

## *6.0 Discussion and Recommendations*

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## 6.0 DISCUSSION AND RECOMMENDATIONS

A.D. Marble & Company conducted additional Phase I survey in the portions of the expanded APE east and west of the previous test area where 7K-C-73 was re-identified during the 2012 Phase I survey program. The A.D. Marble & Company field team placed and excavated a total of 56 STPs and recovered 180 artifacts (160 historic and 20 precontact). In descending order of frequency, the historic artifacts represent the Industry group (n=101), Kitchen group (n=41), Architecture group (n=15), Furniture group (n=2), and Activity group (n=1; Table 3). The historic artifacts were recovered from A-horizon and fill layers identified in STPs placed next to the railroad; most frequently, these artifacts were retrieved from STPs placed near the north end of the area near Puncheon Run, but also in STPs near the border of the grassy edge of the agricultural field and wooded margin. No historic artifacts were recovered west of the previously Phase I surveyed portion of the APE, where the site was re-identified. The historic artifact assemblage dates to the nineteenth and twentieth centuries, and given that the newly shovel tested area was formerly used as an agricultural field, these materials likely represent field scatter that originated from the practice of field manuring in the nineteenth and early twentieth centuries.

*Table 3. Historic Artifacts Recovered from Additional Phase I STPs.*

<b>GROUP</b>	<b>TYPE</b>	<b>NOTES</b>	<b>TOTAL</b>
<b>Activity</b>	Toy marble	Machine-made, glass	1
<b>Architecture</b>	Asbestos tile	-	5
	Brick	Machine-made	1
	Nail	Cut	5
	Window glass	-	4
<b>Furniture</b>	Lamp chimney glass		2
<b>Industry</b>	Plastic	Red utility line marker "...Line Below..."	1
	Charcoal	-	6
	Cinder	-	20
	Coal	-	57
	Coal slag	-	10
	Sheet metal	-	1
	Slag	-	6
<b>Kitchen</b>	Bottle glass	5 aqua, 7 amber, 23 colorless; fragments	35
	Bottle cap	Metal, zinc cap fragments	2
	Jar glass	Colorless, jelly jar, two-color painted decoration, deer motif; fragment	1
	Tumbler glass	Colorless, fragment	1
	Redware	1 eroded, 1 lead glaze interior/unglazed exterior	2
<b>TOTAL</b>	-	-	<b>160</b>

