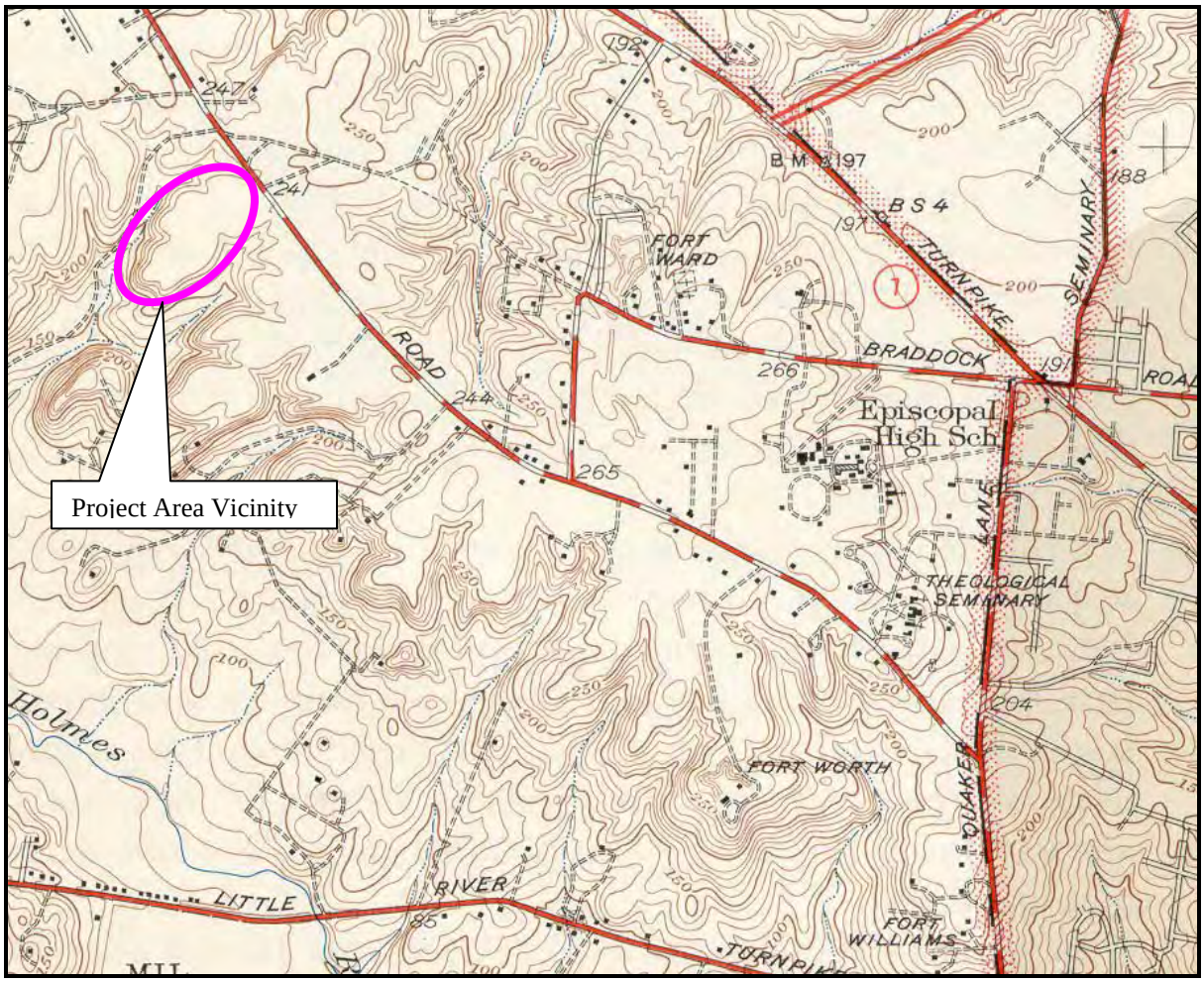

Figure 9. Detail of *Alexandria, VA* 1945 USGS 7.5' Quadrangle Depicting the Project Area Vicinity (Maptech 2008).

IV. RESEARCH DESIGN AND METHODS

Objectives

CRI designed the Phase I cultural resources identification survey to locate and identify all archaeological resources within the project area, as well as to document any standing structures over 50 years of age located within the project area, to obtain sufficient information to make recommendations about the further research potential of each resource based on criteria set forth in the Alexandria Archaeological Resource Protection Code (*The Zoning Ordinance of the City of Alexandria, Virginia Section 11-411: Archaeology Protection*); as well as eligibility for listing on the National Register of Historic Places (NRHP). A cultural resource is gauged to be significant based on the following criteria:

> (1) *Research value*. The extent to which the archaeological data that might be contained on the property would contribute to the expansion of knowledge.
>
> (2) *Rarity*. The degree of uniqueness the property's resources possess and their potential for providing archaeological information about a person, structure, event or historical process, for which there are very few examples in Alexandria.
>
> (3) *Public Value*. The level of importance the property has to the community as a location associated with a significant person, structure, event or historical process.
>
> (4) *Site integrity*. The extent to which soil stratigraphy and original placement and condition of archaeological resources on the property have not been disturbed or altered in a manner which appreciably reduces their research or public value.
>
> (5) *Presence of materials.* The extent to which archaeological resources or evidence of historic structures are present on the property.
>
> (6) *Impact on resources*. The extent to which any proposed ground disturbing activities will alter or destroy resources which the director has determined to have substantial archaeological significance under sections 11-411(E)(1) though (5) above.

Additionally, resources are determined eligible for listing on the NRHP if they meet at least one of the following criteria:

> A. Associated with significant events in the broad patterns of national history.
>
> B. Associated with the lives of persons significant in our past.
>
> C. Representative of a type, period, or method of construction, or the work of a master.

D. Capable of yielding important information about the past.

Criteria A through C are most typically applied to architectural resources, and Criterion D is typically used to evaluate archaeological sites. In order to be capable of yielding important information about the past, generally a site must possess artifacts, soil strata, structural remains, or other cultural features that make it possible to test historical hypotheses, corroborate and amplify currently available information, or reconstruct the sequence of the local archaeological record. Criteria A or B can readily be applied to Civil War archaeological sites, however, due to their association with important events in national and local history and/or their association with people that played significant roles in local or national history.

The background research for the assessment included a thorough review of the VDHR archives for information on all recorded cultural resources located within a one-mile radius of the current project area.

Previous Investigations

Archaeological Sites

No previously recorded archaeological sites registered with the VDHR are located within the project areas. There are, however, 45 previously identified archaeological sites registered with the VDHR located within a one-mile radius of the project area (Figure 10, Table 2).

In 1979 and 1980, Terry Klein of the Alexandria RPO conducted reconnaissance surveys of vacant property in western Alexandria, including the Mark Center tract, the Stone tract, and several park areas along Holmes Run to the west of the above tracts. During these surveys, Klein identified 21 prehistoric sites, consisting primarily of lithic scatters, along with two historic mill sites in the immediate vicinity of the project areas (Adams 1994, VDHR Archives).

The majority of the project area vicinity was investigated again in 1991-1994 by Robert M. Adams. The Phase I survey consisted of 50-foot interval shovel testing on the terrace tops with 25-foot interval shovel testing within identified sites, and pedestrian survey of the slopes. This effort resulted in the identification of 11 isolated finds consisting of prehistoric lithics, one prehistoric site (44AX0163) and one historic domestic site (44AX0162). Site 44AX0163 was subjected to Phase II testing, consisting of the excavation of six 1x1 meter square test units within the site boundaries. Only five lithics and no features were identified during the Phase II testing. No further work was required for the site (Adams 1994).

Site 44AX0162 was subjected to Phase II testing, consisting of the excavation of nine 3x3 foot square test units and seven mechanically stripped trenches within the site boundaries. The stripped areas were subjected to metal detector survey, resulting in the delineation of a former structure based on the distribution of nails. Further work was

required for the site in the form of a Phase III investigation, during which a total of 42 3x3 foot square units were excavated. The resulting analysis concluded that the former structure had consisted of a one-room log cabin with a later addition to the eastern elevation, corresponding to the location of a dwelling associated with the Terrett ownership of the property in the early-mid 19th century (Adams 1994).

Two archaeological sites within a one-mile radius of the project area, 44AX0090 and 44AX0155 are listed on the NRHP. Site 44AX0090 represents Fort Ward, and Site 44AX0155 represents trash scatters, barracks, and a mess hall associated with Fort Ward. The remainder of the sites within a one-mile radius of the project area have not been evaluated for listing on the NRHP.

Table 2. Previously Identified Archaeological Resources Within a One-Mile Radius of the Project Area.

VDHR ID	Resource Type	Association	Reference	NRHP Recommendation
44AX0006	Lithic Scatter	Unknown Prehistoric	Alexandria RPO-1979	Not evaluated
44AX0009	Lithic Scatter	Unknown Prehistoric	Alexandria RPO-1979	Not evaluated
44AX0010	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0011	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0012	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0013	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0014	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0015	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0016	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0020	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0021	Quarry	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0022	Lithic Workshop	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0023	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0024	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0025	Mill, Raceway	19th century	Alexandria RPO -1980	Not evaluated
44AX0026	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1979	Not evaluated
44AX0027	Mill, Raceway	19th century	Alexandria RPO -1980	Not evaluated

Table 2. Previously Identified Archaeological Resources Within a One-Mile Radius of the Project Area.

VDHR ID	Resource Type	Association	Reference	NRHP Recommendation
44AX0031	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1980	Not evaluated
44AX0032	Lithic Scatter	Unknown Prehistoric	Alexandria RPO -1980	Not evaluated
44AX0036	Lithic Scatter; Historic Artifact Scatter	Unknown Prehistoric; Unknown historic	Alexandria RPO -1980	Not evaluated
44AX0037	Lithic Scatter	Unknown Prehistoric	Alexandria RPO-1980	Not evaluated
44AX0038	Lithic Scatter	Unknown Prehistoric	Alexandria RPO-1979	Not evaluated
44AX0039	Lithic Scatter	Unknown Prehistoric	Alexandria RPO-1979	Not evaluated
44AX0090	Fort Ward	19th c-3rd quarter	Larrabee-1961	NRHP Listed
44AX0121	Cemetery; Civil War encampment	19th c-3rd quarter	Alexandria Archaeology-1982	Not evaluated
44AX0124	Lithic Scatter	Unknown Prehistoric	Crowell-1988	Not evaluated
44AX0135	Cemetery	Unknown historic	Alexandria Archaeology-1989	Not evaluated
44AX0151	Oakland Baptist Church Cemetery	Late 19th-20th c	Alexandria Archaeology-1990	Not evaluated
44AX0152	Domestic site	Late 19th-20th c	Dent-1991	Not evaluated
44AX0153	Cemetery	Late 19th-early 20th c	Alexandria Archaeology-1990	Not evaluated
44AX0155	Fort Ward barracks, mess hall, trash dump	19th c-3rd quarter	Larrabee-1991	NRHP Listed
44AX0162	Dwelling	Late 18th -19th c.	Adams-1994	Not evaluated
44AX0163	Lithic Scatter	Unknown Prehistoric	Adams-unknown date	Not evaluated
44AX0166	Lithic Scatter	Late Archaic	Adams-1992	Not evaluated
44AX0167	Domestic site	20th c	Adams-1992	Not evaluated
44AX0173	Protestant Episcopal Theological Seminary in Virginia	19th c	Westover-1991	Not evaluated
44AX0174	Lithic scatter; Historic artifact scatter	Unknown Prehistoric; Late 19th-20th c	ASV-1993	Not evaluated
44AX0176	Lithic Scatter	Unknown Prehistoric	Adams-1995	Not evaluated
44AX0177	Lithic Scatter; Historic artifact scatter	Woodland; 19th c-1st quarter	Adams-1995	Not evaluated
44AX0184	Time Capsule	20th c	unknown	Not evaluated

Table 2. Previously Identified Archaeological Resources Within a One-Mile Radius of the Project Area.

VDHR ID	Resource Type	Association	Reference	NRHP Recommendation
44AX0198	Syme Property	18th c-19th c	Balicki-2006	Not evaluated
44FX0342	Mill	Unknown	McCartney-1980	Not evaluated
44FX1160	Cemetery	Late 18th-20th c	Fairfax County Archaeology-1987	Not evaluated
44FX1370	Cemetery	Unknown historic	Fairfax County Archaeology-1988	Not evaluated
44FX2876	Domestic Site	20th c	Thunderbird-2004	Not evaluated

*Highlighted sites are located within the project area.

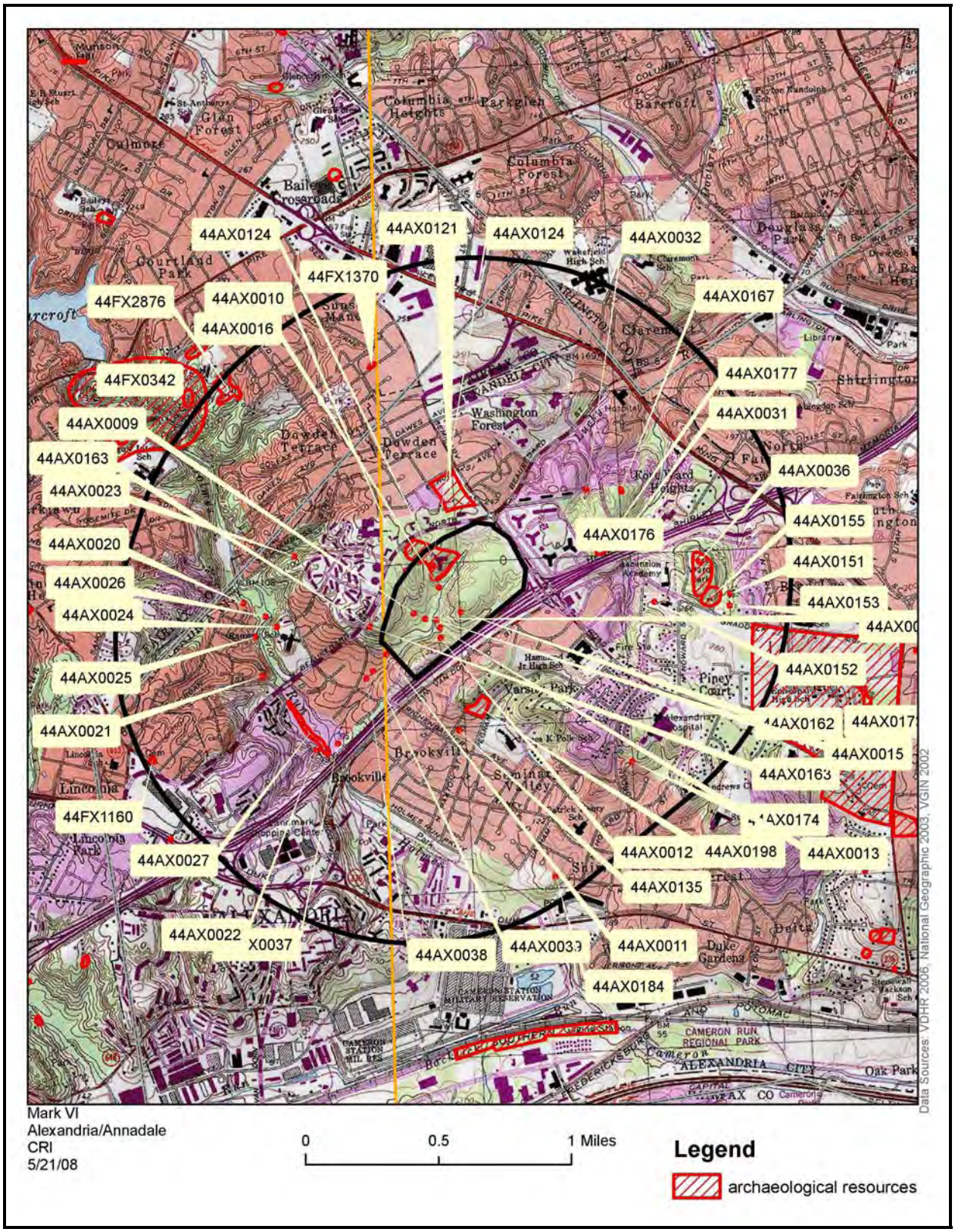

Figure 10. Detail of *Alexandria* and *Annandale, VA* USGS Quadrangles, Depicting Previously Identified Archaeological Resources within a One Mile Radius of the Project Area.

Architectural Resources

There are no previously recorded architectural resources located within the project areas. There are, however, 19 previously recorded architectural resources located within a one-mile radius of the project areas. Five of these, including three historic districts, are listed on the NRHP (Figure 11, Table 3).

Architectural Resource 000-0022 represents the original boundary marker stones of the District of Columbia, as surveyed in 1792. Resource 100-0113 represents Fort Ward, constructed in 1861 and used throughout the Civil War.

The Fairlington Historic District (000-5772) is a large Colonial Revival-style garden apartment complex consisting of apartments and attached townhouses constructed between 1942 and 1944 to house defense workers and their families during World War II. Originally a publicly funded project, the complex was sold into private ownership in 1947 and continued as a rental property until it was remodeled into condominiums and sold in the 1970s.

The Claremont Historic District (000-9700) is a residential neighborhood developed between 1946 and 1954 consisting of one-and-one-half story Cape Cod style houses and two-story Colonial Revival houses. The neighborhood is an example of post-war growth and development which expresses the change in preference to affordable, durable, and available building materials were a direct result of post-WWII shortages and technologies.

Similarly, the Virginia Heights Historic District (000-9701) represents four small neighborhoods featuring Colonial Revival style dwellings approved by the Federal Housing Administration (FHA), experimental "twin-dwellings", L-shaped Cape Cod variants, and Ranch-style houses on large lots. Together the neighborhoods illustrate the evolution of housing tastes and styles after World War II.

Table 3. Previously Identified Architectural Resources Within a One-Mile Radius of the Project Area.

VDHR ID	Resource Type	Association	Reference	NRHP Recommendation
000-0022	Boundary Markers of the Original District of Columbia MPD (DC)	1792	Hynak-1991	NRHP Listed
000-3425	Single Dwelling, 5029 23rd Street South	1959	Traceries-2006	Not Evaluated
000-5005	House, 5019 Chesterfield Road South	1915	Traceries-1997	Not Evaluated
000-5007	House, 5011 Chesterfield Road South	1910	Traceries-1997	Not Evaluated
000-5008	House, 5023	1920	Traceries-1997	Not Evaluated

Table 3. Previously Identified Architectural Resources Within a One-Mile Radius of the Project Area.

VDHR ID	Resource Type	Association	Reference	NRHP Recommendation
	Chesterfield Road South			
000-5010	House, 5007 Chesterfield Road South	1910	Traceries-1997	Not Evaluated
000-5772	Fairlington Historic District	1942	Baker-1997	NRHP Listed
000-9700	Claremont Historic District	1946	Traceries-2006	NRHP Listed
000-9701	Virginia Heights Historic District	1946	Traceries-2007	NRHP Listed
029-5510	House, 3711 Lacy Boulevard	1945	TAA/WSSI-2005	Not Evaluated
029-5511	House, 3715 Lacy Boulevard	1935	TAA/WSSI-2005	Not Evaluated
100-0113	Fort Ward	1861	Dowell-1981	NRHP Listed
100-0212	House, 4130 Lawrence Avenue	1938	Alexandria-1995	Not Evaluated
100-0213	House, 4150 Lawrence Avenue	1963	Alexandria-1995	Not Evaluated
100-0239	Oakland-Territ Family House	1741	Alexandria-1995	Not Evaluated
100-0268	House, 4103 Seminary Road	1850	Alexandria-1995	Not Evaluated
100-0269	House, 4112 Seminary Road	1885	Alexandria-1995	Not Evaluated
100-0270	Howard Hall	1910	Alexandria-1995	Not Evaluated
100-0272	Strathblane	1860	Alexandria-1995	Not Evaluated

*Highlighted sites are located within the project area.

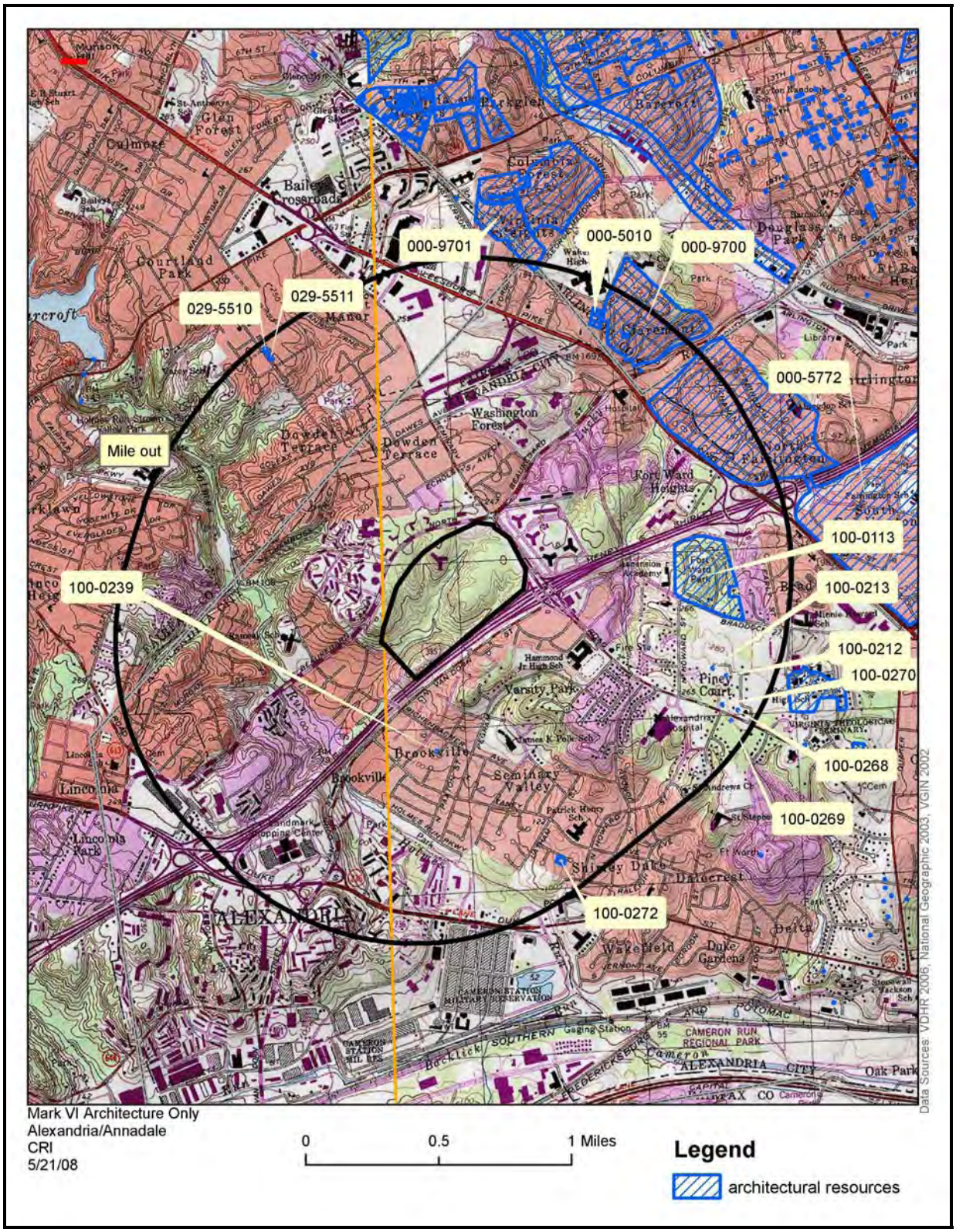

Figure 11. Detail of *Alexandria* and *Annandale, VA* USGS Quadrangles, Depicting Previously Identified Architectural Resources within a One Mile Radius of the Project Area.

Phase I Archaeology Survey

Shovel Testing

The Phase I field survey strategy, as required by Alexandria Archaeology, consisted of systematic surface evaluation and subsurface testing. Shovel tests were excavated at 30-foot intervals along aligned transects. Radial shovel tests, excavated at a 15-foot interval, were placed around positive shovel tests in order to aid in the delineation of site boundaries and cultural deposits. All shovel tests were at least 1.0 foot in diameter and were excavated to sterile subsoil. Soil from each shovel test was screened through ¼-inch hardware cloth, and representative soil profiles were recorded on standardized forms using Munsell color designators (Munsell Color 1994) and U. S. Department of Agriculture soil texture terminology (Elder 1989). Archaeologists recorded a stratigraphic profile representative of each shovel test hole on a standardized shovel test form. The location of each shovel test pit was recorded on a survey map of the project area.

Shovel tests were excavated systematically throughout the project area, except in areas that were wet or waterlogged, displayed marked slope, and/or displayed evidence of marked cultural disturbance. Areas that were not subjected to systematic shovel testing were visually inspected during the course of the Phase I survey. No possible surface or subsurface features were identified within the project area.

Metal Detector Survey

A metal detecting survey was also conducted across the project area. The survey was conducted by walking transects with a sweep of approximately five feet centered on transects five feet apart. All positive metal detector hits were excavated, and a base map indicating all locations with artifacts was created. The area was detected two times using transect grids that were perpendicular to each other. An inventory of all artifacts recovered was prepared. Modern metal artifacts, such as aluminum cans and bottle caps, were discarded after being inventoried.

Definitions

This field survey used two designations for archaeological resources: the *archaeological site* and the *isolated archaeological find.* An *archaeological site* is regarded as any apparent location of human activity not limited to simple loss, casual or single-episode discard, and having sufficient archaeological evidence to indicate that further testing would produce interpretable archaeological data.

In contrast, an *isolated archaeological find* is defined as an area marked by surface indications and little else, and/or limited to simple loss, casual or single-episode discard which has low potential of possessing interpretable archaeological resources. Some areas with archaeological resources determined to be more than 50 years old may be recorded as *locations*. Examples of locations would be isolated projectile point finds, or scatters of

not more than three to five historic artifacts. Locations may also be defined as isolated finds of lithic material, such as possible fire-cracked rock or non-diagnostic debitage.

In application, both of these definitions require a certain degree of judgment in the field and consideration of a number of variables. Contextual factors such as prior disturbance and secondary deposition must be taken into account. The representativeness of the sample, as measured by such factors as the degree of surface exposure and shovel test interval, must also be considered when determining the nature of an archaeological resource. Both *sites* and *isolated finds* should ultimately be accorded consideration as potentially important traces of past human activity.

Architectural resources include all standing structures or buildings that are 50 years or older. Potential eligibility of architectural resources requires that one or more of the National Register Criteria, such as association with significant events in the broad patterns of national history (Criterion A, NRHP), association with the lives of persons significant in our past (Criterion B, NRHP), and/or representative of a type, period, or method of construction, or the work of a master (Criterion C, NRHP), be met.

Phase II Evaluation

Test Units

Because of the presence of one diagnostic projectile point and the concentration of lithics within the shovel tests at Site 44AX0205, Alexandria Archaeology required the manual excavation of five (5) test units measuring 3 ft x 3 ft square in locations specified by Alexandria Archaeology in an effort to sample a larger area and determine the likelihood of intact subsurface deposits. Soil from all hand-excavated areas was screened through ¼-inch hardware cloth and artifacts were bagged and labeled with appropriate provenience information. Archaeologists recorded a stratigraphic profile of each test unit and all information was recorded on a standardized shovel test form. Locations of shovel test units were documented on the site maps. Photographs were taken and maps were made of representative profiles and plan views for each test unit. In addition, photographs of the general site area and surroundings were also taken during the course of the project.

Laboratory Methods

All archaeological data and specimens collected during Phase I and II survey projects were transported to CRI's laboratory in Fredericksburg, Virginia, for processing and analysis. Prior to washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Next, the provenience information from the field bags was confirmed with the bag catalog and transferred onto bag tags. Stable objects were washed with tap water using a soft brush, with careful attention paid to the edges of ceramics and glass to aid in the identification of body type and to assist in mending. Washed items were then placed by provenience on a drying rack.

Once dry, the artifacts were re-bagged by provenience and material type. Artifacts of a given provenience were placed in clean 2 ml thick re-sealable polyethylene bags that have been perforated to allow air exchange. Each grouped material type was placed in a separate plastic bag (i.e., all glass in one bag, all brick fragments in one bag, etc.) and each of these individual type bags were then placed in a larger bag with the bag tag noting the provenience.

After processing and re-bagging, the entire artifact assemblage was cataloged for analysis. Stylistic attributes were described using current terminology and recorded by count into a database for analysis. Once all the artifacts were cataloged, the ceramics were then pulled from their bags and marked with correct provenience information. Diagnostic ceramics were sorted out and grouped together based on type or ware and/or vessel or function and checked for cross mends.

Analysis of prehistoric lithic artifacts was aided by reference works such as *Stone Age Spear and Arrow Points of Mid-continental and Eastern United States* (Justice 1995; also Broyles 1971; Coe 1964; Hranicky 2003; Ritchie 1971). Analysis of historic artifacts was aided by reference works such as *The Parks Canada Glass Glossary* (Jones and Sullivan 1989), *Telling Time for Archaeologists* (Miller et al. 2000), the *Guide to Artifacts of Colonial America,* (Noel Hume 1969), and the *Colonial Williamsburg Foundation Laboratory Manual* (Pittman et al. 1987).

All processed artifact bags have been deposited in acid-free Hollinger boxes for permanent storage and will be curated at the Alexandria Archaeology facility in accordance with the City of Alexandria's archaeological standards (Alexandria Archaeology Office of Historic Alexandria Jan. 1996, revised Oct. 2007).

Additional Excavations Data Recovery

Upon completion of the Phase II test units, Alexandria Archaeology requested additional excavation due to the large concentration of lithics in such a small area. CRI worked closely with Alexandria Archaeology to develop a Research Design for the additional work. This consultation included multiple on-site field meetings and culminated in Alexandria Archaeology's written approval of CRI's fieldwork plan. The details of this plan follow.

Research Issues

Small, upland camps and short-term resource-exploitation sites represent the single most common type of archaeological site in Virginia. Early researchers described similar sites in monolithic fashion, and downplayed the research potential of such sites. Thus, Caldwell (1958) assigned the majority of these sites to the Archaic Period, while Coe (1964:6) pointed to the confusion wrought on the search for temporally diagnostic artifacts by the jumble of occupations on upland sites. As technological advances increased our ability to address the issues earlier archaeologists found crucial, the potential of such sights was rethought. The growth of Cultural Resource Management archaeology contributed to this reassessment by forcing archaeologists "out of the major

river floodplains and the 'large' sites, which more often than not ... distorted our picture of prehistory" (Gardner 1978:5).

Understanding prehistoric sociopolitical life requires inferences concerning the range of activities conducted by prehistoric peoples, the spatial and temporal variation in these activities, and the organization of production which underlay these activities. Ignoring the evidence from small sites severely biases any reconstruction of prehistoric life by vitiating the picture of subsistence patterns, sociopolitical relations, and demographic trends. Blanton and Pullins (1991) excavation of Site 44SN0203, for example, demonstrates the potential of such sites for the study of the spatial structure of hunter-gatherer campsites. As archaeologists eschew catch-all categories, like limited-activity site or special-purpose site, the need for reliable methods for the interpretation of variation in non-village sites has increased. This trend has evolved into research on regional settlement systems as well as investigation of the processes underlying the organization of activities and the discard of debris.

