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Steatite on the Juniata: Early Pottery at the Sunny Side Site (36BD267), Central Pennsylvania

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STEATITE ON THE JUNIATA: EARLY POTTERY AT THE SUNNY SIDE SITE (36BD267), CENTRAL PENNSYLVANIA

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ABSTRACT

Archaeological excavations recovered early steatite-tempered pottery at the Sunny Side site (36BD267), Bedford County, Pennsylvania. The Sunny Side site is on a floodplain/terrace of Yellow Creek near its confluence with the Raystown Branch of the Juniata River. A 70-cm-wide hearth was excavated along with associated Selden Island steatite-tempered pottery and lithic debris at a depth of 94 cm below ground surface in a buried Ab horizon. A hickory wood charcoal sample from the hearth was dated to 3500±100 B.P. (CAL BC 2120 - 2090 and BC 2050 - 1540). The early pottery at the Sunny Side site confirms prior work suggesting active use of the Juniata River corridor during the Transitional period. Results of this study support the contention that archaeological surveys should continue to evaluate deeply-buried deposits in alluvial settings.

INTRODUCTION AND PROJECT SETTING

The Sunny Side site (36BD267) was identified on the floodplain/terrace of Yellow Creek near its confluence with the Raystown Branch of the Juniata River, Bedford County, Pennsylvania (Figures 1, 2). While no prior archaeological sites had been identified at the location, its provenance near the confluence of two major waterways in south-central Pennsylvania—Yellow Creek and the Raystown Branch of the Juniata River—indicated a high potential for the identification of prehistoric archaeological sites. As such, the authors conducted a pedestrian survey, excavations, and backhoe testing to evaluate the high-potential landform (MacDonald 2001). Results indicate that the location contains a significant Transitional occupation with evidence of Selden Island pottery within a buried soil horizon. The remainder of this paper provides an overview of the project setting, field methods, as well as archaeological results and their implications regarding the introduction of pottery in the Middle Atlantic region.

The Sunny Side site is located in the small, rural community of Sunny Side in Hopewell Township, Bedford County, Pennsylvania, within the Appalachian Mountain section of the Ridge and Valley physiographic province. The project area is located along State Route (SR) 26 on an alluvial terrace of Yellow Creek, approximately 100 m west of its confluence with the Raystown Branch of the Juniata River, itself a tributary of the Juniata River and, eventually, the Susquehanna River. The Sunny Side site is 960 ft. above mean sea level (amsl) along the north terrace of Yellow Creek. Vegetation on the Yellow Creek site-area terrace consists of low shrubs and grasses, while a deciduous forest abuts the site to the south and east along the river edge.

