



# Phase II and Phase III Archaeological Database and Inventory

Site Number: 18BA433

Site Name: Lyonsfield Run III

Prehistoric

Other name(s)

Historic

Unknown

Brief Description:

Early to Late Woodland short-term resource procurement camps

## Site Location and Environmental Data:

Maryland Archaeological Research Unit No. 14

SCS soil & sediment code

Latitude 39.3971

Longitude -76.8045

Physiographic province Eastern Piedmont

Terrestrial site

Underwater site

Elevation m Site slope 0

Ethnobotany profile available  Maritime site

### Nearest Surface Water

Name (if any) Unnamed tributary of Red

#### Saltwater

#### Freshwater

Ocean

Stream/river

Estuary/tidal river

Swamp

Tidewater/marsh

Lake or pond

Spring

Minimum distance to water is 11 m

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

### Topography

- Floodplain
- High terrace
- Hilltop/bluff
- Rockshelter/cave
- Interior flat
- Hillslope
- Upland flat
- Unknown
- Ridgetop
- Other
- Terrace
- Low terrace

### Ownership

- Private
- Federal
- State of MD
- Regional/county/city
- Unknown

## Temporal & Ethnic Contextual Data:

Paleoindian site  Woodland site

Archaic site  MD Adena

Early archaic  Early woodland

Middle archaic  Mid. woodland

Late archaic  Late woodland

- Contact period site  ca. 1820 - 1860
- ca. 1630 - 1675  ca. 1860 - 1900
- ca. 1675 - 1720  ca. 1900 - 1930
- ca. 1720 - 1780  Post 1930
- ca. 1780 - 1820

Unknown historic context

Unknown prehistoric context

Unknown context

### Ethnic Associations (historic only)

- Native American  Asian American
- African American  Unknown
- Anglo-American  Other
- Hispanic

Y=Confirmed, P=Possible

## Site Function Contextual Data:

### Prehistoric

- Multi-component  Misc. ceremonial
- Village  Rock art
- Hamlet  Shell midden
- Base camp  STU/lithic scatter
- Rockshelter/cave  Quarry/extraction
- Earthen mound  Fish weir
- Cairn  Production area
- Burial area  Unknown
- Other context

### Historic

Urban/Rural?

#### Domestic

- Homestead
- Farmstead
- Mansion
- Plantation
- Row/townhome
- Cellar
- Privy

#### Industrial

- Mining-related
- Quarry-related
- Mill
- Black/metalsmith

Furnace/forge

Other

#### Transportation

- Canal-related
- Road/railroad
- Wharf/landing
- Maritime-related
- Bridge
- Ford

#### Educational

#### Commercial

- Trading post
- Store
- Tavern/inn

#### Military

Battlefield

Fortification

Encampment

#### Townsite

#### Religious

- Church/mtg house
- Ch support bldg

#### Burial area

Cemetery

Sepulchre

Isolated burial

Bldg or foundation

Possible Structure

Post-in-ground

Frame-built

Masonry

Other structure

#### Slave related

Non-domestic agri

Recreational

Midden/dump

Artifact scatter

Spring or well

Unknown

Other context

## Interpretive Sampling Data:

### Prehistoric context samples

Soil samples taken N

Flotation samples taken N

Other samples taken

### Historic context samples

Soil samples taken

Flotation samples taken

Other samples taken



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## Diagnostic Artifact Data:

Projectile Point Types		Koens-Crispin	
Clovis	<input type="checkbox"/>	Perkiomen	<input type="checkbox"/>
Hardaway-Dalton	<input type="checkbox"/>	Susquehana	<input type="checkbox"/>
Palmer	<input type="checkbox"/>	Vernon	<input type="checkbox"/>
Kirk (notch)	<input type="checkbox"/>	Piscataway	<input type="checkbox"/>
Kirk (stem)	<input type="checkbox"/>	Calvert	<input type="checkbox"/> 3
Le Croy	<input type="checkbox"/> 2	Selby Bay	<input type="checkbox"/> 4
Morrow Mntn	<input type="checkbox"/>	Jacks Rf (notch)	<input type="checkbox"/>
Guilford	<input type="checkbox"/>	Jacks Rf (pent)	<input type="checkbox"/>
Brewerton	<input type="checkbox"/> 3	Madison/Potomac	<input type="checkbox"/> 1
Otter Creek	<input type="checkbox"/>	Levanna	<input type="checkbox"/>