Research Design

Hunter-Gatherer and Horticulturalist land use results from the interplay of regional ecology, social organization, and the subsistence base of the societies under consideration. Therefore, excavations at single sites provide only partial insight into social organization (Binford 1983). Nevertheless, a number of theoretically important issues can be addressed through the analysis of data from small campsites. Relevant issues include: the redundancy of land-use patterns; the organization of technology; the social composition of mobile groups; exchange relations; and the structure of activity organization at upland sites.

The final excavation and analysis of Site 44AX0205 will attempt to:

1) obtain a representative sample of various classes of artifacts;

2) examine patterns of artifact and feature distributions in order to relate these patterns to temporal and functional causes.

More specifically, the proposed research will examine the distribution of artifacts of different types and patterned variation in the attributes of artifacts in light of models of site structure derived from studies of living hunter-gatherers (e.g., Binford 1983). The data from additional excavations at Site 44AX0205 will serve as the basis for an assessment of:

1) the range of activities conducted at the site;

2) the within-site spatial organization of activities;

3) the duration of occupation at the sites; and

4) the link between regional settlement systems and these sites.

These goals necessitate the collection of a statistically valid sample of artifacts from the site to ensure the validity of regional comparisons, and the exposure of areas large enough to allow examination of within site patterns of artifact and feature distribution (Ammerman et al. 1978; O'Connell 1987). Probability theory, simulation studies, and repeated sampling of sites demonstrate that small, units distributed throughout a site provide the best estimates of the range of artifacts present as well as informing studies of artifact distributions (Ammerman et al. 1978; Read 1975). This results from the concentration of various artifact types in different portions of a site as a result of prehistoric use of areas within the site for different purposes. Spaces lacking artifacts can be important as important for inferences of site function and structure as are areas where artifacts concentrate (Binford 1983c: 317). Johnson and Anthony's (2004) excavation of Site 44FX2077 illustrates one way to address this issue through close-interval shovel testing of both the entire site and of selected blocks within activity areas. Thus, Johnson and Anthony's approach collects spatial data from small excavation blocks at the scale of the entire site and the activity area.

Field Methods

Archaeological testing of sites must steer between two dangers--the need for large block excavations to locate subsurface features and expose entire activity areas, and the requirement of small spatially-dispersed units to ensure that the artifacts recovered represent a statistically reliable estimate of the total range and distribution of artifacts at the site. The additional excavations began with the systematic excavation of shovel tests across the entire site. The shovel tests were aligned along the Phase I/II grid, with shovel tests spaced at 7.5-foot intervals.

Based on the results of Phase I/II excavation and Phase II/III shovel testing at 7.5-foot intervals, approximately 220 continuous square feet of potential activity areas were defined and excavated. In order to contribute to an understanding of intra-site structure, the excavation must open large enough blocks to ensure recognition of any features (Simms and Heath 1990). Thus, blocks of at least two by two meters (ca. six-by-six feet) were required for studies of site structure. Blocks of this size allow the recognition of activity rings around hearths and the exposure of many structural features (O'Connell 1987).

Systematic excavation of rectangular test units that measured 1.5-feet square collected data on the distribution of artifacts within the site, and provided preliminary information concerning the possible presence of features within the site. This approach, similar to the "swizzle-stick archaeology" recommended by Johnson and Anthony (2004), collects a systematic sample of all artifacts within the site. One hundred percent of the excavation units will be excavated to subsoil and sifted through ¼-inch wire mesh.

The recovery of microdebitage (extremely small fragments of chipping debris associated with tool production or resharpening) may be crucial for the identification of areas where

particular types of activities took place, as well as for determining the length of time a site was occupied (Fladmark 1982; Hull 1987; O'Connell 1987; Simms and Heath 1990). This follows from the ethnographic observation that site maintenance requires the removal of larger pieces that would have been underfoot if long periods of occupation occurred (Binford 1983c; Nielson 1990). Therefore, a small portion (ca. 0.25 liters) of the soil matrix from each 1.5-x-1.5-foot unit was removed. The samples were water-screened through 1/16-inch mesh to recover microdebitage (cf. Hull 1987 for an example). Following the excavation of the units, the subsoil surface was scraped clean using flat-bladed shovels and trowels and examined for features.

Laboratory Work

Archaeological artifacts recovered from the project area were cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the City of Alexandria Archaeological Standards. The complete assemblage of 2,726 artifacts recovered during the Ph III excavations at 44AX0205 was initially cataloged using a standard collections database. Aspects of the prehistoric material cataloged in this database include material type, lithic type (tool, flake, etc), reduction phase, use wear or retouching, and biface type and technology.

Additional intensive analysis was conducted on the assemblage from 28 of the 98 Ph III test units. These units were selected to encompass the core of the small site. All prehistoric material from these sample units was included in the intensive analysis. The 1,804 lithics of this sample represented 66% of the entire prehistoric assemblage collected during the Ph III excavation of 44AX0205. The intensive analysis supplemented the basic catalog with additional data aspects including: percentage of cortex present, size range of debitage, and evidence of thermal alteration. In addition, attributes such as crazing and ground edges were noted. The intensive analysis of the core units was conducted by lithic analyst Kevin Goodrich.

Report Preparation

The results of the archival research, fieldwork, and laboratory analysis were synthesized and summarized within this report. The report describes the results of each of these facets of the Phase I-III research and is illustrated by selected maps and drawings. Appendix A presents a descriptive catalog of all artifacts recovered from surface and excavated contexts. Appendix B contains all site forms for cultural resources identified during the course of the Phase I survey.

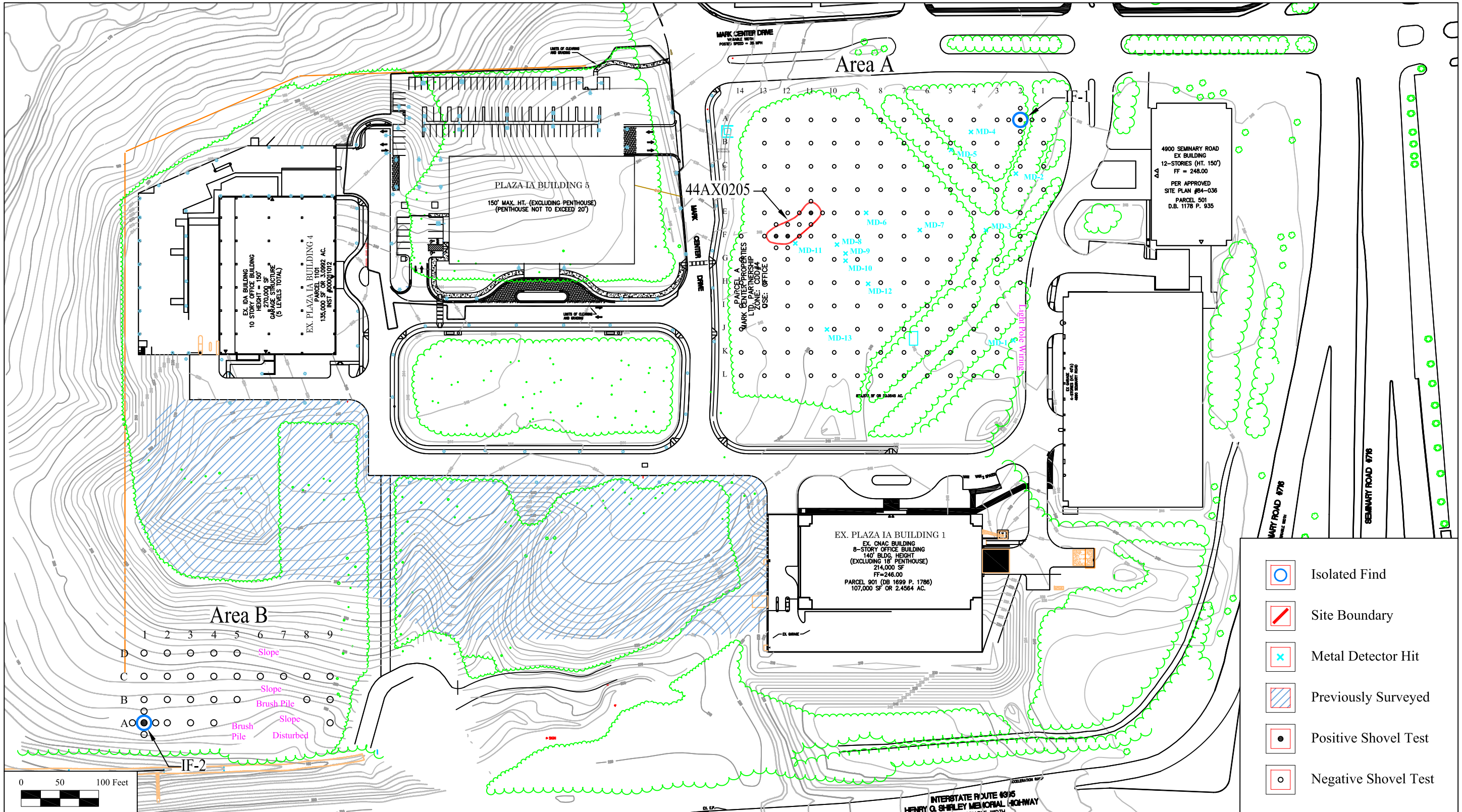

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Figure 12. Base Map of Phase I Testing Within the Project Area.
Mark Center Ph I.
City of Alexandria, Virginia

V. RESULTS

Architectural Resources

No new architectural resources that predate 1958 were identified within the Mark Center project areas.

Mark Center Buildings 2A, 2B, and 3 Parcel (Area B)

Shovel Testing and Metal Detector Survey

In May of 2008, CRI conducted a Phase I cultural resources survey of approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia (Figure 12). The survey was conducted on behalf of the Duke Realty Corporation of Alexandria, Virginia, at the request of Alexandria Archaeology. Shovel tests were excavated at a 30-foot interval across the project area, except in areas that were waterlogged, or that contained marked disturbance or slope. Metal detector transects were conducted at five-foot intervals in two perpendicular grids. A total of 30 shovel tests were excavated throughout the property, one of which was positive for cultural material. The metal detector survey recovered no cultural materials. One isolated find was identified during the Phase I survey.

Isolated Finds

Isolated finds are areas marked by surface indications and little else, and/or finds attributed to simple loss, casual or single-episode discard which have low potential of possessing interpretable archaeological resources. ***CRI therefore recommends that Isolated Archaeological Find 1312IF-1 is not eligible for listing in the NRHP and no further work is recommended.***

<u>1312IF-1</u>

1312IF-1, located in the southernmost corner of the Mark Center Buildings 2A, 2B, and 3 parcel, consisted of one quartzite tertiary flake from shovel test A-1. Radial shovel tests were placed at 15-foot intervals to the north, south, east, and west of the positive shovel test. No other cultural materials were recovered from the area. A typical soil profile from this area consisted of a 0.4-foot thick layer of dark yellowish brown (10YR3/4) silty loam (Stratum I), which transitioned to a yellowish brown (10YR5/6) sandy clay loam (Stratum II). Stratum II transitioned gradually to a yellowish brown (10YR7/6) sandy clay culturally sterile subsoil.

Mark Center VI Parcel (Area A)

Shovel Testing and Metal Detector Survey

In May and June of 2008, CRI conducted a Phase I cultural resources survey of approximately four acres within the Mark Center VI parcel (Area A) at Mark Center on Seminary Road in the City of Alexandria, Virginia. The survey was conducted on behalf of the Duke Realty Corporation of Alexandria, Virginia, at the request of Alexandria Archaeology. Shovel tests were excavated at a 30-foot interval across the project area, except in areas that were waterlogged, or that contained marked disturbance or slope. Metal detector transects were examined at five-foot intervals in two perpendicular grids by an experienced operator. A total of 167 shovel tests were excavated throughout the property, four of which were positive for cultural material. Thirteen metal detector finds were excavated during the metal detector survey. Fourteen isolated finds and one site, Site 44AX0205, were identified during the Phase I survey. A Phase II investigation of Site 44AX0205, consisting of the excavation of five test units, was subsequently conducted.

1312IF-2

1312IF-2, located in the northernmost corner of the Mark Center VI parcel (Area A), consisted of one quartz biface fragment from Shovel Test A-2. Radial shovel tests were placed at 15-foot intervals to the north, south, east, and west of the positive shovel test. No other cultural materials were recovered from the area. A typical soil profile from this area consisted of a 0.4-foot thick layer of dark yellowish brown (10YR3/4) silty loam (Stratum I), which transitioned to a yellowish brown (10YR5/6) sandy clay loam (Stratum II). Stratum II transitioned gradually to a yellowish brown (10YR7/6) sandy clay culturally sterile subsoil.

1312IF-3/MD-1

1312IF-3/MD-1 consisted of a heavily corroded iron fragment recovered from a metal detector find just north of Shovel Test K-3 in the eastern corner of the Mark Center VI parcel (Area A). Shovel Test K-3 sliced through three strata. Stratum I consisted of very dark grayish brown (10YR3/2) silty loam topsoil that extended 0.2 foot below ground surface. Stratum II, which reached a maximum depth of 0.6 foot below ground surface, consisted of very pale brown (10YR7/3) silt. The subsoil (Stratum III), which extended beyond the 1.0-foot maximum depth of Shovel Test K-3, was made up of yellowish brown (10YR5/8) silty clay.

1312IF-4/MD-2

1312IF-4/MD-2, located in the northern portion of the Mark Center VI parcel (Area A), consisted of a fragment of sheet metal recovered from a metal detector find just south of shovel test C-2. Excavation of Shovel Test C-2 revealed three strata. Stratum I designated very dark grayish brown (10YR3/2) silty loam topsoil that extended 0.2 foot

below ground surface. Stratum II, which reached a 0.7 foot below the ground surface, consisted of yellow (10YR7/6) silt. The subsoil (Stratum III), which extended beyond the 1.1-foot maximum depth of Shovel Test C-2, was yellowish brown (10YR5/8) silty clay.

1312IF-5/MD-3

A 1964 American penny recovered from a metal detector find just north of shovel test F-4 in the northeast portion of the Mark Center VI parcel (Area A) was classified as 1312IF-5/MD-3. Shovel Test F-4 exposed three strata. A 0.3-foot-thick topsoil of brown (10YR4/3) silty loam was identified as Stratum I. Stratum II, which reached a 0.7 foot below the ground surface, consisted of yellowish brown (10YR5/4) silt. The subsoil (Stratum III), which extended beyond the 1.0-foot maximum depth of Shovel Test F-4, was yellowish brown (10YR5/6) silty clay.

1312IF-6/MD-4

1312IF-6/MD-4 consisted of a 1965 American quarter recovered from a metal detector find northwest of Shovel Test B-4. 1312IF-6/MD-4 occupied the northern portion of the Mark Center VI parcel (Area A). The uppermost of the three soil horizons identified in Shovel Test B-4 consisted of very dark grayish brown (10YR3/2) silty loam topsoil that extended 0.2 foot below ground surface. Stratum II, situated between 0.3 and 0.6 foot below the ground surface, consisted of yellow (10YR7/6) silt. Stratum III, the subsoil, extended beyond the 0.8-foot maximum depth of Shovel Test B-4. Yellowish brown (10YR5/8) clay formed the subsoil.

1312IF-7/MD-5

1312IF-7/MD-5 consisted of a lead fishing weight recovered from a metal detector find recovered southeast of Shovel Test B-5, in the northern section of the Mark Center IV parcel (Area A). The soil profile revealed by Shovel Test B-5 differed only in the thickness of the topsoil (0.4 foot) and the overall depth of the test pit (1.2 feet) from Shovel Test B-4, described under 1312IF-6/MD-4.

1312IF-8/MD-6

1312IF-8/MD-6, situated in the western section of the Mark Center IV parcel (Area A), consisted of a fragment of a die-cast white metal pot recovered from a metal detector find north of Shovel Test E-9. Three strata were recognized in Shovel Test E-9. The 0.5-foot-thick topsoil, referred to as Stratum I, consisted of very dark grayish brown (10YR3/2) silty loam. Yellowish brown (10YR5/4) silt filled Stratum II, situated between the topsoil and the subsoil. The yellowish brown (10YR5/6) silty clay subsoil, Stratum III, appeared at 0.9 foot below surface and extended beneath the 1.2-foot maximum depth of Shovel Test E-9.

1312IF-9/MD-7

1312IF-9/MD-7 was located in the eastern section of the Mark Center IV parcel (Area A). 1312IF-9/MD-7 consisted of the front bumper of a die-cast toy car, possibly a VW bug, recovered from a metal detector find west of shovel test F-6. The uppermost of the three soil horizons identified in Shovel Test F-6 consisted of very dark grayish brown (10YR3/2) silty loam topsoil that extended 0.2 foot below ground surface. Stratum II, situated between 0.3 and 0.5 foot below the ground surface, consisted of yellowish brown (10YR5/4) silt. Stratum III, the subsoil, extended beyond the 1.0-foot maximum depth of Shovel Test F-6. Yellowish brown (10YR5/8) silty clay formed the subsoil.

1312IF-10/MD-8

1312IF-10/MD-8 occupied the western section of the Mark Center IV parcel (Area A). 1312IF-10/MD-8 designated a fired 0.58-caliber three-ring Minie ball recovered from a metal detector find east of shovel test F-10. Shovel Test F-10 sliced through three strata. Stratum I consisted of very dark grayish brown (10YR3/2) silty loam topsoil that extended 0.3 foot below ground surface. Stratum II, which reached a maximum depth of 0.7 foot below ground surface, consisted of very pale brown (10YR7/3) sandy silt. The subsoil (Stratum III), which extended beyond the 1.1-foot maximum depth of Shovel Test F-10, was made up of yellowish brown (10YR5/8) sandy clay.

1312IF-11/MD-9

Located in the central section of the Mark Center IV parcel (Area A), 1312IF-11 consisted of a fired 0.58-caliber three ring minie ball recovered from a metal detector find west of shovel test G-9. The profile in Shovel Test G-9 revealed three strata. Stratum I, the topsoil, consisted of dark brown (10YR3/3) silty loam that extended 0.4 foot below ground surface. Stratum II, which reached a maximum depth of 0.6 foot below ground surface, consisted of (10YR5/4) silt. The subsoil (Stratum III), which extended beyond the 0.9-foot maximum depth of Shovel Test G-9, was made up of yellowish brown (10YR5/8) silty clay.

1312IF-12/MD-10

1312IF-12/MD-10, like Shovel Test G-9 located in the central section of the Mark Center IV parcel (Area A), consisted of a lead weight recovered from a metal detector find northeast of shovel test G-10. Dark grayish brown (10YR4/2) silty loam made up Stratum I in Shovel Test G-10. The lower two strata revealed by the excavation of Shovel Test G-10 differed from the profile description presented for Shovel Test G-9 (1312IF-11/MD-9) only in the 0.8-foot depth of Stratum II and the 1.1-foot depth of the Shovel Test G-10.

1312IF-13/MD-11

1312IF-13/MD-11 consisted of a modern drawer pull recovered from a metal detector find east of shovel test E-12, located in the western section of the Mark Center IV parcel (Area A). The uppermost of the three soil horizons identified in Shovel Test E-12 consisted of very dark grayish brown (10YR3/2) silty loam that extended 0.4 foot below ground surface. Stratum II, situated between 0.4 and 0.6 foot below the ground surface, consisted of very pale brown (10YR7/4) silt. Stratum III, the subsoil, extended beyond the 0.9-foot maximum depth of Shovel Test E-12. Yellowish brown (10YR5/6) silty clay formed the subsoil.

1312IF-14/MD-12

In the central section of the Mark Center IV parcel (Area A), a fired 0.58-caliber three-ring Minie ball recovered from a metal detector find northeast of shovel test H-9 was designated 1312IF-14. Shovel Test H-9 exposed three strata. A 0.3-foot-thick topsoil of very dark grayish brown (10YR3/2) silty loam was identified as Stratum I. Stratum II, which reached a 0.7 foot below the surface, consisted of very pale brown (10YR7/3) silt. The subsoil (Stratum III), which extended beyond the 1.2-foot maximum depth of Shovel Test E-4, was yellowish brown (10YR5/8) silty clay.

1312IF-15/MD-13

1312IF-15/MD-13 consisted of a two-part stamped oval copper alloy grommet recovered from a metal detector find southwest of shovel test J-10, in the low-lying southern portion of the Mark Center IV parcel (Area A). Unlike most of the shovel tests excavated in the project area, the profile of Shovel Test J-10 consisted of two soil horizons. Dark brown (10YR3/3) silty loam filled Stratum I, the topsoil. Stratum I rested directly on Stratum II, the subsoil. Stratum II included very pale brown (10YR7/4) silty clay and gravel.

Discussion of the Isolated Finds

Both shovel testing and metal detector survey recovered spatially isolated artifacts. Based on the temporally diagnostic materials recovered, Isolated Finds 1 through 15 were probably deposited between the 1860s and the 1960s. The absence of construction debris, particularly nails, and domestic refuse implies that the isolated finds reflect causal loss and discard, rather than identifying the location of a camp or more permanent structure. The Civil War-era bullets, designated IF131210/MD-8, IF1312-11/MD-9, IF1312-14/MD-12, represent the most interpretable of the isolated artifacts.

Three-ring bullets, the invention of Captain Claude Minié of the French Army, were adopted by the U. S. Army in 1855 (Lord 1965: 17). Federal troops commonly relied on three-ring rifle bullets of .57-to-.58-caliber throughout the Civil War (Lord 1965: 15; McBride 1994: 151); the muzzle-loading, .58-caliber, 1861-model Springfield rifle, with a range of 500 yards or more, “was the principle weapon of the Civil War” (Lord 1965:

243). New models of the Springfield rifled musket, which differed little from the 1861 version, were produced in 1863 and 1864. The three bullets, which had been fired, were distributed in a rough, southeast-to-northwest-trending line. The few bullets and linear arrangement implies a light skirmish, hunting, or shooting practice (Kinarde 2000:1844-1845). Seminary Road was an important transportation artery during the Civil War, and the bullets may have been fired by soldiers traveling along the road.

A series of forts and fortifications ringed Washington, important as a symbol of the Union's endurance as well as the seat of government. By 1865, soldiers manning the "68 forts, supported by 93 detached batteries for field guns, 20 miles of rifle pits, and covered ways, wooden blockhouses at three key points, 32 miles of military roads, several stockaded bridgeheads, and four picket stations" defended Washington. (http://www.nps.gov/cwdw/historyculture/index.htm). Soldiers protecting the city used the Springfield rifled musket, suggesting the federal defenders manning the nearby defensive works and forts as one likely source for the Minié balls recovered during the metal detector survey in Area A. Breach-loading rifles began to rival rifled muskets during the war, and eventually replaced rifled muskets used by both the military and civilians by the twentieth century.

Archaeological Sites

Site 44AX0205

Site Date: Terminal Archaic
Site Type: Palimpsest, including Lithic Production
Site Size: 45ft x 30ft
Phase I Survey: 30-foot interval shovel testing with 15-foot radials placed around positive shovel tests.
Phase II Evaluation: Excavation of shovel tests spaced at 15 foot intervals across the site and excavation of five 3-x-3 foot test units within artifact concentrations.
Additional Excavations: Excavation of shovel tests spaced at 7.5 foot intervals across the site and excavation of 98 1.5-by-1.5 foot test units within artifact concentrations.
Total Shovel Test Pits: 41
Positive Shovel Test Pits: 8
Phase II 3-x-3 Foot Test Units: 5
Positive Phase II 3-x-3 Foot Test Units: 5
Additional Excavations: 98 1.5-x-1.5 Foot Test Units
Positive 1.5-x-1.5 Foot Test Units: 94
Prehistoric Artifacts: 3,922
Historic Artifacts: 19
Diagnostics: 1 Savannah River point base (Terminal Archaic)
Features: None

Site 44AX0205 was identified during Phase I shovel testing in Area A of the Mark Center project area. The base of one Savannah River projectile point and 15 pieces of debitage were recovered from three shovel tests excavated within a 45-x-30-foot area.

The Savannah River point indicates an occupation dating to the Terminal Archaic Period, circa 2,500-1,000 B.C. In addition to the Savannah River Point, excavation of five test units within the boundaries of Site 44AX0205 recovered five non-diagnostic stone tool fragments, 1,083 pieces of debitage, and two historic artifacts. Quartzite constituted the overwhelming majority of lithic material recovered, with quartz a minor component of the assemblage. The material classified as quartz included quartz rock composed of small, rounded and angular particles that approximated the texture of quartzite when examined under low magnification.

Phase II Test Units

Test Unit 1

The southwest corner of Test Unit 1 was established 3.0 feet grid east and 1.5 feet grid south of Shovel Test F12West. A unit datum was set 0.4 foot above the ground surface at that point. Test Unit 1 (TU 1) measured 3.0-by-3.0 feet square (Figure 18).

Stratum I in TU 1, the topsoil, extended approximately 0.3 foot below ground surface. A thick sod layer capped the very dark grayish brown (10YR3/2) silt loam that constituted Stratum I. Rounded gravels occurred throughout the stratum. Three quartzite tertiary flakes were recovered during the excavation of Stratum I.

At roughly 0.7 foot below the unit datum, yellowish brown (10YR5/4) silt appeared. A biface fragment was embedded in the surface of Stratum II the yellowish brown silt. Stratum II, an E horizon, extended between 0.6 and 0.7 feet below the ground surface. Artifacts, primarily debitage, occurred in the upper half of Stratum II. Mottled soil representing a mix of Stratum II and Stratum III, the subsoil, appeared near the base of Stratum II uppermost portion of Stratum III.

Stratum III designated the subsoil in Test Unit 1. Strong brown (7.5YR4/6) silty clay constituted 75 percent of the matrix of Stratum III, yellowish brown (10YR5/6) silt the remaining 25 percent. Excavation ceased 0.4 foot into Stratum III, or roughly 1.0 foot below ground surface. No cultural material was recovered from the subsoil (Table 4; Figure 13).

Table 4. Artifacts recovered from Test Unit 1.

Class	Material	Object	Type1	Type 2	Number
Lithic	Quartzite	biface	base	hafted	1
		flake	tertiarty		11
Total					12

Figure 13. View of South Wall of Test Unit 1 at Site 44AX0205.

Test Unit 2

TU 2's southwest corner occupied a point 6.0 feet grid west, 1.5 feet grid south, of STP F12. The unit datum, established at the southwest corner of the unit, was set 0.4-foot above ground surface. TU 2 measured 3-feet per side (Figure 18).

Stratum I, the root-filled humus, extended between 0.2 and 0.35 feet below ground surface, or roughly 0.3 to 0.6 foot below the unit datum. Stratum I consisted of very dark grayish brown (10YR3/2) silt loam. Over 70 debitage fragments and two biface fragments, along with a brick fragment, were unearthed during the excavation of Stratum I.

A dense root layer at the boundary between Stratum I and Stratum II produced an undulating boundary between the two soil horizons. Stratum II, a mottled topsoil horizon, comprised yellowish brown (10YR5/4) silt and, in lowermost 0.05-foot of the stratum, five percent strong brown (7.5YR4/6) silty clay mottles. Excavation of Stratum II occurred in two levels, the first of which measured 0.4-foot thick. Stratum II reached a depth between 0.6 and 0.8 foot below ground surface (ca. 1.11 to 1.23 feet below the unit datum). One-hundred-sixty-eight fragments of debitage and one tested cobble occurred in Stratum II, with all but twelve fragments of debitage and the cobble recovered from the uppermost 0.4-foot level.

At the base of Stratum II, strong brown (7.5YR4/6) silty clay appeared. The strong brown layer, designated Stratum III, was removed in three 0.4-foot thick layers. The 13 fragments of debitage recovered from Level 1 were the only artifacts recovered within Stratum III. Near the base of Level 3 of Stratum III, brownish yellow (10YR6/6) sandy loam and a gravel constituted roughly 50 percent of the matrix, with the gravel constituting nearly 75 percent of the brownish yellow soil (Table 5; Figure 14).

Table 5. Artifacts recovered from Test Unit 2.

Class	Material	Object	Type1	Type 2	Number
Lithic	Quartzite	biface			2
		flake	Primary		3
			Secondary		32
			Tertiary		150
			Pressure		14
			Shatter		41
	Quartz	Flake	Tertiary		2
			shatter		1
Total					245

Figure 14. View of South Wall of Test Unit 2 at Site 44AX0205.

Test Unit 3

The southwestern corner of TU 3 occupied a point six feet grid west and six feet grid south of Shovel Test 11East. TU 3 measured 3-feet per side. Fieldworkers established a unit datum 0.4 feet above ground surface near the southwestern corner of TU 3 (Figure 18).

Very dark grayish brown (10YR3/2) silty loam topsoil was designated Stratum I. Excavation of Stratum I to a depth of no more than 0.8 foot below datum, an average of roughly 0.3 foot below ground surface, produced five fragments of debitage. At that point, the color and texture of the soil changed.

Stratum II designated an 80:20 mixture of yellowish brown (10YR5/4) silty loam and strong brown (7.5YR4/6) silty clay. Gravel constituted 40 percent of the matrix in Stratum II. No artifacts were recovered during the excavation of Stratum II.

Stratum III designated the mixed soils that appeared between 0.5 and 0.67 foot below ground surface, or 0.9 to 1.07 feet below the unit datum. Strong brown (7.5YR4/6) silty clay formed 75 percent of Stratum III, and yellowish brown (10YR5/4) silt made up the remaining 25 percent of the matrix. No artifacts were unearthed during the removal of 0.4 foot of Stratum III (Table 6; Figure 15).

Table 6. Artifacts Recovered from Test Unit 3.

Class	Material	Object	Type1	Type 2	Number
Lithic	Quartz	Flake	Secondary		2
			Tertiary		2
		Shatter			1
Total					5

Figure 15. View of South Wall of Test Unit 3 at Site 44AX0205.

Test Unit 4

TU 4 was established with the southwest corner situated three feet grid west and four and one-half feet grid south of Shovel Test F12. A unit datum located near the southwestern corner of TU 4 was set 0.4 foot above the ground surface. TU 4 measured three by three feet square (Figure 18).

Stratum I, the topsoil, designated very dark grayish brown (10YR3/2) silty loam. Excavation of the 0.27 to 0.36 foot thick topsoil produced 122 fragments of debitage and a single shard of clear vessel glass. Considerable disturbance from burrowing animals and roots appeared at the surface of Stratum II.

Stratum II, recognized between 0.5 and 0.74 foot below the unit datum, refers to yellowish brown (10YR5/4) silty loam. The roughly 0.3-to-0.6-foot-thick stratum produced 77 pieces of debitage. Subsoil appeared at the base of Stratum II.

The subsoil, identified as Stratum III, appeared between 1.04 and 1.13 feet below the unit datum, approximately 0.6 to 0.8 foot below the ground surface. No cultural material was recovered from Stratum III, which was excavated in two 0.4-foot thick levels. Excavation of TU 4 ceased at the base of Level 2 in Stratum III, between 1.85 and 1.92 feet below the unit datum (ca. 1.5 feet below ground surface) (Table 7; Figure 16).