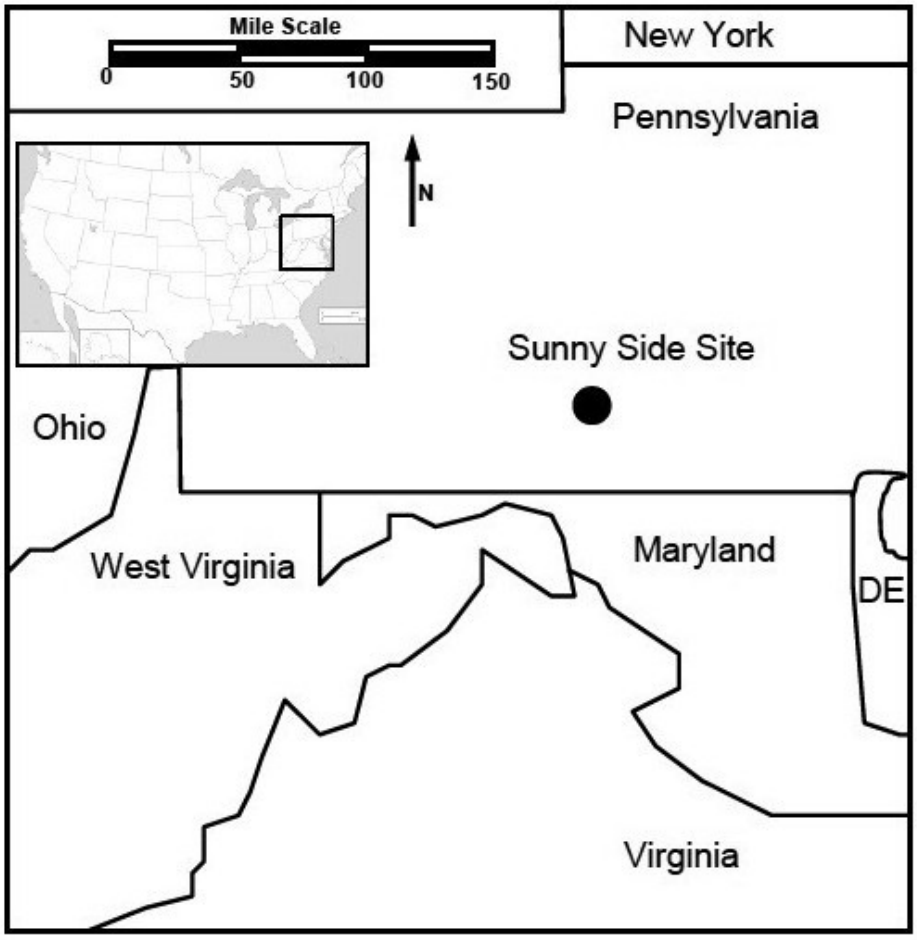

Figure 1. Location of the Sunny Side site, Pennsylvania, USA.

Figure 2. View Southwest across the Sunny Side site, Hopewell Township, Bedford County, Pennsylvania.

BACKGROUND

Transitional and Early Woodland sites in this portion of Pennsylvania are scarce; however, we provide a brief overview of regional culture history to provide a context for our later discussion of the Sunny Side site results. Important regional studies of early pottery include Stewart's 1998 work in the Delaware Valley, as well as Raber and Cowin's (2003) volume on the Early–Middle Woodland in Pennsylvania. Much of the summary below is summarized from MacDonald's (2002, 2006) synthesis of Upper Juniata River prehistory.

Based on a radiocarbon-dated feature (discussed below), the Sunny Side site was occupied during the Transitional period, or approximately 3500 - 3000 B. P. Diagnostic Transitional traits include the introduction and utilization of ceramic vessels and the introduction and limited use of horticulture (Raber 2008). Although the subsistence base was primarily composed of hunted and gathered resources, horticulture gradually assumed greater importance, including the domestication of squash, chenopod, maygrass, sumpweed, and sunflower (Smith 1987).

Ethnobotanical remains from various Transitional Late Archaic sites suggest that, while domesticates were introduced, hunter-gatherers continued to exploit widely available wild plants and animals (Adovasio and Johnson 1981; Ballweber 1989). The emergence of the Adena cultural complex in the Central Ohio Valley influenced groups as far east as New York and New Jersey and directly involved populations in central Pennsylvania (Raber 1985).

Ceramics generally function as cultural horizon markers for archaeologists who study the Transitional and Early Woodland periods, with steatite-tempered wares, including Marcey Creek and Selden Island, among others, being the earliest varieties in the Middle Atlantic (Dent 1995:224-227; Hummer 2007; Stewart 1998, 2003). The Bull Run site (36LY119) yielded steatite-tempered Marcey Creek Plain pottery in association with Orient Fishtail Points Louis Berger Group 2001:16; Bressler 1980). The Miller Field site on the Upper Delaware River, New Jersey, also yielded Marcey Creek Plain steatite-tempered pottery in an Orient component radiocarbon dated to 3170±120 years B.P. (Kinsey 1972:451-453; Custer 1996:219-221; Dent 1995:226). The Memorial Park site in Lock Haven, Pennsylvania, has also yielded early pottery dated to approximately 2800 - 3050 years ago (Cremeens *et al.* 2009).

While Marcey Creek pottery was plain, flat-bottomed, and was molded from clay slabs, Selden Island and Bare Island Cordmarked pottery were produced using the coiling technique. These vessels were conoidal with the earliest types still incorporating steatite as the temper. Selden Island was first defined at the Selden Island site in Montgomery County, Maryland, by Slattery (1946). One of the earliest dates—2,955±90 years B.P.—on Selden Island pottery is from Clyde Farm in Delaware (Dent 1995:226).