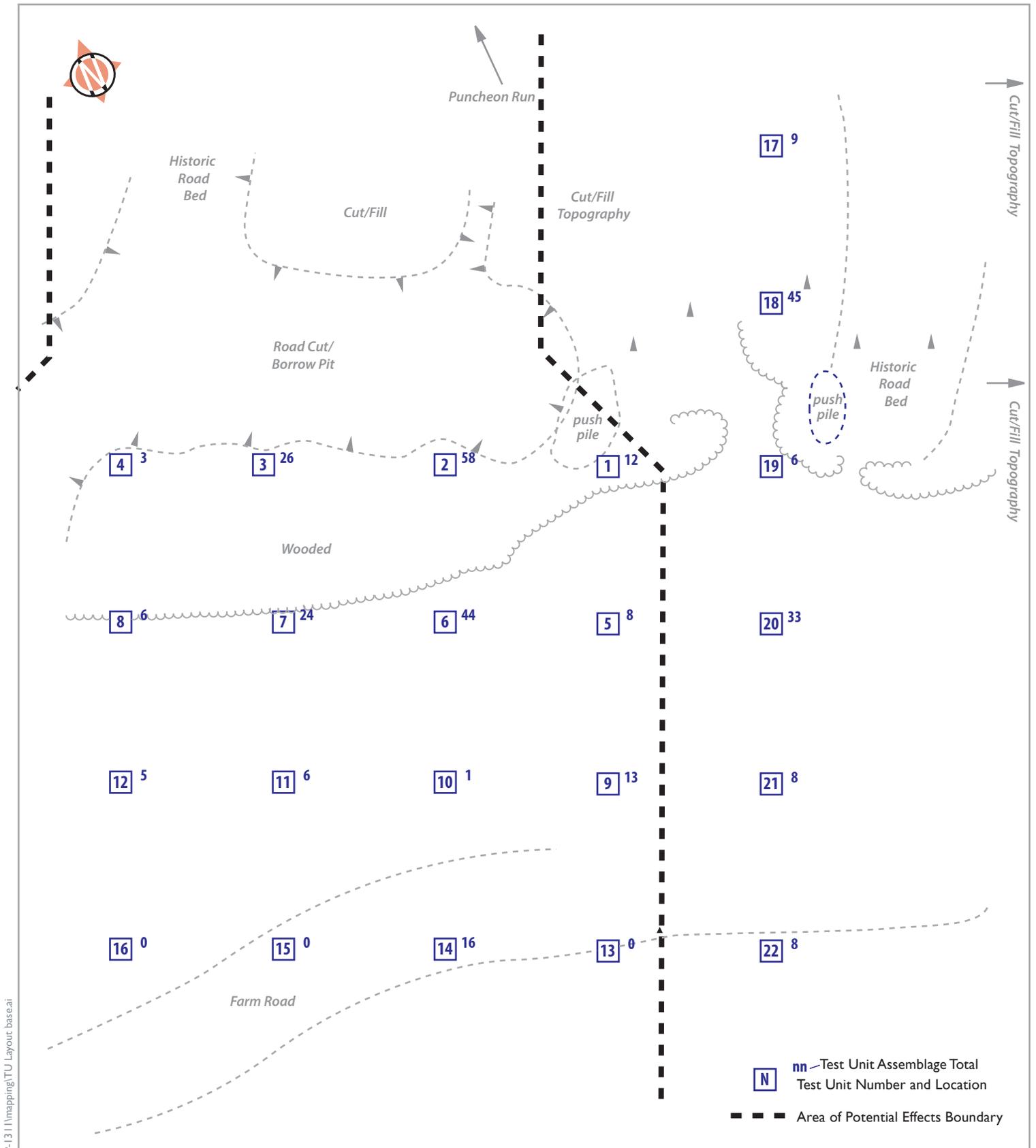
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The 20 precontact artifacts recovered during the additional Phase I survey include 19 debitage and one edge-modified flake (utilized flake). Figure 7 shows the precontact artifact distribution of both the precontact artifact frequencies from STPs excavated previously inside the former APE and revised (additional) portion of the APE. Precontact artifacts occur diffusely on the west side as single debitage in three STPs at least 100 feet apart from one another. The precontact artifact frequencies on the east side are higher and occur closer together. Although they largely occur in chronologically mixed assemblages (i.e., with historic and modern artifacts), the site core was expanded to the east.

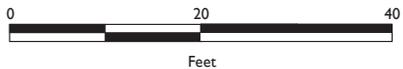
The debitage recovered during the additional Phase I testing consisted of three primary stage debitage (all jasper), seven secondary stage debitage (single chalcedony and chert and five jasper), and nine tertiary stage debitage (single chert and rhyolite, two quartz, and five jasper). Although the debitage sample is small, their lithic reduction-stage class proportions indicate that stone tool refurbishing and late stage manufacturing likely took place on-site, along with a minor amount of early stage manufacturing (early stage reduction). Without a larger sample that might be statistically significant and shed light on intrasite activity areas, robust differences in the raw material or reduction stage proportions are not present. It appears that the area near STPs 41 and 42 seems to have been a more frequently or intensive locus of occupation and that jasper was the preferred or perhaps most easily accessible tool stone.

The field team then excavated 22 1-meter-by-1-meter TUs on a 25-foot interval grid in the artifact dense core of 7K-C-73, as defined by the STP results. The artifact distributions matched the results of the Phase I surveys: high artifact frequencies occur where they were encountered during the shovel testing program (Figure 15). The highest artifact frequencies occur in the site core in TUs 2, 3, 6, and 7, but also in TUs 18 and 20 in the portion of the expanded site core to the east. These are located near the edge of the tree line in the woods and in the grass that topographically equates to the closest flat and well-drained part of the landform south of Puncheon Run.