Table 7. Artifacts Recovered from Test Unit 4.					
Class	**Material**	**Object**	**Type1**	**Type 2**	**Number**
Lithic	Quartzite	FCR			2
		Flake	Primary		3
			Secondary		36
			Tertiary		77
			Pressure		6
			Shatter		49
	Chert		Shatter		1
Total					173

Figure 16. View of North Wall of Test Unit 4 at Site 44AX0205.

Test Unit 5

Excavation of TU 5 began by laying out the 3-x-3-foot unit with the southwest corner at grid west three feet and grid north 1.5 feet from Shovel Test F12. The unit datum, located near the southwest corner of the unit, was set at 0.4-foot above ground surface (Figure 18).

One biface and 218 fragments of debitage were unearthed during the removal of the topsoil. The 0.2-to-0.3-foot thick topsoil, designated Stratum I, consisted of very dark grayish brown (10YR3/2) silty loam, organic matter, and subangular to rounded gravels.

At approximately 0.6 feet below the unit datum, Stratum II appeared. Yellowish brown (10YR5/4) silt formed Stratum II. One point tip, one biface, and 382 fragments of debitage were recovered from Stratum II. Root disturbance at the base of the 0.5-foot-thick level obscured the transition between Stratum II and Stratum III.

Stratum III included strong brown (7.5YR4/6) silty clay and yellowish brown (10YR5/4) silt. The former made up approximately 75 percent of the matrix of Stratum III in Level 1, increasing to roughly 80 percent in Level 3. Gravel constituted the remaining 20 percent of the matrix of Level 3 most of TU 5. Along the northern and eastern portions of the unit, in contrast, gravel mixed with approximately five percent silty clay occurred at the base of Level 3.

Fifty-three pieces of debitage were recovered from Level 1 in Stratum III, perhaps as a consequence of the root action near the surface of Level 1. No artifacts were recovered from Level 2 and 3 in Stratum III. Excavation ceased after the removal of the 0.8-foot section of Stratum III identified as Levels 2 and 3, at approximately 2.15 feet below the unit datum (i.e, ca. 1.75 feet below ground surface) (Table 8; Figure 17).

Table 8. Artifacts recovered from Test Unit 5.

Class	Material	Object	Type1	Type 2	Number
Lithic	Quartzite	Biface	Fragment		2
		Flake	Primary		14
			Secondary		199
			Tertiary		80
		Shatter			307
	Quartz	Flake	Secondary		2
			Tertiary		13
		Shatter			47
	Sandstone	Shatter			1
Total					665

Figure 17. View of North Wall of Test Unit 5 at Site 44AX0205.

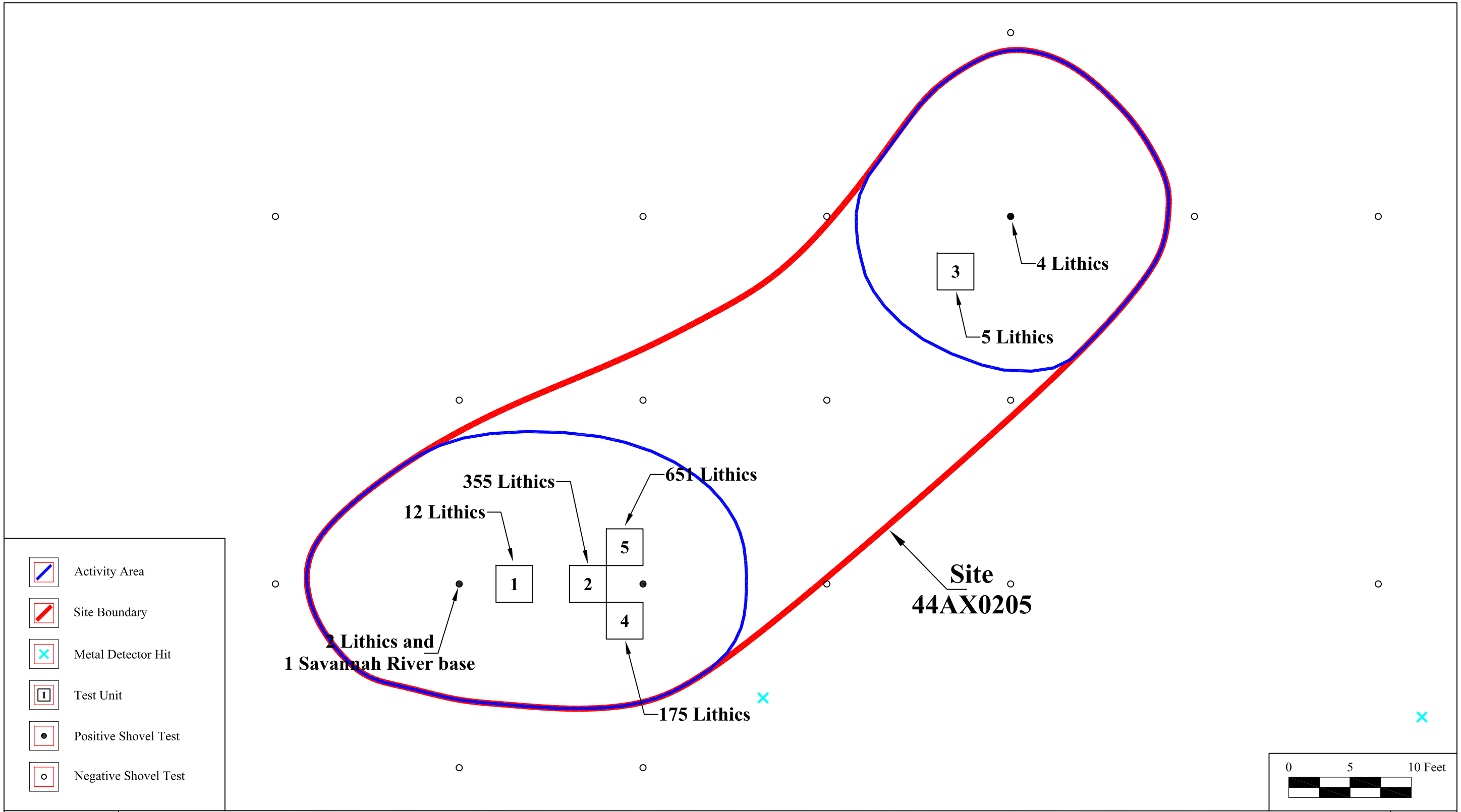
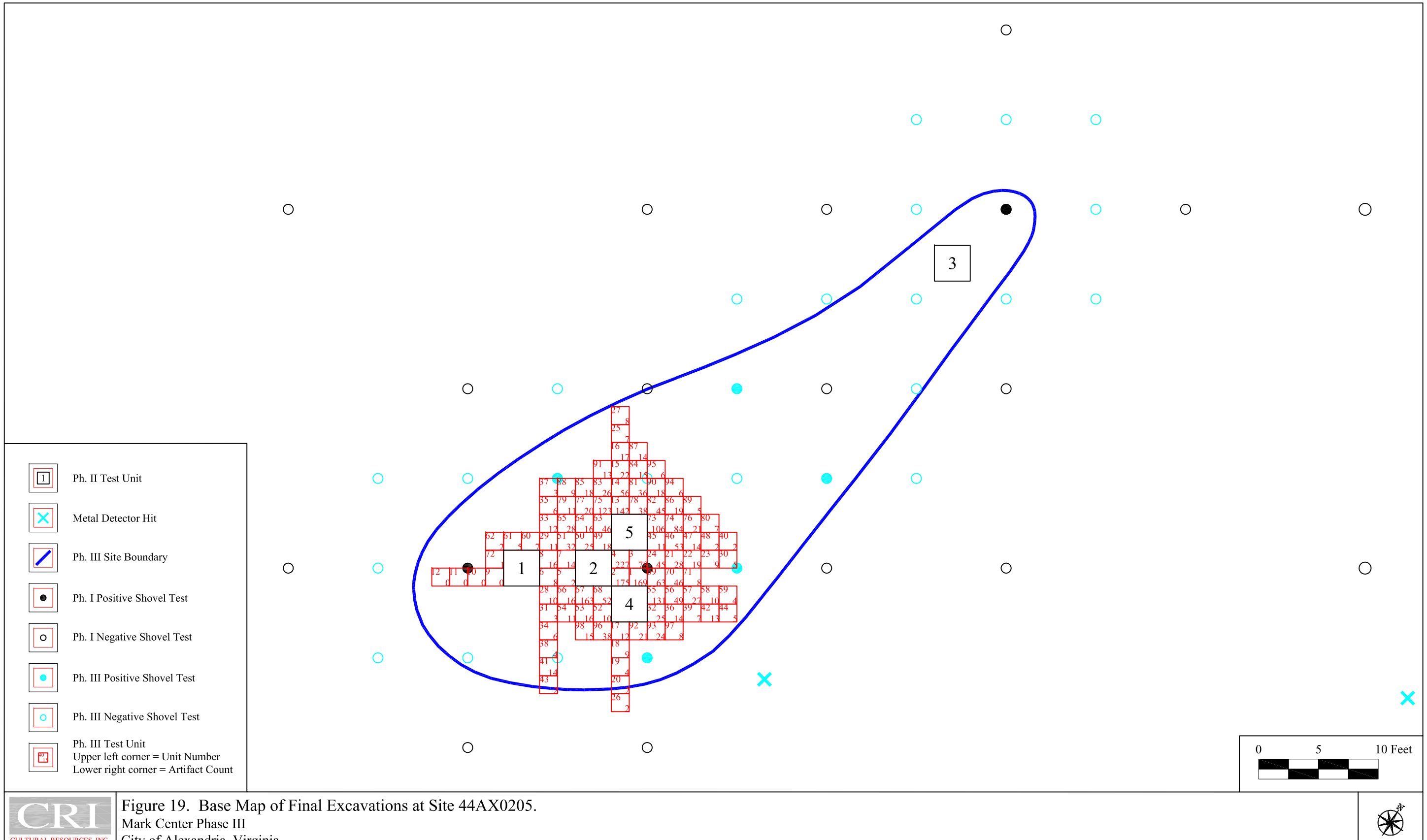


Figure 18. Base Map of Phase II Testing at Site 44AX0205.
Mark Center Phase II
City of Alexandria, Virginia



CRI CULTURAL RESOURCES, INC.

Figure 19. Base Map of Final Excavations at Site 44AX0205.
Mark Center Phase III
City of Alexandria, Virginia

CRI
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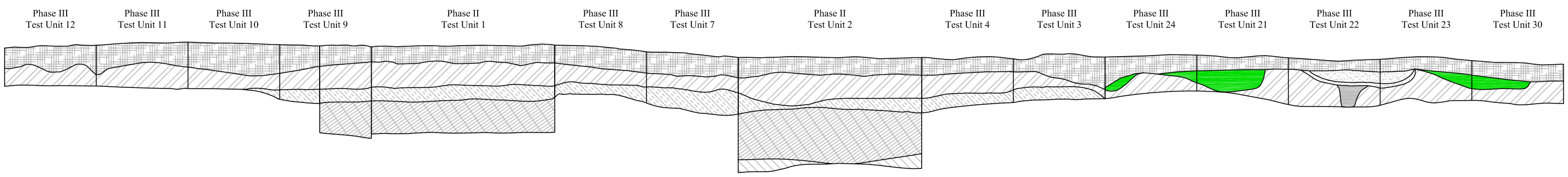
Figure 20. North-South Profile of Site 44AX0205.
Mark Center Phase III
City of Alexandria, Virginia



Utility Trench

Tree removal related disturbance
Excavated with Stratum I

Disturbance related to
Phase II test unit excavation

Overflow fill related to utility trench

Very dark grayish brown (10YR3/2)
Silty loam

Yellowish brown (10YR5/4)
Compact silt

25% Yellowish brown (10YR5/4) silt mottled with
75% Strong brown (7.5YR4/6) silty clay

Strong brown (7.5YR4/6)
Silty clay

75% Gravel in matrix of
Brownish yellow (10YR6/6) sandy loam

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Figure 21. East-West Profile of Site 44AX0205.
Mark Center Phase III
City of Alexandria, Virginia

Additional Excavations

Excavation of a large block composed of 98 1.5-x-1.5 foot units within a 25-x-25 foot area was undertaken during the additional excavation stage of fieldwork (Figure 18). Testing of high-density area surrounding Phase II Test Unit 5 recovered 2,726 artifacts, including 2,717 prehistoric artifacts (Figure 19; Table 9). Artifacts occurred within the topsoil (A) and E horizon soils (Figures 20 and 21). Excavation of 98 1.5-by-1.5 foot test units within a 25-by-25 foot area identified the core of the concentration within an area of roughly 9-by-6.5 feet. An extended low-density tail stretched primarily to the north and east. Phase II Test Unit 5 and the additional Test Units 2, 4, 13, 55, 67, 73, 74, and 75, all of which occur less than seven feet from Phase II Test Unit 5, represent the core of Site 44AX0205. No subsurface features were identified during any stage of the fieldwork. Fieldwork, therefore, appears to have collected a representative sample of the artifacts remaining on site.

Figure 22. View of 1.5x1.5 foot Grid over Site 44AX0205, facing North.

Figure 23. View of Completed Excavations at Site 44AX0205, facing South.

Figure 24. View of North Wall Profile at Site 44AX0205, facing North.

Figure 25. View of West Wall Profile at Site 44AX0205, facing West.

Figure 26. View of Pipe Trench in North Wall Profile at Site 44AX0205, facing North.

Table 9. Artifacts Recovered During the Phase II Testing and Additional Excavations at Site 44AX0205.

Artifact Group	Material	Category	Type 2	Type 3	Total
Architectural	Brick	Ceramic			1
			Pressed		1
Domestic	Ceramic	Coarse earthenware	Redware		1
		Stoneware	American Stoneware	albany slip	1
Floral/Faunal	Wood	Charcoal			5
Prehistoric	Lithic	Basalt	Shatter		1
		Chert	Shatter		2
		Quartz			4
			Biface		2
			FCR		50
			Flake	primary	3
				secondary	4
				tertiary	23
			Groundstone		1
			Shatter		240
			Uniface		1
		Quartzite			2
			Biface		21
			FCR		45
			Flake		19
				primary	119
				secondary	607
				tertiary	603
			Hammerstone		3
			Shatter		960
			Tool		1
		Sandstone	Groundstone		3
		Unidentified	FCR		2
			Shatter		1
Prehistoric/Grand Total					2717/ 2726

Prehistoric Artifact Assemblage

Over 99 percent of the 2,726 artifacts recovered during the additional excavations at Site 44AX0205 reflected the prehistoric occupation of the area (2,717/2,726). A range of stone tools, fire-cracked rock, and, primarily, debitage constituted the assemblage. Locally available quartzite represents 87.6 percent of all stone artifacts, followed by quartz (12%). The assemblage of 2,726 artifacts recovered during the Ph III excavations at 44AX0205 were initially cataloged using a standard collections database. Aspects of prehistoric artifacts cataloged in this database include material type, lithic type (tool, flake, etc), reduction phase, evidence of use as a tool, retouching or resharpening, and biface type and technology.

Additional intensive analysis was conducted on the assemblage from 28 of the 98 Ph III test units. These units were selected to represent the core of the small site. All prehistoric material from these sample units was included in the intensive analysis. The 1,804 lithics of this sample represented 66% of the entire prehistoric assemblage collected during the Ph III excavation of 44AX0205. The intensive analysis supplemented the basic catalog by recording: percentage of cortex present, size range of debitage, and evidence of thermal alteration. In addition, attributes such as crazing and ground edges were noted. The additional analysis of lithic assemblage was conducted by lithic analyst Kevin Goodrich (Appendix A).

Projectile Points and Site Occupation

Based on the recovery of a single quartzite Savannah River point base, the site appears to date to the Terminal Archaic Period, roughly 2500 to 1000 B.C. (Figure 27). No other temporally diagnostic artifacts were recovered. The characteristic Terminal Archaic preference for tough materials, like quartzite and rhyolite, supports but cannot confirm the inferred predominance of Terminal Archaic activity on site. Despite the dearth of Late Archaic components recorded in the VDHR's DSS archives for Alexandria (N=1), Late Archaic diagnostics occur in the project vicinity. Johnson and Anthony (2004:17), for example, argue that "large sites first appear in Northern Virginia's archaeological record during the Savannah River phase of the Late Archaic," possibly reflecting a shift in patterns of movement. The Whitehurst Freeway Sites (51NW0103, 51NW0117, and 51NW0117W), located on a series of terraces near the confluence of Rock Creek and the Potomac River, in Washington D.C., provided evidence of Terminal Archaic activity in the region (Knepper et al. 2006) as did the Lorton Town Center (44FX2077) and Land Bay (44FX2723) sites (Johnson and Anthony 2004; Tops and Johnson 2004). Moreover, the DSS files document 135 sites containing Late Archaic diagnostics in nearby Fairfax County, and Alexandria Archaeology maintains records of Late Archaic sites recorded in the city.

Formal Tools and Tool Production and Use

Although collecting perhaps depleted the number of diagnostic artifacts present at Site 44AX0205, the recovery of a single diagnostic accurately reflects the low density of

formal tools in the overall assemblage. Twenty-three non-diagnostic bifacial tools were unearthed during the Phase III excavation of Site 44AX0205 (Figures 28 and 29). Twenty-one were manufactured from quartzite (91%). Bifaces constitute approximately two percent of prehistoric material recovered during Phase III testing of Site 44AX0205, roughly 96 percent of all formal chipped stone tools, and 74 percent of stone tools. A single quartz uniface was unearthed during the Phase III fieldwork.

Thermal alteration was evident on three bifaces (13%), roughly similar to the frequency of thermal alteration observed on other tool and debitage categories in the closely analyzed sample of 1804 artifacts. The entire biface assemblage includes all stages of biface production, though late-stage bifaces or performs constituted the half of identifiable (9/18) bifaces. Among the late-stage bifaces was one formal scraper. Early (N=5) and middle-stage bifaces (N=1) and unclassified biface fragments (N=15) formed the remainder of the assemblage (Table 9; Appendix A).

The dearth of formal bifaces and biface fragments, particularly hafted bifaces, may indicate that some bifaces served as bifacial cores as well as cutting tools. Particularly among mobile populations, Andrefsky (1998:30) explains:

> An early-stage biface is quite practical for use as a chopper or hand axe because of its relatively wide edge angle; its blade is ideal for chopping or hacking on hard materials such as wood with little danger of breaking. This same biface can be resharpened when the edges become dull or it can be thinned to perform better a cutting or slicing task. If flakes are needed to slice soft materials, the early-or middle-stage biface can act as a core or source of raw material for flake reduction.

Figure 27. View of Savannah River Point Base and Tertiary Flakes recovered from Site 44AX0205.

Figure 28. View of Quartzite Biface from Unit 67 at Site 44AX0205.

Figure 29. View of Quartz Tool from Unit 42 at Site 44AX0205.

Ground and Pecked Stone Tools

Ground and pecked stone was defined as lithic material that lacked evidence of flake removal, but possessed abraded, worn, or pecked areas. An equal amount of quartzite and sandstone hammerstones and groundstone tools were recovered. Quartzite and sandstone appear to have served different purposes, however. The seven non-flaked tools included quartzite (N=3) hammerstones and sandstone (N=3) and quartz (N=1) groundstone tools (Table 9). The latter may reflect plant processing and grinding, while the former contribute the overall impression of tool and, in particular, flake-tool production on site.

Two of the groundstone tools occur in Test Unit 67, where a dense concentration of fire-cracked rock was identified. The presence of groundstone and fire-cracked rock possibly suggests hearth-related processing of plants. Alternatively, the groundstone was perhaps misclassified or had served multiple purposes over time. The remaining groundstone artifact was recovered from Test Unit 69, within the high density concentration of artifacts of all types.

Hammerstones occurred within and at the edge of the core of the site. No clear pattern was evident in the distribution. One hammerstone was recovered from Test Unit 4, near the approximate center of the high-density cluster of artifacts. A second was recovered from Test Unit 67, also within the high-density area as well as close to two of the three groundstone artifacts and a concentration of fire-cracked rock. The third hammerstone was recovered during the excavation of Test Unit 29, one of only eleven artifacts recovered from the test unit. Test Unit 29 occurs within a low-density area near the western edge of the excavation block.

Figure 30. View of Hammerstone and Quartzite Tools from Unit 4 at Site 44AX0205.

Fire-Cracked Rocks, Cooking, and Stone Boiling

Fractured cobbles that exhibited reddening or evidence of alteration by heat, but no flake scars, pitting, or abrasion were classified as fire-cracked rock (Table 10). Seventy-two (97) fire cracked rocks were recovered, significantly more than were observed in the Phase I and Phase II assemblages (N=2). Quartz dominates the fire-cracked rock assemblage (N=50), followed by quartzite (N=45), and an unidentified material (N=2). At the nearby Lorton Town Center Site (44FX2077) quartz constituted 88.5 percent of all fire-cracked rock, followed by quartzite, which made up 11 percent of the fire-cracked rock assemblage (Johnson and Anthony 2004:Table 5). At 44FX2077, however, quartz comprised roughly 75 percent of the lithic assemblage; 24.5 percent of stone was quartzite. Given the overwhelming predominance of quartzite in the assemblage and the common recovery of quartzite in hearths, even the slight preference for quartz for boiling or heating evident in the assemblage from 44AX0205 cannot be explained entirely by reliance on locally available stone.

Gonick's (2003) experiments indicated that quartz remained intact longer than quartzite when heated, certainly valuable for hearth construction. Nevertheless, "quartzite performed in a thermally superior manner to quartz with respect to water heating capacity" (Gonick 2003:158). Moreover, Gonick (2003:158) also noted that "quartzite typically spalled, while quartz shed small angular pieces." The latter appear detrimental for stone boiling, commonly believed to have been an important cooking technique during the Terminal Archaic (e.g., Klein 1997). It appears, therefore, that the preference for quartz in hearth-related activities reflects either: 1) the desire to preserve quartzite for tool production if stone-boiling regularly occurred on site; 2) different materials used for distinctive purposes have been lumped together in the analysis as fire-cracked rock; or 3) use of quartz primarily in hearths rather than in stone boiling.

Calculation of variance-to-mean ratios indicated that fire-cracked rock clustered at the level of the 1.5-foot unit, notably in Test Unit 67 (see Artifact Distribution and Site Structure below). The fairly low frequency fire-cracked rock in the assemblage (ca. 4%) and the distribution of fire-cracked rock suggests that stone-boiling played a limited role at best during the occupation of Site 44AX0205. Ninety-six fragments of fire-cracked rock were recovered from 26 test units distributed throughout the Phase III excavation block. Fourteen units contained a single fragment of fire-cracked rock, and all but two produced fewer than four fire-cracked rocks. The distribution of fire-cracked rock within the Phase III excavation block contrasts with the dense, spatially extensive clusters of fire-cracked rock evident elsewhere in the region.

Cobble-and-fire-cracked-rock pavements, at least partially representing deposits of rocks used in indirect-heat cooking and processing of fish, nuts, and other items, regularly appear on Terminal Archaic sites throughout the region (Dent 1995:184-185). At Site 28Me1B, within the Abbott Farm Complex near Trenton, New Jersey, fire-cracked rock was nearly ubiquitous. Cavallo (1986:VII-2-67) recognized 50 clusters of cobbles and fire-cracked rock. Experiments suggested that the spatially extensive represented the remnants of stone boiling. At Site 44AX0205, 54 percent (52/96) of fire-cracked rock

unearthed within the Phase III test block occurred within 1.5-square-foot Test Unit 67. An additional nine fire-cracked rocks were recovered adjacent Test Units 68 (N=7), 69 (N=1), and 52 (N=1), meaning 61 percent of the fire-cracked rock assemblage occurred within a 1.5-x-3.0 foot area and 63 per within an area less than 3-by-4.5 square feet.

Both quartz and quartzite co-occurred within this small area, indicating that reddened and fractured quartz and quartzite were correctly classified as having served similar functions. Moreover, the dense concentration of fire-cracked rock suggests the former presence of a hearth or a cache of fire-cracked rock. If the latter, the two groundstone tools recovered from Test Unit 67 may have been misidentified or had been recycled for use in a hearth or during indirect-heat boiling. Regardless, widespread reliance on stone boiling seems an unlikely explanation for the low-frequency and clustered distribution of fire-cracked rock.

Table 10. Distribution of FCR Recovered from the Additional Excavations.

Test Unit	Quartzite	Quartz	Other	Total FCR
1	1			1
2	1			1
3	1			1
14	1			1
16		2		2
22	1			1
24	2			2
25	1			1
28		1		1
33	1	2		3
36	1			1
51	2			2
52	1			1
57	1			1
60		1		1
61	1			1
64	2			2
65			2	2
66	1			1
67	9	43		52
68	7			7
69	2			2
70	1			1
74	3			3
75	4			4
82		1		1
Total	44	50	2	96

Debitage and Stone Tool Production and Use

Debitage constitutes 95 percent of the artifacts recovered from Site 44AX0205 (Table 9). The assemblage includes approximately the same percentage of flakes (53%) and shatter (47%). Not surprisingly, given the brittle nature of quartz, shatter makes up a far greater percentage of quartz debitage (89%) than quartzite debitage (42%). Yet the flake assemblages also seem to imply a difference in the use of quartz and quartzite. Primary flakes represent approximately 10 percent of both quartz and quartzite flakes. Tertiary flakes, however, represent 77 percent of quartz flakes, but only 45 percent of quartzite flakes. In addition, secondary flakes constitute only 13 percent of quartz flakes, but represent 46 percent of the quartzite assemblage. More detailed analysis of a sample of 1804 artifacts conducted by Kevin Goodrich provides additional insight into stone tool production and use at Site 44AX0205 (Appendix).

Flakes used as tools, whether retouched or not, represent a far greater percentage of the assemblage than formal tools, regardless of the stage of tool production. Flake tools and utilized flakes constitute nine percent of the sample of artifacts examined by Goodrich. The 23 bifaces represent one percent of the assemblage of 1,804 artifacts examined in detail, and less than one percent of the entire prehistoric assemblage of 2,717 artifacts. Since some flakes used as tools likely exhibited no macroscopic edge damage or sharpening, the flake tool and utilized flake assemblage likely underestimates the frequency of expedient tool production and use that occurred at Site 44AX0205.

Flake tools constitute roughly two percent of both quartz (1/64) and quartzite (34/1,634) debitage examined in detail by Goodrich. The major difference lies in the recognition of a significant minority of quartzite flakes as utilized (ca. 7%; 111/1,634). As with flake-to-shatter ratios, the brittle nature of the quartz tools may impede recognition of utilized edges on quartz artifacts to a greater degree than on artifacts of quartzite. In addition, the somewhat larger size of quartzite debitage perhaps enhanced the visibility of edge damage of quartzite flakes.

Quartzite debitage exceeds quartz flakes in size (Table 11). The size distribution of the two material categories appears similar, however, with modes between 1.0 and 2.5 centimeters in both cases. Moreover, 97 percent of all flakes, regardless of material, fall between 1.0 and 5.0 cm in maximum size. Patterson's (1990) experimental production of stone tools using flints from central Texas implies that left-skewed distribution with peak values near 1.0 cm characterizes biface production, while the data from Site 44AX0205 appears normally distributed around a value of 1.5 cm. The predominance of quartzite at Site 44AX0205 perhaps increased the likely size of flakes over the 1.0 cm peak that Patterson produced using finer-grained material. Nevertheless, the relatively high frequency of flakes larger than 2.5 cm may support the importance of expedient-tool use inferred from the frequency of flake tools and utilized flakes in the assemblage.

Table 11. Debitage by Size and Material.			
Maximum Size (cm)	**Quartz N (%)**	**Quartzite**	**Number**
1.0	2 (3%)	32 (2%)	34 (2%)
2.5	58 (91%)	1,128 (69%)	1,186 (70%)
5.0	4 (6%)	452 (28%)	456 (27%)
10.0	0 (0%)	21 (1%)	21 (1%)
15.0	0 (0%)	1 (>0%)	1 (>0%)
Total	64 (100%)	1634	1698

Thermal Alteration and Stone Preparation

Evidence of thermal alteration, primarily reddening, appeared on roughly equal percentages of quartz (13%) and quartzite (12%) debitage, the same range noted for virtually all artifact categories (Appendix A). Three of 23 bifaces (13%), for example, exhibited the color changes associated with thermal alteration. Similarly, thermally altered shatter constituted 13 percent of the assemblage of quartzite shatter, and thermally altered flakes form roughly 12 percent of the assemblage of flake tools. Quartzite utilized flakes exhibited the highest percentage of thermal alteration, 17 percent. In sum, thermal alteration was recognized on a small but significant portion of many categories within the artifact assemblage.

Material Types and Exchange/Mobility

A range of stone tools, fire-cracked rock, and, primarily, debitage constituted the assemblage. Locally available quartzite represents 93 percent of all stone artifacts, followed by quartz (6%) and sandstone (0.3%), also available in the vicinity (Table 9). One fragment each of basalt and chert, possibly non-local, were recovered. In sum, despite the well-known soapstone exchange spheres and seasonal movement characteristic of the Terminal Archaic (Dent 1995:181-186), the lithic assemblage provides no evidence for long-distance movement or exchange.

Artifact Distribution and Site Structure

Artifacts of all types cluster within a very small area, roughly 10 feet in diameter (Figure 31). The Surfer graph includes prehistoric artifacts recovered during the Phase I through Phase III fieldwork. The number of artifacts recovered during Phase II Test Units 1 through 5 by was divided by four to make the count comparable to the Phase III 1.5 by 1.5 foot units; each count was assigned a grid point associated within one quarter of the 3 by 3 foot unit. At the level of the site as a whole, this procedure does not appear to influence Figure 31, which accurately reflects the peak in artifact density that identifies the core of the site. Rather than discrete activity areas, artifacts of all types accumulated within a relatively small area.

A number of archaeologists have recommended use of variance-to-mean ratios as an index of aggregation or clustering (e.g., Dacey 1973; Flannery 1986). Variance-mean ratios (V/m), well suited for analysis of data collected from grids, rely on the Poisson distribution rather than the assumption of a normal distribution required by many statistical tests. For the Poisson distribution, which models a distribution that results from an equal probability of encountering particular artifacts across the site as a whole, the variance equals the mean (Pielou 1977:116). In contrast, the variance exceeds the mean for clustered patterns of various kinds. Since the variance-mean ratio represents the sum of a number of actual counts (O) and expected counts (E) of the form $(O-E)^2/E$, the distribution approximates the Chi Square probabilities with N-1 degrees of freedom. Using degrees of freedom values of one less than the number of observations, in this case test units or larger blocks, the probability that the V/m value differs from random can be calculated. Of course, analytical scale, meaning the size of the each unit in the grid, influences the observed pattern. Moreover, artifacts that occur in low density may produce a spurious clustering based on many zero counts and very few one or two counts. To overcome these two problems, the analysis considers several scales and eliminates units with zero counts from the analysis at the scale of 1.5-foot units.

