

## Strangers in the Uplands: Test Excavations at the Dennis Site (47MO667), Monroe County, Wisconsin

Ryan Letterly and Daniel Dybowski

### Abstract

*Excavations at the Dennis site (47MO667) in the Driftless Area of southwestern Wisconsin offer new information on the Initial Late Woodland period (A.D. 500–750) in the region. The Dennis site represents a small, upland habitation and lithic workshop site in a drainage-head setting. The discovery of a previously unrecognized pottery type, Rullands Creek Incised, indicates greater cultural diversity in the Driftless Area during the Initial Late Woodland period than offered by prior models. These unique ceramics and associated cultural materials were recovered from an upland drainage-head landform, capped by as much as 75 centimeters of post-settlement alluvium (PSA). We suggest that the Dennis site has the potential to alter our present understanding of the Late Woodland period chronology and ceramic sequence and may serve as a useful model for developing a more general survey strategy for comparable sites within the Driftless Area.*

### Introduction

This article presents the results of survey and test excavations at the Dennis site (47MO667), a small prehistoric Native American site located in the uplands of the Coon Creek drainage in southwestern Monroe County, Wisconsin (Figure 1). Our goal is to provide evidence of a new pottery type belonging to the Initial Late Woodland period in southwestern Wisconsin (Lowrey 2004). After considering the unique lithic and ceramic assemblage recovered from the Dennis site, we offer a model to test and suggest that there may be sufficient evidence for a new provisional phase (Wiley 1958:21–24). However, we are cognizant that future evidence from upland ravine-head settings must be obtained in order to substantiate this proposition.

The site is on a small, drainage-head landform approximately 800 m<sup>2</sup> in size near the head of an

unnamed drainage way to Rullands Creek. In mid-April of 2004, a group of turkey hunters camping near what was to become the Dennis site area reported to the landowner large amounts of upland rill and gully-wash erosion occurring at the head of an unnamed ravine following a heavy rainfall. The senior author visited the area, located on family land, and conducted a surface survey of the drainage bed, collecting artifact samples along the way. This surface collection resulted in the discovery of several chert flakes and a portion of a regionally anomalous prehistoric ceramic vessel (Vessel 1) in the bed of the exposed drainage. Additional inspection identified a buried soil (A horizon) exposed in a nearby cut bank. The presence of numerous chert flakes and a partial ceramic vessel that had apparently eroded from a distinctly buried soil suggested the presence of a buried prehistoric component.

Two years later, during the summer and fall of 2006, the senior author returned to the Dennis site twice to conduct test excavations. The goals of the test excavations were (1) to verify that the cultural materials were associated with an intact soil, which could represent a stable land surface in an understudied environmental setting (an upland ravine head) during the time of habitation; (2) to attempt to recover additional diagnostic artifacts that could facilitate understanding of activities that occurred at the site and why this remote location was selected; and (3) to obtain material suitable for radiocarbon dating. In sum, the test excavations were designed to better identify the nature, date, and content of the prehistoric materials present at the site and to obtain a sample artifact assemblage from a potentially significant archaeological deposit.

One of the chronic problems with studying upland Driftless Area archaeological sites is the negative preservation effects of a combination of highly acidic soils

---

Ryan Letterly, Cashton, Wisconsin

Daniel Dybowski, Gila River Indian Community Department of Cultural Resource Management, Sacaton, Arizona

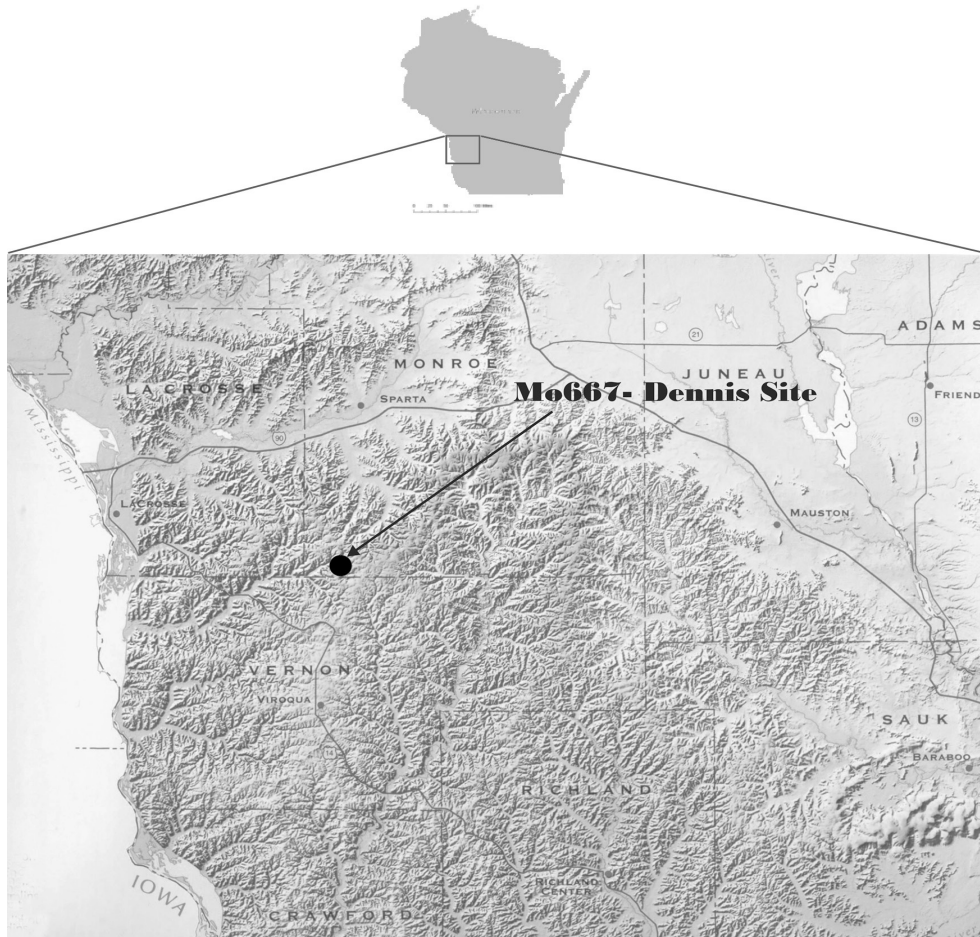


Figure 1. Location of the Dennis site within the Driftless Area of southwestern Wisconsin.

and the high-energy erosional environment created by the extensive use of European-American farming techniques. These and other factors have drastically influenced the survival and preservation of ceramic artifacts and faunal remains in many archaeological deposits in the region. The presence of a buried A horizon at the Dennis site provided an opportunity to investigate a sealed component with better than average preservation of archaeological materials.

### Environmental Setting

The Dennis site lies within the rugged hill and valley country of southwestern Monroe County (Figure 2). Specifically, the site is adjacent to an upland ridge summit, known as Rognstad Ridge, within a wooded ravine setting (Figure 3) where plowing has not occurred, leaving this particular setting relatively undisturbed. Rognstad Ridge is 300 m due east of the Dennis site and has a maximum elevation of 408 m

(1340 feet) above sea level. The elevation of the Dennis site is 384 m (1260 feet), or 24 m (80 feet) below the adjacent loess-capped summit. There are no known springs nearby. The intermittent drainage in which the Dennis site lies descends to the northwest, where it connects up with Rullands Creek, a small headwater tributary stream associated with the Upper Coon Creek watershed. The Dennis site is approximately 97 m (320 feet) above the Rullands Creek valley floor. Thus, the nearest known permanent water source is 1.93 km (1.2 mi) northwest of the site. The Mississippi River is about 28 km (17.5 mi) due west of this site. Both the upland ridges and the stream valley systems of the Driftless Area were important transportation routes, and the Dennis site may have been reached from either the Coon Creek drainage originating at the Mississippi River, or by traveling the adjacent ridge top systems located to the south and east of Rognstad Ridge.

The Driftless Area is assigned to the Western Upland geographical province of Wisconsin (Martin



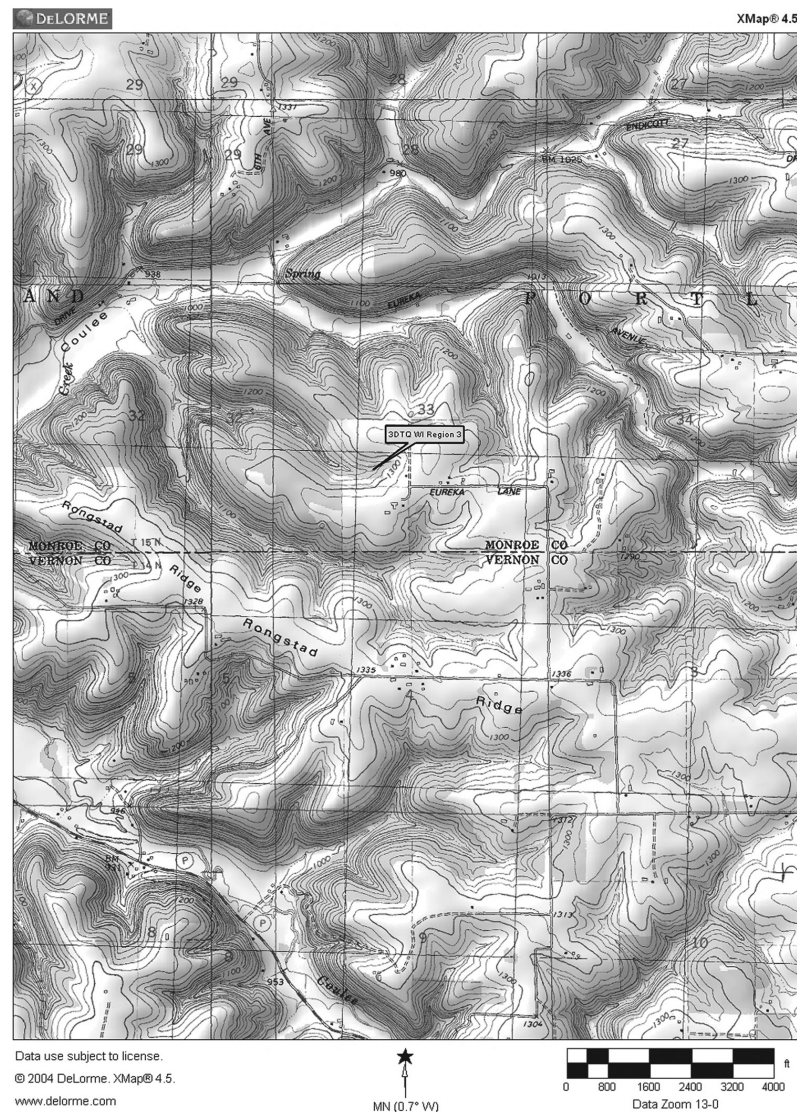


Figure 2. Topographic location of the Dennis site.