Along with Selden Island pottery, Vinette I pottery is occasionally the earliest at sites and is typically found in association with Meadowood points in the Middle Atlantic. The Accokeek Creek site on the Potomac River yielded Terminal Late Archaic/Early Woodland Marcey Creek pottery stratigraphically below an Early Woodland Pope's Creek component with Vinette I pottery (Stephenson *et al.* 1963). Vinette I and Meadowood points were recovered at the Canfield Island site (36LY37) on the West Branch of the Susquehanna River and the Faucett site (36PI13a) on the Delaware River. Vinette I sherds were recovered from features with radiocarbon dates of 3180±70, 2870±90, and 2460±90 at the Girty's Notch site (36PE45) on the upper Susquehanna River (Louis Berger Group 2001:17; Bressler 1980).

Sites within the Abbott Farm site complex near Trenton, New Jersey, also yielded Vinette I sherds. These are occasionally compared to Juniata Thick and Fayette Thick types of the Ohio Valley and vicinity (Kinsey 1972:454; Stewart 1998, 2003). Sheep Rock Shelter, some 32 km (20 miles) north of the current project area, yielded Juniata Thick (~Vinette I) sherds from an Early Woodland component as well (Michels and Smith 1967). While several sites have yielded these early pottery types, the densities at the sites are low, suggesting ephemeral occupations or low-intensity pottery production.

Based on these prior studies, regional archaeologists generally believe that pottery was introduced into south-central Pennsylvania and vicinity between 3500 and 3000 years ago during the Transitional period. As reflected below, geomorphological and archaeological excavations at the Sunny Side site confirm use of pottery during this period.

SUNNY SIDE SITE GEOMORPHOLOGY AND SOILS

Prior to completion of the archaeological excavations at the Sunny Side site, a geomorphological reconnaissance, consisting of a pedestrian walkover and several auger tests, was conducted by the authors along Yellow Creek. Led by the tertiary author, we examined ground surfaces and riverbanks, conducted soil augering to collect information on geomorphology, soil development, and landform, and recorded areas of surface disturbance. Review of county soil surveys indicates that the Sunny Side site is located upon Holly (Hy) Series Soils with a poorly-drained Ap-Bg-Cg soil horizon sequence (Knight 1998).

The tertiary author excavated four auger probes along the floodplain/terrace (T0/T1) of Yellow Creek, between 10 - 50 m (30 - 160 ft.) north and 20 - 200 m (60 - 650 ft.) west of its confluence with the Raystown Branch of the Juniata River. In contrast to the soil survey, auger probes indicated the likely presence of at least 1 - 2 buried soils along the north floodplain and terrace of Yellow Creek in the project area. Based on an examination of the nearby Yellow Creek stream bank, sediments extended to a depth of approximately 1.5 - 2.0 m (4.8 - 6.4 ft.) below ground surface (bgs), where cobbles and gravels indicated the bottom of the soil profile. The buried soils indicate locations of buried ground surfaces with a high potential for prehistoric cultural remains. Thus, even prior to survey, the location of the Sunny Side site was determined to have a high potential for deeply-buried cultural materials at least 1 - 2 m (3 - 6 ft.) bgs.

Based on the high potential for deeply-buried resources, the authors conducted a program of deep testing in the Yellow Creek project area. The Pennsylvania Bureau for Historic Preservation regulations state that four 1 x 1-meter test units should be hand-excavated and screened per acre in settings with a high potential for deeply-buried cultural materials. The proposed impact area encompasses a total area of approximately 0.5 acres along Yellow Creek. As such, we hand-excavated and screened two 1 x 1-meter test units (TUs 1 and 2) in the location of the proposed wastewater treatment facility.

Prior to this hand excavation, a backhoe was used to excavate two trenches (BHT-1 and BHT-2). Using stratigraphic data from the two backhoe trenches, Figure 3 shows a schematic cross-section of Yellow Creek in the Sunny Side project segment.

Backhoe trench BHT-1 was excavated on a north-south trajectory approximately 50 m north of Yellow Creek in the proposed location of the wastewater treatment facility. Soils in BHT-1 were extremely clay-rich, indicating the possible presence of former slackwater deposits, similar to wetlands currently present approximately 80 m to the northeast (Figure 4). The soil profile included two buried soil sequences, including the following horizons (with depths in cm bgs): CA (0-32); AC (32-46); Ab (46-70); Bwb (70-85); Ab' (85-112); BAb (112-149); Bwb' (149-190); 2Btg (190-230); and 2C (230+).