The 1.5-foot size of the 98 units surrounding Phase II Test Units 2, 4, and 5 falls far below the expected size of an activity area. Minimally, a single seated person occupies an area roughly the 3-x-3-foot size of the Phase II test units, and many activities produce a much larger artifact scatter. Processing even a single hide, for example, may require an area of at least five meters in diameter and scatter refuse over an area far larger than Site 44AX0205 (Binford 1983b:144-192).

Recovery of only four groundstone artifacts and three hammerstones precluded statistical analysis of the ground-and-pecked-stone category, though the artifacts may represent distinct activities. One hammerstone and two groundstone tool fragments were unearthed in Test Unit 67, where a fairly dense concentration of fire-cracked rock also occurred. Hammerstone were recovered from 1.5-x-1.5 foot Test Unit 4, located at the intersection of Phase II Test Units 2 and 5, and in Test Unit 29, situated in the low-density area immediately northwest of Phase II Test Unit 1. A single groundstone tool fragment occurred in Test Unit 69, immediately northwest of Phase II Test Unit 4, and one groundstone tool was unearthed during the excavation of Test Unit 36, located 1.5 feet grid west of Phase II Test Unit 2.

Not surprisingly, only fire-cracked rock, perhaps representing the former location of a small hearth, exhibits significant clustering at the 1.5-by-1.5 foot scale (Table 12). Fire-cracked rock, as noted previously, clusters in Test Unit 67. Grouping the data from the core of the site, the area immediately surrounding Phase II Test Units 2, 4, and 5, into 3-x-3 foot blocks facilitates the search for artifact clustering that possibly reflect particular activities, like biface and flake tool production (Table 13). The grouped data includes all bifaces and the majority of scrapers and utilized flakes.

Recovery of 17 flake tools and fragments from Test Unit 55, situated immediately west of Phase II Test Unit 4 appears to represent an activity area if examined at the 1.5-x-1.5

foot scale, since only Test Units 2 and 67 produced as many as 10 scrapers and utilized flakes. The V/m ration, however, implies that the clustering is not significant (Table 12). Moreover, the even the apparent clustering disappears when examined at a more appropriate scale. Although 25 flake tools were collected from the three foot square directly west of Phase II Test Unit 4 (TU 55, 56, 32, and 36), the grouped data from Test Units 1 through 4, located between Phase II Test Units 2 and 4 and from the block immediately east of Phase II Test Unit 4 and south of Phase II Test Unit 2 (TU 67, 68, 52, 53) produced 18 flake tools. An additional 17 flake tools occurred in the block comprising Test Units 73, 74, 45, and 46, situated directly west of Phase II Test Unit 5. Moreover, biface frequency peaks (N=9) in Test Units 1 through 4, where 18 flake tools were recovered. In sum, the bifaces, flake tools, debitage, and fire-cracked rock coexist in the greatest frequencies within an area roughly 10 feet in diameter, though the overall scatter of artifacts identified during fieldwork at Site 44AX0205 extends across a broader area. Only the concentration of fire-cracked rock in and around Test Unit 67 reflects a distinctive, spatially discrete activity, probably the construction of a hearth. Even the hearth, however, lies within the area characterized by a high density of all types of artifacts (Table 13).

The dramatic differences between the present urban landscape and the circa 2500-1000 B.C. landscape render inferences concerning microenvironmental influences on past settlement speculative. The concentration of materials reflecting different activities, some of which likely required spatial or temporal separation, implies repeated occupation for different purposes. Still, the production and use of formal and expedient stone tools represents a particularly important activity that produced the accumulation of material designated Site 44AX0205. Tool production or the creation of a hearth perhaps provided the initial conditions that facilitated reoccupation by producing a surface concentration of flakes or cobbles useful for various purposes. If so, any sequence of activity at Site 44AX0205 likely occurred over a relatively short time period. Unless some environmental attribute that no longer exists made the specific location of Site 44AX0205 unusually attractive, it seems unlikely that repeated occupations over a period even as brief as 100 years would have been dispersed over a larger area, since leaf cover and soil formation would have eliminated surface evidence of debris over a fairly short period of time. For example, Gorecki (1985:186-187) suggests that various types of formation processes within villages in Papua New Guinea eliminate visible evidence of even substantial wooden dwellings and their contents within five years.

Table 12. Variance-mean (V/m) ratios for selected artifact classes by analytical scale.

Category	Analytical Scale (TU Size*)	V/m	Probability	Number of Units Considered
Bifaces	1.5 x 1.5 feet	0.004	0.99	19
Flake Tools**	1.5 x 1.5 feet	4.13	0.99	44
FCR	1.5 x 1.5 feet	34.28	0.001	11
Bifaces	3 x 3 feet	3.46	0.95	11
Flake Tools	3 x 3 feet	7.77	0.70	11

*TU includes subdivided Phase II test unit counts

**Flake Tools includes flakes used as scrapers and utilized flakes

Table 13. Biface and Flake Tool Counts by 3-x-3 foot blocks.			
Block Size	**Artifact Category**	**Test Units (3x3 foot)**	**N Artifacts (3x3 foot)**
3x3 Foot	Bifaces	85, 83, 77, 75	0
3x3 Foot	Bifaces	14, 81, 13, 78	3
3x3 Foot	Bifaces	90, 94, 82,86	0
3x3 Foot	Bifaces	64, 63, 49, 50	1
3x3 Foot	Bifaces	Ph II TU 5	2
3x3 Foot	Bifaces	73, 74, 45, 46	4
3x3 Foot	Bifaces	Ph II TU 2	2
3x3 Foot	Bifaces	4, 3, 2, 1	9
3x3 Foot	Bifaces	21, 24, 69, 70	1
3x3 Foot	Bifaces	67, 68, 52, 53	1
3x3 Foot	Bifaces	Ph II TU 4	0
3x3 Foot	Bifaces	55, 56, 32, 36,	0
3x3 Foot	Flake Tools	85, 83, 77, 75	8
3x3 Foot	Flake Tools	14, 81, 13, 78	4
3x3 Foot	Flake Tools	90, 94, 82,86	2
3x3 Foot	Flake Tools	64, 63, 49, 50	8
3x3 Foot	Flake Tools	Ph II TU 5	1
3x3 Foot	Flake Tools	73, 74, 45, 46	17
3x3 Foot	Flake Tools	Ph II TU 2	0
3x3 Foot	Flake Tools	4, 3, 2, 1	18
3x3 Foot	Flake Tools	21, 24, 69, 70	9
3x3 Foot	Flake Tools	67, 68, 52, 53	18
3x3 Foot	Flake Tools	Ph II TU 4	0
3x3 Foot	Flake Tools	55, 56, 32, 36,	25

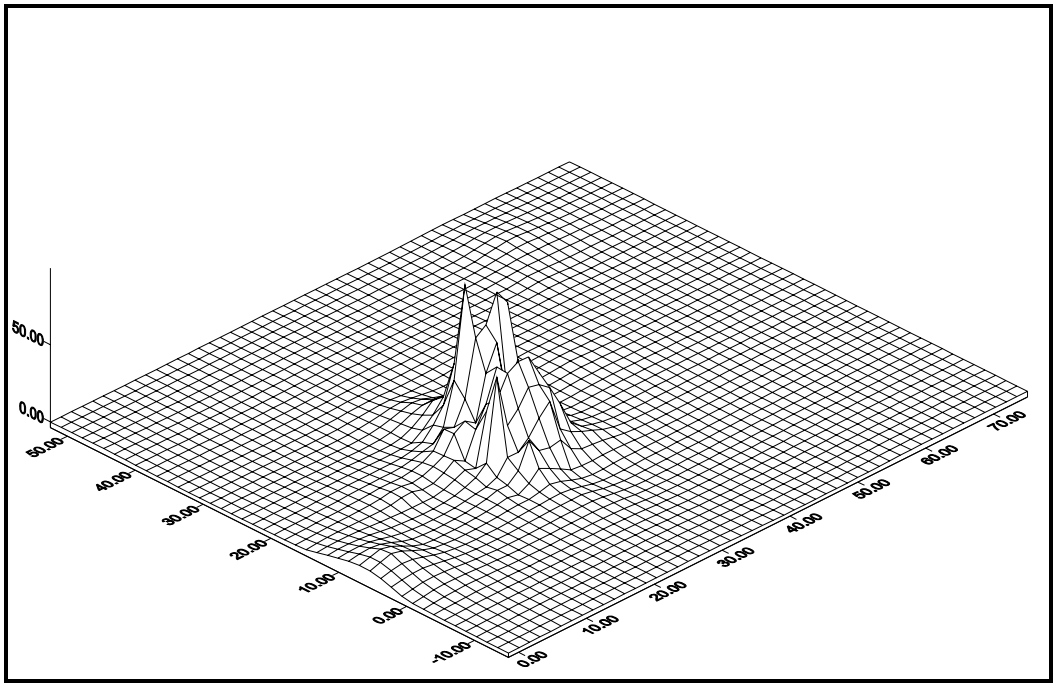


Figure 31. Distribution of Prehistoric Artifacts within Site 44AX0205 using Raw Counts and the Krieging Method.

Microdebitage and Site Formation

Artifacts recovered during the additional excavations included Stage I through III bifaces, expedient tools, all stages of debitage, fire-cracked rock, hammerstones and groundstone tools. The concentration of a range of artifact types within a small area implies either: 1) post-depositional processes redeposited the material within a small area; 2) artifacts from low-density areas were deposited in a sheet midden during site maintenance; or 3) activities of various types occurred within a fairly small area. The available data support the third interpretation.

At present, the relatively level landform implies that no major erosional forces deposited the material within a particular area, an inference supported by the fairly large size (> 5 cm) of some of the artifacts. Artifacts occurred within the topsoil and transitional soils and, though no clear plow zone was observed during the fieldwork, plowing perhaps occurred at some point in the past. Plowing, colluvial erosion, and many other post-depositional disturbance processes tend to attenuate artifact scatters, or at least randomly disturb the initial pattern, rather than concentrate them (e.g., Gregg et al. 1991: Odell and Cowan 1987). In Odell and Cowan's 1987::474), "tillages spreads out objects that were originally deposited equidistantly from their nearest neighbor…[and] it also disperses objects that were originally aggregated." Even back-furrow tillage patterns, which push soil toward the middle of a field, appear unlikely to have been the primary cause of the extremely dense cluster of material that defines the core of Site 44AX0205 (Odell and Cowan 1987:479). Alternative one, therefore, can be eliminated.

Site maintenance may remove material that impedes other activities from the main living area to the fringes of the site (e.g., O'Connell et al. 1991:66-68). Two lines of evidence potentially speak to this issue: 1) the distribution of material across the broader area within and beyond the site boundaries; and 2) the presence and distribution of microdebitage within the Phase III excavation block. At the scale of the survey area, no likely setting for an additional activity area was identified during the Phase I shovel testing. Within the site boundaries and immediate surroundings, the distribution of materials is extremely low to non-existent, implying the possibility of redeposition in a midden, however, unlikely, exists. The distribution of materials of different sizes, therefore, provides insight into the formation of Site 44AX0205.

Hull (1987:773) suggests that "correspondence or noncorrespondence of microdebitage and macrodebitage distributions can be interpreted using the following definitions:

(1) *Primary refuse* is identified by a cluster of macrodebitage corresponding to a cluster of microdebitage.
(2) *Secondary refuse* consists of macrodebitage with no corresponding cluster of microdebitage;
(3) *De facto refuse*, although difficult to distinguish from primary refuse, should correspond to a microdebitage high density area while containing relatively large macroflakes and, possibly, more tools or tool fragments."

A fourth possibility, though somewhat remote, consists of microdebitage with no associated macrodebitage, representing a well-maintained activity area unaffected by refuse deposited when the site was abandoned (Stevenson 1991:279).

A one-liter sample of soil from each of the 98 1.5-x1.5 foot blocks was water screened in the lab. After drying, the lithic material was examined under low magnification and sorted into thin, flake-like materials, blocky angular fragments, and rounded to subrounded stone. Small, angular, flake-like materials were classified as artifacts. Very few test units, most (56%) situated on the edge of the excavation block, produced no microdebitage (TU 8, 9, 10, 11, 12, 17, 18, 29, 23, 27, 37, 38, 40, 41, 43, 48, 58, and 61). Aside from that observation, however, few unambiguous spatial patterns exist.

The distribution of artifacts within test units is left-skewed, indicating that the median value of 14 better approximates the typical number of artifacts per test unit than the mean (27.02+/-29.12). The midrange, roughly the middle 50 percent of the distribution surrounding the median value, ranges from six to approximately 26.75 artifacts per test unit. The adjacent values and outliers equal 1.5 times the midrange of 20.75, or 31.125. Table 14 illustrates the range of values associated with low adjacent values, the midrange, high adjacent values, outliers, and far outliers. Sixty-three percent (46/73) of the low density area, defined as the units that contained less than 26.75 artifacts, also produced microdebitage. In contrast, 80 percent of the high density area contained microdebitage (20/25). The chi square test indicates that the differences between the high and low density areas cannot be considered statistically significant (χ^2=0.4865, df=1, p=.5). No clear patterning in the distribution of units lacking microdebitage exists within the high density area.

In sum, the data demonstrate the existence of primary refuse, but neither demonstrate nor refute the possibility that secondary refuse contributed to the assemblage. Still, the second hypothesis, that redeposition during site maintenance was the primary formation process underlying the creation of Site 44AX0205 can be eliminated. Moreover, the widespread distribution of microdebitage indicates that no clear activity source for potential secondary refuse exists within the excavation block. Rather, overlapping formation processes appear likely to have caused the palimpsest of artifacts and, probably, activities represented in the assemblage from Site 44AX0205. In sum, the available information supports hypothesis three: primary deposition during activities of various types that occurred within a fairly small area resulted in the creation of Site 44AX0205.

Table 14. Statistical Classification of Density of Macroscopic Artifacts and Frequency of Microdebitage.

Statistical Category	Range of Artifacts per TU	Number of Units Lacking Microdebitage	Number of Units	Classification
Low Adjacent Values	0.0-5.9	9	20	Low Density
Midrange	6.0-26.75	37	53	Low Density
High Adjacent Values	26.76-58.88	2	14	High Density
Outliers	58.89-89.0	1	4	High Density
Far Outliers	89.0-227.0	2	7	High Density

Artifact Density and the Intensity of Occupation

In general, the amount of debris that accumulates at different locations and during different times correlates with the cumulative size of the population at a given site over the entire period of occupation, though complications exist. The estimated density derived from the entire assemblage of prehistoric material recovered from Site 44AX0205 equals 62.75 artifacts per cubic meter. The additional excavation density falls to 55.63 artifacts per cubic meter, largely because of the loss of Phase II Test Unit 5 (N=651) from the sample. Considering only the dense core of the site, meaning the units classified as high adjacent, outliers, and far outliers in Table 14 and Phase II Test Units 2, 4, and 5, density per cubic meter rises to 293.26 artifacts.

At White Oak Point (44WM0119), a shell midden occupied "during the spring by small groups of Indians, who established temporary camps for the primary purpose of gathering and subsequently roasting oysters….from the Late Archaic through Protohistoric/Early Historic periods" (Waselkov 1982: 206) average artifact density approached 500 per cubic meter, and even the least dense components produced over 100 artifacts per cubic meter excavated. Site 44AX0177, characterized by Gardner, Snyder, and Bryant (1995:42) as "a secondary lithic reduction station," artifact density equaled 273.16 cubic meters, a value similar to the core of Site 44AX0205. The data, therefore, implies that the assemblage recovered during the excavation at 44AX0205 results from the activities of one or more small groups using the sites for, in archaeological terms, a brief period, rather than a long-term occupation or numerous individuals, consistent with the very small size of the site, the overall composition of the assemblage, and the analysis of microdebitage.

The Lithic Assemblage and Site Type

Ebert (1992) presents a series of hypotheses about past behavior amenable to investigation via close analysis of stone tools and debitage. A diverse range of reduction stages should occur, Ebert argues, where tool production or gearing up occurred, most clearly at base camps. In contrast, low reduction-stage diversity and a high frequency of

low reduction-stage flakes identify foraging locations. At such locations, expedient tools manufactured from unprepared cores or raw materials were used. High proportions of late-stage flakes characterize the use of bifaces and prepared cores as raw material for expedient tools, but somewhat lower frequencies occur when tool sharpening produced the preponderance of an assemblage (Ebert 1992:224-225).

All stages of debitage occur at site 44AX0205, though secondary and tertiary flakes predominate. Tertiary flakes, moreover, constitute 76 percent of quartz and nearly half (45%) quartzite artifacts. Moreover, flakes lacking cortex, presumably later stage flakes, constitute 80 percent of the debitage analyzed in detail (1373/1698). In addition, flake tools and utilized flakes outnumber bifaces by roughly 5 to 1 (146:23). Together, these data imply use of the landscape around Site 44AX0205 as a foraging location, consistent with low artifact density, artifacts recovered, and the small size of the site. This conclusion, however, is not inconsistent with production of stone tools at Site 44AX0205. It does, however, imply that more than simply manufacture of stone tools occurred on site.

The Site in the Region

A landscaped park ringed by office buildings, parking garages, and apartments surround Site 44AX0205. The considerable environmental transformation of the landscape precludes examination of microenvironmental variation in the immediate region. It appears likely, however, that the cobbles knapped on site were collected in the nearby stream bottoms, based on the relatively few large unaltered cobbles observed during the shovel testing and excavation conducted throughout the project area. Initial processing of the stone probably occurred near the source of the cobbles. Figure 1 depicts Site 44AX0205 near the head of an ephemeral tributary of Holmes Run now obscured by road and building construction and grading. Although a springhead or some other small-scale attribute of the environment may have influenced the precise location of Site 44AX0205, landscaping and construction have eliminated most remnants of the Terminal Archaic landscape in the immediate vicinity of the site.

At a broader scale, the site occupies a ridgetop near the headwaters of tributaries of Holmes Run. At a larger spatial scale, the landforms surrounding Site 44AX0205 constitute the watershed divide between Holmes Run and Four Mile Run, both tributaries of the Potomac River. Parker and Klein's (1989:136) evaluation of variation in site density estimated from surveys in interior Virginia found peak densities associated with watershed divides. Based on work in South Carolina, Goodyear and Canouts (1979:60) suggested that:

> Ridgetops, especially major watershed divides, would…have provided flat ground for travel and may have had special spatial configurations of vegetation and game, and would have provided natural physiographic means of breaking up regional spaces of resource exploitation….These factors may have permitted more specialized or more frequent utilization

> and revisitation of ridgetop areas, this providing for a higher archaeological site density.

By this logic, the archaeological remains of camps, hunting stations, and other procurement sites produced by individuals and groups traveling from the Potomac River to the interior should be scattered throughout watershed divides. In addition, people ranging out from base camps, typically located near major rivers like the Potomac, in search of various goods likely visited the adjacent interior regularly. At the scale of the region, therefore, the environs around Site 44AX0205 represent both a likely travel route and a setting in the immediate hinterland of the typical location of base camps. Short-term use of region drained by Holmes Run and Four Mile Run for many purposes undoubtedly occurred over millennia.

The presence of artifacts commonly associated with a range of tasks in a very small, non-midden area is consistent with the use of space by mobile peoples described by Binford (1983b:371):

> we can imagine a group of hunter-gatherers moving about the landscape. A particular place may be used as a hunting camp at one time, a transient camp at another, and a short-term observation stand at still another, depending on the relative placement of the residential camps. As the system changes and a more permanent residential settlement is established such situational variations would be reduced. The relative "economic potential" of different places becomes increasingly stabilized as a function of increasing permanence of the residential camp. Correspondingly, the use made of ancillary places becomes increasingly repetitive.

Site 44AX0205 represents the end result of the use of interior locations by a mobile population that carried out multiple activities during a relatively short period between 2.500 and 1,000 B.C. Late Archaic sites in the region drained by Holmes Run and Four Mile Run generally reflect short-term occupations, similar to Site 44AX0205 (Gardner 1987:73). Site 44AX0205, however, differs from surrounding sites in the low density of material recovered and the very small size of the core of the artifact distribution. The low density of even debitage, the most common artifact class, implies that the duration of any given activity was, at an archaeological if not necessarily an ethnographic scale, brief.

Site 44AX0177, for example, occupies a ridge just north of Site 44AX0205 that overlooks a tributary of Lucky Run, which flows into Four Mile Creek. Like 44AX0205, artifacts recovered from Site 44AX0177 derived primarily from the plow zone and implied that production of quartzite tools was a major activity on site. In addition, the fairly low frequency of cortex at both sites indicates that the initial stages of cobble reduction occurred elsewhere, most likely near the surrounding streams where erosion probably exposed cobbles. In other respects, however, Site 44AX0177 differs from Site 44AX0205, despite the proximity and environmental similarity between the two sites.

Diagnostic artifacts recovered from Site 44AX0177 include the morphologically indistinct and poorly dated Halifax type, Savannah River-Holmes-Bare Island points, teardrop-shaped points of the Piscataway-Rossville continuum, and triangular points most likely dating to the Late Woodland period (Gardner, Snyder, and Bryant 1995:7-39). The Terminal Archaic occupation, associated with the Holmes Points, produced several spatially discrete activity areas, most of which far exceed the core area of Site 44AX0205 in size and artifact density. The dearth of formal tools other than projectile points, combined with the recovery of 100 middle- and late-stage bifaces, implies that biface manufacturing was the major activity at Site 44AX0177. In addition, density of artifacts at Site 44AX0205 (62.75/m^3) falls well below the overall density of Site 44AX0177 (273.16/m^3). Even Block 12 at Site 44AX0177, which produced the fewest artifacts per cubic meter (71.43) of the excavation blocks opened by Gardner, Snyder, and Bryant (1995:22-25), exceeded the density of cultural material recovered from Site 44AX0205, indicating short term, low intensity occupation of Site 44AX0205.

Site 44AX0127, an Early Woodland occupation on the floodplain of Taylor Run, was confined to a relatively small area, though the artifact density equaled 174.24 per cubic meter. Although somewhat larger than Site 44AX0205, the Early Woodland component of Site 44AX0128 measured only 37 by 29 meters (ca. 122-x-37 feet). Moreover, Taylor Run, like Holmes Run, flows into Cameron Run. A single hearth, partially excavated, was exposed beneath modern fill and a historic plow zone, indicating better preservation than encountered at Site 44AX0205. Still, the presence of a single hearth in the portion of the site characterized by high artifact density resembles the possible hearth represented by the fire-cracked rocks clustered in Test Unit 67 at Site 44AX0205 (Parson and Christopher 2004:31). In addition, mid-to-late-stage tool production characterized the assemblage from Site 44AX0127, similar to both 44AX0177 and 44AX0205.

Just as Late Archaic assemblages in the Middle Atlantic region imply a preference for tough materials like quartzite and rhyolite, evident at Site 44AX0205, the predominance of quartz (73%) at Site 44AX0127 represents a widely encountered aspect of Early Woodland sites (McLearen 1991:93, 117). Parson and Christopher (2004:51) conclude that "the limited range of artifact classes represented at Site 44AX0127 suggests short-term, small-group occupations at the site dating to the Woodland period. Recognizable activities inferred for the site are restricted to stone tool manufacture and maintenance, although the presence of a rock hearth suggests that processing of limited amounts of plant resources may have taken place."

A broad range of Late Archaic occupation types line the Potomac River. At Site 44AX0185, for example, Savannah River points were associated with "a small to moderate Late Archaic component buried in the upper stratum of the terrace" overlooking the Potomac River, near Jones Point (Barse et al. 2006:3.1). Excavation of 64 1.5 by 1.5 foot test units sampled the upper stratum, a deeply buried plow zone. Sixteen of the 19 Savannah River points and prefoms recovered from Site 44AX0185 were manufactured from quartz; though three, including the largest Savannah River point, were knapped from quartzite. Savannah River points represent the most common point type recovered from the site. Additional point forms possibly associated with the Late Archaic

component include Bare Island, Lamoka, Orient Fishtail, and Poplar Island. All four Bare Island Points collected from Woodland and historic features were of quartzite. In addition, a rhyolite Lamoka Point and a quartzite Orient Fishtail appeared in a historic post holes. The Poplar Island point was retrieved from a test unit (Barse et al. 2006:4.39-4.47). Although Barse et al. (2006:6.2) admit that the absence of features impedes interpretation of the Late Archaic component at Site 44AX0185, the authors "characterize the Late Archaic components as a series of small, short-term camps—perhaps seasonally based—focused on extracting aquatic resources from the general site area."

Elsewhere in the region, larger base camps and aggregation sites occupied for longer periods of time by groups exploiting anadromous fish and wetland resources exist (cf. Custer 1987). In the immediate vicinity, however, only short-term camps have been identified. Preservation of botanical remains makes the Indian Creek Site (18PR0094), located on the floodplain of Indian Creek, northeast of Washington, D.C., particularly significant. Indian Creek flows into the Potomac River via Northeastern Branch and the Anacostia River. Although occupied throughout the Archaic period, the most intensive habitation discovered at 18PR0094 dates to the Late Archaic. LeeDecker and Holt (1991:74) report that "the spatial dispersal of the Late Archaic points throughout the site is distinct from the clustering of the Early Archaic points, and it suggests occupation by larger groups composed of several distinct social units, such as households or extended families." Yet, despite the more intensive occupation, the limited range of tool and feature types recommend "interpretation of the Indian Creek site as a procurement station rather than a base camp," though one portion of the site "appears to have been a short-term habitation site that was frequently reoccupied during the Early Archaic and Late Archaic periods" (LeeDecker and Holt 1991:83).

Fire-cracked rock pavements, most likely the remnants of indirect-heat stone boiling, constitute the most common class of cultural feature encountered at 18PR0094. Charred seeds recovered near the clusters of fire-cracked rock indicate exploitation of a broad range of floodplain and wetland resources. Tubers account for approximately 80 percent of the botanical assemblage, which also includes fruits, seeds, nuts, and edible greens (LeeDecker and Holt 1991:78-82). Though plant collecting and processing was a major activity, the recovery of significant amounts of exhausted (i.e., extensively sharpened) tools and broken points implies that tool kits were refurbished on site.

Conclusion

The very small size and low density of artifacts at Site 44AX0205 implies short-term occupation by a few people, likely no more than an extended family group. Production of both bifaces and flake tools represents an important activity on site, though the ratio of flake tools to bifaces may identify Site 44AX0205 as a foraging location as well. Ground stone tools and, perhaps, flake tools, artifacts often associated with plant processing, occur in the area characterized by a considerable amount of debris from tool production, as does a hearth. Expedient scrapers possibly indicate hide processing. The absence of living areas in the area around Site 44AX0205 indicates that the stone tools and debitage did not accumulate in a midden as a result of site maintenance. Consequently, the

presence of artifacts reflecting activities that would not have been carried out contemporaneously within a small area implies sequential occupations for different purposes resulted in the creation of Site 44AX0205. Yet, the accumulation of material in a very small area implies that any possible reoccupation occurred over a fairly short period, probably no more than a few months. As Binford (1983a:358) points out, however, distinguishing between small, short-term single occupations and repeated very ephemeral occupations can be extremely difficult. Regardless, short-term occupations of various kinds characterize Late Archaic use of the interior uplands between Holmes Run and Four Mile Run (e.g., 44AX0177). The very small size and low artifact density that characterizes Site 44AX0205, however, differentiates it from the surrounding sites.

VI. CONCLUSIONS AND RECOMMENDATIONS

In May and June of 2008, on behalf of the Duke Realty Corporation, Cultural Resources, Inc. (CRI), conducted a Phase I cultural resources survey of four acres within the Mark Center VI parcel (Area A) and approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia. The survey was conducted at the request of Alexandria Archaeology to supplement a survey effort conducted on the property by Robert Adams in 1994. A portion of Area A was subject to shovel testing at that time, as were the upland terraces in Area B. Alexandria Archaeology requested 30-foot interval shovel testing and 5-foot interval metal detecting of all of Area A and the low lying terraces of Area B in an effort to provide 100% coverage of both areas and to relocate two shovel tests excavated in 1994 that were positive for prehistoric lithics.

In 1979 and 1980, Terry Klein of the Alexandria RPO conducted reconnaissance surveys of vacant property in western Alexandria, including the Mark Center tract. During these surveys, Klein identified 21 prehistoric sites, consisting primarily of lithic scatters, along with two historic mill sites in the immediate vicinity of the project areas (Adams 1994, VDHR Archives). The majority of the project area vicinity was investigated again in 1991-1994 by Robert M. Adams. The Phase I survey consisted of 50-foot interval shovel testing on the terrace tops with 25-foot interval shovel testing within identified sites, and pedestrian survey of the slopes. This effort resulted in the identification of 11 isolated finds consisting of prehistoric lithics, one prehistoric site (44AX0163) and one historic domestic site (44AX0162). Site 44AX0163 was subjected to Phase II testing, during which only five lithics and no features were identified and no further work was required for the site (Adams 1994). Site 44AX0162 was subjected to Phase II testing, resulting in the delineation of a former structure based on the distribution of nails. Further work was required for the site in the form of a Phase III investigation. The resulting analysis concluded that the former structure was a dwelling associated with the Terrett ownership of the property in the early-mid 19th century (Adams 1994).

Isolated Finds

During the Phase I survey conducted by CRI, a total of 167 shovel tests were excavated in Area A with four yielding cultural material. Thirteen positive metal detector hits were also excavated within Area A. A total of 30 shovel tests were excavated in Area B, with one yielding cultural material. No positive metal detector hits were recorded within Area B. A total of 15 isolated finds and one archaeological site were identified during the Phase I survey.

Isolated finds are areas marked by surface indications and little else, and/or finds attributed to simple loss, casual or single-episode discard which have low potential of possessing interpretable archaeological resources. ***CRI therefore recommends that Isolated Archaeological Finds 1312IF-1 through 1312IF-15 are not significant, nor are they eligible for listing on the NRHP, and no further work is necessary for these resources.***

Site 44AX0205

Following the Phase I fieldwork, Alexandria Archaeology requested the excavation of five (5) 3-x-3 foot test units within Site 44AX0205 to evaluate the site's significance. At the conclusion of the Phase I/II fieldwork, CRI recommended that Site 44AX0205 was not significant under Alexandria Archaeology criteria, nor was it eligible for listing on the NRHP due to the presence of only a single diagnostic artifact, the recovery of the vast majority of the assemblage from near-surface contexts, and the absence of cultural features. CRI, therefore, recommended no further work at the site.

Alexandria Archaeology, however, considered Site 44AX0205 locally significant and, in an e-mail dated July 17, 2008, requested additional work at Site 44AX0205. The treatment plan for the site was approved by Alexandria Archaeology on September 19, 2008. CRI conducted this additional work in September and October of 2008. The research design was developed in close consultation between CRI and Alexandria Archaeology, to refine the site boundaries and ensure the excavation of the entire core area of the site.