1965). It has a topographically distinctive landscape that lacks direct evidence of late Pleistocene glaciation. It is located primarily in southwestern Wisconsin, with smaller areas extending into Minnesota, Iowa, and Illinois, and is characterized by a deeply dissected and dendritically drained landscape consisting of upland ridges and stream valleys that are steep walled and flat floored and are bedrock controlled.

The bedrock of the Coon Creek drainage area consists of Upper Cambrian sandstones associated with the Jordan Formation, Lower Ordovician dolomites and limestones associated with the Prairie du Chien Group, and Middle Ordovician sandstones associated with the St. Peter Formation (Martin 1965). Stratigraphically, the Jordan Group is typically located on the valley floor, while the Prairie du Chien Group makes up

the mid to upper sections of the hills throughout the region. Lastly, the St. Peter (sandstone) Formation in this area is found above the Prairie du Chien Formation on some bluffs and ridge tops.

Prairie du Chien chert (PdC) is commonly found within the Prairie du Chien Group throughout the region (Klawiter 2000; Morrow and Behm 1985). PdC chert was a commonly used lithic material in the northern portions of the Driftless Area, and many chipped stone artifacts and quarry-workshop sites that focused on this material have been found throughout the Upper and Lower Coon Creek drainage system (Letterly 1998; Sasso 1989). The Lower Ordovician Prairie du Chien carbonates contain two types of PdC chert, Oneota and Shakopee, occurring in nodules or nodular beds up to 30 cm thick (Morrow 1994; Morrow

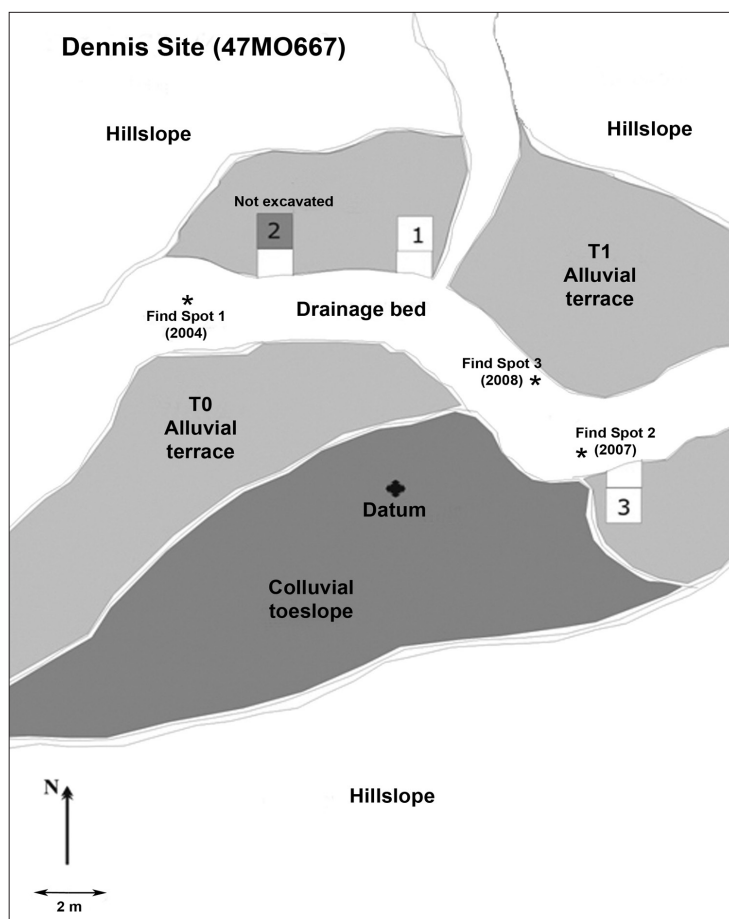


Figure 3. Dennis site excavation map showing locations of find spots and test units.



Figure 4. Overview of the Dennis site, looking east.



and Behm 1985:14). Both types of PdC cherts are commonly found in both tabular and residual deposits throughout the Coon Creek drainage system.

Both PdC variants are generally considered rather poor-quality raw material for chipped-stone knapping in their natural or unaltered state. Therefore, heat-treating, which improves knappability of cherts, is evident at many archaeological sites in the area. High-quality unaltered PdC is less common in southwestern Wisconsin, but it has been found in massive quantities eroding out of upland ravines near the headwaters of the Upper Coon Creek drainage, apparently contributing to the high concentration of prehistoric workshop sites around this headwater area (Morrow 1994).

According to the 1984 Monroe County soil survey (Barndt and Langton 1984), this particular upland drainage head is comprised of Valton-Wildale silt loam soils that thinly cover the surrounding steep, wooded hill slopes, although no additional soil information was given concerning the drainage-head floor itself (Barndt and Langton 1984:73–74). These soils formed in loess and are found on the surrounding steep, wooded hill slopes and adjacent summit. This site is adjacent to a true upland landform position near the summit associated with the intermittent stream valley that cuts through it. In addition, within this flat-floored, upland micro-valley environment there exists surprising evidence of terracing taking place. A T-1 terrace landform (Mandel and Bettis 2000) was discovered in this upland drainage setting, within which a well-preserved Initial Late Woodland cultural sheet midden was identified. The terrace described by Mandel and Bettis (2000) is characterized as a flat-floored, upland ravine environment, and it appears that the inhabitants of the Dennis site camped on such a terrace landform. The artifacts contained within the sheet midden were in a Roberts Creek-equivalent soil member (Mandel and Bettis 2000:18–24), preserved and buried by up to 70–75 cm of post-settlement alluvium (PSA). The soils at the site were formed on small, remnant intermittent stream terraces. Unfortunately, many upland drainage-head settings are poorly understood, largely because of the tendency to write off these potentially rich resources as “slopes” during regular archaeological surveys.

The Dennis site area contains a mature mesic forest that is dominated by large to medium-sized sugar maple and basswood but also contains red oak, red cherry, yellow birch, white ash, and red elm. In addition, prehistorically the nearby upland ridge tops would have supported large expanses of various upland prairie plants and grasses. Other potential resources would have included nut mast, berries,

white-tailed deer, small game such as raccoon, and various upland bird species such as grouse.

The specific microenvironment of the Dennis site also offered potential advantages as a weather break or topographic shelter, or as a defensive setting due to its relatively obscured location. Lastly, the small compact site area of the Dennis site would have provided a good location for a smaller-sized family or cultural group habitation while accessing the local, rich PdC chert deposits.

Lithic materials at the site consist exclusively of PdC chert. Both Oneota and Shakopee Formation PdC cherts were present in the lithic assemblage; however, the finer-grained Oneota member PdC chert seems to have been preferred. This preference for Oneota formation chert is also apparent at other nearby archaeological sites (Letterly 1998), possibly due to the fact that the raw material found near the headwaters of the Coon Creek drainage is of a higher quality. The presence of a higher-grade PdC chert may have been a major reason for a habitation site in this unusual environmental setting. Approximately 25 percent of the lithics recovered at the site were thermally altered to increase knappability.

## Surface Collection

Since its discovery in 2004, three surface collections have been made at the Dennis site. The first walkover survey was conducted in April of 2004, the second in August of 2007, and the third in June of 2008. All surface collections were conducted immediately after gully washout erosional events to determine what, if any, new archaeological resources were impacted or exposed.

The 2004 surface collection produced 15 lithics (mostly flakes) and one large sherd of unusual prehistoric pottery (Vessel 1). As described later in this paper, surface collection in 2007 recovered an additional 10 grit-tempered pottery sherds. Nine of these sherds were undecorated, but they represent multiple vessels. The tenth sherd was a decorated rim, which was designated Vessel 5. The 2008 surface collections recovered one large rim sherd (Vessel 6).

## Test Excavations

The 2006 excavations at the Dennis site were carried out on two occasions under the supervision of the senior author. The excavations consisted of two 1 x 1 m test units (Units 1 and 3, Figure 3) placed in

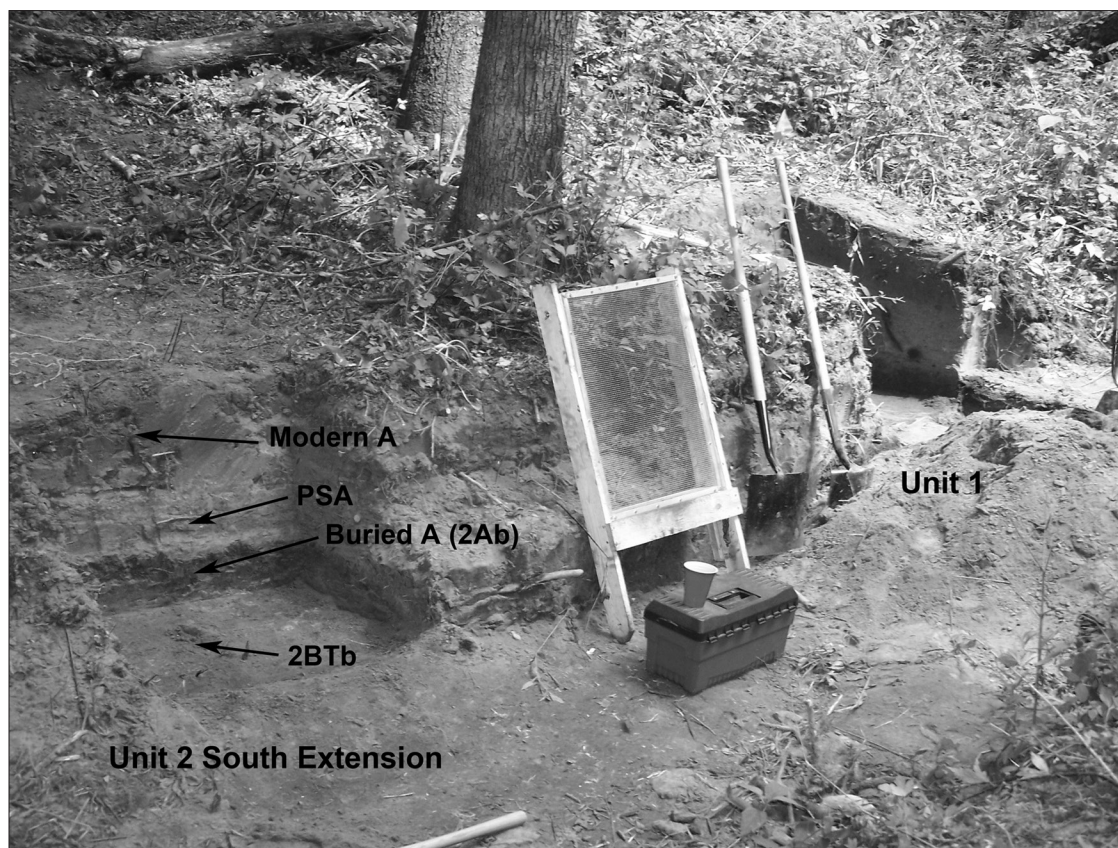


Figure 5. Buried A horizon in profiles of Unit 2 South Extension (left) and Unit 1 (right).

areas where a buried A horizon was visible in the cut bank (Figure 5). Another unit (Unit 2) was marked but was not excavated. Three unit extensions also were excavated on the cut bank of the three excavation units, including unexcavated Unit 2, to remove slumped cut bank material. Because much of this site was undisturbed, all of the test units and their related extensions were excavated by skim shoveling in 5-cm levels except for the PSA, which was designated as Level 1 and discarded. Except for the PSA, all of the soil was screened through  $\frac{1}{4}$ -inch mesh. The three units were staggered along the remnant terrace. Unit datums were placed at the ground surface in the highest-elevation corner of each unit. The terrain associated with the site is nearly level but slopes gently downward to the west, through the center of the site. When the test units were excavated, a horizontal grid was established, oriented north-south and east-west. A central site datum (0,0 coordinate) was marked with an iron rod hammered into the ground at the site's center point (Figure 3). Units were given numbers established by standard grid coordinates.