The upper Ab horizon in BHT-1 was determined to be an historic surface due to the presence of 20-30 percent rock and slag fragments, suggesting a low potential for prehistoric cultural materials. The lower Ab' soil was a very dark gray (10YR3/1) silty clay with a few scattered sandstone and river cobble fragments, a possible indicator of prehistoric features. The lower Ab' horizon, thus, possessed a high potential for prehistoric cultural materials.

Backhoe trench BHT-2 was excavated perpendicular (east-west) to BHT-1, approximately 50 m (150 feet) to the north and 100 m (300 feet) west. The soil sequence in BHT-2 included the following horizons (with depths in cm bgs): AC1 (0-15); AC2 (15-27); ABb (27-60); BAb (60-116); 2Btb (116-130); 2Btxb (130-190); and 2C (190-220+). In contrast to BHT-1, BHT-2 yielded only a single buried soil, suggesting that the Ab and Ab' soils observed in BHT-1 merge into one away from the stream. This is a common phenomenon in alluvial settings (Holliday 2004).

Figure 3 shows a schematic reconstruction of the geomorphology of the Yellow Creek floodplain/terrace setting in this portion of the project area at Sunny Side based on the soils observed in the two backhoe trenches. Results of soils analysis of BHT-1 and BHT-2 confirmed the results of the geomorphological reconnaissance, namely that the terraces surrounding the confluence of Yellow Creek and the Raystown Branch Juniata River possessed a high potential for deeply-buried archaeological sites, requiring the hand-excavation of deep test units.

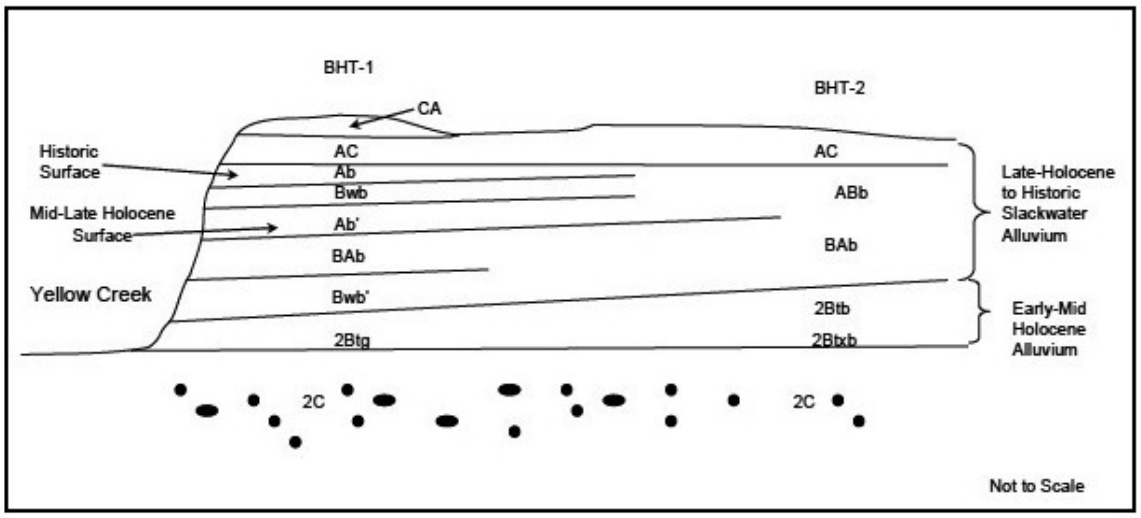

Figure 3. Planview Map of the Sunny Side site.

RESULTS OF EXCAVATIONS

Due to the high potential for both near-surface and deeply-buried cultural resources along Yellow Creek, as discussed above, the authors conducted archaeological survey and excavation to locate any archaeological sites. Figure 4 is a planview map of excavations. The team excavated a total of 22 shovel test pits (STPs) along the northern floodplain and terrace of Yellow Creek. STPs were excavated at 15 m (50 ft.) intervals in the project area and measured approximately 50 cm in diameter and 50 - 100 cm below surface. Only one of the 22 STPs yielded cultural materials. We recovered a total of three artifacts from STP A11, including a chert flake and 2 historic whiteware ceramic fragments. The artifacts were found in disturbed CA horizon deposits which also contained fill and modern debris (e.g., plastic) from the State Route 26 road berm less than 10 m (30 ft.) to the north. Six additional shovel test pits were excavated to the north, east, and west of this location and no additional cultural materials were identified. Based on initial near-surface survey, thus, the project area apparently was void of in situ archaeological materials.