Phase I/II Survey and Excavation

Site 44AX0205 was identified during Phase I shovel testing in Area A of the Mark Center project. The base of a Savannah River point and 15 pieces of lithic debitage were recovered from three shovel tests excavated within a 45-x-30-foot area. The Savannah River point indicates an occupation dating to the Terminal Archaic Period, circa 2,500-1,000 B.C. In addition to the Savannah River Point, excavation of five test units within Site 44AX0205 recovered five non-diagnostic stone tools, 1,083 pieces of debitage, and two historic artifacts. Quartzite constituted the overwhelming majority of lithic material recovered, with quartz a minor component of the assemblage.

Additional Excavations

A total of 2,726 artifacts, including 2,717 stone tools, debitage, and fire-cracked rock were recovered from 94 of 98 1.5-x-1.5 foot square excavation units within Site 44AX0205. All excavation units were centered on the core of the site, and extended out until the artifact density dropped consistently; ensuring that the entire core area of the site was excavated to subsoil. No subsurface features or diagnostic artifacts were identified during the additional excavations.

Artifacts recovered during the Phase III excavation included bifaces, a uniface, flake tools and utilized flakes, all stages of flake production, ground and pecked stone tools, and fire-cracked rock. A sample of 1,804 lithic artifacts was examined in detail by lithic analyst Kevin Goodrich. In addition, ¼-liter soil samples from each 1.5 x 1.5-foot test unit were water-screened and the stone examined under low magnification to identify microdebitage. The available data indicate that Site 44AX0205 was occupied over a very short time during the Terminal Archaic by a small group or groups. Several scenarios of site formation appear consistent with the data recovered during fieldwork at 44AX0205.

Public Interpretation of Site 44AX0205

Debitage, including numerous expedient tools, constituted the overwhelming majority of artifacts recovered from Site 44AX0205. Formal bifaces, including early stage bifaces through preforms, also occurred on site. The density of artifacts plummeted rapidly as distance from the site core increased. The densest concentration of artifacts lies within an area no larger than ten feet in diameter. Yet, within this very small site, artifacts generally associated with plant processing (i.e., groundstone tools), processing of various floral and faunal remains (flake tools), a hearth or stone boiling (fire-cracked rock), tool production (cortical and non-cortical debitage and early and middle stage bifaces), and hunting (one Savannah River base) were recovered. The small size of the site, the low artifact density, and the composition of the assemblage indicate sequential use of Site 44AX0205 over a very short period at some point during the Terminal Archaic (ca. 2500-1000 B.C.) produced the palimpsest of artifacts recovered during the Phase I and II, and additional excavation fieldwork. At an archaeological scale, very short-term, sequential use refers to intermittent activities that took place over a time frame as brief a single day and to multiple return trips that perhaps occurred over a period as long as a year.

Although the local landscape has been altered considerably, the site occupies a watershed divide between Holmes Run and Four Mile Run, relatively close to the Potomac River. Individuals and groups ranging out from base camps along the Potomac River or traveling from the river to the interior probably occupied the site. The activities conducted on site probably varied in response to the spatial relationship between Site 44AX0205 and the home base at any given time, and on the resources available in the site vicinity during different seasons. Stone tool production and use, in particular reliance on expedient tools, was an important activity represented in the assemblage recovered from Site 44AX0205.

Unfortunately, the growth of Alexandria remade the landscape surrounding Site 44AX0205, and non-stone tools have disintegrated over time. As a consequence, the various hypotheses about the precise activities carried out at Site 44AX0205 cannot be verified. Several alternatives exist, however. To avoid presenting a single 'just-so story,' we present several alternative scenarios of the activities that formed Site 44AX0205.

At some point between 2,500 B.C. and 1,000 B.C., a group of hunters climbed the ridges to the divide between Holmes Run and Four Mile Run and began to search for game. Moving up the watershed divide, which channeled deer and other large animals from the Potomac River to the interior forests, they stopped near a small spring at the head of an ephemeral drainage. The hunters, probably younger men, searched the nearby streambeds and ravines for cobbles. Testing for stone quality and initial reduction of the stone occurred where the cobbles eroded from the ridges or washed onto cobble bars along the stream. Unaltered cobbles were also collected for use in a hearth. Sitting around the hearth, the group knapped tools, discarding the tools sharpened to nubs and those that broke during production along with a substantial amount of chipping debris near the spot where they worked. They may have collected, processed, and eaten plants and smaller animals or insects while watching for game. At some point the hunters set

off in search of game or, using their newly manufactured points, took down animals passing by the site. Scraping tools, possibly evidence of hide processing, may indicate that the group worked the hides at some point before returning to the base camp. The sexual division of labor characteristic of many hunter-gathers, however, argues against this scenario, though it remains plausible. Typically, women collect and prepare the majority of plant foods and often work hides as well.

Alternatively, a small family or extended family moved out from a base camp, probably closer to the Potomac River. The group climbed the bluffs and traveled across the ridges separating Holmes Run from Four Mile Run, taking the path of least effort by remaining on the level ridge top. Assuming that the division of labor by sex and age commonly described by ethnographers applied to the group, smaller parties spread out across the landform to hunt, forage, and replace tools. One group, probably composed of several males, searched the nearby streambeds and ravines for knappable stone. Like the hunters, the male party carried the reduced cobbles the level land at the head of the ravine and manufactured tools. There, individuals knapped tools, discarding the extensively sharpened and worn-out tools and those tools that broke during manufacture along with the substantial amount of debris near the spot where they worked. They may or may not have constructed a hearth at that time. Regardless, after finishing the tools and collecting whatever additional stone material would required later, the party tramped off in search of game, to collect other goods, to meet with members of other extended families, or returned to camp with the finished tools, leaving behind a substantial accumulation of chipping debris.

A second party, perhaps composed of women, children, or simply less accomplished flintknappers, collected flakes from the refuse pile. The flakes, far sharper than after use or reworking, made tools useful for a variety of tasks conducted either on site or elsewhere in the region. Some flakes, reworked to increase the angle of the edge, served as tools for scraping hides, bark, fibrous plants, or a variety of other activities. At that same time, or somewhat later, plants were processed using cobbles for grinding and pounding. The individuals then left, whether after reuniting with the group of flintknappers or not.

Although this scenario is plausible, near surface archaeological deposits exist on landforms traversed by many people over thousands of years. As a consequence, archaeological sites typically accumulate over far longer time periods than described in the first and second scenarios. In addition, tool production need not have been the initial activity that occurred on site. The cobbles arranged in a hearth perhaps remained visible on the ground surface, creating, as would the larger pile of debitage, the initial condition that led later people to site different activities in a very small area.

A third possibility, therefore, spaces the activities that interfere with each other, like plant processing and perhaps cooking, hide working, and tool manufacture, over a longer time period. Initially, the cobbles gathered elsewhere were lugged to Site 44AX0205. The cobbles were used to construct a hearth, and, possibly, for stone boiling. Stone boiling involves heating the unaltered cobbles in a fire, and then placing the fired stones in a

container to heat the contents. In this case, baskets or wooden bowls seem the most likely type of container, since no containers were recovered during the excavation. At the same time, or perhaps at some point before natural and cultural processes obscured the ground surface, another group, probably including women, returned to the area, to collect and process plants using the cobbles as grinding stones. At another time, flintkappers brought cobbles to knap to an area where a hearth already existed. After manufacturing points and cutting tools, the group moved on, leaving a substantial accumulation of debris behind. At a later date, a small group that had collected plants or seeking to process messy hides away from a living area used the chipping debris instead of climbing down to the river to collect stone for the manufacture of flake tools. Groups that return to an area repeatedly over a period of time represent the most common behavior that creates archaeological sites; still, the available information do not confirm any of the three scenarios, nor does the data unambiguously rule out any of the three alternatives. In addition, the precise sequence of different activities remains unknown, though the creation of a hearth or stone tool production both seem likely to have created a pile of refuse that could be reused at a later date.

Recommendations

Based on the results of Phase I survey in the Mark Center project areas and the Phase II evaluation and additional excavations at Site 44AX0205, ***CRI recommends that no further cultural resources work is necessary within the four acres within the Mark Center VI parcel (Area A) and approximately one acre within the Mark Center Buildings 2A, 2B, and 3 parcel (Area B) at Mark Center on Seminary Road in the City of Alexandria, Virginia.***

VII. REFERENCES CITED

Adams, Robert M.
1994 The Archaeological Investigation of the Undeveloped Upland Terraces in Mark Center, City of Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Adams, Robert M., Martha W. McCartney, Michael F. Johnson, and Lawrence E. Moore
1993 Archaeological Investigation of the Stonegate Development (Including Sites 44AX31, 166, & 167), West Braddock Road, City of Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Advisory Council for Historic Preservation (ACHP)
2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties*. Federal Register, September 2, Washington, D.C.

Alexandria Archaeology
1996 City of Alexandria Archaeological Standards. On file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Anderson, David G.
1990 The Paleoindian Colonization of Eastern North America: A View from the Southeastern United States. In *Early Paleoindian Economics of Eastern North America*, edited by K. B. Tankersley and B. L. Isaac, pp. 163-216. Research in Economic Anthropology, supplement 5. JAI Press, Greenwich, Connecticut.

Anderson, D.G. and G.T. Hanson
1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River. *American Antiquity* 53:262-286.

Anderson, David G., Lisa D. O'Steen, and Kenneth Sassaman
1996 Environmental and Chronological Considerations. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp. 3-15. The University of Alabama Press, Tuscaloosa, Alabama.

Andrefsky, William, Jr.
1998 *Lithics: Macroscopic Approaches to Analysis*. Cambridge University Press: Cambridge, UK.

Artemel, Janice G., Elizabeth A. Crowell, and Jeff Parker
1987 The Alexandria Slave Pen, The Archaeology of Urban Captivity. Engineering-Science, Inc., Washington, D.C.

Barber, Michael B., J. Mark Wittkofski, and Michael F. Barber

1992 An Archaeological Overview of Stafford County, Virginia. Preservation Technologies, Roanoke, Virginia.

Barse, William P., Jeffrey Harbison, Ingrid Wuebber, and Meta Janowitz
2006 Phase III Archaeological Mitigation of the Prehistoric and Historic Components of Site 44AX185, Jones Point Park, Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Binford, Lewis R.
1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45:4-20.

1982 The Archaeology of Place. *Journal of Anthropological Archaeology* 1:5-31.

1983 *In Pursuit of the Past: Decoding the Archaeological Record.* Thames and Hudson, London, UK.

Blanton, Dennis B.
1996 Accounting for Submerged Mid-Holocene Archaeological Sites in the Southeast: A Case from the Chesapeake Bay Estuary, Virginia. In *Archaeology of the Mid-Holocene Southeast*, edited by Kenneth E. Sassaman and David G. Anderson, pp. 200-217. University Press of Florida, Gainesville.

Bromberg, Francine W., and Steven J. Shephard
2006 Alexandria Archaeology Testing of Freedmen's Cemetery (44AX179), Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Broyles, Bettye J. (editor)
1971 *Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia*. Report of Archeological Investigations No. 3. West Virginia Geological and Economic Survey, Morgantown.

Brown, G. B.
1994 *A History of Prince William County*. Historic Prince William, Inc., Prince William, Virginia.

Cavallo, John
1986 Area B (28Me1-B): Archaeological Data Recovery, I-295, and Wetlands Area Interchange. Report prepared by Louis Berger & Associates, Inc., for Federal Highway Administration, Washington, D.C. and the New Jersey Department of Transportation, Trenton, NJ.

Chapman, Jefferson

1994 *Tellico Archaeology: 12,000 Years of Native American History*. Revised edition. Publications in Anthropology No. 41. The University of Tennessee Press, Knoxville.

Chapman, Jefferson, and Andrea Brewer Shea
1981 "The Archaeobotanical Record: Early Archaic Period to Contact in the Lower Little Tennessee River Valley." *Tennessee Anthropologist* VI(1):61-84.

Coe, Joffre L.
1964 *The Formative Cultures of the North Carolina Piedmont.* Transactions of the American Philosophical Society 54, no. 5. Philadelphia.

Cressey, Pamela J.
1982 A Preliminary Historical Report; the Baptist Cemetery Association of Alexandria Virginia, located near Holland Lane. Alexandria Archaeology, Office of Historic Alexandria, City of Alexandria.

Dacey, M. F.
1973 Statistical Tests of Spatial Association in the Location of Tool Types. *American Antiquity* 38 (3): 320-328.

Daniel, I. Randolph, Jr.
1996 Raw Material Availability and Early Archaic Settlement in the Southeast. In *The Paleoindian and Early Archaic Southeast,* edited by David G. Anderson and Kenneth E. Sassaman, pp. 84-91. The University of Alabama Press, Tuscaloosa.

1998 *Hardaway Revisited: Early Archaic Settlement in the Southeast*. The University of Alabama Press, Tuscaloosa.

Delcourt, Paul A., and Hazel R. Delcourt
1981 Vegetation Maps for Eastern North America:40,000 Years B. P. to Present. In *Geobotany: An Integrating Experience,* edited by R. Romans, pp. 123-66. Plenum Press, New York.

1983 Late-Quaternary Vegetational Dynamics and Community Stability Reconsidered. *Quaternary Research* 19:265-71.

Dent, Richard J., Jr.
1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York.

Ebert, James I.,
1992 *Distributional Archaeology*. University of Utah Press, Salt Lake City, UT.

Egloff, Keith T., and Stephen R. Potter

1982 Indian Ceramics from Coastal Plain Virginia. *Archaeology of Eastern North America* 10:95-117.

Evans, D'anne
1988 *Prince William County: A Pictorial History*. Donning Company, Norfolk, Virginia.

Flannery, Kent V.
1986 Spatial Analysis of Guila Naquitz Living Floors: An Introduction to Part VI. In *Guila Naquitz: Archaic Foraging and Early Agriculture in Oaxaca, Mexico*, ed. K. V. Flannery, pp. 321-330. Academic Press, New York, NY.

Fry, Joshua and Peter Jefferson
1751 Map of the Inhabited Part of Virginia, Containing the Whole Province of Maryland with Part of Pensilvania [sic], New Jersey, and North Carolina. Library of Congress, Geography and Maps Division, Washington, D.C.

Gardner, William M.
1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (circa 9200 to 6800 B.C.). In *Paleoindian Research in Virginia: A Synthesis*. edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 5-52. *Special Publication* No. 19 of the Archeological Society of Virginia.

Gardner, William M., and Carole Nash
1987 Early and Middle Woodland Ceramics in the Shenandoah Valley, Potomac Piedmont and Inner Potomac Coastal Plain. Paper presented to the Archaeological Society of Virginia Ceramics Symposium, Charlottesville, Virginia.

Gardner, William M., Kimberly A. Snyder, and Tammy Bryant
1995 Phase III Data Recovery Excavations of the Prehistoric Component of 44AX177 and 44AX176, Stonegate Development, Parcel C, City of Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Gardner, William M., Kimberly A. Snyder, Tammy Bryant, and Gwen J. Hurst
1995 Phase II Archaeological Investigations of an Historic Area within 44AX177, City of Alexandria, Virginia. Report on file at the Alexandria Archaeology Office of Historic Alexandria. Alexandria, Virginia.

Geier, Clarence R.
1990 The Early and Middle Archaic Periods: Material Culture and Technology. In *Early and Middle Archaic Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 81-98. Archeological Society of Virginia Special Publication No. 22. The Dietz Press, Richmond.

Gonick, Kathie
2003 Fire Altered Rocks as Artifacts. Two Experiments—Fire and Water: Their Effects on Quartz and Quartzite. *Journal of Middle Atlantic Archaeology* 19:151-162.

Goodyear, Albert C., III
1974 *The Brand Site: A Techno-functional Study of a Dalton Site in Northeast Arkansas.* Research Series No. 7. Arkansas Archaeological Survey, Fayetteville, Arkansas.

1979 *A Hypothesis for the Use of Cryptocrystalline Raw Materials Among Paleoindian Groups of North America.* Research Manuscript Series No. 156. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1982 The Chronological Position of the Dalton Horizon in the Southeastern United States. *American Antiquity* 47:382-95.

Goodyear, Albert C., III, James L. Michie, and Tommy Charles
1989 The Earliest South Carolinians. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson,* edited by A. C. Goodyear, III and Glen T. Hanson, pp. 19-52. Anthropological Studies No. 9. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Goodyear, Allen C., and Veletta Canouts
1985 Lithic Scatters in the South Carolina Piedmont. In *Structure and Process in Southeastern Archaeology*, ed. R. S. Dickens, Jr., and H. T. Ward, pp. 180-194. University of Alabama Press: Tuscaloosa, AL.

Gorecki, P.
1985 Ethnoarchaeology: The Need for a Post-Mortem Enquiry. *World Archaeology* 17 (2): 175-191.

Gregg, Susan, Keith W. Kintigh, and Robert Whallon
1991 Linking Ethnoarchaeological Interpretation and Archaeological Data: The Sensitivity of Spatial Analytical Methods to Postdepositional Disturbance. In *The Interpretation of Archaeological Spatial Patterning*, ed. E. M. Kroll and T. D. Price, pp. 149-196. Plenum Press: New York, NY.

Harrison, Fairfax
1924 Landmarks of Old Prince William; A Study in Origins in Northern Virginia. Privately Printed. On file at Lloyd House, Alexandria Public Library, Alexandria.

Hennessy, John

1989 *The First Battle of Manassas: An End to Innocence, July 18-21, 1861*. H. E. Howard, Inc. Lynchburg, Virginia.

Herrman, Augustine
1673 *Virginia and Maryland*. On file at VDHR, #6.01

Hodges, Mary Ellen N., and Charles T. Hodges, editors
1994 Paspahegh Archaeology: Data Recovery Investigations of Site 44JC308 at The Governor's Land at Two Rivers, James City County, Virginia. Prepared by James River Institute for Archaeology, Inc.

Holmes, William H.
1903 Aboriginal Pottery of the Eastern United States. Twentieth Annual Report of the Bureau of American Ethnology, Washington, D.C.: GPO.

Hranicky, William Jack
2001 *Projectile Point Typology for the Commonwealth of Virginia*. Virginia Academic Press, Alexandria, Virginia.

Hull, Kathleen L.
1987 Identification of Cultural Site Formation Processes through Microdebitage Analysis. *American Antiquity* 52 (4):772-783.

Johnson, Michael F., and Nancy H. Anthony
2004 Lorton Town Center (LTC-2) (44FX2077): Addressing Methodological and Prehistoric Technological Issues. Ms. on file at CRI, Inc., Richmond, VA.

Jones, Oliver, and Catherine Sullivan
1989 *The Parks Canada Glass Glossary*. National Historic Parks and Sites, Canadian Parks Service, Environment Canada, Ottawa.

Justice, Noel D.
1995 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington.

Kaplan, Barbara Beigun
1993 *Land and Heritage in the Virginia Tidewater: A History of King and Queen County*. Cadmus Fine Books, Richmond, Virginia.

Kane, Sharyn and Richard Keeton
1994 *Beneath the Waters: Archaeological and Historical Studies of 11,500 Years Along the Savannah River*. Interagency Archaeological Services Division, National Park Service-Southeast Region, Atlanta.

Kinard, Jeff
2000 Springfield Rifle. In *The Encyclopedia of the American Civil War*, Volume 4: R-Z, ed. D. S. Heidler and J. T. Heidler, pp. 1844-1845. ABC-Clio, Santa Barbara, CA.

Klein, Michael J.
1997 The Transition from Soapstone Bowls to Marcey Creek Ceramics in the Middle Atlantic Region: Vessel Technology, Ethnographic Data, and Regional Exchange. *Archaeology of Eastern North America* 25: 143-158.

Klein, Michael J. and Thomas Klatka
1991 Late Archaic and Early Woodland Demography and Settlement. In *Late Archaic and Early Woodland Research in Virginia: A Synopsis,* edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 139-184. Council of Virginia Archaeologists and the Archaeological Society of Virginia. The Dietz Press, Richmond.

Knepper, Dennis, John M. Rutherford, Daniel R. Hayes, Carter Shields, and Christopher L. Bowen
2006 The Archaeology of An Urban Landscape, The Whitehurst Freeway Archaeological Project, Volume I: Prehistoric Sites. Report prepared by Parson, Washington, DC, and Vestar, Inc., Springfield, VA, for the District of Columbia Department of Transportation, Washington, D.C.

Kulikoff, Allan
1986 *Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800.* University of North Carolina Press, Chapel Hill.

Lord, Francis A.
1963 *Civil War Collector's Encyclopedia*. Castle, Secaucus, NJ.

Louis Berger & Associates, Inc. (LBA)
1991 Phase IB Cultural Resource Survey of the Clermont Avenue Interchange, City of Alexandria and Fairfax County, Virginia.

Maptech, Inc.
1998 *Terrain Navigator*. Software Program. Greenland, NH.

McAvoy, Joseph M., and Lynn D. McAvoy
1997 Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia. *Research Report Series* No. 8, Virginia Department of Historic Resources.

McBride, W. Stephen
1994 Civil War Material Culture and Camp Life in Central Kentucky: Archaeological Investigations at Camp Nelson. In *Look to the Earth: Historical Archaeology and*

the American Civil War, ed. C. R. Geier, Jr. and S. E. Winter, pp. 130-157. The University of Tennessee Press, Knoxville, TN.

McLearen, Douglas C.
1991 Phase III Archaeological Investigations of the 522 Bridge Site (44WR329), Warren County, Virginia. Virginia Commonwealth University Archaeological Research Center, Richmond. Report on File, Virginia Department of Historic Resources, Richmond.

McLearen, Douglas C., and L. Daniel Mouer
1989 Middle Woodland II Typology and Chronology in the Lower James River Valley of Virginia. Paper presented at the Middle Atlantic Archaeological Conference, Rehoboth Beach, Delaware.

Miller, T. Michael
1983 The Saga of Shuter's Hill. *The Historical Society of Fairfax, Virginia*. 19:75-108.

Mouer, L. Daniel
1991 The Formative Transition in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges. Special Publication No. 23. The Dietz Press, Richmond.

Munsell Color
1994 *Munsell Soil Color Charts*. Macbeth Division of Kollmorgen Instruments Corporation, New Windsor, NY.

Netherton, Nan, editor
1992 *Fairfax County a Virginia: A History*. Originally published 1978. 250th Anniversary Commemorative Edition. Fairfax County Board of Supervisors, Fairfax, Virginia.

Netherton, Ross and Nan Netherton
1992 *Fairfax County: A Contemporary Portrait*. The Donning Company, Virginia Beach.

Noel-Hume, Ivor
1969 *A Guide to Artifacts of Colonial America*. Alfred A. Knopf, New York.

Odell, George H., and Frank Cowan
1987 Estimating Tillage Effects on Artifact Distributions. *American Antiquity* 52 (3):456-484.

Parker, Scott K., and Mike Klein
1989 Archaeological Survey and the History of Orange County. *Quarterly Bulletin, Archeological Society of Virginia* 44 (3):116-146.

Pittman, W., E., A. B. Kowalski, and G. L. Miller
1987 Laboratory Manual, Department of Archaeological Research, Colonial Williamsburg Foundation. Williamsburg, Virginia.

Poland, Charles Preston, Jr.
1976 *From Frontier to Suburbia*. Walsworth Publishing Co., Marceline, Missouri.

Potter, Stephen R.
1993 *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University of Virginia Press, Charlottesville.

Reed, Patrick
1992 Fairfax County: The Electric Connection, 1900-1925. In *Fairfax County a Virginia: A History*, edited by N. Netherton, pp. 251-391. Originally published 1978. 250th Anniversary Commemorative Edition. Fairfax County Board of Supervisors, Fairfax, Virginia.

Ritchie, William A.
1971 A Typology and Nomenclature for New York Projectile Points. New York State Museum and Science Service, *Bulletin 384*, Albany.

Smith, John
1610 *Virginia Discovered and Discribed [sic]*. Virginia Department of Historic Resources, Richmond, VA.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture.
2006 Soil Series Classification Database. (http://soils.usda.gov/soils/technical/classification/scfile/index.html) [Accessed July 2008].

Sprouse, E. M.
1975 *Colchester: Colonial Port on the Potomac*. Fairfax County Office of Comprehensive Planning, Fairfax, Virginia.

Stephenson, Robert L., A.L.L. Ferguson, and H.G. Ferguson
1963 *The Accokeek Creek Site: A Middle Atlantic Seaboard Culture Sequence*. Anthropological Papers no. 20. Ann Arbor: Museum of Anthropology, University of Michigan

Stevens, J. Sanderson
1991 A Story of Plants, Fire, and People: The Paleoecology and Subsistence of the Late Archaic and Early Woodland in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synopsis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 185-220. Council of Virginia Archaeologists and the Archaeological Society of Virginia. The Dietz Press, Richmond.

Stevenson, Marc G.
1985 The Formation of Artifact Assemblages at Workshop/Habitation Sites: Models from Peace Point in Northern Alberta. *American Antiquity* 50: 63-81.

1991 Beyond the Formation of Hearth-Associated Artifact Assemblages. In *The Interpretation of Archaeological Spatial Patterning*, ed. E. M. Kroll and T. D. Price, pp. 269-300. Plenum Press: New York, NY.

Sweig, Donald
1992 Fairfax County: 1649-1800. In *Fairfax County, Virginia: A History*, edited by N. Netherton, pp. 5-151. Originally published 1978. 250th Anniversary Commemorative Edition. Fairfax County Board of Supervisors, Fairfax, Virginia.

Tops, Bernard, and Michael F. Johnson
2005 Land Bay A: Features under Features in an Unplowed Upland Context. Paper presented at the Annual Meeting of the Middle Atlantic Archaeological

Conference, Virginia Beach, VA.

Turner, E. Randolph, II
1976 An Archaeological and Ethnohistorical Study on the Evolution of Rank Societies in the Virginia Coastal Plain. Ph.D. Dissertation, Department of Anthropology, Pennsylvania State University, University Park, Pennsylvania.

United States Department of the Interior (USDI)
1981 *Department of the Interior's Regulations, 36 CFR Part 60: National Register of Historic Places*. U.S. Department of the Interior, Washington, D.C.

1983 *Department of the Interior, Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*. U.S. Department of the Interior, Washington, D.C.

1991 How to Apply the National Register Criteria for Evaluation. *National Register Bulletin 15.* U.S. Department of the Interior, Interagency Resources Division, Washington D.C.

United States Department of War
1881 *The War of the Rebellion*. Series I, Vol. II. Government Printing Office, Washington, D.C.

United States Geologic Survey (USGS)/Maptech
1945 *Alexandria, VA, 7.5 Minute Series Quadrangle*. Reston, Virginia.

Virginia Department of Historic Resources (VDHR)
1992a *Guidelines for Preparing Identification and Evaluation Reports for Submission Pursuant to Sections 106 and 110, National Historic Preservation Act Environmental Impact Reports of State Agencies Virginia Appropriation Act, 1992 Session Amendments.*

1992b *How to Use Historic Contexts in Virginia: A Guide for Survey, Registration, Protection, and Treatment Projects.* VDHR, Richmond.

1993 *State Curation Standards*. VDHR, Richmond.

1997 *Historic Context Guidelines for Preparing Cultural Resource Survey Reports*. Letter from John Kern to DHR Survey Team dated July 16. VDHR, Richmond.

2000 *Guidelines for Archaeological Investigations in Virginia, Additional Guidance for the Implementation of the Federal Standards Entitled Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48 FR 44716-44742, September 29, 1983).* VDHR, Richmond.

Waltmyer, T.
1995 A Complete History of the Woodbridge Research Facility. *Journal of Historic Prince William* 3:40-60.

Ward, H. Trawick and R.P. Stephen Davis Jr.
1999 *Time Before History: The Archaeology of North Carolina*. University of North Carolina Press, Chapel Hill.

Waselkov, Gregory A.
1982 Shellfish Gathering and Shell Midden Archaeology. Ph.D. dissertation, University of North Carolina, Chapel Hill.

Yarnell, Richard A.
1976 Early Plant Husbandry in Eastern North America. In *Cultural Change and Continuity: Essays in Honor of James Bennett Griffin*, edited by Charles E. Cleland, Academic Press, New York.

APPENDIX A: ARTIFACT CATALOG

Mark Center Ph III

Context **Count and Description**

44AX0205

F.S.#: 41 ST , Stratum II 7.5N 3E

1 Lithic Complete object, quartzite, 60% cortex on dorsal., flake, secondary

F.S.#: 42 ST , Stratum II 15N 37.5E

1 Lithic Complete object, quartzite, rosy. 0% cortex., flake, tertiary

F.S.#: 43 ST , Stratum II 30N 37.5E

1 Lithic Fragment, quartz, flake, tertiary

F.S.#: 44 ST , Stratum II 22.5N 22.5E

1 Lithic Fragment, quartzite, FCR

F.S.#: 45 ST , Stratum II 22.5N 45E

1 Lithic Complete object, quartzite, 60% cortex on dorsal., flake, secondary

1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 46 Unit 1, Stratum I/II 13.5N 28.5E

24 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Fragment, quartzite, reddened., FCR

6 Lithic Fragment, quartzite, shatter

22 Lithic Fragment, quartzite, flake segments, or flake-like shatter., shatter

Context	**Count and Description**
	4 Lithic Complete object, quartzite, small flakes, flake, tertiary
	1 Lithic Fragment, quartzite, wide blade with curved point, base half missing. dark rosy quartzite., biface
	1 Lithic Fragment, quartzite, part of expedient flake tool? Scraper?, tool, expedient
	1 Lithic Complete object, quartzite, 90% cortex on dorsal., flake, primary
	8 Lithic Complete object, quartzite, flake, secondary

F.S.#: 47 Unit 2, Stratum I/II 13.5N 27E

	2 Lithic Complete object, quartzite, flake, primary, utlized
	1 Lithic Complete object, quartzite, flake, secondary, utlized
	3 Lithic Complete object, quartzite, early stage, biface, stage 1
	7 Lithic Complete object, quartzite, flake, primary
	3 Lithic Complete object, quartzite, scraper tools, flake, primary, modified
	48 Lithic Complete object, quartzite, flake, secondary
	6 Lithic Complete object, quartzite, flake, tertiary
	92 Lithic Fragment, quartzite, shatter
	1 Lithic Fragment, quartz, shatter
	1 Lithic Fragment, quartzite, FCR
	1 Brick fragment, ceramic, pressed, pressed brick or redware? Small spall.
	3 Lithic Complete object, quartzite, utilized flake segments, flake, utlized
	1 Lithic Fragment, quartzite, retouched flake segments, end scraper., flake, modified

Context	Count and Description

F.S.#: 48 Unit 3, Stratum I/II 15N 28.5E

36	Lithic Fragment, quartzite, flake segments or flake-like shatter, shatter
9	Lithic Fragment, quartzite, shatter
1	Lithic Fragment, quartzite, small reddened fragment., FCR
1	Lithic Fragment, quartz, flake segments or flake-like shatter., shatter
1	Lithic Fragment, quartzite, possible segment of a biface., biface
3	Lithic Complete object, quartzite, flake, secondary
24	Lithic Complete object, quartzite, flake, tertiary

F.S.#: 49 Unit 4, Stratum I/II 15N 27E

13	Lithic Complete object, quartzite, flake, primary
7	Lithic Complete object, quartzite, flake, secondary, utlized
6	Lithic Complete object, quartzite, scrapers, flake, modified
56	Lithic Complete object, quartzite, flake, secondary
1	Lithic Complete object, quartzite, groundstone, Hammerstone/grinding stone
108	Lithic Fragment, quartz, shatter
64	Lithic Fragment, quartz, flake-like segments, shatter
3	Lithic Complete object, quartz, flake, tertiary
30	Lithic Complete object, quartzite, flake, tertiary
3	Lithic Fragment, quartzite, biface

Context	**Count and Description**

F.S.#: 50 Unit 5, Stratum I/II 13.5N 22.5E

1 Lithic Fragment, quartzite, flake, secondary

F.S.#: 51 Unit 6, Stratum I/II 13.5N 21E

1 wood fragment, charcoal, extremely small fragment

2 Lithic Complete object, quartzite, flake, secondary

1 Lithic Complete object, quartzite, modified/utilized edge, flake, tertiary, modified

1 Lithic Complete object, quartzite, flake, tertiary

2 Lithic Fragment, quartz, small angular fragments, possible shatter, shatter

2 Lithic Complete object, quartzite, small waste/pressure flake, flake, tertiary

F.S.#: 52 Unit 7, Stratum I/II 15N 22.5E

1 wood fragment, charcoal, very small fragment.