## Prehistoric Sherd Types

Marcey Creek	<input type="checkbox"/>	Popes Creek	<input type="checkbox"/>	Shepard	<input type="checkbox"/>	Keyser	<input type="checkbox"/>
Dames Qtr	<input type="checkbox"/>	Coulbourn	<input type="checkbox"/>	Townsend	<input type="checkbox"/>	Yeocomico	<input type="checkbox"/>
Selden Island	<input type="checkbox"/>	Watson	<input type="checkbox"/>	Minguannan	<input type="checkbox"/>	Monongahela	<input type="checkbox"/>
Accokeek	<input type="checkbox"/> 6	Mockley	<input type="checkbox"/>	Sullivan Cove	<input type="checkbox"/>	Susquehannock	<input type="checkbox"/>
Wolfe Neck	<input type="checkbox"/>	Clemson Island	<input type="checkbox"/>	Shenks Ferry	<input type="checkbox"/>		
Vinette	<input type="checkbox"/>	Page	<input type="checkbox"/>	Moyaone	<input type="checkbox"/>		
				Potomac Crk	<input type="checkbox"/>		

## Historic Sherd Types

Earthenware		Ironstone		Staffordshire		Stoneware	
Astbury	<input type="checkbox"/>	Jackfield	<input type="checkbox"/>	Tin Glazed	<input type="checkbox"/>	English Brown	<input type="checkbox"/>
Borderware	<input type="checkbox"/>	Mn Mottled	<input type="checkbox"/>	Whiteware	<input type="checkbox"/> 3	Eng Dry-bodied	<input type="checkbox"/>
Buckley	<input type="checkbox"/>	North Devon	<input type="checkbox"/>	Porcelain	<input type="checkbox"/>	Nottingham	<input type="checkbox"/>
Creamware	<input type="checkbox"/>	Pearlware	<input type="checkbox"/>			Rhenish	<input type="checkbox"/>
						Wt Salt-glazed	<input type="checkbox"/>

All quantities exact or estimated minimal counts

## Other Artifact & Feature Types:

Prehistoric Artifacts		Other fired clay	
Flaked stone	<input type="checkbox"/> 18354	Human remain(s)	<input type="checkbox"/>
Ground stone	<input type="checkbox"/> 10	Modified faunal	<input type="checkbox"/>
Stone bowls	<input type="checkbox"/> 11	Unmod faunal	<input type="checkbox"/>
Fire-cracked rock	<input type="checkbox"/> 509	Oyster shell	<input type="checkbox"/>
Other lithics (all)	<input type="checkbox"/> 13	Floral material	<input type="checkbox"/>
Ceramics (all)	<input type="checkbox"/> 41	Uncommon Obj.	<input type="checkbox"/>
Rimsherds	<input type="checkbox"/>	Other	<input type="checkbox"/>

## Prehistoric Features

Mound(s)	<input type="checkbox"/>	Storage/trash pit	<input type="checkbox"/>
Midden	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>
Shell midden	<input type="checkbox"/>	Ossuary	<input type="checkbox"/>
Postholes/molds	<input type="checkbox"/>	Unknown	<input checked="" type="checkbox"/>
House pattern(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Palisade(s)	<input type="checkbox"/>		
Hearth(s)	<input type="checkbox"/>		
Lithic reduc area	<input type="checkbox"/>		

## Lithic Material

Fer quartzite	<input type="checkbox"/>	Sil sandstone	<input type="checkbox"/>
Jasper	<input type="checkbox"/>	Chalcedony	<input type="checkbox"/>
Chert	<input type="checkbox"/>	Ironstone	<input checked="" type="checkbox"/>
Rhyolite	<input checked="" type="checkbox"/>	Argilite	<input type="checkbox"/>
Quartz	<input checked="" type="checkbox"/>	Steatite	<input checked="" type="checkbox"/>
Quartzite	<input checked="" type="checkbox"/>	Sandstone	<input checked="" type="checkbox"/>
		European flint	<input type="checkbox"/>
		Basalt	<input type="checkbox"/>
		Unknown	<input type="checkbox"/>
		Other	<input type="checkbox"/>

Dated features present at site

Historic Artifacts		Tobacco related	
Pottery (all)	<input type="checkbox"/> 4	Activity item(s)	<input type="checkbox"/> 1
Glass (all)	<input type="checkbox"/> 9	Human remain(s)	<input type="checkbox"/>
Architectural	<input type="checkbox"/> 9	Faunal material	<input type="checkbox"/>
Furniture	<input type="checkbox"/>	Misc. kitchen	<input type="checkbox"/>
Arms	<input type="checkbox"/>	Floral material	<input type="checkbox"/>
Clothing	<input type="checkbox"/>	Misc.	<input type="checkbox"/> 6
Personal items	<input type="checkbox"/>	Other	<input type="checkbox"/>