However, as indicated by the geomorphological study described above, the area had a high potential to contain more deeply-buried cultural materials. As such, we excavated two 1 x 1-meter test units (TU 1 and TU 2) in the walls of adjacent backhoe trenches (BHT-1 and BHT-2) to determine the presence of deeply-buried archaeological sites. Soil profiles observed in TUs 1 and 2 were similar to those of BHT-1 and BHT-2, both of which yielded buried soils. Figure 5 is an illustration of the northwall profile of TU 1. During the hand-excavation of TU 1 in the west wall of BHT-1, the archaeological site—36BD267, the Sunny Side site—was identified at a depth of 94 cm below ground surface (Figure 5). Prehistoric lithic and ceramic artifacts were predominantly recovered 1 - 3 cm above a small hearth (Feature 1) within the Ab' horizon. In addition, four small steatite-tempered pottery crumbs were recovered during the scraping of the upper boundary of the hearth feature. We interpret this pottery to be directly associated with the feature.

Approximately 50 m to the northwest, TU 2 was excavated in the wall of BHT-2, recovering a single prehistoric chert flake at approximately 70 cm bgs within the ABb horizon. Site boundaries were not determined during fieldwork, although it is likely that the site encompasses much of the Yellow Creek floodplain/terrace setting, an area of approximately 3-5 acres.

The 70-cm-wide circular hearth (Figures 6 - 8) was located approximately 10 cm west of backhoe trench BHT-1 and was located entirely within the boundaries of TU 1, remaining undisturbed by the trench cut. The feature was comprised of 31 fire-cracked sandstone and quartzite river cobbles (FCR). The earth around the feature was not reddened and the upper portion of the feature may have been

leached, obscuring its upper boundary. Within this leached portion the pottery sherds were recovered, linking them directly to the feature.