1 Lithic Fragment, quartzite, bulb present. Large flake with no cortex, utilized edge., flake, tertiary, utlized

3 Lithic Complete object, quartzite, flake, tertiary

2 Lithic Complete object, quartzite, small waste/pressure flake, flake, tertiary

1 Lithic Complete object, quartz, small waste/pressure flake, flake, tertiary

4 Lithic Fragment, quartzite, flake-like, shatter

2 Lithic Fragment, quartzite, shatter

F.S.#: 53 Unit 8, Stratum I/II 15N 21E

4 Lithic Fragment, quartzite, flake-like, shatter

Context	**Count and Description**
	1 Lithic Fragment, quartz, flake-like, shatter
	8 Lithic Fragment, quartz, broken pebbles or angular fragments, possible shatter., shatter
	1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 58 Unit 13, Stratum I/II 19.5N 27E

	39 Lithic Complete object, quartzite, small flakes, smallwaste/pressure flakes, flake, tertiary
	29 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Fragment, quartz, small angular fragments, shatter
	6 Lithic Fragment, quartz, flake segments or flake-like shatter., shatter
	1 Lithic Complete object, quartz, flake, tertiary
	5 Lithic Fragment, quartzite, small angular fragments, shatter
	35 Lithic Fragment, quartzite, flake segments or flake-like shatter., shatter
	1 Lithic Complete object, quartzite, utilized/modified edge, flake, primary
	3 Lithic Complete object, quartzite, small blade-like flakes, flake, tertiary
	5 Lithic Fragment, quartzite, long blade-like flakes, flake, tertiary
	2 Lithic Complete object, quartzite, long blade-like flake, utilized edge. Crossmends, flake, tertiary, utlized
	7 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Fragment, quartzite, 80% cortex., flake, primary
	1 Lithic fragment, quartzite, rounded base of a teardrop shape?, biface, projectile point

F.S.#: 59 Unit 14, Stratum I/II 21N 27E

Context	Count and Description
	11 Lithic Complete object, quartzite, small flakes, small waste/pressure flake, flake, tertiary
	4 Lithic Complete object, quartzite, flake, secondary
	3 Lithic Fragment, quartz, small angular fragments
	7 Lithic Complete object, quartz, small flakes, flake, tertiary
	1 Lithic Fragment, quartzite, FCR
	4 Lithic Fragment, quartzite, small angular fragments., shatter
	13 Lithic Fragment, quartzite, flake segments, or flake like shatter., shatter
	13 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 60 Unit 15, Stratum I/II 22.5N 27E

	2 Lithic Fragment, quartzite, small angular fragments, shatter
	9 Lithic Fragment, quartzite, flake segments, or flake-like shatter, shatter
	3 Lithic Complete object, quartzite, flake, secondary
	8 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 61 Unit 17, Stratum I/II 9N 27E

	1 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Complete object, quartzite, large flakes, no cortex, flake, tertiary
	1 Lithic Fragment, chert, chert?, shatter
	2 Lithic Fragment, quartzite, angular fragments, shatter

Context	**Count and Description**
	5 Lithic Fragment, quartzite, flake segment or flake-like shatter, shatter

F.S.#: 62 Unit 18, Stratum I/II 7.5N 27E

1 Lithic Fragment, quartz, angular fragment

2 Lithic Fragment, quartzite, flake-like shatter, shatter

5 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Complete object, quartzite, small flake, flake, tertiary

F.S.#: 63 Unit 22, Stratum I/II 15N 33E

6 Lithic Complete object, quartzite, flake, tertiary

9 Lithic Fragment, quartzite, flake segments/flake-like shatter., shatter

2 Lithic Complete object, quartzite, flake, secondary

1 Lithic Complete object, quartzite, flake, primary

1 Lithic Fragment, quartzite, FCR

F.S.#: 64 Unit 23, Stratum I/II 15N 34.5E

4 Lithic Complete object, quartzite, flake, tertiary

1 Lithic fragment, quartzite, 90% cortex., flake, primary

4 Lithic fragment, quartzite, flake segments/flake-like shatter., shatter

F.S.#: 65 Unit 16, Stratum I/II 24N 27E

2 Lithic Fragment, quartz, crazing, FCR

1 Lithic Complete object, quartzite, large primary flake segment with utilized and retouched edges. 70% cortex., flake, primary, utlized

Context	**Count and Description**
	1 Lithic Fragment, quartz, shatter
	1 Lithic Complete object, quartzite, small flake, 100% cortex., flake, primary
	1 Lithic Complete object, quartzite, chunky flake with cortical platform, flake, secondary
	1 Lithic Complete object, quartz, 60% cortex, flake, primary
	1 Lithic Complete object, quartz, small waste/pressure flake, flake, tertiary
	5 Lithic Complete object, quartzite, flake, tertiary
	4 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

F.S.#: 66 Unit 19, Stratum I/II 6N 27E

	3 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, 0% cortex, 2.5-5cm., flake, secondary

F.S.#: 67 Unit 20, Stratum I/II 4.5N 27E

	1 Lithic Complete object, quartzite, in two fragments, crossmends. 0% cortex, 2.5-5cm. Pink material., flake, secondary, utlized

F.S.#: 68 Unit 21, Stratum I/II 15N 31.5E

	11 Lithic Complete object, quartzite, flake, secondary
	10 Lithic Fragment, quartzite, shatter
	2 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, flake, tertiary, modified
	2 Lithic Complete object, quartzite, flake, tertiary, utlized
	1 Lithic Complete object, quartzite, flake, primary

Context	**Count and Description**

F.S.#: 70 Unit 25, Stratum I/II 25.5N 27E

2 Lithic Fragment, quartzite, flake-like, shatter

1 Lithic Fragment, quartz, flake like, shatter

2 Lithic Complete object, quartz, flake, tertiary

1 Lithic Complete object, quartzite, 0% cortex, 2.5-5cm., flake, secondary

1 Lithic Complete object, quartzite, large cortical flake with utilized edges, used as scraper? 100% cortex, 5cm., flake, primary, utlized

1 Lithic Complete object, quartzite, large cobble, broken., FCR

F.S.#: 71 Unit 26, Stratum I/II 3N 27E

1 Lithic Complete object, quartzite, 90% cortex, 5cm, flake, primary

1 Lithic Fragment, quartzite, flake segment, shatter

F.S.#: 72 Unit 27, Stratum I/II 27N 27E

2 Lithic Complete object, quartzite, flake, secondary

1 Lithic Fragment, quartz, shatter

1 Lithic Complete object, quartzite, small waste/pressure flake, flake, tertiary

1 Lithic Complete object, quartzite, Blade-like flake, possibly utlized. Deep purple color. In two fragments, crossmends., flake, secondary, utlized

2 Lithic Fragment, quartzite, flake-like, shatter

F.S.#: 73 Unit 28, Stratum I/II 12N 21E

1 Lithic Fragment, quartzite, flake-like, shatter

2 Lithic Complete object, quartzite, flake, tertiary

Context	**Count and Description**
	4 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, heat treated retouched edge. 80% cortex., flake, primary, retouched
	1 Lithic Fragment, quartz, FCR

F.S.#: 74 Unit 29, Stratum I/II 16.5N 21E

	1 Lithic Complete object, quartz, groundstone, Hammerstone/grinding stone
	1 Lithic Complete object, quartz, multi-edge. Manufactured from a large primary flake., uniface, scraper
	1 Lithic Complete object, quartz, flake, primary
	1 Lithic Complete object, quartz, flake, secondary
	1 Lithic Complete object, quartz, flake, tertiary
	5 Lithic Fragment, quartz, shatter

F.S.#: 75 Unit 30, Stratum I/II 15N 36E

	3 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, flake tool with utlized edge and spoke shave? Large flake with 0% cortex., flake, secondary, utlized
	1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 76 Unit 31, Stratum I/II 10.5N 21E

	1 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Fragment, quartzite, flake segments/flake-like, shatter

F.S.#: 77 Unit 32, Stratum I/II 10.5N 30E

	3 Lithic Complete object, quartzite, flake, tertiary

Context	**Count and Description**
	12 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	5 Lithic Complete object, quartzite, flake, secondary, utlized
	1 Lithic Complete object, quartzite, flake, primary, utlized
	2 Lithic Complete object, quartzite, flake, secondary
	3 Lithic Fragment, quartzite, shatter

F.S.#: 78 Unit 33, Stratum I/II 18N 21E

	1 Lithic Complete object, quartzite, possibly utilized edge, scraper? 30% cortex., flake, secondary, uniface
	2 Lithic Fragment, quartz, FCR
	2 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Fragment, quartzite, shatter
	3 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter
	1 Lithic Complete object, quartzite, milky quartz., flake, tertiary
	1 Lithic Complete object, quartzite, small flake, cortical platform., flake, tertiary
	1 Lithic Fragment, quartzite, "slice" shaped fragment of cobble., FCR

F.S.#: 79 Unit 34, Stratum I/II 9N 21E

	1 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter
	1 Lithic Fragment, quartzite, shatter
	1 Lithic Complete object, quartzite, 50% cortex, flake, secondary

Context	**Count and Description**

F.S.#: 80 Unit 35, Stratum I/II 19.5N 21E

2 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Fragment, quartzite, flake segment/flake-like shatter, shatter

1 Lithic Fragment, quartzite, shatter

1 Lithic Fragment, quartz, shatter

1 Lithic Complete object, quartz, cortical platorm, flake, secondary

F.S.#: 81 Unit 36, Stratum I/II 10.5N 31.5E

1 Lithic Fragment, quartzite, FCR

1 Lithic Complete object, quartzite, fist sized cobble, possible ground surfaces., groundstone

1 Lithic Complete object, quartzite, 0% cortex, flake, secondary, utlized

3 Lithic Complete object, quartzite, flake, secondary

2 Lithic Fragment, quartzite, flake-like, shatter

6 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 82 Unit 37, Stratum I/II 21N 21E

2 Lithic Fragment, quartzite, flake-like, shatter

1 Lithic Complete object, quartzite, 80% cortex., flake, primary

F.S.#: 83 Unit 38, Stratum I/II 7.5N 21E

4 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 84 Unit 39, Stratum I/II 10.5N 33E

Context	**Count and Description**
	3 Lithic Complete object, quartzite, flake, tertiary
	4 Lithic Complete object, quartzite, 0% cortex, 2.5-5cm., flake, secondary

F.S.#: 85 Unit 40, Stratum I/II 16.5N 36E

1 Lithic Complete object, quartzite, flake, secondary

1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 86 Unit 41, Stratum I/II 6N 21E

6 Lithic Complete object, quartzite, flake, tertiary

5 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

1 Lithic Fragment, quartzite, shatter

1 Lithic Complete object, quartzite, flake, secondary, utlized

F.S.#: 87 Unit 42, Stratum I/II 10.5N 34.5E

1 Lithic Fragment, quartzite, shatter

1 Lithic Fragment, quartzite, flake segment with retouched edge, flake, secondary, retouched

2 Lithic Fragment, quartzite, small flake segments/flake-like shatter, shatter

2 Lithic Complete object, quartzite, blade flakes with utilized edges? one in two pieces (crossmend). 0% cortex, 2.5-5cm., flake, secondary, utlized

1 Lithic Complete object, quartz, early stage, biface, stage 1

5 Lithic Complete object, quartzite, flake, secondary

F.S.#: 88 Unit 43, Stratum I/II 4.5N 21E

1 Lithic Complete object, quartzite, 0% cortex, 2.5-5cm., flake, secondary

Context	**Count and Description**
	1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 89 Unit 44, Stratum I/II 40.5N 36E

1 Lithic Complete object, quartzite, utilized edge and spoke shave?, flake, secondary, utlized

1 Lithic Complete object, quartzite, flake, secondary

3 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Fragment, quartzite, shatter

F.S.#: 90 Unit 48, Stratum I/II 16.5N 34.5E

1 Lithic Fragment, quartzite, flake segment/flake-like shatter, shatter

1 Lithic Complete object, quartzite, flake, secondary

F.S.#: 91 Unit 51, Stratum I/II 16.5N 22.5E

1 Lithic Fragment, quartzite, large early stage biface, tip half., biface

2 Lithic Fragment, quartzite, FCR

4 Lithic Fragment, quartzite, shatter

6 Lithic Fragment, quartzite, flake segments/flake-like, shatter

11 Lithic Complete object, quartzite, flake, secondary

1 Lithic Complete object, quartz, flake, secondary

2 Lithic Complete object, quartzite, flake, primary

2 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 92 Unit 52, Stratum I/II 10.5N 25.5E

Context	**Count and Description**
	1 Lithic Fragment, quartzite, flake, secondary, retouched
	1 Lithic Complete object, quartzite, end scraper, flake, tertiary, retouched
	1 Lithic Complete object, quartzite, flake, primary, utlized
	2 Lithic Complete object, quartzite, flake, primary
	1 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Fragment, Basalt, shatter
	1 Lithic Fragment, quartzite, FCR
	1 Lithic Fragment, quartz, shatter

F.S.#: 93 Unit 55, Stratum I/II 12N 30E

	6 Lithic Complete object, quartzite, flake, tertiary, utlized
	4 Lithic Complete object, quartzite, flake, primary, utlized
	7 Lithic Complete object, quartzite, flake, primary
	45 Lithic Complete object, quartzite, flake, secondary
	10 Lithic Complete object, quartzite, flake, tertiary
	30 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	7 Lithic Complete object, quartzite, flake, secondary, utlized
	1 Lithic Fragment, quartz, shatter
	20 Lithic Fragment, quartzite, shatter

F.S.#: 94 Unit 60, Stratum I/II 16.5N 19.5E

Context	**Count and Description**
	1 Lithic Fragment, quartz, FCR
	3 Lithic Fragment, quartzite, chunky, shatter
	2 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, possibly utilized., flake, secondary, utlized

F.S.#: 95 Unit 47, Stratum I/II 16.5N 33E

	1 Lithic Complete object, quartzite, cortical platform, flake, secondary
	3 Lithic Complete object, quartzite, flake, tertiary
	4 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Complete object, quartzite, flake, primary
	4 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

F.S.#: 96 Unit 50, Stratum I/II 16.5N 24E

	2 Lithic Complete object, quartzite, flake, tertiary, utlized
	2 Lithic Complete object, quartzite, flake, secondary, utlized
	12 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	6 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 97 Unit 49, Stratum I/II 16.5N 25.5E

	1 Lithic Complete object, quartzite, concave scraper, flake, secondary, scraper
	1 Lithic Complete object, quartzite, flake, secondary, utlized

Context	**Count and Description**
	1 Lithic Complete object, quartzite, flake, tertiary, utlized
	1 Lithic Complete object, quartzite, flake, primary
	5 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Complete object, quartzite, flake, tertiary
	5 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	2 Lithic Fragment, quartzite, shatter

F.S.#: 98 Unit 46, Stratum I/II 16.5N 31.5E

1	Lithic Complete object, quartzite, from overshot termination flake, flake, secondary
4	Lithic Complete object, quartzite, flake, primary
13	Lithic Complete object, quartzite, flake, secondary
2	Lithic Complete object, quartzite, flake, tertiary
28	Lithic Fragment, quartzite, shatter
1	Lithic Complete object, quartzite, flake, tertiary
2	Lithic Complete object, quartzite, flake, primary, utlized
2	Lithic Complete object, quartzite, flake, tertiary, utlized
25	Lithic Fragment, quartzite, shatter
2	Lithic Complete object, quartzite, flake, tertiary
2	Lithic Complete object, quartzite, one pink, one tan. Scrapers with one spoke shave., flake, scraper
12	Lithic Complete object, quartzite, flake, secondary

Context	**Count and Description**
	1 Lithic fragment, quartzite, tip half. Tan material with pink tip. Wide blade, curved point., biface
	3 Lithic Complete object, quartzite, flake, tertiary, utlized

F.S.#: 99 Unit 53, Stratum I/II 10.5N 24E

3	Lithic Complete object, quartzite, flake, secondary
1	Lithic Complete object, quartzite, concave scraper, flake, secondary, retouched
1	Lithic Complete object, quartzite, microblade?, flake, tertiary
2	Lithic Complete object, quartzite, flake, primary
2	Lithic Fragment, quartzite, shatter
4	Lithic Fragment, quartzite, flake segments/flake-like, shatter
2	Lithic Complete object, quartzite, flake, tertiary

F.S.#: 100 Unit 56, Stratum I/II 12N 31.5E

1	Lithic Complete object, quartzite, heat-treated utilized edge, flake, secondary, utlized
6	Lithic Fragment, quartzite, shatter
13	Lithic Complete object, quartzite, flake, tertiary
1	Lithic Fragment, quartz, flake-like, shatter
3	Lithic Complete object, quartzite, blade like., flake, secondary
19	Lithic Fragment, quartzite, flake segments/flake-like, shatter
1	Lithic Complete object, quartzite, flake, primary
4	Lithic Complete object, quartzite, flake, secondary

Context	**Count and Description**

F.S.#: 101 Unit 61, Stratum I/II 16.5N 18E

1 Lithic Complete object, quartz, 100% cortex, small flake., flake, primary

1 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Fragment, quartz, shatter with retouched edge?, shatter, retouched

1 Lithic Complete object, quartzite, FCR

1 Lithic Fragment, quartz, milky quartz, shatter

F.S.#: 102 Unit 54, Stratum I/II 10.5N 22.5E

3 Lithic Fragment, quartzite, flake like, shatter

3 Lithic Fragment, quartzite, chunky, shatter

2 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Complete object, quartzite, Scraper made from large primary flake. 90% cortex., flake, primary, retouched

1 Lithic Fragment, quartzite, large early stage biface, broken in half, biface, stage 1

1 Lithic Complete object, quartzite, 100% cortex on dorsal., flake, primary

F.S.#: 103 Unit 57, Stratum I/II 12N 33E

1 Lithic Complete object, quartzite, shatter

2 Lithic Complete object, quartzite, flake, primary

1 Lithic Complete object, quartzite, small fragment, FCR

11 Lithic Complete object, quartzite, flake segments/flake-like, shatter

2 Lithic Complete object, quartzite, very small waste/pressure flake, flake, tertiary

Context	**Count and Description**
	7 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Complete object, quartzite, flake, secondary

F.S.#: 104 Unit 45, Stratum I/II 16.5N 30E

	2 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, side scraper, flake, tertiary, scraper

F.S.#: 105 Unit 58, Stratum I/II 12N 34.5E

	2 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, small waste/pressure flake, flake, tertiary
	3 Lithic Complete object, quartzite, flake segments/flake-like shatter, shatter
	1 Lithic Complete object, quartz, small angular fragment., shatter
	2 Lithic Complete object, quartzite, flake, secondary

F.S.#: 106 Unit 59, Stratum I/II 12N 36E

	1 Lithic Complete object, quartzite, flake, secondary, retouched
	2 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 107 Unit 70, Stratum I/II 13.5N 31.5E

	11 Lithic Complete object, quartzite, flake, tertiary
	11 Lithic Fragment, quartzite, flake segments/flakelike shatter, shatter
	4 Lithic Fragment, quartzite, flake-like, shatter

Context	**Count and Description**
	5 Lithic Fragment, quartzite, shatter
	1 Lithic Complete object, quartzite, 100% cortex, flake, primary
	10 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Fragment, quartzite, FCR

F.S.#: 108 Unit 62, Stratum I/II 16.5N 16.5E

1 Lithic Fragment, quartzite, flake segment?, shatter

1 Lithic Fragment, quartz, flake-like, shatter

F.S.#: 109 Unit 63, Stratum I/II 18N 25.5E

2 Lithic Complete object, quartzite, flake, tertiary, utlized

6 Lithic Complete object, quartzite, flake, secondary

14 Lithic Complete object, quartzite, small flakes, flake, tertiary

1 Lithic Complete object, quartz, small flake, flake, tertiary

13 Lithic Fragment, quartzite, flake segments/flake-like, shatter

1 Lithic Complete object, quartzite, scraper, flake, secondary, scraper

1 Lithic Fragment, quartzite, biface

1 Lithic Complete object, quartzite, flake, primary

3 Lithic Fragment, quartzite, shatter

F.S.#: 110 Unit 64, Stratum I/II 18N 24E

1 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

Context	**Count and Description**
	4 Lithic Fragment, quartz, shatter
	1 Lithic Complete object, quartzite, flake, secondary, utlized
	2 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, small flake, flake, tertiary
	2 Lithic Complete object, quartz, flake, tertiary
	1 Lithic Fragment, quartzite, shatter
	2 Lithic Fragment, quartzite, FCR

F.S.#: 111 Unit 65, Stratum I/II 18N 22.5E

	1 Lithic Fragment, quartz, flake-like, shatter
	2 Lithic Fragment, quartz, shatter
	4 Lithic Fragment, quartzite, shatter
	3 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	9 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Complete object, quartzite, flake, secondary, retouched
	2 Lithic Fragment, unidentified, FCR

F.S.#: 112 Unit 66, Stratum I/II 12N 22.5E

	1 Lithic Complete object, quartzite, flake, secondary, retouched
	4 Lithic Complete object, quartzite, flake, secondary

Context	**Count and Description**
	2 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Fragment, quartzite, flake-like, shatter
	2 Lithic Fragment, quartzite, shatter
	6 Lithic Fragment, quartz, chunky possible shatter., shatter
	1 Lithic Fragment, quartzite, FCR
	1 Lithic Complete object, quartzite, flake, primary
	3 wood fragment, charcoal

F.S.#: 113 Unit 69, Stratum I/II 13.5N 30E

	1 Lithic Complete object, sandstone, for platform grinding?, groundstone
	15 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	2 Lithic Complete object, quartzite, flake, tertiary
	24 Lithic Complete object, quartzite, flake, secondary
	4 Lithic Complete object, quartzite, flake, secondary, utlized
	2 Lithic Complete object, quartzite, flake, primary, utlized
	1 Lithic Complete object, quartzite, flake, secondary, scraper
	2 Lithic Fragment, quartzite, FCR
	1 Lithic Fragment, quartzite, biface
	10 Lithic Fragment, quartzite, shatter

F.S.#: 114 Unit 72, Stratum I/II 15N 16.5E

Context	**Count and Description**
	1 Lithic Complete object, quartzite, 30% cortex, 2.5cm. Retouched edge., flake, secondary, retouched

F.S.#: 115 Unit 67, Stratum I/II 12N 24E

10	Lithic Complete object, quartzite, flake, tertiary
1	Lithic Complete object, quartzite, small spherical pebble…gaming piece?
1	Lithic Complete object, quartzite, tested pebble?
9	Lithic Fragment, quartzite, FCR
43	Lithic Fragment, quartz, FCR
9	Lithic Fragment, quartz, shatter
1	Lithic Complete object, quartzite, groundstone, Hammerstone/grinding stone
46	Lithic Fragment, quartzite, flake segments/flake-like, shatter
10	Lithic Complete object, quartzite, flake, secondary
6	Lithic Complete object, quartzite, flake, primary
1	Lithic Complete object, quartzite, flake, tertiary, utlized
1	Lithic Complete object, quartzite, flake, primary, utlized
1	Lithic Complete object, quartzite, wide large blade with curved point, biface, stage 3
2	Lithic Complete object, sandstone, abrading stone, groundstone
2	Lithic Complete object, quartzite, side/end scraper, flake, secondary, scraper
9	Lithic Fragment, quartzite, shatter
6	Lithic Complete object, quartzite, flake, secondary, utlized

Context	**Count and Description**

F.S.#: 116 Unit 68, Stratum I/II 12N 25.5E

5 Lithic Complete object, quartzite, flake, secondary, utlized

3 Lithic Complete object, quartzite, flake, primary

10 Lithic Complete object, quartzite, flake, secondary

9 Lithic Complete object, quartzite, flake, tertiary

12 Lithic Fragment, quartzite, flake segments/flake-like, shatter

5 Lithic Fragment, quartzite, shatter

7 Lithic Fragment, quartzite, FCR

1 Brick fragment, ceramic

F.S.#: 117 Unit 71, Stratum I/II 13.5N 33E

1 Lithic Fragment, unidentified, shatter

1 Lithic Fragment, quartz, early stage biface?, biface

1 Lithic Complete object, quartzite, 70% cortex, flake, primary

4 Lithic Complete object, quartzite, 0% cortex, over 2.5cm., flake, secondary

1 Lithic Fragment, quartzite, shatter

F.S.#: 118 Unit 73, Stratum I/II 18N 30E

1 Lithic Complete object, quartzite, flake, tertiary, utlized

27 Lithic Fragment, quartzite, flake segments/flake-like, shatter

1 Lithic Complete object, quartzite, flake, primary, retouched

Context	**Count and Description**
	1 Lithic Complete object, quartzite, flake, primary, utlized
	7 Lithic Complete object, quartzite, flake, secondary, utlized
	2 Lithic Fragment, quartzite, biface
	17 Lithic Complete object, quartzite, flake, tertiary
	14 Lithic Fragment, quartzite, shatter
	4 Lithic Complete object, quartzite, flake, primary
	29 Lithic Complete object, quartzite, flake, secondary

F.S.#: 119 Unit 74, Stratum I/II 18N 31.5E

	4 Lithic Fragment, quartzite, shatter
	1 Lithic Complete object, quartzite, flake, primary, utlized
	1 Lithic Fragment, quartzite, small fragment of early stage biface?, biface
	1 Lithic Complete object, quartzite, flake, primary
	1 Lithic Complete object, quartzite, heat treated, flake, secondary, retouched
	15 Lithic Complete object, quartzite, flake, secondary
	32 Lithic Fragment, quartzite, flake segment/flake-like shatter, shatter
	1 Lithic Fragment, quartz, shatter
	3 Lithic Fragment, quartzite, FCR
	23 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 120 Unit 75, Stratum I/II 19.5N 27E

Context	**Count and Description**
	24 Lithic Complete object, quartzite, flake, tertiary
	4 Lithic Fragment, quartzite, FCR
	5 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	40 Lithic Fragment, quartzite, flake segments/flake-like, shatter
	26 Lithic Complete object, quartzite, flake, secondary
	5 Lithic Complete object, quartzite, flake, primary
	4 Lithic Fragment, quartzite, flake segments, flake, utlized
	3 Lithic Complete object, quartzite, flake, secondary, utlized
	8 Lithic Fragment, quartzite, shatter

F.S.#: 121 Unit 76, Stratum I/II 18N 33E

	2 Lithic Complete object, quartzite, 0% cortex on dorsal. Small flakes, flake, tertiary
	2 Lithic Complete object, quartzite, 30-50% cortex on dorsal, flake, secondary
	8 Lithic Fragment, quartzite, flake segments or flake-like shatter, shatter
	4 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary
	4 Lithic Complete object, quartzite, 0% cortex on dorsal. Large flakes, flake, tertiary
	1 Lithic Fragment, quartzite, shatter

F.S.#: 122 Unit 77, Stratum I/II 19.5N 24E

	3 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary
	2 Lithic Complete object, quartzite, 0% cortex on dorsal. Small flakes., flake, tertiary

Context	**Count and Description**
	8 Lithic Fragment, quartzite, flake segments or flake-like shatter, shatter
	1 Lithic Fragment, quartzite, shatter
	3 Lithic Complete object, quartzite, 50% cortex on dorsal, flake, secondary
	2 Lithic Fragment, quartz, shatter
	1 Ceramic fragment, coarse earthenware, unidentified manufacture, small sherd of redware?, Redware body sherd

F.S.#: 123 Unit 78, Stratum I/II 19.5N 28.5E

	2 Lithic Complete object, quartzite, flake, tertiary, utlized
	2 Lithic Fragment, quartzite, broad blades with curved points, biface
	5 Lithic Complete object, quartzite, flake, secondary
	7 Lithic Complete object, quartzite, flake, tertiary
	20 Lithic Fragment, quartzite, shatter

F.S.#: 124 Unit 79, Stratum I/II 19.5N 22.5E

	2 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter
	2 Lithic Complete object, quartzite, smal waste/pressure flake, flake, tertiary
	2 Lithic Fragment, quartzite, shatter
	5 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 125 Unit 80, Stratum I/II 18N 34.5E

	2 Lithic Complete object, quartzite, 90% cortex on dorsal, flake, primary
	2 Lithic Fragment, quartzite, shatter

Context	**Count and Description**
	2 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary

F.S.#: 127 Unit 82, Stratum I/II 19.5N 30E

4 Lithic Fragment, quartzite, shatter

1 Lithic fragment, quartz, FCR

1 Lithic fragment, chert, flake-like shatter, shatter

14 Lithic Fragment, quartzite, flake segments or flake like shatter, shatter

16 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary

4 Lithic Complete object, quartzite, 10-40% cortex on dorsal, flake, secondary

2 Lithic Complete object, quartzite, 100% cortex on dorsal, flake, primary

1 Lithic Complete object, quartzite, large chunky flake, no cortex., flake, primary

F.S.#: 128 Unit 83, Stratum I/II 21N 25.5E

2 Lithic Complete object, quartzite, flake, secondary

6 Lithic Fragment, quartzite, shatter

1 Lithic Complete object, quartzite, utilized heat treated edge, flake, secondary, utlized

6 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Complete object, quartzite, heat treated, flake, primary

9 Lithic Fragment, quartzite, flake segments/flake segments, shatter

F.S.#: 129 Unit 84, Stratum I/II 22.5N 28.5E

2 Lithic Fragment, quartzite, "chunky", shatter

Context	**Count and Description**
	1 Lithic Complete object, quartzite, blade-like flake, utilized edges, heat treated., flake, secondary, retouched
	1 Lithic Complete object, quartzite, flake, secondary, utlized
	5 Lithic Complete object, quartzite, flake, secondary
	3 Lithic Fragment, quartz, shatter
	1 Lithic Fragment, quartzite, flake segment/flake-like, shatter
	2 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 130 Unit 85, Stratum I/II 21N 24E

	6 Lithic Fragment, quartzite, flake segment/flake-like shatter, shatter
	8 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Complete object, quartzite, flake, secondary