## Historic Features

Privy/outhouse	<input type="checkbox"/>	Depression/mound	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
Const feature	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Foundation	<input type="checkbox"/>	Trash pit/dump	<input type="checkbox"/>	Railroad bed	<input type="checkbox"/>
Cellar hole/cellar	<input type="checkbox"/>	Sheet midden	<input type="checkbox"/>	Earthworks	<input type="checkbox"/>
Hearth/chimney	<input type="checkbox"/>	Planting feature	<input type="checkbox"/>	Mill raceway	<input type="checkbox"/>
Postholes/molds	<input type="checkbox"/>	Road/walkway	<input type="checkbox"/>	Wheel pit	<input type="checkbox"/>
Paling ditch/fence	<input type="checkbox"/>				

All quantities exact or estimated minimal counts

## Radiocarbon Data:

Sample 1: 970 +/- 120 years BP Reliability Mod Sample 2: +/- years BP Reliability Sample 3: +/- years BP Reliability

B-84077: Charcoal sample from Ab horizon, Block 3/TU 59, Locus A. Roughly assoc. w/poss. Accokeek ware, LeCroy and Brewerton points, lithic debitage

Sample 4: +/- years BP Reliability Sample 5: +/- years BP Reliability Sample 6: +/- years BP Reliability

Sample 7: +/- years BP Reliability Sample 8: +/- years BP Reliability Sample 9: +/- years BP Reliability

Additional radiocarbon results available



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## External Samples/Data:

Collection curated at JPPM/MAC Lab

Additional raw data may be available online

## Summary Description:

The Lyonsfield Run III Site (18BA433) is a large, multi-component resource procurement/quarry and processing site. The site appears to have been a seasonal campsite during the later Late Archaic and Early Woodland periods while earlier and later occupations during the late Early Archaic, Middle Archaic and Late Woodland periods were more transitory. It is a specialized quartz/quartzite quarry and reduction site. The site is located near Owings Mills in Baltimore County, Maryland. It is situated along the floodplain and terraces of two unnamed tributaries of Red Run; it occupies the crest, side-slopes, and the associated terraces of a low, wide finger ridge and encompasses an area of approximately 230 x 320 meters. The site has been subjected to a range of limited disturbances including possible shallow plowing and subsequent sheet erosion on the ridge, 20th century logging that necessitated the use of several dirt tracks, construction of a sewer line immediately south of the site, and recent limited dumping of debris and clearing of vegetation. However, the cumulative impact of the disturbances on such a large resource was not significant and an intact, undisturbed cultural horizon was identified.

Archival investigation revealed that no prehistoric or historic archeological sites had been recorded within and in the immediate vicinity of the site area, though there was considerable activity in the larger area during those times. The nearest sites were recorded over 0.5 km away from Site 18BA433. Prehistoric and historic sites were identified during surveys to the north and east of the site. A total of 19 previously recorded prehistoric sites were located within the Red Run drainage. During the prehistoric period, the site location was a stable, well-drained landform with access to water sources. Additionally, the bedrock geology provided lithic and mineral resources necessary in tool and vessel production.

Phase I and Phase II archeological investigations were undertaken at the site in 1993 ahead of development at the proposed Villages of Lyonsfield Run residential subdivision location. The survey was required as a condition of approval of a wetlands permit from the US Army Corps of Engineers. The objectives of the study were to identify all archeological resources within the designated area of potential effects, to review those results in light of specific historic contexts, to evaluate the potential significance of those resources, applying National Register of Historic Places criteria, and to establish impacts and mitigation needs for any significant sites or components. These objectives were met through a combination of archival investigation, archeological fieldwork, and analysis.

The designated area of potential effect (the project area) encompassed an approximately 17.14 acre portion of the total 185 acre proposed development. The project area was bordered by undeveloped woodlot to the south and the southwest, by residential properties to the north, and by Lathe Road to the east. The project area consisted of 3 contiguous areas: Area A was located within a wooded tract bounded to the north by a small tributary of Red Run; Area B was located about 240 m northwest of Area A in a gently sloping woodlot bounded to the south by a deeply cut tributary of Red Run; Area C was located between those two tributaries (between Areas A and B) on a low ridge that runs from west to east.

Phase I field investigations consisted of systematic shovel test pit (STP) excavations placed within a 20 meter grid across each of the survey areas with close interval shovel testing (5 m) around positive STPs. Soils were removed by natural strata and screened through 0.635 cm (0.25 in) hardware mesh. Phase II investigations entailed close-interval shovel testing (5 m intervals in Area A and 10 m intervals in Areas B and C) and the excavation of 1 m<sup>2</sup> test units. The soil from test units was first screened through 0.635 cm mesh then all screen residue was retained for water screening. During the analysis of the Phase I assemblage from Areas A, B, and C, quartz and quartzite were combined under the rubric 'quartz'. This also applied to the Phase II, Area A assemblage; however, during the analysis of the Phase II assemblages from Areas B and C the materials were divided into quartz and quartzite.