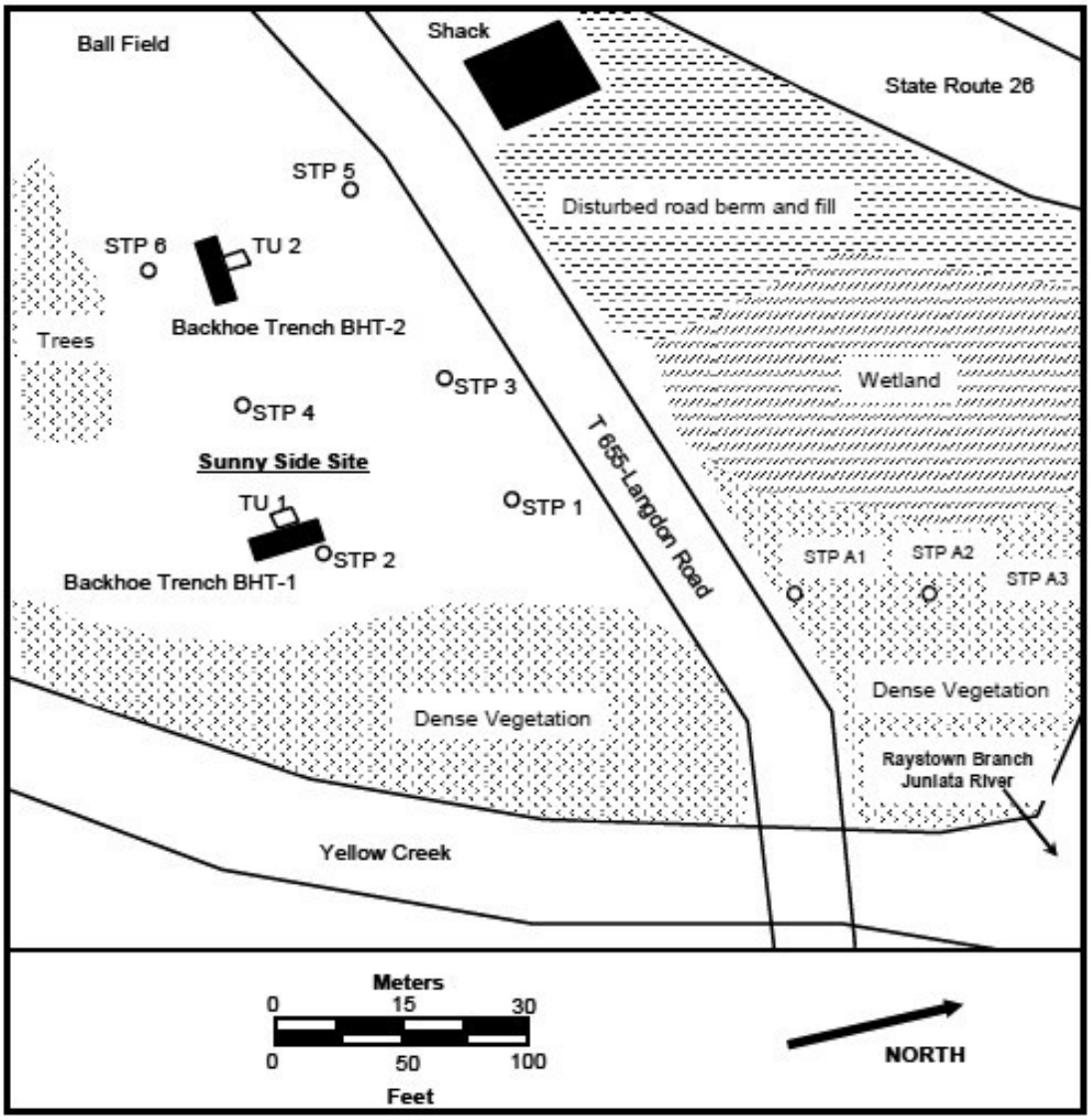

Figure 4. Yellow Creek geomorphology at Sunny Side based on soils in backhoe trenches.

Large pieces of hickory wood charcoal were packed between the FCR. The feature was approximately 10 cm deep, roughly the depth of the FCR. A sample of hickory wood charcoal from the hearth (Beta-158705) was dated to 3500±100 B.P. (calibrated age: BC 2120 - 2090 and BC 2050 - 1540).

Continued excavation of both TUs 1 and 2 failed to yield additional cultural materials below the level of the hearth. It is important to note that initial pedestrian survey and shovel test pit excavation failed to identify the Sunny Side site in the project area. This important site was only recognized during deep test unit excavation. As such, project results clearly support the position of the Pennsylvania Bureau of Historic Preservation, which requires hand excavation of deep test units in river settings with deep alluvial deposits.

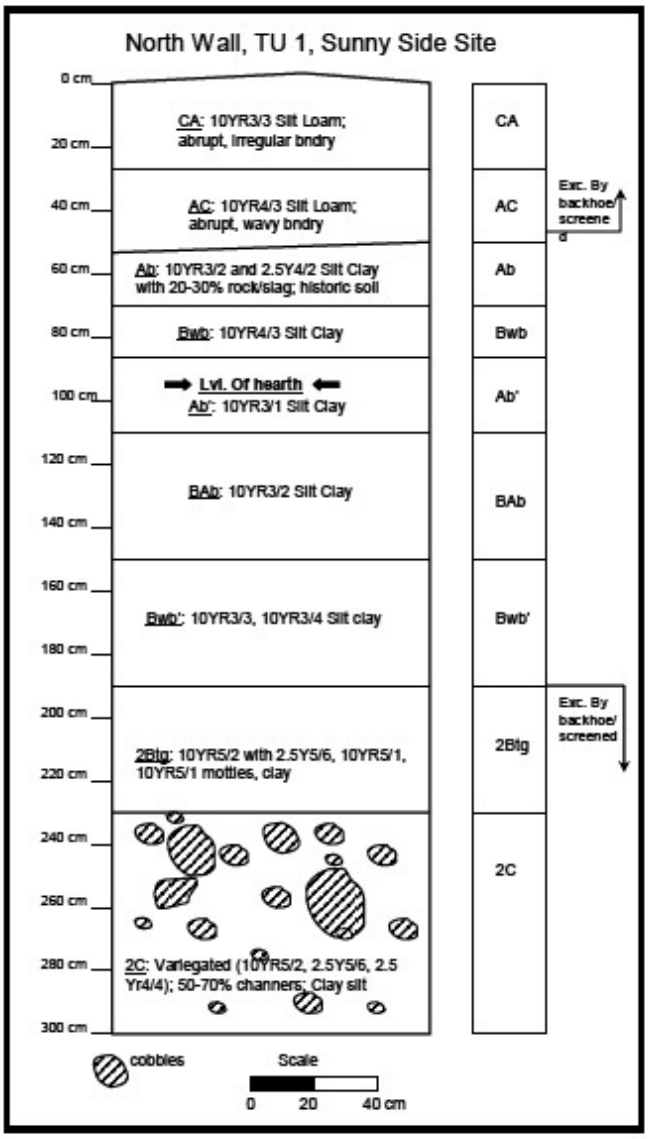

Figure 5. North wall of deep Test Unit 1.