F.S.#: 131 Unit 86, Stratum I/II 19.5N 31.5E

	6 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter
	1 Lithic Complete object, quartzite, "chunky" flake with possible retouched and utilized edges. 70% cortex., flake, primary, utlized
	1 Lithic Fragment, quartzite, shatter
	2 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, flake, tertiary
	5 Lithic Complete object, quartzite, 0% cortex, over 2.5cm., flake, secondary
	1 Lithic Fragment, quartzite, retouched flake segment. 0% cortex, over 2.5cm., flake, tertiary, retouched
	2 Lithic Complete object, quartzite, flake, primary

Context	**Count and Description**

F.S.#: 132 Unit 87, Stratum I/II 24N 28.5E

1 Lithic Complete object, quartzite, flake, primary, utlized

3 Lithic Complete object, quartzite, flake, tertiary

4 Lithic Complete object, quartzite, flake, secondary

3 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

3 Lithic Complete object, quartzite, flake, primary, retouched

F.S.#: 133 Unit 88, Stratum I/II 21N 22.5E

1 Lithic Complete object, quartzite, possibly heat treated. 100% cortex, 2.5cm., flake, primary

1 Lithic Complete object, quartzite, flake, secondary

4 Lithic Complete object, quartzite, flake, tertiary

1 Lithic Complete object, quartzite, flake segment/flake-like shatter, shatter

F.S.#: 134 Unit 89, Stratum I/II 19.5N 33E

1 Lithic Complete object, quartzite, 0% cortex, 2.5-5cm., flake, secondary

4 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

F.S.#: 135 Unit 90, Stratum I/II 21N 30E

1 Lithic Complete object, quartzite, 100% cortex., flake, primary

2 Lithic Fragment, quartz, flake segments/flake-like shatter, shatter

4 Lithic Fragment, quartzite, flake segment/flake-like shatter, shatter

1 Lithic Complete object, quartz, flake, tertiary

Context	**Count and Description**
	1 Lithic Complete object, quartz, retouch notch, spoke shave?, flake, tertiary, retouched
	1 Lithic Complete object, quartzite, flake, tertiary
	1 Lithic Complete object, quartzite, heat treated. 50% cortex, flake, primary
	6 Lithic Complete object, quartzite, flake, secondary

F.S.#: 136 Unit 91, Stratum I/II 22.5N 25.5E

	3 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter
	7 Lithic Complete object, quartzite, flake, tertiary
	2 Lithic Complete object, quartzite, flake, secondary
	2 Lithic Fragment, quartzite, shatter

F.S.#: 137 Unit 92, Stratum I/II 9N 28.5E

	1 Lithic Complete object, quartzite, 90% cortex on dorsal, flake, primary
	2 Lithic Complete object, quartzite, 5-15% cortex on dorsal, flake, secondary
	5 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary
	4 Lithic Fragment, quartzite, shatter
	8 Lithic Fragment, quartzite, flake segments or flake-like shatter, shatter
	1 Lithic Complete object, quartzite, 0% cortex on dorsal. Small flake, flake, tertiary

F.S.#: 138 Unit 93, Stratum I/II 9N 30E

	2 Lithic Fragment, quartzite, shatter
	1 Lithic Complete object, quartzite, large flake, 0% cortex, possible utilized edge, flake, primary, utlized

Context	**Count and Description**
	1 Lithic Complete object, quartzite, heat treated, flake, secondary
	5 Lithic Complete object, quartzite, flake, secondary
	5 Lithic Complete object, quartzite, flake, tertiary
	9 Lithic Fragment, quartzite, flake segments/flake-like, shatter

F.S.#: 139 Unit 94, Stratum I/II 21N 31.5E

	2 Lithic Complete object, quartzite, flake, secondary
	3 Lithic Complete object, quartzite, flake segments, shatter
	1 Lithic Complete object, quartzite, flake, secondary, utlized

F.S.#: 140 Unit 95, Stratum I/II 22.5N 30E

	4 Lithic Fragment, quartzite, flake segments/flake-like shatter., shatter
	1 Lithic Complete object, quartzite, flake, secondary
	1 Lithic Complete object, quartzite, flake, tertiary

F.S.#: 141 Unit 96, Stratum I/II 9N 25.5E

	2 Lithic Complete object, quartzite, heat treated utilized edge, flake, secondary, utlized
	2 Lithic Complete object, quartzite, small waste/pressure flake, flake, tertiary
	11 Lithic Complete object, quartzite, flake, secondary
	9 Lithic Complete object, quartzite, flake, tertiary
	3 Lithic Fragment, quartzite, shatter
	8 Lithic Fragment, quartzite, flake segments/flake-like, shatter

Context	**Count and Description**
	2 Lithic Complete object, quartzite, flake, primary

F.S.#: 142 Unit 97, Stratum I/II 9N 31.5E

1 Lithic Fragment, quartzite, small angular fragment, shatter

2 Lithic Fragment, quartzite, flake segments/flake-like shatter, shatter

1 Lithic Complete object, quartzite, flake, tertiary

4 Lithic Complete object, quartzite, flake, secondary

F.S.#: 143 Unit 98, Stratum I/II 9N 27E

6 Lithic Complete object, quartzite, 0% cortex on dorsal, flake, tertiary

3 Lithic Complete object, quartzite, 0% cortex on dorsal. Small flakes., flake, tertiary

1 Lithic Complete object, quartzite, pointed biface preform? Early stage., biface

5 Lithic Fragment, quartzite, flake segments or flake like shatter, shatter

APPENDIX B: VDHR SITE FORMS

Report Generated on: 7/28/2009

City/County: **Alexandria**

DEPARTMENT OF HISTORIC RESOURCES
ARCHAEOLOGICAL REPORT

DHR ID#: 44AX0205

DHR Site Number: 44AX0205 **Other DHR Number:**
Resource Name:
Temporary Designation: 1312-1
Site Class: Terrestrial, open air

CULTURAL/TEMPORAL AFFILIATION

Cultural Designation	Temporal Designation
Native American	Archaic

THEMATIC CONTEXTS/SITE FUNCTIONS

Thematic Context: Industry/Processing/Extraction **Example:** Lithic workshop
Comments/Remarks:

LOCATION INFORMATION

USGS Quadrangle(s): ALEXANDRIA **Restrict UTM Data?** No

Center UTM Coordinates (for less than 10 acres): NAD 18/4300145/0316208/2

NAD	ZONE	EAST	NORTH

Boundary UTM Coordinates (for 10 acres or more):

NAD	ZONE	EAST	NORTH

Physiographic Province: Piedmont
Aspect:
Elevation (in feet): 243.00
Slope: 2-6%

Landform: urban
terrace

Drainage: Potomac/Shenandoah River
Nearest Water Source: unnamed tributary of Holmes Run
Distance to Water(in feet): 700
Site Soils: Sassafra-Marumsco complex, Sumerduck loam
Adjacent Soils: Sassafra-Marumsco complex

SITE CONDITION/SURVEY DESCRIPTION

Site Dimensions: 45 feet by 30 feet **Acreage:** 0.02

Survey Strategy: Subsurface Testing

City/County: **Alexandria**

Site Condition: Intact Cultural Level

Threats to Resource: Development

Survey Description:

30 foot interval shovel testing with 15 foot radials around positive shovel tests. 5 3-foot by 3-foot test units were excavated in areas of artifact concentrations. 15 foot interval shovel testing was also conducted prior to the 5 3-foot by 3 foot test units. Phase III level of excavation included 7.5 foot interval shovel testing with 98 1.5-foot by 1.5 foot test units. Total shovel test in site was 41 with 8 positive for cultural material.

CURRENT LAND USE

Land Use: Other **Example:** Park **Dates of Use:** 2008/06/99

Comments/Remarks:
In urban area partially wooded

SPECIMENS, FIELDNOTES, DEPOSITORIES

Specimens Obtained? Yes **Specimens Depository:** CRI Glen Allen

Assemblage Description:
The base of a Savannah River projectile point and 15 pieces of debitage were recovered from three shovel tests excavated within a 45-x-30-foot area. The Savannah River point indicates an occupation dating to the Terminal Archaic Period, circa 2,500-1,000 B.C. In addition to the Savannah River Point, excavation of five test units within the boundaries of Site 1312-1 recovered five non-diagnostic stone tool fragments, 1,083 pieces of debitage, and two historic artifacts. Quartzite constituted the overwhelming majority of lithic material recovered, with quartz a minor component of the assemblage. The material classified as quartz included quartz rock composed of small, rounded and angular particles that approximated the texture of quartzite when examined under low magnification. Over 99 percent of the 2,726 artifacts recovered during the additional excavations at Site 44AX0205 reflected the prehistoric occupation of the area (2,717/2,726). A range of stone tools, fire-cracked rock, and, primarily, debitage constituted the assemblage. Locally available quartzite represents 87.6 percent of all stone artifacts, followed by quartz (12%). The assemblage of 2,726 artifacts recovered during the Ph III excavations at 44AX0205 were initially cataloged using a standard collections database. Aspects of prehistoric artifacts cataloged in this database include material type, lithic type (tool, flake, etc), reduction phase, evidence of use as a tool, retouching or resharpening, and biface type and technology.

Specimens Reported?

Assemblage Description--Reported:

Field Notes Reported? Yes **Depository:** CRI Fredericksburg

REPORTS, DEPOSITORY AND REFERENCES

Report (s) ? Yes **Depository:** CRI Fredericksburg

DHR Library Reference Number:

Reference for reports and publications:

2008. CULTURAL RESOURCES INVESTIGATIONS OF THE 4-ACRE MARK CENTER VI PARCEL (AREA A) AND ONE ACRE OF THE 6-ACRE MARK CENTER BUILDINGS 2A, 2B, AND 3 PARCEL (AREA B) WITHIN THE MARK CENTER COMPLEX ON SEMINARY ROAD IN THE CITY OF ALEXANDRIA, VIRGINIA

Ferland and Klein, June 2008

City/County: **Alexandria**

PHOTOGRAPHIC DOCUMENTATION AND DEPOSITORY

Photographic Documentation?	Depository	Type of Photos	Photo Date
	CRI Fredericksburg	Digital	2008/06/99

CULTURAL RESOURCE MANAGEMENT EVENTS

Cultural Resource Management Event: Archaeological Data Recovery **Date:** 2008/10/99

Organization and Person:
Organization: Cultural Resources **First:** Sara **Last:** Ferland
Sponsor Organization:
DHR Project Review File No:

CRM Event Notes or Comments:
Phase III level of effort was conducted at the request of Alexandria Archaeology upon the completion of Phase I/II level of effort. A combined report detailing all levels of effort was produced.

Cultural Resource Management Event: Survey:Phase I/Reconnaissance **Date:** 2008/06/99

Organization and Person:
Organization: Cultural Resources **First:** Sara **Last:** Ferland
Sponsor Organization:
DHR Project Review File No:

CRM Event Notes or Comments:
Phase I with additional test units after the Phase I was completed.

CRI recommended the site not eligible for listing on the NRHP. City of Alexandra did not concur with this finding and a Phase III evaluation of the site was conducted in October 2008 by CRI.

INDIVIDUAL/ORGANIZATION/AGENCY INFORMATION

Individual Category Codes:

Honorif: **First:** **Last:**
Suffix:
Title:
Company/
Agency:

Address:

City: **State:** **Zip:**
Phone/Ext:

Notes:

Ownership Type: Private

Government Agency:

City/County: Alexandria

APPENDIX C: LITHIC ANALYSIS AND DISTRIBUTION MAPS

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
1	1	Quartzite	Biface	Late stage	0	n	10	fragmentary
1	1	Quartzite	Biface	Scraper	0	n	2.5	fragmentary
1	1	Quartzite	Flake	Primary	100	y	10	
1	4	Quartzite	Flake	Primary	100	n	5	
1	1	Quartzite	Flake	Primary	100	y	5	
1	5	Quartzite	Flake	Secondary	0	n	5	
1	8	Quartzite	Flake	Secondary	0	n	2.5	
1	4	Quartzite	Flake	Tertiary	0	n	2.5	
1	6	Quartzite	Shatter		0	n	5	flake segments
1	7	Quartzite	Shatter		0	n	2.5	flake segments
1	2	Quartzite	Shatter		0	y	2.5	flake segments
1	3	Quartzite	Shatter		100	n	2.5	
1	4	Quartzite	Shatter		25	n	5	
1	7	Quartzite	Shatter		0	n	5	
1	12	Quartzite	Shatter		0	n	2.5	
1	1	Quartzite	Tool, flake	Blade	100	n	10	
1	1	Quartzite	Tool, flake		100	n	2.5	
1	1	Quartzite	Utilized flake		0	n	5	
1	1	Quartzite	Utilized flake		0	n	2.5	
2	1	Quartz	Shatter		0	n	2.5	
2	3	Quartzite	Biface	Early stage	0	n	5	base/tip
2	1	Quartzite	Biface	Early stage	0	n	5	broken by bipolar reduction in thinning attempt
2	1	Quartzite	Biface	Middle stage	0	n	5	biface edge?
2	1	Quartzite	FCR		100	y	5	
2	3	Quartzite	Flake	Primary	100	n	2.5	100% cortex on platform
2	3	Quartzite	Flake	Primary	100	y	5	
2	1	Quartzite	Flake	Primary	50	y	2.5	
2	4	Quartzite	Flake	Secondary	0	y	2.5	
2	24	Quartzite	Flake	Secondary	0	n	2.5	
2	16	Quartzite	Flake	Secondary	0	n	5	
2	3	Quartzite	Flake	Secondary	0	y	5	
2	1	Quartzite	Flake	Secondary	0	n	10	
2	6	Quartzite	Flake	Tertiary	0	n	1	
2	1	Quartzite	Shatter		100	y	2.5	
2	4	Quartzite	Shatter		100	y	5	
2	5	Quartzite	Shatter		50	y	2.5	
2	4	Quartzite	Shatter		50	n	2.5	
2	1	Quartzite	Shatter		50	y	5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
2	3	Quartzite	Shatter		0	y	2.5	flake segments
2	2	Quartzite	Shatter		0	y	2.5	
2	49	Quartzite	Shatter		0	n	2.5	flake segments
2	15	Quartzite	Shatter		0	n	2.5	
2	3	Quartzite	Shatter		0	y	5	
2	1	Quartzite	Shatter		0	n	5	flake segments
2	4	Quartzite	Shatter		0	n	5	
2	3	Quartzite	Tool, flake	Scraper	100	y	5	
2	1	Quartzite	Tool, flake	Scraper	0	n	5	
2	2	Quartzite	Utilized flake	Primary	100	y?	5	
2	1	Quartzite	Utilized flake	Secondary	0	n	5	
2	1	Quartzite	Utilized flake		0	n	5	flake segments
2	1	Sherd	Brick					Historic
3	1	Quartz	Flake	Primary	25	n	5	
3	1	Quartz	Shatter		0	n	2.5	flake segments
3	1	Quartzite	Biface		0	n	10	Fragmentary
3	1	Quartzite	FCR		100	y	2.5	Reddened
3	9	Quartzite	Flake	Secondary	0	n	5	
3	12	Quartzite	Flake	Secondary	0	n	2.5	
3	9	Quartzite	Flake	Tertiary	0	n	2.5	
3	4	Quartzite	Shatter		0	n	5	flake segments
3	30	Quartzite	Shatter		0	n	2.5	flake segments
3	1	Quartzite	Shatter		100	y	5	crazing and reddened
3	2	Quartzite	Shatter		50	n	5	
3	2	Quartzite	Shatter		50	n	2.5	
3	2	Quartzite	Utilized flake	Secondary	0	n	2.5	
4	3	Quartz	Flake	Tertiary	0	n	2.5	
4	1	quartzite	Biface	Early-Mid Stage	0	n	10	
4	1	Quartzite	Biface	Preform	25	n	10	
4	1	Quartzite	Biface		0	n	2.5	Fragmentary
4	3	Quartzite	Flake	Primary	100	n	2.5	
4	3	Quartzite	Flake	Primary	75	n	5	
4	1	Quartzite	Flake	Primary	50	n	2.5	
4	1	Quartzite	Flake	Primary	50	n	5	
4	4	Quartzite	Flake	Primary	25	n	2.5	
4	1	Quartzite	Flake	Primary	25	n	5	
4	37	Quartzite	Flake	Secondary	0	n	2.5	
4	19	Quartzite	Flake	Secondary	0	n	5	
4	30	Quartzite	Flake	Tertiary	0	n	2.5	
4	1	Quartzite	Hammerstone		100	y	10	Reddened

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
4	3	Quartzite	Shatter		100	y	5	flake segments
4	4	Quartzite	Shatter		75	y	2.5	flake segments
4	2	Quartzite	Shatter		25	n	5	flake segments
4	1	Quartzite	Shatter		0	n	1	flake segments
4	40	Quartzite	Shatter		0	n	2.5	flake segments
4	14	Quartzite	Shatter		0	n	5	flake segments
4	8	Quartzite	Shatter		100	y	2.5	crazing and reddened
4	1	Quartzite	Shatter		100	n	1	
4	2	Quartzite	Shatter		50	n	5	
4	2	Quartzite	Shatter		25	y	5	crazing and reddened
4	3	Quartzite	Shatter		25	n	2.5	
4	8	Quartzite	Shatter		0	y	2.5	crazing and reddened
4	20	Quartzite	Shatter		0	n	2.5	
4	1	Quartzite	Tool, flake	Scraper	100	n	5	
4	1	Quartzite	Tool, flake	Scraper	75	n	5	
4	4	Quartzite	Tool, flake	Scraper	0	n	5	
4	1	Quartzite	Utilized flake	Secondary	25	n	10	
4	2	Quartzite	Utilized flake		25	n	5	
4	4	Quartzite	Utilized flake		0	n	5	
5	1	Quartzite	Flake	Secondary	0	n	5	
6	2	Quartz	Shatter		50	n	2.5	
6	1	Quartzite	Flake	Primary	100	y	5	Reddened
6	1	Quartzite	Flake	Secondary	0	n	2.5	
6	2	Quartzite	Flake	Tertiary	0	n	2.5	
6	1	Quartzite	Utilized flake	Secondary	25	n	10	
6	1	Quartzite	Utilized flake	Secondary	0	n	5	
7	1	Quartz	Flake	Tertiary	25	n	2.5	
7	1	Quartzite	Flake	Primary	100	n	5	
7	2	Quartzite	Flake	Secondary	0	n	2.5	
7	1	Quartzite	Flake	Tertiary	0	n	2.5	
7	1	Quartzite	Flake	Tertiary	0	n	1	
7	1	Quartzite	Shatter		100	n	5	
7	1	Quartzite	Shatter		100	n	2.5	
7	4	Quartzite	Shatter		0	n	2.5	
7	1	Quartzite	Utilized flake	Secondary	0	n	10	
8	2	Quartz	F		100	y	5	Crazing
8	3	Quartz	Shatter		100	y	2.5	crazing and reddened
8	4	Quartz	Shatter		100	n	2.5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
8	1	Quartzite	Flake	Tertiary	0	n	2.5	
8	2	Quartzite	Shatter		0	n	2.5	flake segments
8	1	Quartzite	Shatter		75	n	2.5	
13	1	Quartz	Flake	Secondary	0	n	2.5	
13	1	Quartz	Shatter		100	n	2.5	
13	1	Quartz	Shatter		50	n	2.5	
13	4	Quartz	Shatter		0	n	2.5	flake segments
13	2	Quartz	Shatter		0	n	2.5	
13	1	Quartzite	Biface		0	n	2.5	preform/late stage, tip
13	2	Quartzite	Flake	Primary	75	y	5	Crazing
13	2	Quartzite	Flake	Secondary	50	n	2.5	
13	1	Quartzite	Flake	Secondary	25	y	2.5	Reddened
13	1	Quartzite	Flake	Secondary	25	n	5	
13	30	Quartzite	Flake	Secondary	0	n	2.5	
13	3	Quartzite	Flake	Secondary	0	n	5	blade-like
13	12	Quartzite	Flake	Secondary	0	n	5	
13	17	Quartzite	Flake	Tertiary	0	n	2.5	
13	2	Quartzite	Shatter		100	n	2.5	
13	3	Quartzite	Shatter		100	n	5	
13	2	Quartzite	Shatter		50	n	2.5	
13	8	Quartzite	Shatter		0	n	2.5	secondary flake segments
13	13	Quartzite	Shatter		0	n	2.5	tertiary flake segments
13	18	Quartzite	Shatter		0	n	2.5	
13	2	Quartzite	Shatter		0	n	5	blade segments
13	2	Quartzite	Shatter		0	n	5	
13	1	Quartzite	Tool, flake	Blade	0	n	5	blade w/ spoke shave
13	1	Quartzite	Tool, flake	Scraper	0	n	5	combo side/concave scraper
13	1	Quartzite	Tool, flake	Scraper	50	n	5	made from primary flake
13	1	Quartzite	Tool, flake	Scraper	50	n	5	
13	1	Quartzite	Tool, flake		100	n	5	made from primary flake
13	1	Quartzite	utilized flake	Secondary	50	n	5	
13	1	Quartzite	Utilized flake		25	n	5	
13	2	Quartzite	Utilized flake		0	n	2.5	
13	1	Quartzite	Utilized flake		0	n	5	
14	3	Quartz	Flake	Secondary	0	n	2.5	
14	2	Quartz	Flake	Tertiary	0	n	2.5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
14	2	Quartz	Shatter		0	n	2.5	flake segments
14	1	Quartz	Shatter		100	n	2.5	
14	1	Quartz	Tool, flake	Scraper	50	n	5	end scraper with spoke shave
14	1	Quartzite	Flake	Primary	75	n	2.5	
14	4	Quartzite	Flake	Primary	25	n	2.5	
14	9	Quartzite	Flake	Secondary	0	n	2.5	
14	2	Quartzite	Flake	Secondary	0	n	5	
14	5	Quartzite	Flake	Tertiary	0	n	2.5	
14	1	Quartzite	Flake	Tertiary	0	n	1	
14	1	Quartzite	Shatter		0	n	5	flake segments
14	6	Quartzite	Shatter		0	n	2.5	flake segments
14	1	Quartzite	Shatter		100	y	2.5	Reddened
14	8	Quartzite	Shatter		0	n	2.5	
14	1	Quartzite	Shatter		0	n	5	
14	1	Quartzite	Utilized flake	Secondary	0	y	5	Reddened
14	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
15	1	Quartzite	Biface		0	n	5	Fragmentary
15	1	Quartzite	Flake	Primary	75	n	5	
15	1	Quartzite	Flake	Primary	50	n	5	
15	1	Quartzite	Flake	Primary	50	n	2.5	
15	1	Quartzite	Flake	Secondary	25	n	2.5	
15	1	Quartzite	Flake	Secondary	25	y	2.5	Reddened
15	4	Quartzite	Flake	Secondary	0	n	5	
15	2	Quartzite	Flake	Secondary	0	n	2.5	
15	2	Quartzite	Flake	Tertiary	0	n	2.5	
15	4	Quartzite	Shatter		0	n	5	flake segments
15	1	Quartzite	Shatter		50	n	5	
15	2	Quartzite	Shatter		0	n	2.5	
15	1	Quartzite	Utilized flake	Secondary	0	n	5	
17	1	Chert	Shatter		50	n	5	
17	1	Quartzite	Flake	Secondary	0	y	2.5	Reddened
17	1	Quartzite	Shatter		0	y	5	flake segments
17	1	Quartzite	Shatter		100	n	5	
17	1	Quartzite	Shatter		100	n	2.5	
17	1	Quartzite	Shatter		50	y	2.5	
17	1	Quartzite	Shatter		0	n	2.5	
17	1	Quartzite	Tool, flake	Scraper	25	y	5	
17	2	Quartzite	Utilized flake	Secondary	0	n	5	
17	2	Quartzite	Utilized flake	Secondary	0	n	10	
18	1	Quartz	Shatter		0	n	2.5	
18	2	Quartzite	Flake	Secondary	0	n	5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
18	2	Quartzite	Shatter		0	n	5	flake segments
18	2	Quartzite	Shatter		0	n	2.5	flake segments
18	1	Quartzite	Shatter		100	n	2.5	
21	1	Quartzite	Flake	Primary	100	y	5	
21	1	Quartzite	Flake	Secondary	25	n	5	
21	4	Quartzite	Flake	Secondary	0	n	2.5	
21	2	Quartzite	Flake	Secondary	0	y	5	
21	4	Quartzite	Flake	Secondary	0	n	5	
21	2	Quartzite	Flake	Tertiary	0	n	2.5	
21	2	Quartzite	Shatter		100	n	2.5	
21	2	Quartzite	Shatter		0	n	2.5	
21	6	Quartzite	Shatter		0	n	2.5	flake segments
21	1	Quartzite	Tool, flake		0	n	5	denticular with edge scraper
21	2	Quartzite	Utilized flake	Tertiary	0	n	5	
22	1	Quartzite	Flake	Primary	100	n	5	
22	1	Quartzite	Flake	Primary	25	n	5	
22	3	Quartzite	Flake	Secondary	0	n	5	
22	2	Quartzite	Flake	Secondary	0	n	2.5	
22	1	Quartzite	Flake	Tertiary	25	n	2.5	
22	1	Quartzite	Shatter		25	y	5	flake segments
22	6	Quartzite	Shatter		0	n	2.5	flake segments
22	1	Quartzite	Shatter		0	n	5	
22	1	Quartzite	Shatter		0	n	2.5	
22	1	Quartzite	Utilized flake	Secondary	0	n	5	
22	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
23	1	Quartzite	Flake	Primary	100	y	5	Crazing
23	1	Quartzite	Flake	Secondary	0	n	5	
23	2	Quartzite	Flake	Secondary	0	n	2.5	
23	1	Quartzite	Shatter		100	y	2.5	flake segments
23	1	Quartzite	Shatter		75	n	5	flake segments
23	2	Quartzite	Shatter		0	n	2.5	
23	1	Quartzite	Utilized flake	Secondary	0	n	5	
24	1	Quartz	Shatter		0	n	2.5	
24	1	Quartzite	FCR		100	y	2.5	crazing, reddened
24	1	Quartzite	FCR		100	y	5	crazing, reddened
24	2	Quartzite	Flake	Secondary	25	n	2.5	
24	8	Quartzite	Flake	Secondary	0	n	2.5	
24	2	Quartzite	Flake	Secondary	0	n	5	
24	2	Quartzite	Flake	Tertiary	0	n	2.5	
24	1	Quartzite	Shatter		100	n	5	
24	1	Quartzite	Shatter		75	y	2.5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
24	1	Quartzite	Shatter		75	y	5	
24	1	Quartzite	Shatter		50	y	5	
24	2	Quartzite	Shatter		25	n	2.5	
24	1	Quartzite	Shatter		25	n	5	
24	8	Quartzite	Shatter		0	n	2.5	
24	9	Quartzite	Shatter		0	n	2.5	flake segments
24	1	Quartzite	Tool, flake		0	n	2.5	
24	1	Quartzite	Utilized flake	Primary	100	n	5	
24	1	Quartzite	Utilized flake	Primary	75	y	5	Reddened
24	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
24	1	Quartzite	Utilized flake	Tertiary	0	n	5	
29	1	Quartzite	Flake	Primary	100	n	2.5	
29	2	Quartzite	Flake	Secondary	0	n	2.5	
29	1	Quartzite	Flake	Tertiary	0	n	1	
29	1	Quartzite	Hammerstone		100	y	10	crazing and reddened
29	1	Quartzite	Shatter		100	n	5	
29	1	Quartzite	Shatter		25	n	5	
29	1	Quartzite	Shatter		0	y	2.5	
29	2	Quartzite	Shatter		0	n	2.5	
29	1	Quartzite	Tool, flake	Scraper	100	n	15	large, multi-edge
32	1	Quartz	Shatter		0	n	2.5	flake segments
32	2	Quartzite	Flake	Secondary	0	n	5	
32	3	Quartzite	Flake	Tertiary	0	n	2.5	
32	1	Quartzite	Shatter		75	n	5	flake segments
32	4	Quartzite	Shatter		0	n	2.5	flake segments
32	6	Quartzite	Shatter		0	n	5	flake segments
32	1	Quartzite	Shatter		0	n	2.5	
32	1	Quartzite	Shatter		50	n	2.5	
32	1	Quartzite	Shatter		100	n	2.5	
32	1	Quartzite	Utilized flake	Primary	100	n	10	
32	5	Quartzite	Utilized flake	Secondary	0	n	5	
45	2	Quartzite	Flake	Secondary	0	n	2.5	
45	1	Quartzite	Flake	Secondary	0	n	5	
45	1	Quartzite	Shatter		100	y	2.5	
45	1	Quartzite	Shatter		50	n	5	flake segments
45	1	Quartzite	Shatter		50	n	5	
45	3	Quartzite	Shatter		0	n	2.5	flake segments
45	1	Quartzite	Shatter		0	n	5	flake segments
45	1	Quartzite	Tool, flake	Scraper	0	n	5	
46	1	Quartzite	Biface	Late Stage	0	n	100	
46	1	Quartzite	Flake	Primary	100	y	5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
46	1	Quartzite	Flake	Primary	100	n	2.5	
46	1	Quartzite	Flake	Primary	50	n	5	
46	6	Quartzite	Flake	Secondary	0	n	2.5	
46	7	Quartzite	Flake	Secondary	0	n	5	
46	2	Quartzite	Flake	Tertiary	0	n	2.5	
46	1	Quartzite	Shatter		100	n	2.5	
46	2	Quartzite	Shatter		100	n	5	
46	1	Quartzite	Shatter		75	y	2.5	
46	3	Quartzite	Shatter		25	n	5	
46	4	Quartzite	Shatter		0	n	2.5	
46	8	Quartzite	Shatter		0	n	2.5	flake segments
46	3	Quartzite	Shatter		0	n	5	
46	6	Quartzite	Shatter		0	n	5	flake segments
46	1	Quartzite	Tool, flake	Scraper	0	n	5	scraper with spoke shave
46	1	Quartzite	Tool, flake	Scraper	0	n	10	scraper with spoke shave
46	1	Quartzite	Tool, flake	Secondary	0	n	10	
46	1	Quartzite	Utilized flake		0	n	5	on blade flake
46	2	Quartzite	Utilized flake		0	n	5	
49	2	Quartz	Shatter		100	n	2.5	
49	1	Quartzite	Flake	Primary	100	n	2.5	
49	3	Quartzite	Flake	Secondary	0	n	2.5	
49	2	Quartzite	Flake	Secondary	50	n	1	
49	2	Quartzite	Flake	Tertiary	0	n	2.5	
49	5	Quartzite	Shatter		0	n	2.5	flake segments
49	1	Quartzite	Tool, flake	Scraper	0	n	5	
49	1	Quartzite	Utilized flake	Secondary	0	n	5	
49	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
50	2	Quartzite	Flake	Secondary	0	n	5	
50	5	Quartzite	Flake	Secondary	0	n	2.5	
50	5	Quartzite	Flake	Secondary	0	n	2.5	
50	2	Quartzite	Flake	Tertiary	0	n	1	
50	4	Quartzite	Flake	Tertiary	0	n	2.5	
50	1	Quartzite	Shatter		100	n	2.5	flake segments
50	1	Quartzite	Shatter		25	n	5	flake segments
50	1	Quartzite	Utilized flake	Secondary	25	n	5	
50	1	Quartzite	Utilized flake	Secondary	0	n	5	
50	2	Quartzite	Utilized flake	Tertiary	0	n	2.5	
51	1	Quartz	FCR		50	y	5	crazing and reddened
51	1	Quartz	Flake	Secondary	25	n	5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
51	1	Quartzite	Biface	Late stage	0	y	10	reddened
51	1	Quartzite	FCR		100	y	2.5	crazing and reddened
51	1	Quartzite	Flake	Primary	25	n	5	
51	1	Quartzite	Flake	Primary	0	y	5	crazing and reddened
51	1	Quartzite	Flake	Secondary	0	y	2.5	reddened
51	8	Quartzite	Flake	Secondary	0	n	2.5	
51	2	Quartzite	Flake	Secondary	0	n	5	
51	2	Quartzite	Flake	Tertiary	0	n	2.5	
51	6	Quartzite	Shatter		0	n	2.5	
51	1	Quartzite	Shatter		100	n	5	
51	2	Quartzite	Shatter		0	n	2.5	
51	1	Quartzite	Shatter		0	y	2.5	reddened
52	1	Basalt	Shatter		50	y	2.5	
52	1	Quartz	Shatter		25	n	2.5	
52	1	Quartzite	FCR		100	y	5	
52	2	Quartzite	Flake	Primary	100	n	5	
52	1	Quartzite	Flake	Secondary	0	n	5	
52	1	Quartzite	Tool, flake	end scraper	0	n	2.5	
52	1	Quartzite	Tool, flake	Secondary	25	n	2.5	
52	1	Quartzite	Utilized flake	Primary	50	n	5	
53	1	Quartzite	Flake	Primary	25	n	2.5	
53	1	Quartzite	Flake	Primary	75	n	5	
53	3	Quartzite	Flake	Secondary	0	n	5	
53	1	Quartzite	Flake	Tertiary	0	n	2.5	microblade?
53	2	Quartzite	Flake	Tertiary	0	n	2.5	
53	3	Quartzite	Shatter		0	n	2.5	flake segments
53	1	Quartzite	Shatter		0	n	5	flake segments
53	1	Quartzite	Shatter		100	n	2.5	
53	1	Quartzite	Shatter		25	n	5	
53	1	Quartzite	Tool, flake	Secondary	0	n	5	concave scraper
55	1	Quartz	Shatter		75	n	2.5	
55	1	Quartzite	Flake	Primary	100	y	2.5	reddened
55	6	Quartzite	Flake	Primary	0	n	5	
55	2	Quartzite	Flake	Secondary	25	y	5	reddened
55	1	Quartzite	Flake	Secondary	0	n	10	
55	11	Quartzite	Flake	Secondary	0	n	5	
55	6	Quartzite	Flake	Secondary	0	y	5	reddened
55	15	Quartzite	Flake	Secondary	0	n	2.5	
55	10	Quartzite	Flake	Secondary	0	y	2.5	reddened
55	1	Quartzite	Flake	Tertiary	25	y	2.5	reddened