Three prehistoric sites (18BA431, 18BA432, and 18BA433) were identified during the Phase I testing; Sites 18BA431 and 18BA432 were small processing sites. Site 18BA433 was identified through the excavation of 163 STPs in a ca. 200 x 300 meter area extending across nearly all of Area C, though there were concentrations of materials on the south and east slopes of the ridge. Four loci were defined on the basis of the Phase I testing; 2 loci bordered the south branch of the tributary and contained evidence suggestive of a campsite and quarry; the third locus was on the southern slope of the ridge and consisted primarily of quarry-related debris; the fourth locus was on the northeastern edge of Area C, south of Area B, and also contained primarily quarry-related debris.

A total of 2,015 prehistoric artifacts were collected during the shovel testing in Area C/Site 18BA433. This included 1,864 quartz flakes and shatter, 137 quartz cores and core fragments, 2 rhyolite flakes, and 4 quartzite flakes. Tools included 4 quartz bifaces, 1 ironstone biface, 2 utilized quartz flakes, and 1 quartz anvil/nutting stone (recorded as groundstone in the table above). No temporally diagnostic materials or features were identified during the Phase I testing. On the basis of shovel testing, the site was interpreted to be a specialized lithic reduction local or quarry.

Phase II testing was conducted over the approximately 200 x 300 meter area in order to define the site's boundaries, to identify the limits of activity loci, and to assess the site's structure and function. A total of 224 STPs were dug at 10 meter intervals across Site 18BA433. Fifteen 1 m<sup>2</sup> test units were excavated in the 4 activity loci, defined as Locus A-Locus D during the Phase II investigations, first identified during the Phase I testing.

Locus A measured approximately 80 x 160 meters in size and encompassed the prehistoric activities on the low terrace between the two stream branches. The evidence from Locus A indicated that it may have been the location of a short-term base camp during the Early and Middle Woodland periods. Lithic reduction, core preparation, the production of bifaces, and the production of rhyolite tools were activities that occurred in this area. The presence of ceramics, points, groundstone tools, and fire-cracked rock suggested that Locus A represented more than a transient extractive camp. Two artifact concentrations were identified in the northeastern and southeastern corners of the locus. Locus A exhibited no signs of plowing thus it was suggested that features may be present, especially within the intact, buried Ab horizon that was identified in the western section of the locus.

Locus B measured approximately 80 x 110 meters in size and was situated on the toeslope of the ridge of the floodplain. It was defined by a dense concentration of quartzite, with smaller amounts of quartz and rhyolite debitage, in the southwest corner of the site. The distribution of lithic raw materials within Locus B suggested that the area represented at least 2 episodes of lithic reduction: one of quartz on the edge of the wetland and a second one of quartzite 10-20 meters to the north. Evidence from this locus indicated that it was the site of the preparation of quartz and quartzite cores, large flakes, and early stage bifaces from large blocks of local raw material. The presence of rhyolite debitage and a point midsection also indicated that maintenance of existing tools took place in the locus. Although no formal reduction strategies were identified in the assemblage from Locus B, it was suggested that further testing and analysis of discrete lithic reduction loci may define several reduction strategies at the site.

Locus C measured approximately 80 x 160 meters in area and encompassed a zone of prehistoric activity on the southern slope of the ridge. Excavations in



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this locus revealed the presence of 2 concentrations of quartzite debitage and lesser amounts of rhyolite debitage. This locus did have the greatest amount rhyolite recovered during the Phase II testing. Evidence from this locus indicated that it was one of several locations where quartzite cores were prepared and large flakes were extracted for use either as expedient tools or as blanks. The occurrence of large rhyolite biface thinning flakes and many trim flakes indicated that late stage biface reduction occurred in the northwest portion of this locus. A rhyolite drill was found on the southern margin of the locus and may have indicated that additional activities took place in that portion of the site.

Locus D was located in the northwestern portion of the site, in the northwestern section of Area C. The locus incorporated a diffuse scatter of lithic material on the crest of the ridge that runs through the project area. Excavation of 2 test units in the locus showed a varied stratigraphy: one unit exhibited evidence of deflation/erosion while the other exhibited a more well developed A horizon indicative of a more stable land surface. Quartzite core preparation and the removal of flake blanks appeared to have been the dominant activity within Locus D. The find of a triangular point fragment and the ceramics suggested, however, that there may have been a more substantial occupation on the ridge during the Early and/or Late Woodland periods.