SUNNY SIDE SITE ARTIFACT ANALYSIS RESULTS

A total of 57 prehistoric artifacts (56 from TU 1 and one from TU 2) were recovered from the Sunny Side site, including 44 lithic artifacts and 13 pottery fragments. The artifacts were all recovered within 1 - 3 cm of Feature 1's upper boundary and are interpreted to be directly associated with use of the feature. Artifacts within the feature included 31 FCR and four pottery crumbs recovered within a flotation sample during scraping of the upper portion of the feature.

The 44 lithic artifacts include 31 FCR and 13 debitage from stone tool manufacture. The FCR derived from Feature 1, while all of the flakes derived from the Ab' horizon directly overlying and surrounding Feature 1. The debitage include 12 gray chert block and flake shatter and 1 gray chert shaping flake, produced during the final retouch of a projectile point or biface. Five of the gray chert shatter possess block cortex, suggesting procurement from bedrock sources. Overall, the lithic assemblage suggests the expedient reduction of locally-collected chert. No stone tools or projectile points were recovered in the assemblage.

Figure 6. Excavation of hearth in TU 1. View southwest.

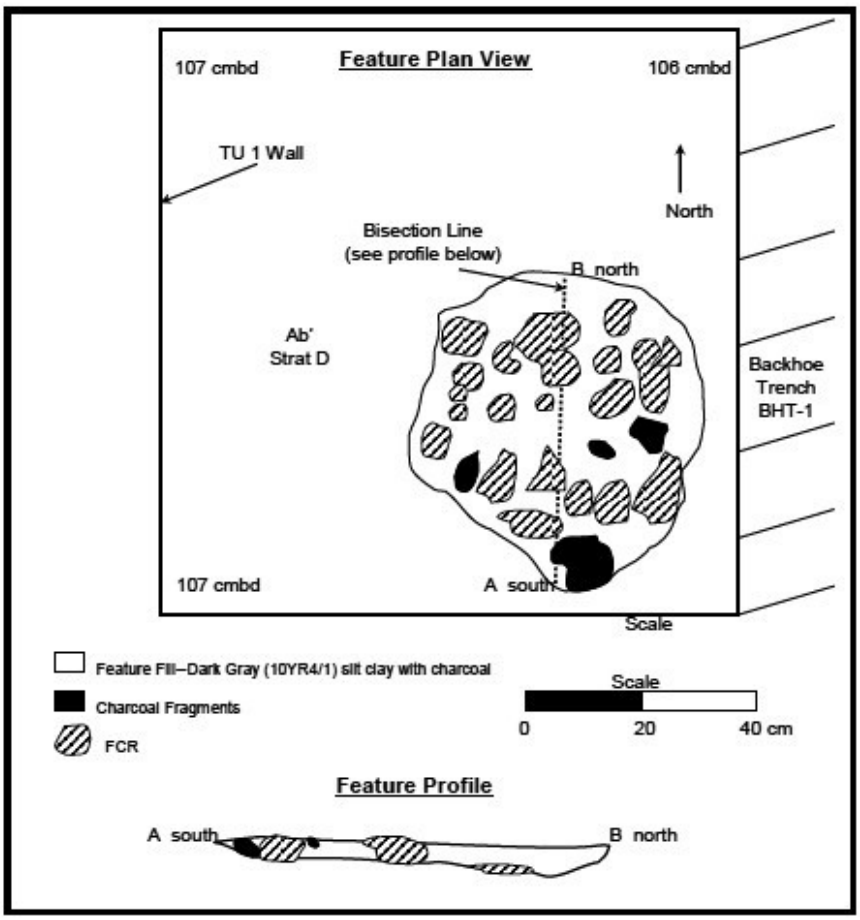

Figure 7. Planview/Profile of the hearth feature at the Sunny Side site.

Figure 8. Photograph of west half of Hearth Feature, TU 1, Sunny Side site. View west.