### Stratigraphy

Units 1 and 2 and their extensions were placed near Find Spot 1 (Figures 3 and 5). Unit 3 and its extension were placed on a different section of the landform. All of the landform is buried by over one-half meter of PSA. The site is defined by a well-developed soil profile with a characteristic modern A-PSA-2Ab-2BTb soil horizon sequence (Mandel and Bettis 2000). The overlying PSA varies in thickness and is shallowest at the east end of the site and thicker at or near the center and west end. The thickness of the PSA ranges from 55 to 75 cm.

A representative soil profile at the site has a modern A horizon (approximately 10 cm thick) characterized as a very dark gray (10 YR 3/1) silt loam that has developed on top of the PSA. The bulk of the PSA that overlies the buried A consists of soil ranging from grayish brown (10 YR 5/2) to light brownish gray (10 YR 6/2). The underlying 2Ab horizon varies in color from black (10 YR 2/1) in Unit 3 to very dark gray (10 YR 3/1) in Units 1 and 2, both of which have silt loam

soil textures. The 2Btb horizon beneath the buried A is characterized by a brown to dark brown (10 YR 4/3) soil with a silty clay loam texture. The soils here were formed in loessal parent material over a chert lag deposit, and for the most part, only one level could be dug into this rocky, 2Btb silty clay subsoil horizon.

### Unit 1 South Extension

Unit 1 South Extension (0.5 x 1 m) was excavated to remove slumped cut bank sediments and debris and to create a clean profile for adjacent Unit 1. Artifacts were recovered at 82–97 cm below datum (cmbd). The artifacts (Tables 1 and 2) were distributed fairly evenly throughout the culturally positive levels, with a slight increase in density towards the base of the profile. In addition, an expended Madison Triangular point was recovered from Level 4 (82–87 cmbd).

Stratigraphically, the higher artifact densities corresponded to the central and lower portions of the 2Ab (buried A horizon) and extended into the very top of the 2Btb-horizon subsoil where the chert lag deposit originates. Pedogenically, this is where a Woodland deposit should be found in situ. Artifacts recovered from Unit 1 South Extension consisted of two modified flakes, 16 pieces of debitage, and one piece of shatter, all of PdC, and the Madison Triangular projectile point. All these materials were found in situ. A floated charcoal sample was collected from the north profile wall of Unit 1 South Extension, at a depth of 85–90 cmbd, for C-14 dating.

### Unit 1 (Grid 7-8N, 0-1E)

Unit 1 (1 x 1 m) was placed directly north of Unit 1 South Extension and was excavated to a maximum depth of 100 cmbd. Unit profiles revealed a silty PSA zone from 0 to 75 cmbd. A buried A-horizon silt loam was present from 75 to 95 cmbd. The 2Btb (subsoil) horizon was encountered while excavating Level 6 (95–100 cmbd). Artifacts were recovered from 80–100 cmbd (Tables 1 and 2). The artifacts were distributed fairly evenly throughout the culturally positive levels, with a slight increase in density in Level 5 (90–95 cmbd), towards the base of the buried A horizon. Stratigraphically, the highest artifact densities corresponded with the lower portions of the 2Ab (buried A horizon). The soil formed here on top of a chert lag deposit, and the cultural materials terminated at the top of the 2Btb horizon subsoil where the chert lag deposit is located. The buried A horizon was an intact, very dark gray (10 YR 3/1) soil. The cultural material recovered in Unit 1, all of it in situ, consisted of 20 pieces of PdC chert debitage. Together with the production of chert debitage, two modified flakes, and

a platform core, these findings may indicate a single-component setting at the Dennis site. All of the artifacts were made out of local lithic material, most likely quarried from the chert lag deposit located on-site.

### Unit 2 South Extension

Unit 2 South Extension (.9 x 1 m) was excavated to remove slumped cut bank sediments and debris and create a clean profile for adjacent Unit 2, which as noted above, was not excavated. Unit 2 South Extension was excavated to a maximum depth of 85 cmbd. Unit profiles revealed a silty PSA zone from 0 to 75 cmbd. A buried A-horizon silt loam was present at 75–85 cmbd. The 2Btb (subsoil) horizon was encountered during excavation of the base of Level 4 (85 cmbd). The only cultural materials recovered in Unit 2 South Extension were five pieces of PdC chert debitage, found in situ between 75 and 85 cmbd (Tables 1 and 2). They showed a slight increase at the base of the buried A horizon and terminated at the top of the 2Btb horizon subsoil, where the chert lag deposit is located. The buried A-horizon here was a very dark gray (10 YR 3/1) soil formed on top of the chert lag deposit (see Figure 5).

### Unit 3 North Extension

Unit 3 North Extension (.7 x 1 m) was excavated to remove slumped cut bank sediments and debris and create a clean profile for adjacent Unit 3. Unit 3 North Extension was excavated in arbitrary levels to a maximum depth of 85 cmbd. Unit profiles revealed a silty PSA zone from 0 to 65 cmbd. A buried A-horizon silt loam was present at 65–80 cmbd. The 2Btb (subsoil) horizon was encountered at the top of Level 5 (80 cmbd) (Figure 6). Associated artifacts were recovered from 65 to 85 cmbd (Tables 1–3). High artifact densities were observed throughout the culturally positive levels, particularly in Levels 3 and 4 (70–80 cmbd). The high densities in Levels 3 and 4 represent the center of an archaeologically enriched sheet midden. Some cultural materials penetrated into the top of the 2Btb subsoil horizon. The density of the chert lag deposit in this location did not allow excavation below 85 cmbd.

Within the buried A horizon (10 YR 2/1) there was an even darker, blackened band indicating anthropological enrichment (an entity separate from the regular soil matrix) (Figure 6). This blackened band we believe can be classified as an anthrosol (Robert Boszhardt 2010, personal communication). Anthrosols are “soils in which human activities have resulted in profound modifications to the original soil characteristics, through removal or disturbance of surface horizons, addition of organic materials, cuts and fills, etc.”

TABLE 1. LITHICS FROM THE DENNIS SITE TEST EXCAVATIONS.

Unit	Level	Depth (cmbd)	Point	Biface	Uniface	Mod. Flake	Core	Debitage	Chunk/ Shatter	Total Lithics
<b>Unit 1 South Extension</b>										
	1	0-72	-	-	-	-	-	-	-	-
	2	72-77	-	-	-	-	-	-	-	-
	3	77-82	-	-	-	-	-	-	-	-
	4	82-87	1	-	-	-	-	2	-	3
	5	87-92	-	-	-	2	-	6	-	8
	6	92-97	-	-	-	-	-	8	1	9
	Subtotal	-	1	-	-	2	-	16	1	20
<b>Unit 1</b>										
	1	0-75	-	-	-	-	-	-	-	-
	2	75-80	-	-	-	-	-	-	-	-
	3	80-85	-	-	-	-	-	4	-	4
	4	85-90	-	-	-	-	-	1	-	1
	5	90-95	-	-	-	1	1	11	-	13
	6	95-100	-	-	-	1	-	4	-	5
	Subtotal	-	-	-	-	2	1	20	-	23
<b>Unit 2 South Extension</b>										
	1	0-75	-	-	-	-	-	-	-	-
	2	75-80	-	-	-	-	-	1	-	1
	3	80-85	-	-	-	-	-	4	-	4
	Subtotal	-	-	-	-	-	-	5	-	5
<b>Unit 3 North Extension</b>										
	1	0-65	-	-	-	-	-	-	-	-
	2	65-70	-	-	-	2	-	80	2	84
	3	70-75	-	1	1	6	-	255	11	274
	4	75-80	-	4	-	6	-	302	10	322
	5	80-85	-	1	1	3	5	126	10	146
	Subtotal	-	-	6	2	17	5	763	33	826
<b>Unit 3</b>										
	1	0-55	-	-	-	-	-	-	-	-
	2	55-60	-	-	-	-	-	14	-	14
	3	60-65	-	-	-	1	-	70	2	73
	4	65-70	-	-	-	6	-	91	3	100
	5	70-75	-	2	-	6	4	110	9	131
	Subtotal	-	-	2	-	13	4	285	14	318
<b>Total</b>			1	8	2	34	10	1,089	48	1,192



TABLE 2. DEBITAGE FROM THE DENNIS SITE.

Unit	Level	Primary Flakes	Secondary Flakes	Tertiary Flakes	Total
<b>Unit 1 South Extension</b>					
	1	-	-	-	-
	2	-	-	-	-
	3	-	-	-	-
	4	-	-	2	2
	5	1	1	4	6
	6	2	1	5	8
	Subtotal	3	2	11	16
<b>Unit 1</b>					
	1	-	-	-	-
	2	-	-	-	-
	3	-	4	-	4
	4	-	-	1	1
	5	-	3	8	11
	6	-	1	3	4
	Subtotal	-	8	12	20
<b>Unit 2 South Extension</b>					
	1	-	-	-	-
	2	-	1	-	1
	3	-	-	4	4
	4	-	-	-	-
	5	-	-	-	-
	6	-	-	-	-
	Subtotal	-	1	4	5
<b>Unit 3 North Extension</b>					
	1	-	-	-	-
	2	4	18	58	80
	3	13	62	180	255
	4	8	92	202	302
	5	9	44	73	126
	6	-	-	-	-
	Subtotal	34	216	513	763
<b>Unit 3</b>					
	1	-	-	-	-
	2	1	4	9	14
	3	1	23	46	70
	4	3	23	65	91
	5	5	32	73	110
	6	-	-	-	-
	Subtotal	10	82	193	285
<b>Total</b>		47	309	733	1,089



Figure 6. Unit 3 North Extension, sheet midden in profile.

(Gbadegesin and Olabode 1999:210). This midden is visible in the photographs of the south wall profile of Unit 3 North Extension but was not excavated as a separate entity.