In the text of the report, it was noted that a total of 11,460 prehistoric artifacts were recovered from Site 18BA433 as a result of the Phase II testing. The counts below were taken from tables in the text and the text itself, except for bifaces and points, the totals of which were taken from the artifact inventory. This total comes to 11,323 prehistoric artifacts. The chipped stone material included 11,210 pieces of debitage (10,679 quartzite, 356 quartz, 165 rhyolite, 5 ironstone, and 1 each of chert, sandstone, jasper, shale, and basalt), 110 cores (89 quartzite and 21 quartz), 1 rhyolite drill (possibly dating from the Late Archaic), and 11 utilized and/or modified flakes (2 quartz, 9 quartzite). One large quartzite flake exhibited characteristics indicating its possible use as a chopper. There were 29 bifaces and biface fragments in the Phase II collection as listed in the artifact inventory. Six bifaces were identified as points/knives and included 2 rhyolite Selby Bay points (Middle Woodland), 1 rhyolite Meadowood-type point (Early Woodland), 1 rhyolite Adena-type point (Early Woodland), 1 quartz Lamoka-type point (Middle-Late Archaic), 1 quartz Late Woodland triangular type point such as a Levanna or Madison, and 1 argillite corner-notched late stage biface. There were 4 other unidentifiable point fragments (2 ironstone, 2 quartz). There were also 41 pieces of fire-cracked rock in the assemblage. The other lithic items recovered from the site were 12 sandstone and quartzite hammerstones and an ironstone hammerstone which was highly smoothed and showed signs of wear consistent with movement within a haft. There were 8 groundstone tools including 1 anvil, 6 abraders and 1 possible chopper. The 3 pieces of steatite found were not definitely worked, but they may have represented the processing or deposition of steatite vessels. Seven sherds of eroded prehistoric ceramics were also recovered from the site. Five of the sherds were identified as possible Accokeek ware and the remaining 2 sherds had temper of steatite with small amounts of sand or quartz (possibly Marcey Creek or Seldon Island ware).

A single historic period redware ceramic sherd was also retained from the site.

The majority of the flaked and groundstone tools were found in Locus A (the easternmost locus), along with the greatest quantity of rhyolite, a few of the ceramic sherds, and all of the steatite fragments. Loci B-D each contained cores and bifaces, as well as occasional ceramics, utilized flakes and fire-cracked rock. The groundstone tools were restricted to Loci A and B. Concentrations of quartzite were found in all 4 loci, concentrations of quartz were found in the southwestern and northeastern portions of Locus A and the southern portion of Locus B. The largest amounts of rhyolite were recovered from Loci A and C with trace amounts in Locus B and a single flake from Locus D.

As a result of the Phase I and II archeological testing, it was determined that the Lyonsfield Run III Site (18BA433) represented a large multi-component quarry-related reduction site and series of short-term base camp occupations that occurred from the Late Archaic period to the Late Woodland period. The large flake size, the large average flake weight, and the large numbers of cores recovered from the site indicated in situ early stage reduction of local quartz/quartzite material. The presence of larger, secondary rhyolite debitage, as well as smaller thinning flakes, indicated that tools of this non-local material were manufactured at the site in addition to maintenance and retouch. The distribution patterns suggested that the site was composed of four discrete activity or occupational areas (Areas A-D), and the variety of artifacts suggested activities other than quarrying and processing were occurring at the site. With some exceptions, the archeological deposits generally appeared to be intact. The large amount of datable prehistoric artifacts, the distribution of artifacts in activity areas, and the observable integrity demonstrated that Site 18BA433 was eligible for listing to the National Register under Criterion D for the potential to provide important information on prehistoric lithic technology and settlement patterns. It was recommended that if the site could not be avoided by the proposed development, then mitigative data recovery was warranted.

The construction related to the proposed residential development was to include a road across the eastern portion of the site and residential structures across the ridge; the proposed project was to impact nearly 100% of the site. Therefore, in 1994 a Phase III data recovery program was initiated. The primary objective of the Phase III investigations was mitigation of anticipated project impacts to cultural resources at Site 18BA433. A series of research questions were posed addressing issues such as procurement and reduction of raw materials, typological and chronological sequences, subsistence systems and settlement patterns.

Prior to excavations, the Phase II datum was re-established at the site and a topographic map was prepared. A control grid was established and the Phase I/II shovel tests and test units were located relative to the grid. Subsurface testing at the site was divided into 2 stages: Stage One testing involved the excavation of STPs and 1 m<sup>2</sup> test units (dug in 10 cm arbitrary levels within natural stratum); Stage Two testing consisted of the excavation of block units. A total of 80 m<sup>2</sup> were excavated at the site: a total of 24 STPs dug at 5 m intervals and 25 test units were distributed in a 34.5 m<sup>2</sup> area, their locations determined by a stratified random sampling strategy; an additional 48.5 m<sup>2</sup> were distributed within 5 excavation blocks that were placed to sample 3 activity loci in different portions of the site and to investigate the buried (Ab) horizon encountered during the Phase II investigations. Four blocks were located in Locus A where a majority of the prehistoric activity was documented, and the fifth block was situated on the hill slopes in Locus C in the vicinity of an activity area identified during Phase I/II investigations at the site. All excavated soil was wet or dry screened through 0.635 cm mesh. Test units, excavation blocks, and STPs were examined by a geomorphologist and the profiles were recorded.