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
55	9	Quartzite	Flake	Tertiary	0	n	2.5	
55	19	Quartzite	Shatter		0	n	2.5	flake segments
55	2	Quartzite	Shatter		0	n	5	flake segments
55	7	Quartzite	Shatter		0	y	2.5	flake segments
55	2	Quartzite	Shatter		0	y	5	flake segments
55	6	Quartzite	Shatter		100	n	2.5	
55	3	Quartzite	Shatter		100	y	5	reddened
55	8	Quartzite	Shatter		0	n	2.5	
55	2	Quartzite	Shatter		0	y	2.5	reddened
55	1	Quartzite	Shatter		0	n	1	
55	2	Quartzite	Utilized flake	Primary	100	y	10	reddened
55	2	Quartzite	Utilized flake	Primary	75	y	5	
55	3	Quartzite	Utilized flake	Secondary	0	n	5	
55	4	Quartzite	Utilized flake	Secondary	0	y	5	reddened
55	6	Quartzite	Utilized flake	Tertiary	0	n	2.5	
63	1	Quartz	Flake	Tertiary	0	n	1	
63	1	Quartzite	Biface	Early Stage	25	n	5	broken biface, utilized
63	1	Quartzite	Biface		0	n	2.5	fragmentary
63	1	Quartzite	Flake	Primary	50	n	2.5	
63	6	Quartzite	Flake	Secondary	0	n	2.5	
63	10	Quartzite	Flake	Tertiary	0	n	2.5	
63	4	Quartzite	Flake	Tertiary	0	n	1	
63	1	Quartzite	Shatter		0	n	5	flake segments
63	11	Quartzite	Shatter		0	n	2.5	flake segments
63	1	Quartzite	Shatter		0	n	1	flake segments
63	1	Quartzite	Shatter		100	n	2.5	
63	1	Quartzite	Shatter		0	n	1	
63	1	Quartzite	Shatter		0	n	2.5	
63	1	Quartzite	Tool, flake	Secondary	0	n	10	side/concave scraper
63	2	Quartzite	Utilized flake	Tertiary	0	n	2.5	
67	12	Quartz	FCR		100	y	5	boiling stones
67	9	Quartz	FCR		100	y	2.5	boiling stones
67	1	Quartz	FCR		100	y	1	
67	7	Quartz	FCR		75	y	5	boiling stones
67	12	Quartz	FCR		50	y	2.5	boiling stones
67	2	Quartz	FCR		0	y	2.5	
67	1	Quartz	Flake	Primary	100	n	5	
67	1	Quartz	Flake	Primary	50	y	2.5	reddened
67	7	Quartz	Shatter		100	n	2.5	
67	1	Quartz	Shatter		25	y	5	crazing
67	1	Quartz	Shatter		0	n	2.5	

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
67	1	Quartzite	Biface	Late Stage	0	y	10	
67	4	Quartzite	FCR		100	y	5	boiling stones
67	3	Quartzite	FCR		100	y	2.5	boiling stones
67	2	Quartzite	FCR		0	y	2.5	
67	1	Quartzite	Flake	Primary	75	n	5	
67	1	Quartzite	Flake	Primary	75	y	2.5	reddened
67	1	Quartzite	Flake	Primary	50	n	5	
67	1	Quartzite	Flake	Primary	25	y	5	crazing
67	1	Quartzite	Flake	Secondary	25	n	5	
67	2	Quartzite	Flake	Secondary	0	n	5	
67	6	Quartzite	Flake	Secondary	0	n	2.5	
67	1	Quartzite	Flake	Secondary	0	y	2.5	reddened
67	10	Quartzite	Flake	Tertiary	0	n	2.5	
67	1	Quartzite	Hammerstone		100	y	10	
67	1	Quartzite	Rock		100	y	5	tested pebble?
67	1	Quartzite	Rock		100	n	2.5	spherical pebble, gaming piece?
67	2	Quartzite	Shatter		100	n	5	flake segments
67	4	Quartzite	Shatter		100	n	2.5	flake segments
67	3	Quartzite	Shatter		75	n	5	flake segments
67	2	Quartzite	Shatter		50	n	5	flake segments
67	2	Quartzite	Shatter		25	n	2.5	flake segments
67	4	Quartzite	Shatter		0	n	5	flake segments
67	29	Quartzite	Shatter		0	n	2.5	flake segments
67	8	Quartzite	Shatter		0	n	2.5	
67	1	Quartzite	Shatter		0	y	2.5	reddened
67	1	Quartzite	Tool, flake	Scraper	0	n	5	side/end scraper
67	1	Quartzite	Tool, flake	Scraper	0	n	5	side/end scraper w/ spurs
67	1	Quartzite	Utilized flake	Primary	50	n	10	
67	1	Quartzite	Utilized flake	Secondary	25	n	10	on blade-like flake
67	1	Quartzite	Utilized flake	Secondary	25	n	5	
67	4	Quartzite	Utilized flake	Secondary	0	n	5	
67	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
67	1	sandstone	Groundstone	Abrading stone	100	y	5	
67	1	sandstone	Groundstone	Abrading stone	25	y	5	
68	3	Quartz	FCR		100	y	5	boiling stones
68	1	Quartz	Flake	Tertiary	0	n	2.5	
68	2	Quartz	Shatter		100	n	2.5	
68	2	Quartz	Shatter		25	y	2.5	crazing and reddened

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
68	1	Quartz	Shatter		0	y	1	crazing and reddened
68	1	Quartzite	FCR		25	y	2.5	reddened
68	1	Quartzite	FCR		0	y	2.5	reddened
68	1	Quartzite	Flake	Primary	100	n	2.5	
68	1	Quartzite	Flake	Primary	75	y	5	reddened
68	1	Quartzite	Flake	Primary	50	n	2.5	
68	1	Quartzite	Flake	Secondary	25	n	2.5	
68	6	Quartzite	Flake	Secondary	0	n	2.5	
68	3	Quartzite	Flake	Secondary	0	n	5	
68	8	Quartzite	Flake	Tertiary	0	n	2.5	
68	1	Quartzite	Shatter		100	n	2.5	flake segments
68	10	Quartzite	Shatter		0	n	2.5	flake segments
68	1	Quartzite	Shatter		0	n	5	flake segments
68	1	Quartzite	Utilized flake	Secondary	0	n	5	
68	1	Quartzite	Utilized flake		0	y	5	reddened
68	3	Quartzite	Utilized flake		0	n	5	
68	2	sandstone	FCR		100	y	5	boiling stones
69	1	Quartzite	Biface	Middle Stage	0	n	5	biface frag
69	1	Quartzite	Flake	Secondary	50	n	5	
69	2	Quartzite	Flake	Secondary	25	n	5	
69	9	Quartzite	Flake	Secondary	0	n	2.5	
69	2	Quartzite	Flake	Secondary	0	y	2.5	reddened
69	6	Quartzite	Flake	Secondary	0	n	5	
69	3	Quartzite	Flake	Secondary	0	y	5	reddened
69	1	Quartzite	Flake	Secondary	0	y	10	blade?
69	2	Quartzite	Flake	Tertiary	0	n	2.5	
69	8	Quartzite	Shatter		0	n	2.5	flake segments
69	1	Quartzite	Shatter		0	n	5	flake segments
69	5	Quartzite	Shatter		0	y	2.5	flake segments
69	1	Quartzite	Shatter		50	y	2.5	flake segments
69	4	Quartzite	Shatter		0	n	2.5	
69	1	Quartzite	Shatter		50	n	2.5	
69	1	Quartzite	Shatter		100	n	1	
69	1	Quartzite	Shatter		100	y	2.5	
69	3	Quartzite	Shatter		100	y	5	
69	1	Quartzite	Shatter		25	y	1	reddened
69	1	Quartzite	Shatter		100	y	2.5	reddened
69	1	Quartzite	tool, flake	Scraper	0	n	10	
69	2	Quartzite	Utilized flake	Primary	100	y	5	reddened
69	2	Quartzite	Utilized flake	Secondary	0	n	5	
69	1	Quartzite	Utilized flake	Secondary	0	y	5	reddened

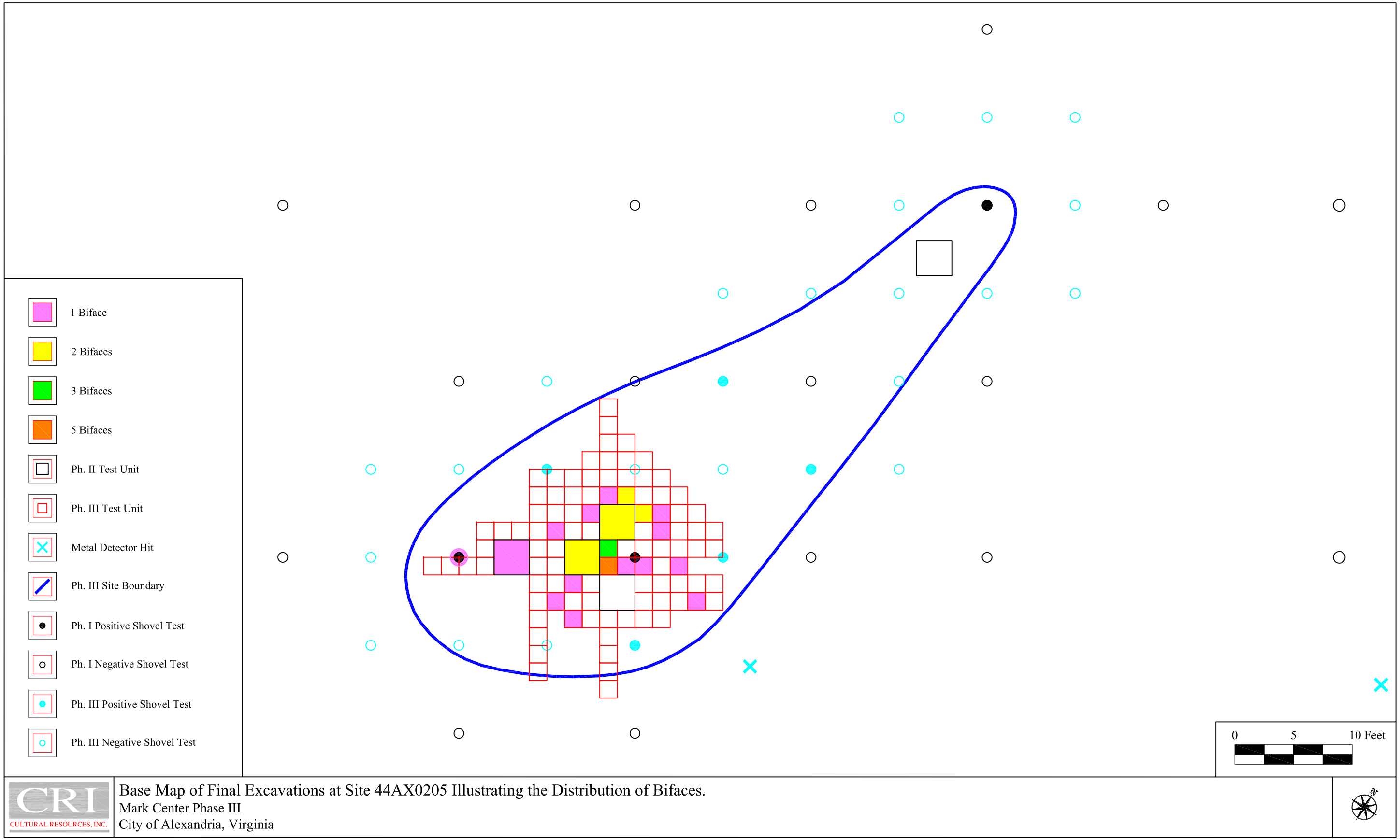
Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
69	1	Quartzite	Utilized flake	Secondary	25	n	5	
69	1	sandstone	Groundstone		25	n	10	for platform grinding?
73	1	Quartzite	Biface	Preform	0	n	5	preform late stage
73	1	Quartzite	Biface		0	y	10	utilized fragment
73	2	Quartzite	Flake	Primary	100	n	2.5	
73	1	Quartzite	Flake	Primary	50	y	2.5	
73	1	Quartzite	Flake	Primary	50	y	5	
73	5	Quartzite	Flake	Secondary	0	y	2.5	
73	15	Quartzite	Flake	Secondary	0	n	2.5	
73	9	Quartzite	Flake	Secondary	0	n	5	
73	17	Quartzite	Flake	Tertiary	0	n	2.5	
73	16	Quartzite	Shatter		0	n	2.5	flake segments
73	6	Quartzite	Shatter		0	y	2.5	flake segments
73	3	Quartzite	Shatter		0	n	5	flake segments
73	2	Quartzite	Shatter		0	y	5	flake segments
73	3	Quartzite	Shatter		100	n	2.5	
73	2	Quartzite	Shatter		100	y	5	reddened
73	8	Quartzite	Shatter		25	n	2.5	
73	1	Quartzite	Shatter		0	n	2.5	
73	1	Quartzite	Tool, flake	Primary	50	n	5	
73	1	Quartzite	Utilized flake	Primary	50	y	5	reddened
73	2	Quartzite	Utilized flake	Secondary	0	y	10	reddened
73	4	Quartzite	Utilized flake	Secondary	0	n	5	
73	1	Quartzite	Utilized flake	Secondary	25	n	2.5	
73	1	Quartzite	Utilized flake	Tertiary	0	n	2.5	
75	1	Quartz	FCR		50	y	2.5	crazing and reddened
75	5	Quartz	Shatter		0	n	2.5	flake segments
75	2	Quartzite	FCR		100	y	2.5	crazing and reddened
75	3	Quartzite	Flake	Primary	100	n	2.5	
75	1	Quartzite	Flake	Primary	100	y	5	reddened
75	1	Quartzite	Flake	Primary	100	n	5	
75	1	Quartzite	Flake	Secondary	50	n	2.5	
75	2	Quartzite	Flake	Secondary	25	n	2.5	
75	19	Quartzite	Flake	Secondary	0	n	2.5	
75	4	Quartzite	Flake	Secondary	0	n	5	
75	5	Quartzite	Flake	Tertiary	0	n	1	
75	19	Quartzite	Flake	Tertiary	0	n	2.5	
75	1	Quartzite	Shatter		100	y	5	flake segments
75	2	Quartzite	Shatter		25	y	2.5	flake segments

Detailed Analysis of the Lithic Sample.

Unit	N	Material	Category	Modifier	Maximum Cortex %	Thermal Alteration	Maximum Size (cm)	Comments
75	2	Quartzite	Shatter		0	n	1	flake segments
75	31	Quartzite	Shatter		0	n	2.5	flake segments
75	4	Quartzite	Shatter		0	n	5	flake segments
75	1	Quartzite	Shatter		100	n	1	
75	3	Quartzite	Shatter		100	y	2.5	
75	4	Quartzite	Shatter		0	n	2.5	
75	1	Quartzite	Utilized flake	Secondary	0	n	2.5	
75	1	Quartzite	Utilized flake	Secondary	0	n	5	
75	1	Quartzite	Utilized flake	Secondary	0	n	5	
75	4	Quartzite	Utilized flake		0	n	2.5	flake segments
75	1	sandstone	FCR		25	y	2.5	reddened
78	1	Quartzite	Biface	Perform	0	n	5	tip
78	1	Quartzite	Biface	Late stage	0	n	2.5	tip
78	3	Quartzite	Flake	Secondary	0	n	2.5	
78	2	Quartzite	Flake	Secondary	0	n	5	
78	7	Quartzite	Flake	Tertiary	0	n	2.5	
78	3	Quartzite	Shatter		100	n	2.5	
78	2	Quartzite	Shatter		100	n	5	
78	2	Quartzite	Shatter		25	n	2.5	
78	1	Quartzite	Shatter		0	y	2.5	
78	6	Quartzite	Shatter		0	n	2.5	
78	5	Quartzite	Shatter		0	n	2.5	flake segments
78	1	Quartzite	Shatter		0	n	5	flake segments

PR# 081312A



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Base Map of Final Excavations at Site 44AX0205 Illustrating the Distribution of Bifaces.
Mark Center Phase III
City of Alexandria, Virginia

PR# 081312A

Ph. II Test Unit

Ph. III Test Unit

Metal Detector Hit

Ph. III Site Boundary

4 Early Stage Bifaces

Ph. I Positive Shovel Test

Ph. I Negative Shovel Test

Ph. III Positive Shovel Test

Ph. III Negative Shovel Test

0 5 10 Feet

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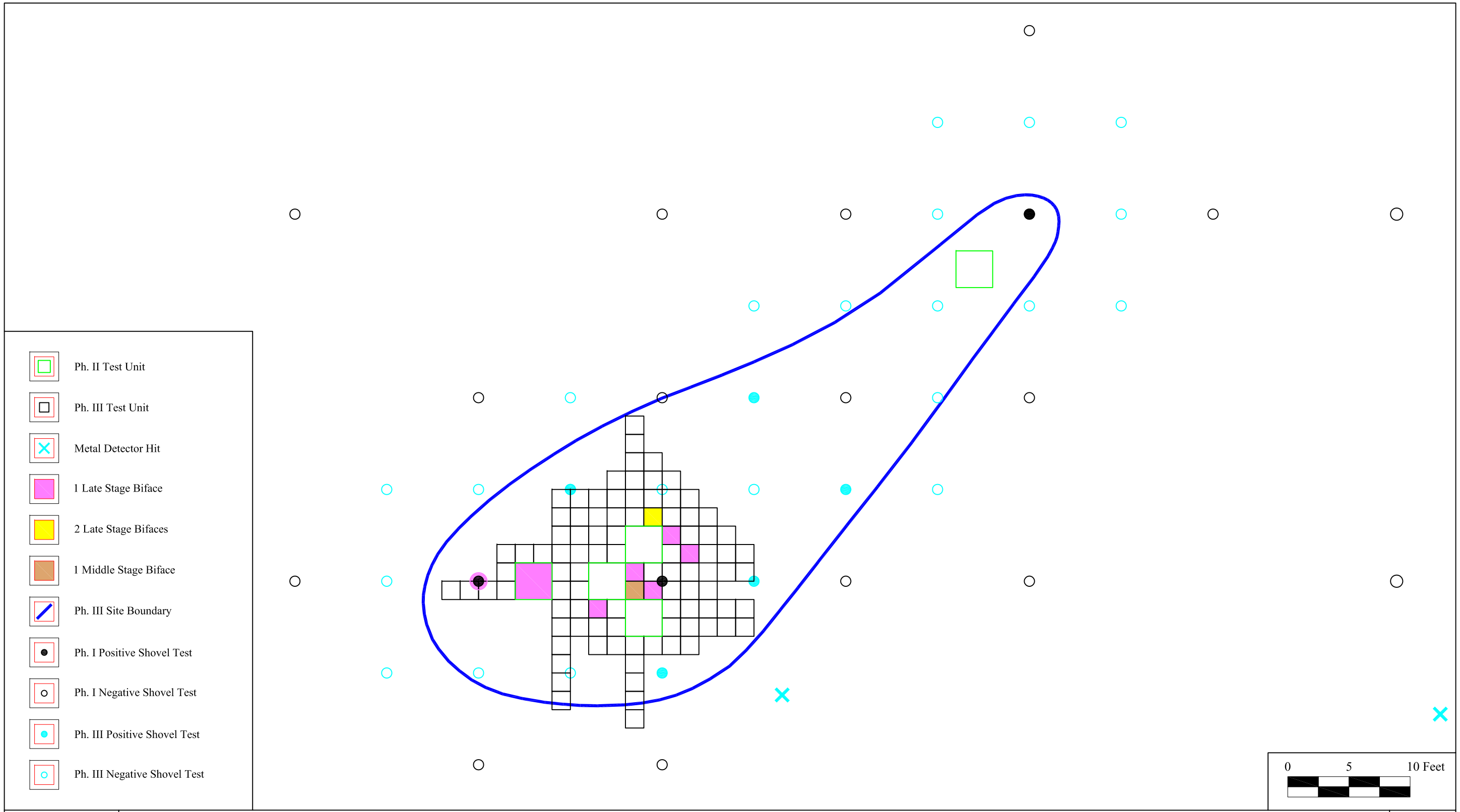
Base Map of Final Excavations at Site 44AX0205 Illustrating the Distribution of Early Stage Bifaces.
Mark Center Phase III
City of Alexandria, Virginia

PR# 081312A



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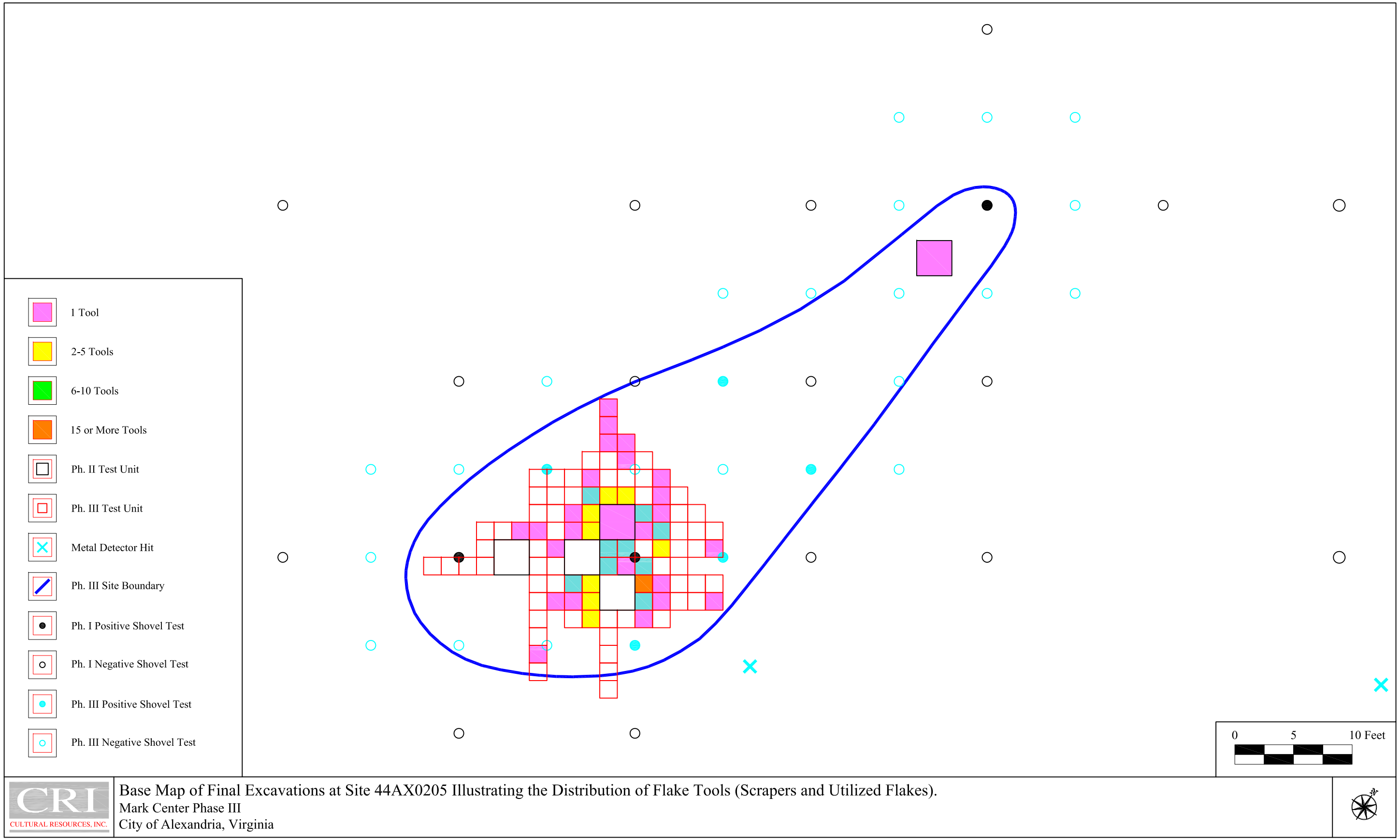
Base Map of Final Excavations at Site 44AX0205 Illustrating the Distribution of Middle and Late Stage Bifaces.
Mark Center Phase III
City of Alexandria, Virginia

PR# 081312A



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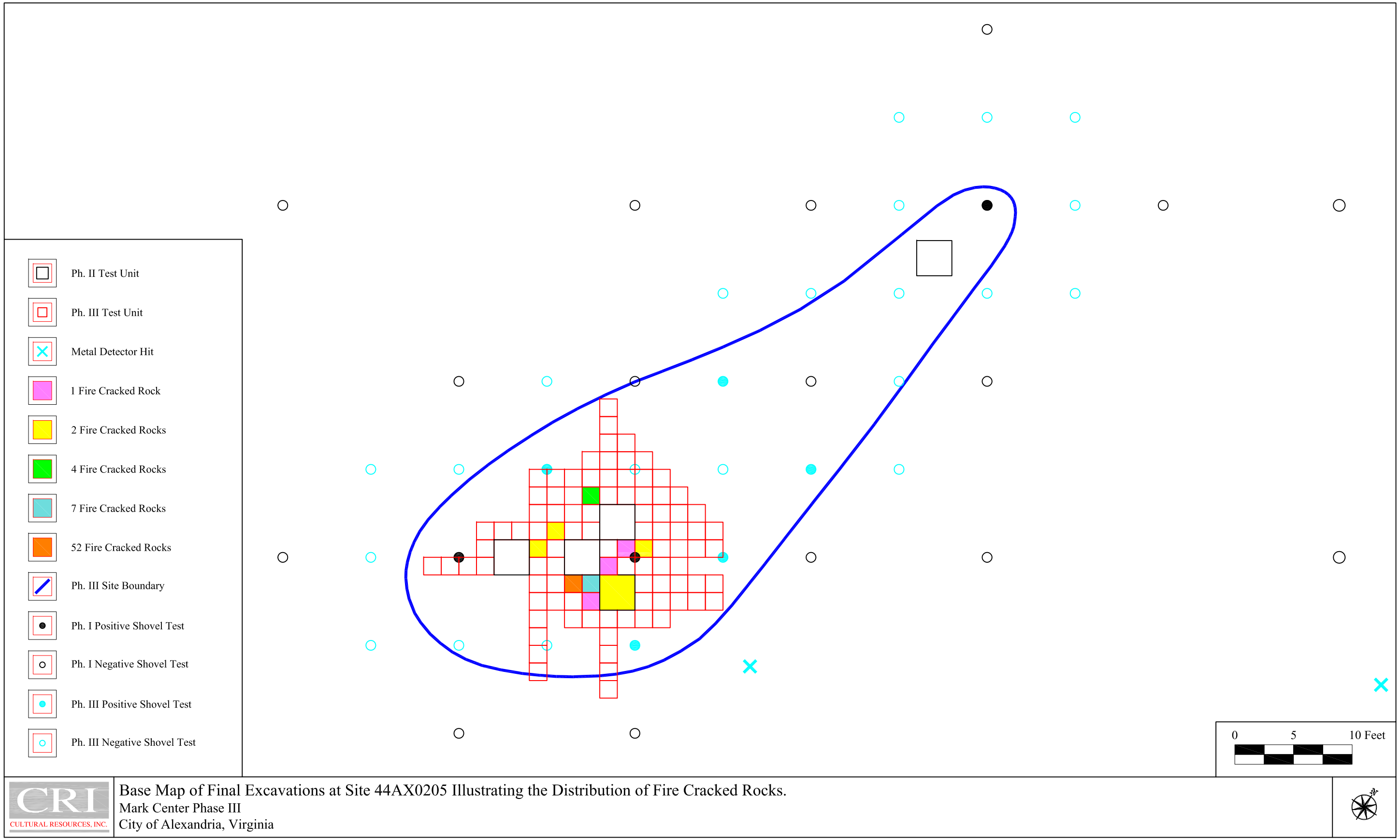
Base Map of Final Excavations at Site 44AX0205 Illustrating the Distribution of Flake Tools (Scrapers and Utilized Flakes).
Mark Center Phase III
City of Alexandria, Virginia

PR# 081312A



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Base Map of Final Excavations at Site 44AX0205 Illustrating the Distribution of Fire Cracked Rocks.
Mark Center Phase III
City of Alexandria, Virginia