The field team recovered a total of 403 artifacts from the TUs: 72 historic, 331 precontact. The historic artifacts are similar in group proportions and types of artifacts as those recovered in the



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**Figure 15**  
**Test Unit Results: Precontact Artifact Frequencies**  
 West Dover Connector  
 Kent County, Delaware

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Phase I program. Slag and unidentified plastic account for the majority of the Industry group materials, while amber and colorless bottle glass account for the majority of the Kitchen group materials. These group materials occur more frequently than the Activity and Architecture group artifacts and the additionally encountered artifact groups of Arms (plastic shotgun shell) and Clothing (plastic buttons). The historic materials occur dispersed evenly throughout the TUs, although TU 7, which contained an unmarked utility trench, contained the most dense concentration of historic items (n=22). The other TUs average approximately three historic artifacts per TU. Like the historic materials recovered from the STPs, the materials recovered from the TUs date to the nineteenth and twentieth centuries and likely represent historic field scatter associated with field manuring.

The field team recovered 331 precontact artifacts that included 318 debitage and 13 tools. The stone tools include five thermally altered rocks, two quartz biface fragments, a jasper core, a chert and a jasper edge-modified flake (utilized flake), a jasper projectile point tip, a chert Lamoka-like projectile point fragment, and a jasper contracting stem projectile point (see Photograph 16). These tools occur in TUs 2, 3, 6 to 9, 14, 18, and 21, which were also most of the highest artifact yielding TUs and located in the center and east side of the area defined as the site core. With the exception of three thermally altered rocks in TU 2, no concentrations of tool types were identified.