Geomorphological studies conducted at the site were designed to identify the various landforms, structural units and associated soils present at the site, to discuss landform evolution in terms of sediment supply and transport that have and are operating in the area, and to determine the ages of soil parent material present on the various terraces at the site and the depths to which testing should extend to ensure the recovery of all potentially significant cultural resources. Results of the study indicated that soil profiles across the site vary; Manor and Glenelg soils have been mapped on the slopes and on the ridge, and Glenville soils have been mapped within the floodplain of the drainages.

Phase III excavation and analytical efforts were also directed towards the recovery of archeobotanical remains to permit paleo-environmental and cultural reconstruction. Two-liter volumetric soil samples were taken from all excavated units and floated and all recovered materials were sorted into light and heavy fractions. Carbonized plant remains were size-sorted using a 2 mm geologic sieve and uncarbonized, modern plant debris was removed after sieving. Material



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that passed through the sieve was scanned for seeds and other plant parts lacking in the large sized fraction. Results of the analysis of the botanical remains are discussed below.

Several analytical methods were employed regarding the treatment of the lithic assemblage. The Gini index was used to provide both a visual depiction of the size/weight distribution and an empirical measure of the differences between archaeological assemblages of debitage. Projectile points and other tools were rinsed but not scrubbed to permit subsequent blood residue/use-wear analysis. The goals of the use-wear study were to develop a context for low-powered use-wear analysis on quartz, quartzite, and rhyolite, and to refine the functional interpretations of the stone tools. A fire-cracked rock (FCR) experiment was conducted in order to evaluate characteristics of the debris produced by quartz, silicified sandstone, and bog iron FCR. The results suggested that FCR is a recognizable artifact group and thermal damage produces block/shatter rather than flakes; differentiation between block/shatter and FCR should rely on evidence of thermal damage including color change and the presence of numerous internal fractures.

Excavations in Locus A were geared at defining the spatial boundaries of the Ab soil horizon. The Ab horizon was encountered in 10 of the 23 STPs dug in the locus. The data suggested the buried soil horizon was confined to a small remnant terrace on the slope of the ridge. Ten test units were also excavated as part of the Stage One investigations. The test unit locations were determined by a site-wide stratified random sampling strategy. Five of the units were placed on the eastern slope of the ridge. One unit (TU 6) was placed on the terrace edge on the north-central side of the locus and two units (TUs 3 and 9) were placed on the lower terrace on the south-central side of the locus; none of these units was placed within a previously identified artifact concentration. TU 1 was placed at the base of the ridge in the center of the locus in an area of low artifact density, while TU 7 was placed on the low terrace within a previously identified cluster of artifacts. During the second stage of investigations, one 3 m<sup>2</sup> block (Block 1), two 3 x 4 m blocks (Blocks 2 and 3), and one irregularly-shaped 6.5 m block (Block 1A) were excavated in Locus A. Blocks 1 and 2 were placed on the lower terraces (the southwestern and northeastern portions of the locus respectively), and Block 1A was placed west of Block 1 in the area of a cluster of artifacts/activity area revealed in TU 8 during the Phase II study. Block 3 was placed on a small terrace in the western portion of the locus in order to examine the buried cultural horizon. The blocks were subdivided into 1 m<sup>2</sup> excavation units (EUs) and each EU was excavated in quadrants.

A total of 4,072 prehistoric artifacts were recovered from excavations in Locus A. A total of 3,024 pieces of debitage were collected (990 rhyolite, 1,938 quartz, 74 quartzite, 11 chert, 9 chalcedony, 1 jasper, and 2 silicified sandstone). There were 517 pieces of micro-debitage; these were not quantified by material type but rhyolite and quartz were the dominant raw materials and lesser amounts of quartzite, chert, and ironstone were present. The distribution of micro-debitage within each excavated block closely matched the density and distribution of the debitage assemblage. There were 57 utilized and/or modified flake tools (24 rhyolite, 33 quartz) in the assemblage representing scrapers, graters, possible drills, and expedient tools. Twenty cores were recovered from the locus (quartz and quartzite only). The majority of the cores (n=17) were on tabular bedrock, 2 cores were on a water worn cobbles, and the remaining core was an indeterminate material. The low weights and the small amount of cortex on several of the cores indicated they were used extensively prior to being discarded.