The artifacts associated with this sheet midden included large amounts of debitage, some modified flakes, several broken bifaces and tabular cores, numerous ceramic sherds from multiple pots, and small amounts of charcoal. The blackened midden extended into both the south and east walls of this unit extension, indicating that an intact cultural activity area exists at the Dennis site. The midden extends primarily to the east, with some portions also extending to the south, where Unit 3 was placed. The homogeneity of the cultural materials from Unit 3 North Extension strongly points to the site being single component. Again, a well-developed loessal soil formed here on top of the chert lag deposit. Artifacts recovered from Unit 3 North Extension consisted of 20 grit-tempered ceramic sherds, 6 PdC chert biface fragments, 5 PdC chert cores, 2 PdC chert unifaces, 17 PdC modified flakes, 763 pieces of PdC chert debitage, 33 pieces of PdC chert shatter, and 6 calcined bone fragments.

TABLE 3. CERAMICS AND FAUNAL REMAINS FROM TEST EXCAVATIONS AT THE DENNIS SITE.

Unit	Level	Decorated Body Sherd	Undecorated Body Sherd	Rim Sherd	Total Ceramics	Faunal
<b>Unit 3</b>						
	1	-	-	-	-	-
	2	-	-	-	-	-
	3	-	3	-	3	-
	4	-	12	-	12	-
	5	-	14	1	15	-
	6	-	-	-	-	-
<b>Unit 3 North Extension</b>						
	1	-	-	-	-	-
	2	-	3	1	4	-
	3	-	3	2	5	-
	4	1	3	-	4	6
	5	-	7	-	7	-
	6	-	-	-	-	-
<b>Total</b>		1	45	4	50	6

Numerous pieces of FCR were observed in the sheet midden but were not recovered. A large ceramic sherd from the base of Level 2/top of Level 3 refit with the 2004 partial vessel at Find Spot 1 (Vessel 1). This stratigraphic information connects the 2004 ravine bed surface finds to the in-situ ceramics from the 2006 controlled test excavations.

### Unit 3 (Grid 0-1S, 6-7E)

Unit 3 (1 × 1 m) was placed directly south of Unit 3 North Extension and was excavated in arbitrary levels to a maximum depth of 75 cmbd. Unit profiles revealed a silty PSA zone from 0 to 55 cmbd. The buried A-horizon silt loam was present at 55–70 cmbd. Artifact densities (Tables 1–3) increased with depth, with a spike at 65–75 cmbd (base of Level 3 to base of Level 5) and a dramatic decrease above and below. Stratigraphically, the highest artifact densities corresponded with the lower portions of the 2Ab (buried A horizon), but they also extended into the top of the 2Btb (subsoil) horizon, although not into the underlying chert lag deposit. The buried A horizon identified here was intact, organically enriched, and black (10 YR 2/1). The extremely dark zone or band, subsequently identified as an anthrosol, observed in Unit 3 North Extension was also present in Unit 3 from 65 to 75 cmbd. This blackened soil directly correlates to the high density of cultural material and suggests

prehistoric organic enrichment from the incorporation of refuse into the soil matrix during the occupation. The artifacts associated with the anthrosol in this unit include large amounts of debitage, modified flakes, broken biface fragments, core-like tabular chert pieces, and numerous ceramic sherds from multiple pots. Calcined bone fragments, many of them too small to collect, and some charcoal were also observed. The ceramics recovered in Unit 3 and its associated extension, some of which extended into the top of the 2Btb subsoil, all appear to be related to the same component. Although more data are needed, such as lithic conjoining analyses, the current findings point to the Dennis site as being a single-component activity area.

These archaeological deposits provide evidence for a period of geomorphic stability in this particular ravine-head environment. The well-developed soils indicate stability, and the buried A/midden indicates episodes of accumulation. The PSA suggests that sediment accumulation has accelerated within recent historic times and continues today. In addition, based on the unit wall profiles, the sheet midden appears to terminate to the south and west of Unit 3 but continues to the east. A charcoal float sample for C-14 dating was collected from the east wall profile at a depth of 65–70 cmbd. In addition, a small (2 liter) soil sample was collected from this same provenience for future study. Artifacts from Unit 3 consisted of 30 grit-tempered

ceramic sherds, 2 PdC biface fragments, 4 PdC cores, 13 PdC modified flakes, 282 pieces of PdC chert debitage, and 14 pieces of PdC chert shatter. In addition, numerous pieces of FCR were observed, primarily in the sheet midden, but were not recovered.

### Summary of 2006 Excavations

The 2006 test excavations revealed an extensive, in-situ prehistoric sheet midden capped by over one-half meter of PSA. All of the artifacts found were recovered from a buried A horizon. The sheet midden contained within the buried A horizon produced lithic manufacturing debris, broken bifaces from all stages of reduction, chert material from on-site quarrying, charcoal, calcined bone, and unique ceramic sherds. The 2006 excavations focused on the buried A horizon. This strategy allowed the crew to identify varying artifact densities in the sheet midden. High densities of flaking debris were found in the midden, along with numerous biface production failures. The lithic analysis discussed below indicates that early-stage biface reduction was a significant activity at the Dennis site, using material obtained from on-site chert quarrying. During the 2006 excavations, 1,248 precontact Native American artifacts were recovered at the site.

### Radiocarbon Dates

The discovery of vessels of a previously unrecognized ceramic type in primary context was sufficiently important to employ radiocarbon dating of the occupation. In addition, the radiometric data are useful for dating the buried surfaces at the site.

As the ceramic artifacts were of primary interest, the authors decided to obtain Accelerator Mass Spectrometry (AMS) radiocarbon dates from heavy carbonized residues on two non-diagnostic body sherds. Two sherds were selected from the top (Sherd 2, Unit 3, Level 3, 70–75 cmbd) and base (Sherd 1, Unit 3, Level 5, 80–85 cmbd) of the primary ceramic-bearing component. These samples were submitted to the University of Georgia–Center for Advanced Isotope Studies (UGA-CAIS) laboratory for AMS dating.

The results for the two samples were virtually identical, adding support to the interpretation that the site is single component. The calibrated 1-sigma dates were  $1299 \pm 39$  B.P. (Sherd 1) and  $1284 \pm 42$  B.P. (Sherd 2). These dates place the occupation of the Dennis site at approximately A.D. 610–710 (Figure 7, Table 4).

Radiometric dates between the seventh and eighth centuries A.D. were unexpected, as the initial analysis of the ceramics had suggested a Mississippian or

### Radiocarbon Dates

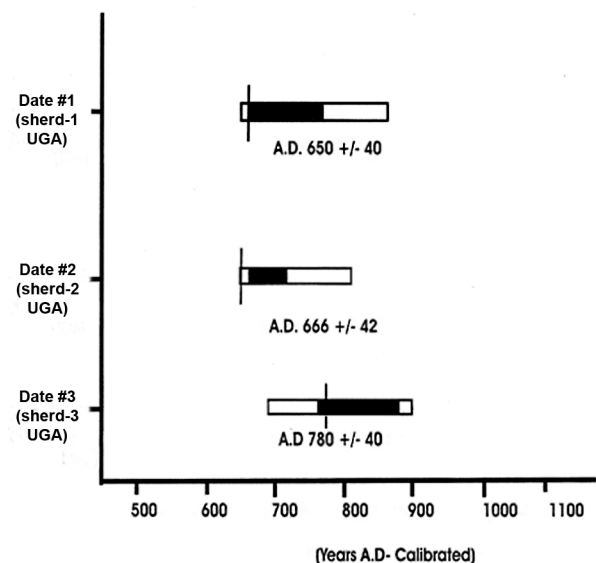


Figure 7. Diagram of calibrated radiocarbon dates from 47MO667, spanning a range from A.D. 650 to A.D. 900.

Terminal Woodland period date (i.e., A.D. 1000–1200). This age was also very early for the only diagnostic lithic from the site, the Madison Triangular point from Unit 1 South Extension. Since these dates were unexpected, other regional scholars were consulted, leading to the suggestion that direct radiocarbon dating of ceramic residues may lead to erroneous dates (Hart and Lovis 2007). Therefore, a third control sample was submitted for AMS dating. This sample consisted of loose, carbonized wood charcoal from the east wall profile of Unit 3 at a depth of 65–70 cmbd.

As an additional precaution, the third sample was submitted to a different radiocarbon laboratory (Beta Analytic Inc.-#224278). This third sample returned a 1-sigma calibrated date of A.D.  $780 \pm 40$  (Bronk Ramsey 1995; Stuiver, et al. 1998; Talma and Vogel 1993) (Figure 7, Table 4). At face value this date is similar to, but slightly younger than, the AMS dates on the ceramic residue. However, taking the date to the 2-sigma level of confidence (95 percent probability) expands the range to B.P. 1260–1050, with a calibration-curve intercept of A.D. 780. This brings the charcoal date into correspondence with the 2-sigma ranges of the earlier sherd dates. The authors interpret the variation in the third date to most likely be the result of the use of different radiocarbon laboratories, with different procedures and equipment, rather than any actual variation in the sample itself.



TABLE 4. RADIOCARBON DATES FROM THE DENNIS SITE.

Laboratory No.	Material	Conventional Radiocarbon Age B.P.	$^{13}\text{C}/^{12}\text{C}$ Ratio (o/oo)	1-Sigma Calibrated Years A.D. (68% Probability)	2-Sigma Calibrated Years A.D. (95% Probability)	Sample Context/ Provenience
UGAMS# R01597*	Charred residue on ceramic sherd interior	1299 $\pm$ 39	-26.63	660–720 (45.4%) 740–770 (22.8%)	650–780 (93.8%) 790–810 (1.6%)	Unit 3, 80–85 cmbd
UGAMS# R01598*	Charred residue on ceramic sherd interior	1284 $\pm$ 42	-26.48	670–725 (41.4%) 735–775 (26.8%)	650–830 (92.5%) 840–870 (2.9%)	Unit 3, 70–75 cmbd
Beta-224278**	Wood charcoal	1210 $\pm$ 40	-23.90	770–880	690–900	Unit 3, 65–70 cmbd

\* Calibration based on Ramsey 1995; Stuiver et al. 1998

\*\* Calibration based on Talma and Vogel 1993

## Ceramic Assemblage

The grit-tempered ceramic vessel fragment recovered in 2004 was unusual for the region, consisting of portions of a medium-sized, angular-shouldered jar decorated with tool-incised lines on an almost burnished surface (Figures 8 and 9, Vessel 1). Initially this vessel was classified as Middle Mississippian-related based on the angular shoulder and incised decorations executed on a near-burnished surface. Middle Mississippian period sites are rare in the interior Driftless Area (Benden 2004; Boszhardt 2004), and previous surveys of the interior Coon Creek drainage (Letterly 1998:192–196; Sasso 1989) had not identified affiliated sites.

In late August 2007, a second washout event scoured the main Dennis site drainage bed and the remains of the 2006 test units. After the washout had subsided, a surface collection recovered additional ceramic artifacts from the Dennis site deposit. The 2007 surface collection consisted of 10 new pieces of unique prehistoric grit-tempered pottery. The sherds recovered during this ravine-bed surface survey consisted of nine undecorated grit-tempered ceramics from multiple pots and one decorated rim designated as Vessel 5 (Figures 8 and 9).