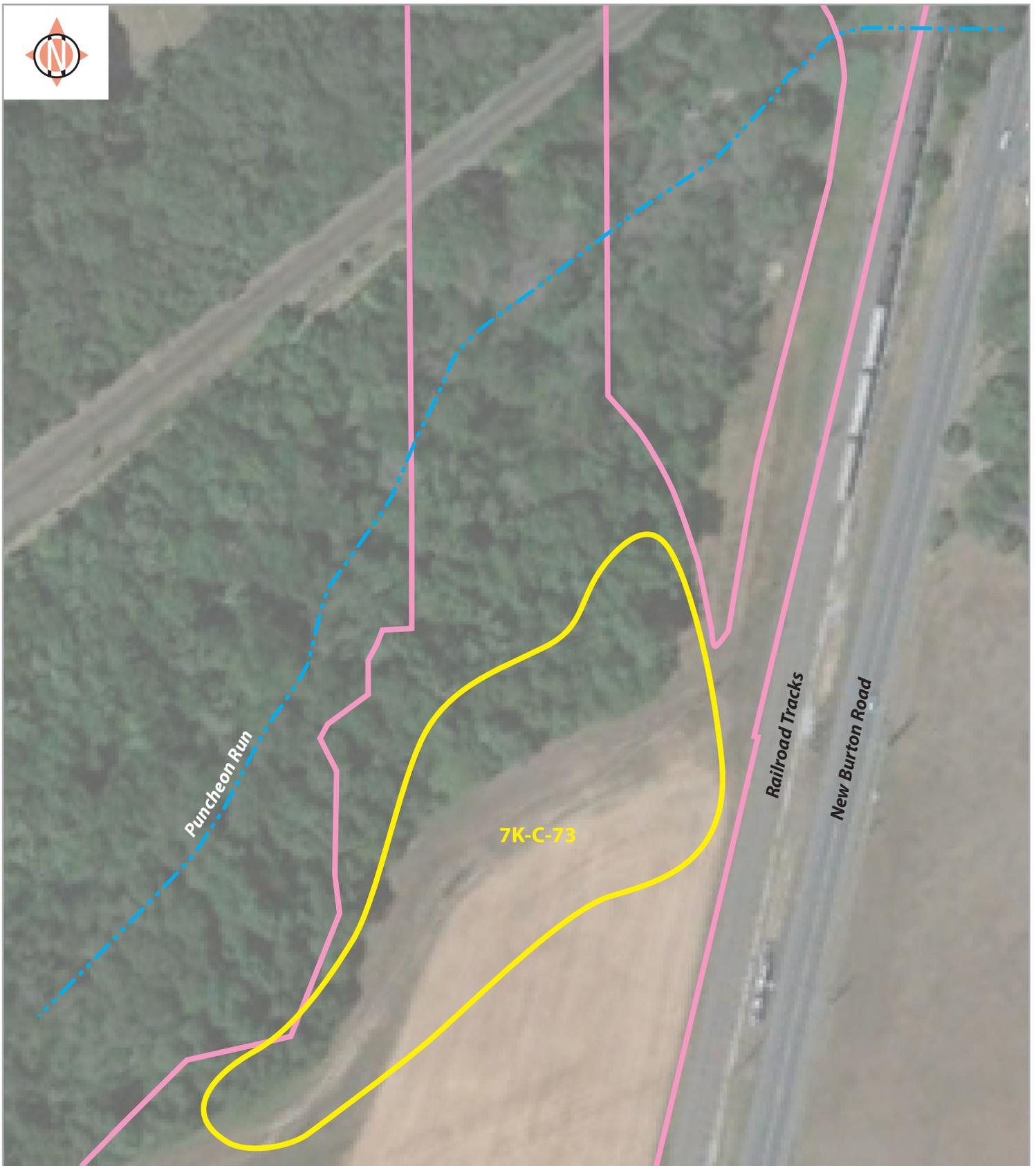
The debitage reduction stage proportions were different from those quantified using the Phase I survey debitage data set. In the TUs as a whole, 13 debitage represent primary stage reduction; 77 represent secondary stage reduction; and 228 represent tertiary stage reduction. Twelve of the 13 primary flakes are derived from jasper; the remaining flake is derived from chert. This suggests that jasper cobbles may have been obtainable nearby for stone tool making. The primary flakes occur in the northern two rows of the Phase II TU grid, which, as previously mentioned, is roughly where the closest flat landform occurs south of Puncheon Run. The secondary debitage assemblage (n=77) is represented by one chalcedony, eight quartz, ten chert, and 58 jasper flakes. TUs 2, 3, 6, 18, and 20 contained the highest frequencies of secondary stage reduction debitage (~10 flakes); these were also the highest artifact-yielding TUs.

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The 228 tertiary debitage are derived from the same raw materials plus quartzite. Most (n=125) are jasper, but other raw material totals include ten chalcedony, 47 chert, 42 quartz, and four quartzite. These debitage materials indicate that stone tool refurbishing and manufacture were likely conducted on-site and primarily on the level landform overlooking Puncheon Run, which is located nearby to the north of the site. TUs 2, 6, 7, 18, and 20 contain the highest frequencies ( $\geq 20$ ) of tertiary stage debitage. Overall, jasper is the most frequently employed chipped stone tool lithic raw material at the site, followed by chert and quartz. No robust raw material spatial patterning is present. Patterns derived from debitage reduction stage proportions grouped by raw material are impressionistic at best for inferring intrasite activity areas at the site. Nonetheless, TUs 6, 14, 18, and 20 contain jasper debitage assemblages that reflected each of the reduction stages, and it is noted tentatively that these locations may have been lithic activity loci.

With the exception of the fencepost posthole in TU 2, no cultural features were encountered. The field crews (from the 1976, 2012, and 2013 field seasons) recovered the site assemblage in plowzone/A-, E-, and B-horizons, as well as fill layers related to utility trenches and infilled farm lane tire ruts. Generally, the depth of these deposits (i.e., vertical boundary of the site) was no deeper than 40 centimeters below surface. The results of the investigations conducted in 1976, 2012, and 2013 show that the horizontal boundary of the site encompasses an area that includes the area near STP 73 where the 1976 TUs were located, the area slightly south of TU 13 and south of STP 34 where precontact artifacts were recovered in the field, the area approximately 75 feet east of the former east edge of the APE and that includes TUs 17 to 22 and STPs 36, 37, 40 to 45, and the area defined in 2012 and 2013 as the “site core” (Figure 16). The site area of 7K-C-73 equates to approximately 2 acres.