In all, 46 bifaces and biface fragments were retained. There was 1 rhyolite Adena-type point, 2 Orient Fishtail points (quartz and rhyolite), 2 possible Holmes/Savannah River points (quartzite and rhyolite), 1 rhyolite Brewerton side-notched point, 1 quartz side notched Halifax point, 1 rhyolite Stanly stemmed point, 2 quartz possible Selby Bay points, 1 quartz Calvert point, 3 possible Patuxent points (2 quartz, 1 rhyolite), 1 quartz Brewerton side-notched point, 2 rhyolite Le Croy points, 1 rhyolite Brewerton eared point, and 1 quartz Madison/Potomac point. There were also 18 unidentifiable point fragments (8 quartz and 10 rhyolite). The remaining bifaces represented early-stage production (1 chalcedony, 1 rhyolite), middle-stage production (2 quartz, 1 chalcedony), and late-stage production (2 rhyolite, 1 chalcedony, 1 quartz); the late-stage chalcedony biface was probably a knife preform and 1 of the rhyolite late-stage bifaces was used as a side scraper. Three of the projectile points collected from Locus A came up positive for blood residue during the analysis. The rhyolite Adena-like point and the quartzite Holmes/Savannah River point were both positive for bear blood residue and one of the rhyolite non-diagnostic point fragments was positive for rabbit blood residue.

A single quartzite hammerstone represented the other lithic category of items and the groundstone materials were represented by an amphibolite anvil. A total of 375 fragments of fire-cracked rock were recovered from Locus A. The analysis used a conservative identification of the FCR because the cultural material was difficult to distinguish from the naturally fractured bedrock quartz. Prehistoric ceramics were represented by 32 sherds. Five of the sherds had quartz-temper with roughened, eroded, or unidentifiable surface treatment while the remaining sherd bodies contained crushed quartz temper and had eroded or unidentifiable surface treatments except for one specimen that had cord-marked decoration. One sherd was positively identified as Accokeek ware. A total of 1,005 botanical remains were collected from the Locus (794 unidentified seeds, 146 pieces of unidentified wood, and 39 pieces of bark). The detailed analysis of botanical remains revealed that the tested samples (described below) consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

Several fragments of steatite were collected from throughout Locus A. However, steatite was found to occur naturally in the soils in that area of the site. These samples were determined to be natural, not cultural, in origin. Culturally modified pieces of steatite were found in Locus C (discussed below).

A total of 25 historic artifacts were recovered from the A horizon all across Locus A. There was 1 activity-related item, a horseshoe. The only architectural items recovered were 2 brick fragments, 2 cut nails and 5 wire nails. The kitchen-related materials were represented by 5 pieces of machine-made bottle glass and 3 whiteware sherds. Miscellaneous items were represented by a single piece of melted glass, 1 piece of coal, 1 piece of coal slag, and 3 unidentified iron fragments. The only tobacco-related item retained was a kaolin pipe bowl fragment.

Radiocarbon dating was performed on a 1 gram sample of charcoal from TU 59 in Block 3. The sample was collected from the Ab soil horizon from a depth of 62-73 cm below surface. The resultant 2-sigma calibrated date was AD 855-1285 with an intercept date of AD 1035. This date proved to be substantially later than the Early and Middle Archaic periods suggested by the points/knives recovered from the excavation block. However, it was roughly contemporary with the ceramics recovered at the interface of the B1/Ab soil horizons. The radiocarbon date, in conjunction with the recovered diagnostic artifacts suggested that the Ab horizon was buried after the Middle Woodland period.

As first noted during the Phase I/II studies, it was observed that the highest artifact density and the greatest variety of artifacts were located on the lower terraces, just above the stream confluences, in Locus A. Evidence of mixed resource extraction and transitory campsites, organized into a series of discrete activity areas was present. Although no features were identified, concentrations of fire-cracked rock suggested the presence of hearths. The temporal affiliation ranged from the Late Archaic through the Late Woodland periods with the most intensive occupation occurring during the Late Archaic and Early Woodland periods. Two lithic strategies were identified: one directed towards the manufacture of expedient flake tools from local quartz and one directed towards the manufacture of late-stage rhyolite bifaces and finished points. Rhyolite production appeared to have been spatially discrete and temporally isolated to the Late Archaic/transitional Early Woodland period whereas quartz production was more spatially and temporally widespread.



# Phase II and Phase III Archaeological Database and Inventory

Site Number: 18BA433

Site Name: Lyonsfield Run III

Prehistoric

Other name(s)

Historic

Brief

Description:

Early to Late Woodland short-term resource procurement camps

Unknown

Overall, the character and spatial distribution of the prehistoric component from Locus A was indicative of multiple reduction and resource procurement episodes. The correlation of the distribution suggested that the rhyolite and quartz reduction episodes were spatially discrete but contemporaneous within Locus A. A possible hearth area was identified in Block 1A that may have been associated with the late-stage lithic processing area observed during the Block 1 excavations. It appeared that broken, incomplete, and exhausted tools were discarded in situ while new specimens were manufactured. The lithic tool types recovered exhibited a range of edge-damage which suggested that a variety of floral and faunal materials were processed. In the Block 2 and Block 3 assemblages the dominant raw material type was quartz. This differed from the Block 1 and Block 1A assemblages where rhyolite was the dominant raw material. Also, no early-, middle-, or late-stage bifaces were recovered from Block 2.