Ceramics from the Dennis site feature exterior surfaces that are highly smoothed, almost burnished in appearance, with no evidence of paddle marks or coiling. Sherd texture is generally dense and compact. Pastes are sandy, while temper consists of a mixture of sand and very fine crushed grit, including a high density of crushed quartz. Sherd thickness varies from 4 to 10 mm, with greater thickness present in basal and

rim/shoulder sherds. Average body sherd thickness ranges from 5 to 6 mm.

In addition to the 2004 and 2007 finds, another vessel fragment was discovered in 2008, making two separate partial vessels recovered from the site's surface. A total of 50 ceramic sherds, including four rims, were recovered from the 2006 test excavations at the site, and one additional one from 2008. Analysis suggests that the ceramic collection was derived from a minimum of six vessels, including at least one "pinch pot" or miniature vessel (Figures 8 and 9).

One rim sherd from Level 2 (65–70 cmbd) in Unit 3 was a direct refit to the partial vessel discovered in 2004, conclusively linking that large sherd to the in-situ component (Figure 8). Ceramic artifacts from the 2006 testing were limited to Unit 3 and Unit 3 North Extension (Table 3) and were further restricted to the buried A horizon (2Ab). While the ceramic assemblage constitutes a relatively small sample size, the Dennis site ceramics are remarkably homogeneous in temper, paste, and thickness (Tables 5 and 6), suggesting that they represent a single ceramic ware.

## Rim Profiles and Dimensions

Rim profiles (Figure 9) are relatively short (ca. 20–25 mm) and vary from slightly to markedly excurvate. Lips are flattened and heavily smoothed, with no decoration on the lip surface or the interior. A single shoulder sherd (Vessel 3) has short vertical tick marks on the exterior of the angular shoulder along the slightly channeled shoulder junction, which may be an artifact of vessel construction.

Two vessels (Vessels 1 and 6) were complete enough to provide information regarding vessel form.

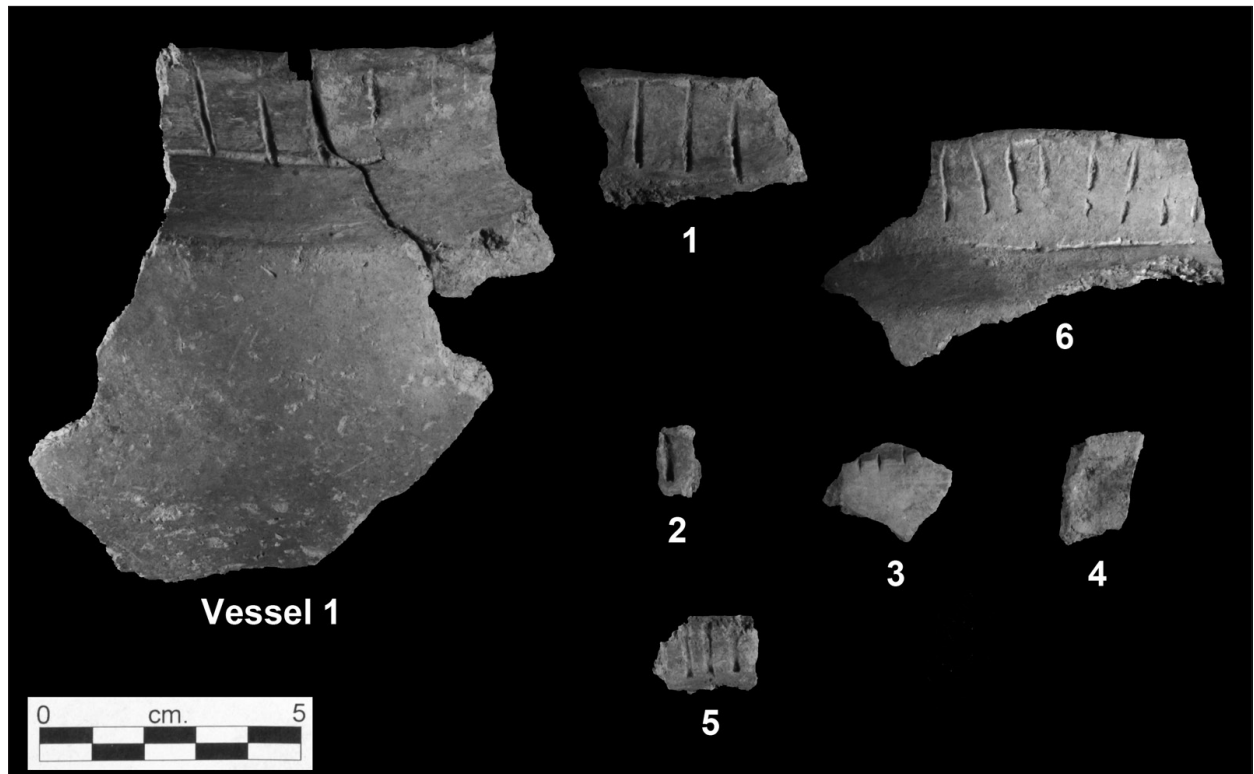


Figure 8. Rullands Creek Incised sherds. There are six apparent vessels. Sherd 1 belongs to Vessel 1; Vessels 2–6 are each represented by single rim sherds.

TABLE 5. MEASUREMENTS ON CERAMICS FROM TEST EXCAVATIONS AND FIND SPOT 1.

Provenience	Level	No. of Sherds	Rim	Neck	Shoulder	Body	Basal	Comments
Find Spot 1	–	1	7.4	7.1	11.0	8.8	–	large sherd
Unit 3	1	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–
	3	1	–	–	–	4.8	–	–
	4	8	–	–	–	5.2	–	–
	5	11	5.4	4.6	5.2	5.0	7.6	medium basal sherd and medium rim
	6	–	–	–	–	–	–	–
Unit 3 North Extension	1	–	–	–	–	–	–	–
	2	1	6.3	7.3	9.2	9.1	–	refit to Find Spot 1
	3	2	5.9	5.9	5.5	3.0	–	large and mini-rim
	4	1	–	–	–	7.9	10.0	large basal sherd
	5	2	–	–	–	4.9	–	–
	6	–	–	–	–	–	–	–
Total sample size	–	–	5.0	5.0	5.0	26.0	2.0	–
Range of variation	–	–	4.2–7.4	4.6–7.3	4.5–11.0	3.0–9.1	7.6–10.0	–
Average thickness	–	–	6.2	6.1	7.3	5.4	8.8	–

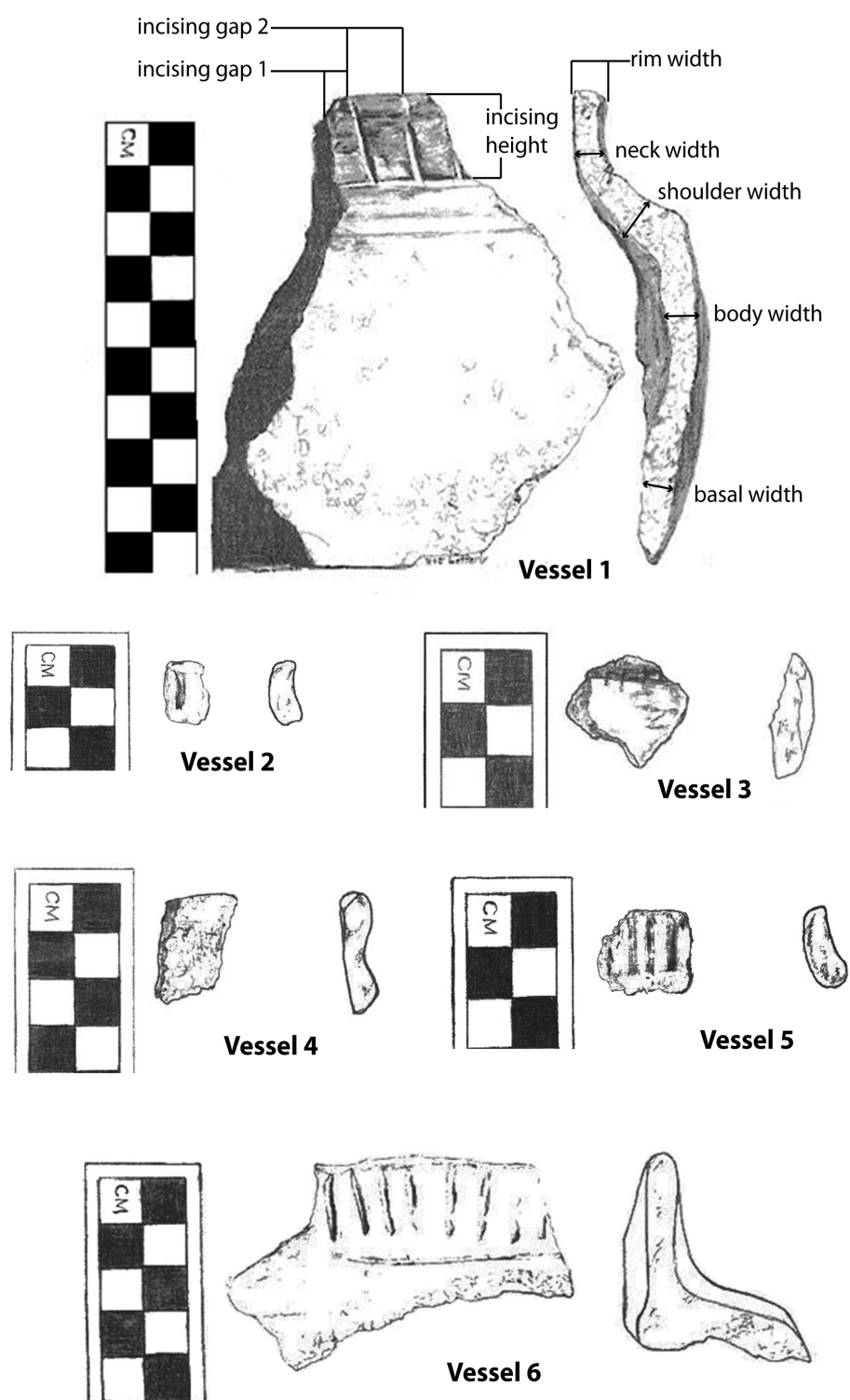


Figure 9. Drawings and profiles of Rullands Creek Incised pottery, Vessels 1-6. Vessel 1 drawing shows how measurements were taken.



TABLE 6. RIM SHERD MEASUREMENTS\*.