Although no features were discovered in the 2013 investigation, the 2013 testing, coupled with the 2012 investigation results, did shed some light on intrasite artifact densities that suggest that certain areas of the site may have been more intensively occupied than others. Based on the lithic artifacts, it appears that the most intensive occupation of the site took place on the edge of the flat landform immediately south of Puncheon Run (Photograph 20).



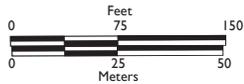
Punchee Run

7K-C-73

Railroad Tracks

New Burton Road

-  Site Boundary
-  Revised APE



**Figure 16**  
**7K-C-73 Site Boundary**  
 West Dover Connector  
 Kent County, Delaware



**Photograph 20:** View of the site core on the level high ground south of Puncheon Run

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Small procurement camps are found along streams and adjacent to bay/basin features in the region. The lack of features and lack of a diverse lithic assemblage indicates that 7K-C-73 was an ephemerally but repeatedly revisited location in the Late Archaic/Woodland I time frame. It was noted in 1976 that the overall diffuse pattern of materials observed at the site at that time showed that the site was not likely “highly or even moderately repeatedly occupied.” Conversely, the recent data and spatial patterns showing the intensive occupation in the core suggest that the site core was probably moderately reoccupied or intensively inhabited at least once. The investigators in 1976 noted that the thermally altered rocks and debitage and cores suggest ephemeral open camp occupations perhaps associated with resource procurement activities and not with microband base camp settlements. This is probably true, as the recently recovered evidence supports this earlier hypothesis. 7K-C-51 (the Puncheon Run Site) and 7K-C-411 (the Hickory Bluff Site), which are located approximately 1.5 miles to the east at the confluence of Puncheon Run and the St. Jones River, also contained components of similar age (Leedecker et al. 2005; Petraglia et al. 2002). These sites are considered much better examples of sites that contained Woodland I period occupations, were associated with features and artifact and feature patterning, and underwent detailed data recovery investigations.

Heite and Blume (1995) point out, as previously mentioned, that NR evaluations dwell in three main domains: significance, integrity, and horizontal/vertical extents (boundaries). The Custer et al. (1984, 1986) framework for evaluating precontact sites in the nearby SR 1 corridor is adopted in this discussion, as it has been elsewhere in the local region. In descending order, significance has been framed as: 1) all unplowed sites, regardless of type or period of occupation (high); 2) Late Paleoindian and Archaic sites that have undergone plowing but otherwise undisturbed (high); 3) plowed base camps of all time periods (high); 4) plowed sites that are associated with bay/basin features and are not procurement sites (moderate); 5) plowed, disturbed, and eroded sites of all types (low); and 6) plowed procurement sites (low). Based on the information generated by the 2012 and 2013 investigations, the site is currently defined as plowed and somewhat disturbed, and also likely represents a procurement site. Thus, in light of the degrees of significance listed above, 7K-C-73 is considered to exhibit low-order significance.

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Archaeological integrity can be characterized as the actual physical potential of a site to yield significant data about the past, depending on the degree of loss of its stratigraphic and temporal constitution. Broad horizontal and vertical exposures provided during the recent investigations yielded the information required to assess site integrity and thus its potential to yield important information for reconstructing the occupation at the site. The site has been plowed, and thus in many areas the E-horizon, and probably the upper portion of the B-horizon (which together likely held cultural materials), were incorporated into the plowzone. Indeed, the majority of the artifacts were recovered from the plowzone/A-horizon. Vertical integrity was largely destroyed in these areas, as well as in areas where the farm lane(s) and utility trenches have been demonstrated to be located.