The ceramic assemblage from the Sunny Side site consists of 13 pieces, including 5 body sherds and eight crumbs (Figure 9). Analysis suggests a Transitional age for the pottery, based on the presence of steatite temper and cord marking (William Johnson, personal communication 2002). Steatite bowls were common during the Late Archaic/Transitional period and Early Woodland period. As discussed above,

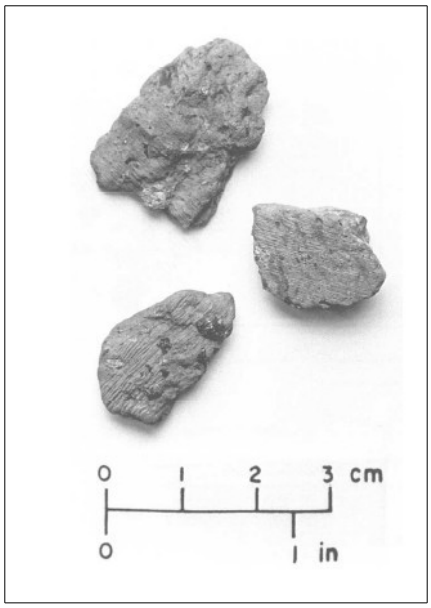

Figure 9. Pottery, Sunny Side site, Pennsylvania.

Marcey Creek and Selden Island wares used crushed steatite as temper for pottery. Exterior markings are cordmarked/smoothed on two body sherds, while the remainder have eroded surfaces. Based on these general characteristics, the steatite-tempered pottery sherds are most reminiscent of Selden Island wares (William Johnson, personal communication, 2002). Early dates for Early Woodland Selden Island steatite-tempered pottery are approximately 2900 B.P. from the Clyde Farm site in Delaware.

SUMMARY AND CONCLUSION

Based on these data, the Sunny Side site in Bedford County, Pennsylvania, contains the remains of an early Transitional site occupation. The site yielded a hearth dated to approximately 3500 years ago with associated steatite-tempered pottery within a buried soil. These site results confirm the early use of steatite-tempered pottery in the region (Stewart 1998). The most proximate known sources of steatite are within the Piedmont region of northern Maryland and southern Pennsylvania, approximately 50 km (30 miles) south of the current project area (Stewart 1984). If the steatite used at the site derived from this area, it suggests south-oriented cultural ties via migration or trade. As discussed previously by MacDonald (2002, 2006) and Raber (2008:38), the Raystown River corridor provided an ideal travel route for hunter-gatherers in the region. The recovery of steatite-tempered pottery from sites along the Upper Delaware River also suggests use of south-north-trending river corridors by Native Americans during the Transitional and Early Woodland periods.

Ethnohistoric research describes use of south-north-trending river corridors by regional Native Americans. Wallace's (1971:184) study of Native American travel routes shows a well-used corridor—the Warrior's Path—between the site of "Oldtown" on the Upper Potomac River directly northward to the Raystown Branch of the Juniata River. The Warrior's Path wound its way up Town and Clear creeks to Everett, Pennsylvania, and subsequently followed the Raystown Branch northward, passing immediately to the west of its confluence with Yellow Creek at the Sunny Side site. This trail continued northeastward to the main branch of the Juniata River. Native Americans likely used the Raystown Branch corridor throughout prehistory to access central Pennsylvania and the Susquehanna River basin; thus, the recovery of early pottery types (more typical of the Potomac Basin and vicinity) in this area of Pennsylvania is not unexpected.

The brief archaeological study presented here for the Sunny Side site suggests that the site has a great potential to contribute to a better understanding of a poorly-known period of regional prehistory. Future research at the site should be considered to better understand early pottery manufacture, site use and regional settlement patterns.

In addition to its role in understanding regional prehistory, results of our brief study have important implications regarding site visibility within river settings of the region. As confirmed for other regional sites by Raber (2008), results of excavations along Yellow Creek clearly support the position of the Pennsylvania Bureau for Historic Preservation regarding the need for deep testing for archaeological sites in south-central Pennsylvania. Initial pedestrian survey and shovel test pit excavation failed to identify any indication of the deeply-buried Sunny Side site. It was only during the hand excavation of deep test units that the important site was identified within the project area. Project areas such as that discussed here—alluvial settings with deeply-buried sediments—should continue to be surveyed for their potential to yield buried soils and landforms containing important archaeological resources. While this is generally an accepted practice in much of the eastern United States, it is not widely accepted in other portions of the United States.

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