Dimensions	Vessel #						
	1	1 (refit)	2	3	4	5	6
Rim angle	120	-	-	-	-	-	100
Shoulder angle	130	-	-	-	-	-	146
Orifice diameter	120	-	-	-	-	-	55
Height of incising	15.8	-	9.2	3.7	-	10.2	14.6
width of incising	1.5	-	1.8	0.7	-	1.8	1.6
Height of neck	20.4	21.4	15.8	-	-	15.1	20.1
Gap between incising 1	10.1	-	-	3.3	-	3.7	6.1
Gap between incising 2	8.6	-	-	4.4	-	4.2	4.9
Gap between incising 3	-	-	-	3.1	-	-	5.5
Gap between incising 4	-	-	-	-	-	-	8.4
Gap between incising 5	-	-	-	-	-	-	7.6
Gap between incising 6	-	-	-	-	-	-	7.8
Gap between incising 7	-	-	-	-	-	-	7.0
Rim thickness	7.4	-	4.5	-	5.8	4.4	5.8
Neck thickness	5.9	-	4.3	-	4.1	5.2	5.8
Shoulder thickness	10.5	-	4.7	-	-	5.0	9.5
Body thickness	6.8	-	-	-	5.2	-	-
Basal thickness	8.1	-	-	-	-	-	-

\*Angles in degrees; all other measurements in millimeters

Vessel 1 was apparently a medium-sized jar with a steeply angular shoulder and a straight, somewhat excurvate rim. An orifice diameter of 12 cm is based on extrapolation from the recovered portions of the rim. Vessel 1 has a rim angle of 120 degrees and a shoulder angle of 130 degrees, as measured by Robert F. Boszhardt in 2008. Basal sherds from the site suggest the vessel may have had a rounded base. This vessel and other shoulder sherds from the site suggest that the ceramics were manufactured as composite vessels in which body and rim were manufactured separately and joined at the shoulder. This method of manufacture produced an exterior hip at the base of the angular shoulder, where a surface discontinuity and interior and exterior channeling demonstrate the joining of two separate paste bodies. The 2008 discovery at Find Spot 3 is the other vessel (Vessel 6), which has an orifice of 5.5 cm (15 percent of the orifice), a rim angle of 100 degrees, and a shoulder angle of 146 degrees.

Decoration is present on all six rim sherds, including the partial vessel. Two rims and the partial vessel may represent a single vessel (Vessel 1). Rim decoration is confined to the exterior rim and neck and consists of a series of short, vertical to slightly diagonal trailed lines and a single horizontal incised, partially interrupted band executed on a smoothed surface. The vertical tool incisions range from 1.5 to 2.0 mm in width and 10 to 20 mm in length and continue from the base of the neck to the edge of the vessel lip. These vertical incisions are relatively uniform and are evenly spaced around the neck of the vessel, approximately 8–15 mm apart. The single horizontal band also ranges from 1.5 to 2.0 mm in width and was apparently made by the same tool. This band is present on two rim sherds, but the partial vessel and its refit demonstrate that the band is discontinuous around the entire vessel.

## Interpretation

Typological classification of the ceramics from the Dennis site is difficult given the lack of any direct similarities to any known contemporaneous ceramic types in the region. The smoothed exterior, along with the limited and conservative nature of vessel decoration and its near restriction to the vessel rim, suggests a Weaver-related design palette. Similarly, the angular-shouldered and rounded-base vessel form reflects later Weaver jars recovered from the Illinois River Valley (McConaughy 1993:220). In either case, form is what is most diagnostic of these vessel sherds. Although Rullands Creek Incised and Weaver have similar forms, the differences in rim decoration and other attributes make these vessels dissimilar.

Regionally, the closest obvious analogies are found in Linn ware (Logan 1976:110). The sherd thickness, texture, and paste of the Dennis site ceramics are similar to later Linn ware ceramics recovered from other Driftless Area sites, particularly those of the Levsen series. However, there is a lack of typical Levsen decorative techniques (e.g., punctates), and radiocarbon dates indicate that the Dennis site dates several centuries after Levsen-related sites (Stoltman 2006). Similarly, the Dennis site ceramics have elements of the presumably later Spring Hollow series, Linn ware (Benn and Green 2000:439–440), but the incised decoration and vessel forms from Dennis are completely atypical of Spring Hollow series ceramics in the northern Driftless Area (Howell 2000).

The Dennis site ceramic assemblage is therefore unique and not easily assignable to currently known local ceramic types or wares. Based on available radiocarbon dates, it appears to represent a ceramic ware of unknown cultural affiliation. Because these distinct ceramics come from a single, well-dated component, a new provisional ceramic type, Rullands Creek Incised (see description below), is proposed. It is understood that this type is described from a limited sample from a single component, and that further research is necessary to substantiate our claims.

## Pottery Type Ware Description

**Type:** Rullands Creek Incised.

**Form:** Low, semi-globular composite jar. Presumably round bottomed, with a steep angular shoulder and a vertical rim.

### Surface Treatment:

*Exterior:* Heavily smoothed, nearly burnished surface.

*Interior:* Smoothed surface, some interior wiping/brushing marks.

### Dimensions:

*Rim:* Short, slight to markedly excurvate.

*Rim Angle:* 120 degrees.

*Lip:* Flattened, heavily smoothed and undecorated

*Body:* Sharply angular shoulder, small jar form. Possible rounded base.

*Shoulder Angle:* 130 degrees.

*Average Body Sherd Thickness:* 5–6 mm.

*Orifice Diameter* (one example): ~12cm.

*Estimated Size* (one-vessel sample): 15–20 cm in diameter, approximately 15 cm in height.

### Rim:

*Decoration:* Thin vertical/semi-diagonal tool incisions from base of neck to exterior of lip. Single horizontal incised band at base of neck. Faint smoothed band present at base of neck interior.

*Neck:* 25 mm.

*Interior:* Interior band immediately below lip (Vessel 1).

**Shoulder:** Composite vessel, joined at base of shoulder. Notable interior and exterior channeling present at vessel junction. Exterior shoulder “ticking” (short angular tool incisions) noted on Vessel 3.

### Paste:

*Temper:* Sand and very fine crushed grit (<1 mm). High density of crushed quartz.

*Texture:* Compact, dense.

*Hardness:* MOH’s scale test not done.

*Color:* Medium brown to tan, occasionally red-orange burnish (Vessel 3).

**Type Affinities/Synonymy:** N/A. Sherds that seem to suggest a plain variety (Rullands Creek Plain Vessel 4) also found at site 47MO360 in Monroe County (Wagner 2007).

**Distribution/Geography:** Not yet identified.

**Chronology:** Three radiocarbon dates at this type site place the type roughly between A.D. 650 and 800.

## Lithic Assemblage

The 2006 excavations at the Dennis site revealed varying quantities of lithic material totaling 1,158 artifacts (Tables 1 and 2, Figure 10), all of them made of PdC chert. A total of 1,103 pieces of lithic debris were recovered, including 47 primary flakes, 296 secondary flakes, 712 tertiary flakes, and 48 pieces of shatter. The lithic debris profile suggests that a range of lithic activities occurred at the Dennis site, from on-site quarrying of PdC obtained from the local ravine bed, along with initial reduction, to tool finishing and resharpening.



Figure 10. Lithics from the Dennis site.

Primary flakes and shatter indicate initial-stage lithic reduction. Secondary flakes are associated with the initial shaping and subsequent thinning of a biface. Tertiary flakes are associated with late-stage biface shaping, bifacial and unifacial tool finishing, and tool resharpening (maintenance). A considerable amount of lithic shatter was also recovered during the 2006 excavations, which is evidence of on-site lithic reduction. In addition to the lithic debris assemblage, we recovered 10 cores (most of them tabular), eight ovoid bifaces, and fragments that are considered early-stage preforms. These provide complementary evidence that initial reduction and biface manufacture occurred at the site.

The presence of 34 modified flakes, two unifaces, and one expended projectile point indicates that the Dennis site is more than just a simple lithic workshop. Utilized flakes are the predominant form of modified flakes encountered at the site, with large flakes preferred. Unit 1 South Extension, Level 4, contained a small Madison Triangular projectile point (Figure 11)

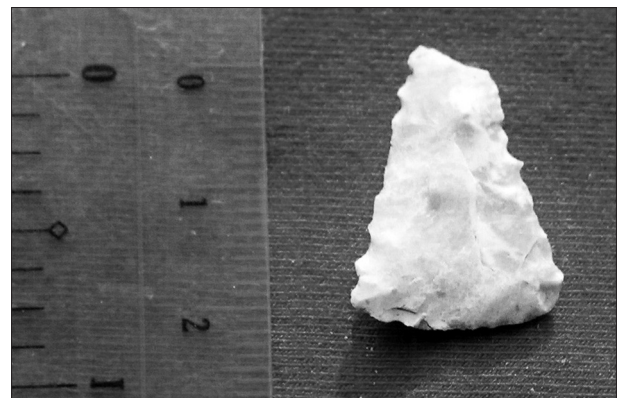


Figure 11. Madison Triangular projectile point from Unit 1 South Extension, Level 4.



with serrated edges, made out of heat-treated PdC chert. This point is 23.2 mm long, 17.2 mm wide, and 3.6 mm thick. It is complete and has only minor damage at the tip. Small triangular arrow points are commonly found on Late Woodland sites from A.D. 800 on but are never found on Initial Late Woodland sites. Therefore, the example found at the Dennis site is one of the earliest documented Madison Triangular points in Wisconsin's Driftless Area.

### Cultural Connections and Context

The ceramics associated with the Initial Late Woodland period in Wisconsin's Driftless Area are diagnostic of the Mill and Lane Farm phases (A.D. 500–750), with the “hallmark” pottery type Lane Farm Cord-Imprinted (Stoltman and Christiansen 2000:499–500). Lane Farm vessels are characterized by “single-cord-impressed decorations placed upon smoothed surfaces on the upper rim, with plain or toothed rocker-stamped impressions covering most if not all of the vessel body below the rim” (Stoltman and Christiansen 2000:499).

A review of existing Initial Late Woodland ceramic complexes dating to the A.D. 600–800 period found that Bauer Branch ware from west-central Illinois has the closest affinity to the Dennis site assemblage (Figure 12). All three Dennis site dates fall between A.D. 610 and A.D. 780. This time period corresponds with numerous radiocarbon dates extracted from the various Bauer Branch sites. Green stated, “diagnostic Bauer Branch pottery is directly associated with radiocarbon dates of ca. AD 600 to 950, with most dates between AD 700 and 950” (Green 1987:112). Thus, the two-sigma dates of the Dennis site materials overlap those of Bauer Branch materials. In addition, the Dennis site ceramics show some stylistic similarities to Bauer Branch form and design, though they are not identical.