To the contrary, horizontal integrity was likely not as acutely hampered by these disturbances, but inferences based on horizontal integrity of the site are considered less than compelling. Analyses of the artifact types and raw materials were able to minimally suggest a relatively homogenous distribution of materials, albeit for the general concentration of precontact artifacts along the edge of the tree line (i.e., the closest level ground south of Puncheon Run). The value of the site and specifically its ability to address the general research issues is also presented below.

#### *1. Internal structure of the site and how it changed through time*

The data recovered from the portion of the site inside the West Dover Connector APE indicate that the site exhibits a homogenous internal structure and thus no clear activity areas, other than in the more intensively used edge of the upland overlooking Puncheon Run where artifact frequencies were higher than elsewhere on the site.

#### *2. Relationships between depositional contexts and site use*

The depositional contexts have been obscured by many years of plowing, farm lane evolution, and utility trench excavations. Most artifacts were recovered from the plowzone/A-horizon, which suggests that earlier living surfaces were probably incorporated into the upper solum. Vertical integrity has been compromised, but horizontal integrity likely has not been compromised to the same extent. However, the presence of few artifact classes (debitage

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[mostly] and few stone tools) lessens the ability to deduce activity areas and potentially address the connection between depositional contexts and site use.

### *3. Environmental setting change and site use*

Geomorphological study revealed that the environmental setting changed very little since the time that the site appears to have been first occupied in the Late Archaic/Woodland I time frame. The climatic regimes and ecological regimes were stable throughout the site occupation. Essentially, the upper approximately 40 centimeters of the current solum were lived on and in throughout the duration of site use.

### *4. How groups employed lithic (and other) resources at the site*

Data show that groups primarily used local tool stone in the form of jasper, chert, quartz, quartzite, and chalcedony cobbles/pebbles. Argillite and rhyolite, which are two types of non-local tool stone, are present on-site in very low frequencies. Given their non-locally available status, groups probably obtained them directly themselves or indirectly via exchange, which is consistent with understandings of the culture history of the Woodland I period. The ways in which groups employed lithics is implied from the various lithic reduction stages present in the assemblage, suggesting that people conducted chipped-stone tool maintenance and manufacture on-site. The few projectile points and expedient-use flake tools (utilized flakes) hint that light- to medium-duty plant and animal resource processing may have been an activity focus at the site. However, the assemblage is composed almost completely of debitage, and therefore it is difficult to infer activities conducted on-site beyond chipped stone tool production and maintenance.

### *5. Site function*

As stated above, site function is difficult to infer based on the lithic assemblage. However, given the setting of the site next to the creek, one may assume that the riparian buffer and creek itself were rich with plant and animal resources that were used and consumed by local groups during the Late Archaic and Woodland I time frame. Thus, resource processing and other kinds of production using resources gathered, collected, fished, or hunted at this locale may have been processed at this location. The presence of thermally altered rocks suggests the use of campfires, perhaps for ephemeral settlement at the site.

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#### *6. How the site fits within the history of Delmarva and the Mid-Atlantic*

If the inference drawn from the data in the previous discussion about site function is true, then the site fits well into the current understandings of Native American history as a resource procurement/processing camp in the transitional overlap of the Late Archaic/Woodland I periods. Admittedly, the results are not very compelling and offer little new insight into this time frame of Native American history because inferences about the past are constrained by the data, whose artifacts types hardly vary and occur homogeneously across the site in no observable patterns. It is perhaps unfortunate, but the site data do not reveal anything that was not already anticipated at the start of the additional work. Based on the investigation results, it would appear that the portion of the site in the APE is not considered a significant resource (i.e., Criterion D: a property that yielded or may be able to yield information about history or prehistory).

#### **6.1 Conclusion**

It is the opinion of A.D. Marble & Company that the character of the assemblage and lack of material culture patterning, coupled with the lack of cultural features that could have further tethered cultural materials to activity areas, reveal that the portion of 7K-C-73 situated inside the West Dover Connector APE has limited research potential and that the site should not be considered NR eligible under Criterion D. No further work is recommended inside the APE.