Two cultural horizons were identified in Block 3; a buried prehistoric horizon (IIA/Ab) overlain by a more recent prehistoric/modern horizon (A). During excavations in Locus A, the approximate boundaries of the buried Ab horizon were located in the western section of the locus, on a terrace remnant, along the southern edge of the slope. Excavations in the vicinity of the intact Ab horizon produced more rhyolite debitage than the tests in the rest of the Locus. This suggested there was a distinct rhyolite reduction area on the remnant terrace and that an unknown portion of the reduction area appeared to be intact within the Ab horizon. Activities related to rhyolite appeared to have predominately been late-stage biface reduction and tool maintenance; rhyolite may have been coming onto the site as prepared blanks. The buried horizon most likely represented a sealed, intact stratum. Based on the diagnostic artifacts and the radiocarbon date, the cultural association of the Ab horizon extended from the late Early Archaic period through the Middle Woodland period. The technological characterization of the sub-assemblage from the Ab horizon indicated that late-stage reduction and limited resource processing occurred in the area.

Data from the use-wear study suggested that the majority of the resources processed in Locus A were of medium resistance materials such as hide or wood. Several of the bifaces and projectile point fragments exhibited use-wear damage consistent with use on bone and wood. Tasks represented by the utilized tools included scraping, cutting and sawing, graving/drilling, and shaving.

Phase III excavations in Locus B consisted of the excavation of five 1 m<sup>2</sup> test units that were distributed across the locus based on the site wide stratified random strategy. TUs 11-12 and 14 were placed on the lower terrace along the southern edge of the locus. TU 13 was placed on the slope in the northwest corner of the locus and TU 15 was placed in the northeast corner of the locus within the area of highest artifact density.

A total of 316 prehistoric artifacts were recovered from STPs and test unit excavations and from water-screened soil samples in Locus B. A total of 156 pieces of debitage were collected (4 rhyolite, 146 quartz, 5 quartzite, and 1 jasper). There were also 151 pieces of micro-debitage (150 quartz, 1 quartzite). Five cores were recovered from the locus (2 quartz and 1 quartzite). The cores were all made from weathered, tabular bedrock. No lithic tools were recovered. Two small fragments of fire-cracked rock (FCR) were recovered from Locus B. The analysis used a conservative identification of FCR because the cultural material was difficult to distinguish from the naturally fractured bedrock quartz. Prehistoric ceramics were represented by 2 sherds, both of which had grog and crushed quartz temper suggesting an Early Woodland period date. A total of 110 botanical remains were collected from the Locus (72 unidentified seeds, 1 piece of unburnt wood, 4 pieces of unidentified bark, and 31 pieces of unidentified wood). The detailed analysis of botanical remains revealed that the tested samples (described below) consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

Phase III data recovered from Locus B indicated low artifact densities and little variation on the type of artifacts recovered. The only diagnostic artifacts recovered from this locus were two ceramic sherds that most likely dated to the Early Woodland period. The data suggested that the quarrying and initial reduction of local quartz outcrops and non-local material such as rhyolite and jasper was not a major activity in this part of the site area. Prehistoric activity in the area likely focused on resource procurement and processing, and expedient tool production and maintenance. The limited presence of rhyolite in Locus B possibly indicated a temporal distinction between this locus and the occupations in Locus A. The fact that all materials were confined to the A horizon and the absence of post-depositional disturbance were strong indicators that the artifacts were in situ. Occupation within the locus was scattered across the gradual south-facing slopes of the ridge and a low terrace above the former wetland. Locus B lacked the quartz outcropping and level terrain which appeared to have been important criteria in the location of activity areas at the site. The lack of clearly defined artifact concentrations suggested that no subsurface features were present.

Phase III excavations in Locus C consisted of the excavation of five 1 m<sup>2</sup> test units. The TUs were distributed across the locus based on the site wide stratified random sampling strategy. Random sampling resulted in a concentration of the test units on the slope along the southern edge of the locus. TU 17 was placed on the crest of the ridge, TUs 18 and 19 were placed within the highest density cluster of prehistoric debitage of the locus, and TUs 16 and 20 were placed on the western edge of the locus, slightly downslope from the crest of the ridge. During the second stage of investigations, one 3 m<sup>2</sup> block (Block 4) was excavated in Locus C. The block was placed to examine a concentration of quartz debitage identified during Phase II and re-ide

## External Reference Codes (Library ID Numbers):

00005516, 00005537