At the Dennis site, three of the six vessel fragments recovered (Vessels 1, 3, and 6) exhibit distinctive angular shoulders. The other three vessels are not complete enough to see this distinctive shoulder characteristic. The Bauer Branch and related Adams variant ceramics (Green and Nolan 2000:360) and the Dennis site pottery show similar palettes of shoulder decoration that incorporate a row of tick marks. This decoration is related to the nature of composite vessels. The bodies and rims of these vessel types were evidently manufactured in two parts that were then joined or fused at the shoulder “hip.” Decorative tick marks applied onto the seam line would strengthen

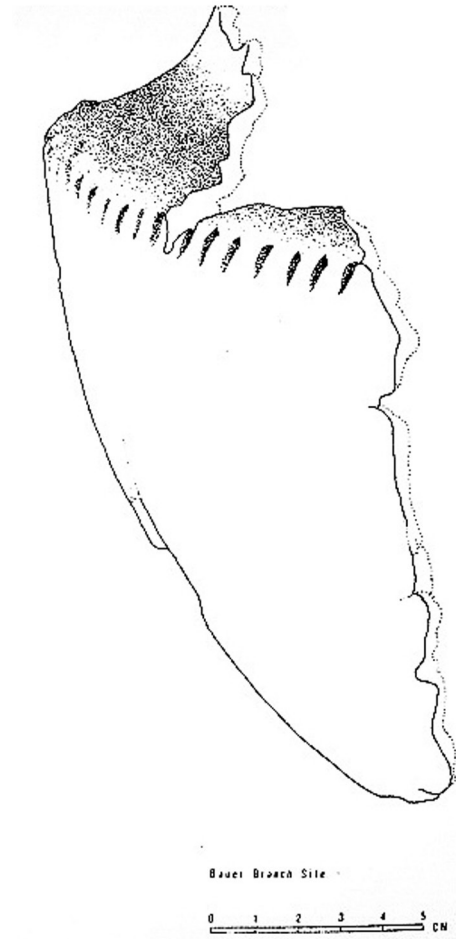


Figure 11. Bauer Branch vessel (from Green 1976:175).

the vessel's fusion (Green 1976:175, 1987:110). We believe there are noticeable differences between Rulands Creek Incised and Bauer Branch, because Bauer Branch does not have exterior trailed line motifs on the exterior rim and neck.

Green and Nolan (2000:364–365) suggested an even greater importance to the shoulder decorative element: “on standard vessels of this type, the composite profile and distinct shoulder, the shoulder decoration itself, and the cornered orifice were readily visible characteristics that could have easily served as intra-group messages reaffirming solidarity and affiliation.” The unique shoulder decorations observed on the Bauer Branch ceramics, which Green calls “shoulder punctates,” are also present on shoulder sherd Vessel 3 from the Dennis site. Both ceramic technologies also exhibit flattened lips (Green 1976:174). The stylistic similarities between the Dennis site and the Bauer Branch ceramics may reflect a cultural influence or enculturated behavior pattern adopting the classic

Bauer Branch ceramic decorative elements. More data are clearly necessary to confirm any similarities or dissimilarities to Bauer Branch ceramics.

In addition, both the Bauer Branch complex and the Dennis site ceramics are grit-tempered, exhibit smooth surfaces, and have a plain undecorated variety (Green 1987:117-119; Green and Nolan 2000:365). Numerous temper similarities are also observed between the Bauer Branch ceramics and Rullands Creek Incised pottery. The Bauer Branch ceramics and those recovered at the Dennis site are both tempered with crushed rock and sand. In addition, both have large particles of temper, but more importantly, crushed quartz is present in most of the Dennis site ceramics. Green (1987:106) noted that nearly all the temper identified in the Bauer Branch ceramics is composed of minerals found in gabbro, diorite, and granite, reflecting the glaciated nature of west-central Illinois. Quartz is also found in granitic rocks; therefore one might conclude that crushed quartz has now been identified in both of these assemblages as a tempering ingredient. In addition, the presence of crushed quartz is quite rare for Woodland-era pottery found in Wisconsin's Driftless Area.

Not only are there stylistic and temper similarities between Bauer Branch and the Dennis site ceramics, there are also vessel form similarities. Green (1976; Green and Nolan 2000) reported that Bauer Branch vessels are medium-sized "jars" with globular bodies, angular shoulders, and small constricted necks. This type of ceramic form compares favorably to the Dennis site type vessel (Vessel 1).

Miniature vessels or "pinch pots" are also commonly recovered from Bauer Branch complex sites (Green 1976:175, 1987:127). A miniature vessel is also present at the Dennis site. Of the six partial vessels recovered at the Dennis site, most are classified as medium- to small-sized, jar-like vessels. Exceptions are Vessel 2 (the pinch pot or miniature) and possibly Vessel 3. In discussing the implications of miniature vessels commonly found at Bauer Branch related sites, Green states, "Many of these miniature vessels were made by children, as evidenced by extremely small fingernail and fingertip impressions" (Green 1987:127).

Lastly, landform preference also seems to link the Dennis site inhabitants to Bauer Branch settlement and subsistence patterns. Both groups tend to settle in, around, or near upland ravine heads. Green stated, "Bauer Branch settlements are situated on bluff tops, near ravine heads, and/or upland ridges" (Green and Nolan 2000:362). This is also precisely the setting of the Dennis site: on an upland ridge within a ravine head environment. It is important to note that

habitation sites within ravine-head environments were previously undocumented within Wisconsin's Driftless Area, suggesting that other such sites may exist. Perhaps investigation of specific cultural landscapes such as these upland ravine heads can provide additional information on the cultural affiliation of different or similar groups of the Initial Late Woodland.

When discussing the Bauer Branch settlement pattern, Green and Nolan state, "These upland communities were composed of small residential units, probably individual households, each containing a structure or pair of structures, associated pit clusters, and an activity area" (Green and Nolan 2000:363). The Dennis site data, although limited, also suggest small residential homestead communities or family groups inhabiting these unique upland environmental settings for a period of time in a pattern similar to those seen in Bauer Branch settlements. Likewise, the Dennis site produced evidence of specific activities. Possible reasons for this include cultural privacy, strategic security, and protection that only these enclosed, upland ravine-head settings tended to offer in the Driftless Area. This unique settlement pattern may further link the Dennis site inhabitants to the Bauer Branch adaptive pattern. Green's 1987 doctoral dissertation offers one suggestion that these cultural groups were influenced by peoples and technologies coming out of "Late Hopewell" or terminal Middle Woodland cultures initially arriving from contexts in central and western Missouri (Green 1987:119).

## Summary

The Bauer Branch complex of Western Illinois seems to offer a potentially viable Initial Woodland cultural model (Stoltman 1991) for the unique materials recovered from the Dennis site. Similarities in age, ceramic design and form, settlement location, and perhaps subsistence argue for strong cultural ties or at the very least heavy coeval cultural development between Bauer Branch and the provisional Rullands Creek phase group(s). The lack of any known local equivalent, predecessor, or antecedent to the Dennis site materials in the Driftless Area supports our argument for a previously unrecognized pottery type. The Dennis site may represent a "cultural outlier" of the Bauer Branch homeland, given that the Mississippi River was probably a thoroughfare for transportation and exchange. This has implications for testing possible hypotheses about the ceramic typological sequence associated with the Late Woodland period.

The early use of a “classic” local projectile point style (Madison Triangular) and the presence of some local design motifs (linear neck decoration and incising) on the Dennis site ceramics suggest both local and non-local cultural influences. Perhaps Rullands Creek reflects the presence of an ancestral subset of Bauer Branch-related people in a primarily local population. The Rullands Creek material may reflect a previously unrecognized, late Weaver-related culture group, perhaps descendent from the local Levens-Spring Hollow cultures and localized in the northern Driftless Area. Similarities to groups on the Prairie Peninsula are most likely the result of a similar pattern of post-Middle Woodland general economic-cultural evolution (perhaps common throughout much of the Upper Mississippi Valley) toward the use of small, scattered homesteads, small-seed horticulture, and bow-and-arrow hunting (Green 1993) compounded by some degree of direct cultural contact and exchange with actual Bauer Branch-related peoples along the Mississippi River corridor to the south.

In addition, our current understanding of interior Driftless Area archaeological cultures dating to the Late Woodland period (ca. A.D. 500–800) is limited. Although the archaeology of the Late Woodland period in the Driftless Area of western Wisconsin has been studied in some detail (Stoltman 1991; Stoltman and Christiansen 2000; Theler and Boszhardt 2003), the period is still poorly understood, especially in the interior uplands.

The large-scale surveys conducted in the 1960s and 1970s in advance of the proposed La Farge Reservoir along the Kickapoo Valley would seem to offer the best extant data sets to address these issues. However, these studies were conducted prior to detailed understanding of regional typology and chronology, were not extensively published, and will require reexamination of large data sets to be useful. Reevaluation of these older surveys may expose the unrecognized presence of other Rullands Creek-related sites in the area or, alternatively, may further accentuate the uniqueness of the Dennis site component.

Likewise, much of northern and northwestern Illinois, the area between the Bauer Branch “homeland” and possible cultural corollaries in the Driftless Area, has seen relatively little study of the Initial Late Woodland period, with the exception of the Rock River trench in north-central Illinois (Emerson and Titelbaum 2000). Further intensive research in this area may find a more northern expansion of Bauer Branch-related settlements and other related or contemporaneous archaeological complexes than currently known.

## Conclusions

The goal of this paper was to introduce a new pottery type, Rullands Creek Incised, and to present evidence for a new provisional cultural phase, considering the unique lithic and ceramic assemblage recovered at the Dennis site. We also argue that this paper may serve as a useful model for further testing of similar, intact buried A horizons in ravine-head settings in the Driftless Area of Wisconsin. We also believe that Rullands Creek Incised pottery sherds may have been found previously but were misidentified as Middle Mississippian/Terminal Woodland hybrid vessels, and some may currently exist in curated assemblages.

The Middle Woodland and Late Woodland cultures of the Driftless Area have been studied in some detail, especially in the Prairie du Chien locality (Stoltman 1990, 2006; Stoltman and Christiansen 2000). That research constitutes the current chronological and typological framework for the Initial Late Woodland period in southwestern Wisconsin. The Mill phase (ca. A.D. 500–750) is currently the only Initial Late Woodland complex known in the Wisconsin Driftless Area (Stoltman 1990:499–500; Stoltman and Christiansen 2000). In addition, the Lane Farm phase, defined for Iowa’s Driftless Region, is geographically and chronologically associated with the Mill phase, representing contemporaneous neighbors if not the same prehistoric population. The hallmark of both the Mill and Lane Farm phases is the pottery type Lane Farm Cord-Imprinted. The Mill phase is almost exclusively known from shell-midden sites on and around the Prairie du Chien terrace at the mouth of the Wisconsin River. The Lane Farm phase is known primarily from a series of burial mounds and rockshelters in northeastern Iowa (Benn 1979; Logan 1976).

Stoltman and Christiansen (2000) described Lane Farm Cord-Imprinted pottery as relatively thin walled, containing fine grit temper and featuring single-cord impressed decorations upon smoothed surfaces. The connection between Lane Farm Cord-Imprinted and Linn ware is somewhat debatable, but the two are similar in temper and vessel thickness attributes (Logan 1976). Typically, Lane Farm is thought to represent a transitional form between the Weaver-related Linn ware and the later, dominant cord-impressed Madison wares.

The provisional Rullands Creek phase is characterized by the morphologically and stylistically unique ceramic assemblage recovered from the Dennis site. Based on the preliminary evidence offered in this paper, we conclude that it is a single-component, Late Woodland site in a unique upland drainage head of



southwestern Wisconsin's Driftless Area. The Dennis site's distinctive angular-shouldered ceramics do not fit stylistically into the previously understood ceramic framework for this time period, especially with the accompanying Madison Triangular projectile point. The Rullands Creek Incised pottery type lacks cord-impressed decoration and does not exhibit any kind of rocker stamps or punctate stamping, thus clearly disassociating it from Lane Farm Cord-Imprinted series.

Recently, the Coon Creek drainage has appeared in the archaeological literature as an apparent Late Woodland boundary, suggesting that the Coon Creek watershed served as a "no-man's land" buffer zone separating Eastman phase from Lewis phase effigy mound groups (Benden 2004; Boszhardt 2004; Boszhardt and Goetz 2000; Theler and Boszhardt 2006). That model suggests that during the Mature Late Woodland period (A.D. 700–1050), Eastman phase-related people were primarily located south of the Coon Creek drainage, and Lewis phase-related people were present to the north (Boszhardt and Goetz 2000). The various radiocarbon dates extracted from the Dennis site indicate a unique Pre-Lewis/Pre-Eastman, Pre-Effigy Mound culture present at the headwaters of the Coon Creek Watershed around A.D. 680–700 and may have relevance to this model.

Although numerous environmental and ceramic similarities exist between both Weaver-related and Bauer Branch cultures and the Dennis site inhabitants, many questions remain unanswered. For instance, could the Rullands Creek Incised material reflect an upland-adapted Mill phase population? Or perhaps a unique activity set of Mill phase people we have not seen before that looks different archaeologically? Furthermore, Bauer Branch and Weaver ceramics primarily exhibit larger, undecorated vessel necks versus the decorated, short necks from the Dennis site. In addition, the distinctive shoulder decorations present on many Bauer Branch ceramics are actual punctates, not "tick marks," which are present on only one of the six vessels recovered at the Dennis site (Vessel 3). In fact, Vessel 3 may be another miniature vessel, thus making this tick mark trait a small fingernail-like impression. Finally, how can one reconcile the nearly 400 miles of distance between the Bauer Branch core area in western Illinois and the Dennis site's location in western Wisconsin? Does the provisional Rullands Creek Incised material represent a site-unit intrusion (*sensu* Stoltman 1991:350) of Bauer Branch peoples into west-central Wisconsin? Such a scenario, while possible, seems unlikely. More likely, Rullands Creek Incised is a manifestation of an uncertain and transitional pottery type associated with the very beginnings of Initial

Late Woodland (A.D. 500–750) in western Wisconsin. Consequently, we view Rullands Creek Incised as a new and previously unrecognized pottery type for western Wisconsin's Driftless Area.

Upland ravine-head settings are typically understudied and likely would not have been investigated in most initial cultural resource management surveys due to the presumed high-energy geomorphic context. The documentation of a chert quarry workshop with multiple vessels and floral and faunal remains that enriched the occupation zone to produce an anthrosol-enriched sheet midden at the Dennis site reminds us to continuously question the nature of archaeological contexts.

## Acknowledgments

The authors would like to thank the various field archaeologists involved with the 2006 test excavations at the Dennis site and the landowners, Dennis and Janet Letterly, for allowing us to conduct our work on their land. Archaeological field crew members who assisted with the 2006 Dennis site excavations include Ryan Howell, Dillon Carr, Steve Wagner, Mike Bradford, Sarah Bock, and Chris Chroninger. We would like to thank the Mississippi Valley Archaeology Center for curating the Dennis site collection and allowing access to those artifacts and resources. We would also like to thank Robert "Ernie" Boszhardt for both his time spent visiting the site and his willingness to share ideas on this paper topic. We would also like to thank Ryan's wife, Jenny Letterly, for her assistance with the ceramic illustrations. In addition, we would like to thank Dr. Dean Wilder for his time spent visiting the site and Frank Florin for his assistance with organizing the radiocarbon dates from the Dennis site (Table 4). And special thanks to Jeremy Mathison for his help with site mapping. Lastly, this paper would not have happened if it were not for Ryan Howell's assistance for carbon-dating and the use of his lab facilities.

## References Cited

- Barndt, W. D., and J. E. Langton  
1984 *Soil Survey of Monroe County, Wisconsin*. U. S. Department of Agriculture, Soil Conservation Service. Washington, DC.

- Benden, D.  
2004 The Fisher Mounds Site Complex: Early Middle Mississippian Exploration in the Upper Mississippi Valley. *The Minnesota Archaeologist* 63:7-25.
- Benn, D. W.  
1979 Some Trends and Traditions in Woodland Cultures of the Quad-State Region in the Upper Mississippi River Basin. *The Wisconsin Archeologist* 60:47-82.
- Benn, D. W., and W. Green  
2000 Late Woodland Cultures in Iowa. In *Late Woodland Societies: Tradition and Transformation Across the Midcontinent*, edited by T. E. Emerson, D. L. McElrath and A. C. Fortier, pp. 429-496. University of Nebraska Press, Lincoln.
- Boszhardt, R. F.  
2004 The Late Woodland and Middle Mississippian Component at the Iva Site, La Crosse County, Wisconsin in the Driftless Area of the Upper Mississippi River Valley. *The Minnesota Archaeologist* 63:60-86.
- Boszhardt, R. F., and N. Goetz  
2000 An Apparent Late Woodland Boundary in Western Wisconsin. *Midcontinental Journal of Archaeology* 25(2):269-288
- Bronk Ramsey, C.  
1995 Radiocarbon calibration and the analysis of stratigraphy. *Radiocarbon* 37(2):425-430.
- Emerson, T. E., and A. R. Titelbaum  
2000 The Des Plaines Complex and the Late Woodland Stage of Northern Illinois. In *Late Woodland Societies: Tradition and Transformation Across the Midcontinent*, edited by T. E. Emerson, D. L. McElrath and A. C. Fortier, pp. 413-427. University of Nebraska Press, Lincoln.
- Gbadegesin, A., and M. A. Olabode  
1999 The Soils of the Ibadan Metropolis: Nature and Characteristics. *Land Contamination and Reclamation* 7(3):209-217.
- Green, W.  
1976 Preliminary Report on the Bauer Branch Complex, A Late Woodland Manifestation in West Central Illinois. *The Wisconsin Archeologist* 57(3):172-189.
- 1987 *Between Hopewell and Mississippian: Late Woodland in the Prairie Peninsula as viewed from the Western Illinois Uplands*. PhD dissertation. University of Wisconsin-Madison, Madison. University Microfilms, Ann Arbor, Michigan.
- 1993 A Prehistoric Frontier in the Prairie Peninsula: Late Woodland Period Settlement in Southwestern Illinois. *Highways to the Past: Illinois Archaeology* 5(1-2):201-215.
- Green, W., and D. J. Nolan  
2000 Late Woodland Peoples in West-Central Illinois. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by T. E. Emerson, D. L. McElrath and A. C. Fortier, pp. 345-386. University of Nebraska Press, Lincoln.
- Hart, J., and W. Lovis  
2007 A Multi-Regional Analysis of AMS and Radiometric Dates from Carbonized Food Residues. *Midcontinental Journal of Archaeology* 32(2):201-262.
- Howell, R.  
2000 Silver Creek Revisited: Archaic and Woodland Period Sites at Ft. McCoy, Wisconsin. Paper presented at the Joint Midwest Archaeological/Plains Anthropological Conference, St. Paul, Minnesota.
- Klawiter, B. N.  
2000 *An Investigation into the Geochemical/Geoarchaeological Provenance of Prairie du Chien Cherts*. University of Minnesota, Minneapolis.
- Letterly, R.  
1998 Archaeological Survey of Timber Coulee. *Journal of Undergraduate Research, University of Wisconsin-La Crosse* 1:76-87.
- Logan, W. D.  
1976 *Woodland Complexes in Northeastern Iowa*. Publications in Archaeology 15. National Park Service, U.S. Department of the Interior, Washington, D.C.
- Lowrey, N. S.  
2004 Small Sites Archaeology at Runnoe Park: Temporary Camps Recurring along the Western Shore of Green Bay during the Late Woodland Stage. Unpublished Master's thesis, American University, Washington, D.C.

- Mandel, R. D., and A. E. Bettis  
2000 *Late Quarternary Landscape Evolution in the South Fork of the Big Nemaha River Valley, Southeastern Nebraska and Northeastern Kansas*. Midwest Friends of the Pleistocene, 47th Field Conference, Guidebook No. 11. Conservation and Survey Division Institute of Agriculture and Natural Resources University of Nebraska-Lincoln.
- Martin, L.  
1965 *The Physical Geography of Wisconsin*. 3rd ed. University of Wisconsin Press, Madison.
- McConaughy, M. A.  
1993 *Rench: A Stratified Site in the Central Illinois River Valley*. Reports of Investigations 49. Illinois State Museum, Springfield.
- Morrow, T.  
1994 A Key to the Identification of Chipped-Stone Raw Materials Found on Archaeological Sites in Iowa. *Journal of the Iowa Archeological Society* 41:108-129.
- Morrow, T. A., and J. A. Behm  
1985 Descriptions of Common Lithic Raw Materials Encountered on Wisconsin Archaeological Sites. Wisconsin Archaeological Survey, University of Wisconsin-Oshkosh, November 9, 1985.
- Sasso, R. F.  
1989 Oneota Settlement Practices in the La Crosse Region: An Analysis of the Coon Creek Drainage in the Driftless Area of Western Wisconsin. Unpublished PhD dissertation. Northwestern University, Evanston, Illinois.
- Stoltman, J.  
1991 Cahokia as Seen from the Peripheries. In *New Perspectives on Cahokia: Views from the Periphery*, edited by James Stoltman, pp. 349-354. Monographs in World Archaeology No. 2. Prehistory Press, Madison.
- 2006 Reconsidering the Context of Hopewell Interaction in Southwestern Wisconsin. In *Recreating Hopewell*, edited by D. K. Charles and J. E. Buikstra, pp. 310-327. University of Florida Press, Gainesville.
- Stoltman, J., and G. W. Christiansen  
2000 The Late Woodland Stage in the Driftless Area of the Upper Mississippi Valley. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by T. E. Emerson, D. L. McElrath and A. C. Fortier, pp. 497-524. University of Nebraska Press, Lincoln.
- Stuiver, M., P. J. Reimer, E. Bard, J. W. Beck, G. S. Burr, K. A. Hughen, B. Kromer, F. G. McCorma, J. V. D. Plicht and M. Spurk  
1998 INTCAL98 Radiocarbon Age Calibration. *Radiocarbon* 40(3):1041-1083.
- Talma, A. S., and J. C. Vogel  
1993 A Simplified Approach to Calibrating C14 Dates. *Radiocarbon* 35(2):317-322.
- Theler, J. L., and R. F. Boszhardt  
2003 *Twelve Millennia: Archaeology of the Upper Mississippi River Valley*. University of Iowa Press, Iowa City.  
2006 Collapse of Crucial Resources and Culture Change: A Model for the Woodland to Oneota Transformation in the Upper Midwest. *American Antiquity* 71(3):433-472.
- Willey, G. R., and P. Phillips  
1958 *Method and Theory in American Archaeology*. Phoenix Books, University of Chicago Press, Chicago.