DIBBLE CREEK 1 SITE (#61-124): A SEASONAL CAMP AND BLADE CACHE IN HADDAM, CONNECTICUT¹

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ABSTRACT

Archaeological surveys accompanying the decommissioning of the Connecticut Yank Atomic Power Company's nuclear power plant on Haddam Neck at the confluence of the Connecticut and Salmon rivers uncovered 30 archaeology sites. One of them was the multi-component Dibble Creek 1 site, an inland and upland settlement whose major components dated from the Late Archaic to the early Middle Woodland periods. Included within the Narrow Point tradition habitation area was a blade cache containing 29 Broad Spear projectile points and knives.

Introduction

The Connecticut Yankee Atomic Power Company (CYAPCO, CY) recently decommissioned its plant on Haddam Neck, the easternmost portion of the Town of Haddam along the east bank of the Connecticut River (Figure 1). The decommissioning consisted of decontamination and dismantlement of existing facilities, cleanup of any contaminated soil and possible groundwater treatment, and archaeological surveys of most of the 582 acre property. Phase 1 reconnaissance surveys and Phase 2 intensive archaeological surveys were conducted by American Cultural Specialists LLC under the direction of the authors from 2001 through 2004 (Lavin and Banks 2002, 2003, 2005). A total of 4,406 50-cm square shovel test pits and 228.75 one-meter units were excavated. Thirty sites containing over 130,400 artifacts and 24,500 faunal and botanical remains were discovered. Fifteen sites are considered culturally significant & eligible for listing on the National Register of Historic Places. Most of the geographic area as a whole appears to qualify as both a prehistoric archaeological district and as a rural historic landscape.

The Dibble Creek 1 Site

One of those significant sites is the Dibble Creek 1 site, located on the first terrace above Dibble Creek (Figure 2). The relatively flat terrace stands in marked contrast to the steep relief of the

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surrounding uplands. The site is separated from the Salmon River to the east by an extensive historic disturbance -- a large borrow pit created in the 1960s during construction of the Connecticut Yankee nuclear power complex at the end of Injun Hollow Road. The well-drained soils of the terrace, a nearby spring, and the two water sources were almost certainly major considerations for the Native American peoples who selected this location. The site extended into that disturbed area, and so we could only estimate that its size exceeded 3,000 square meters.



Figure 1. Location of the Dibble Creek 1 site on the east bank of the Connecticut River in Haddam.

During the Phase 1 excavations 51 test pits were shovel-dug at 10 meter intervals along six transects that crossed the terrace. The even depth of the topsoil, or A Horizon (ca. 30 cm), was consistent with historic plowing, which makes sense given the limited level ground within the CYAPCO property. The surrounding stone walls are a further indication that this area was cleared by later non-indigenous land owners. Although the majority of the Native American

artifacts were located in the plow zone, enough artifacts were recovered from the subsoil (B Horizon) to assume that intact archaeological components might be located during the more intensive Phase 2 excavations, which included block excavations designated A, B and C (Figure 3). These blocks consisted of contiguous one meter squares. Each unit was divided into 50 cm square quads.



Figure 2. Dibble Creek and adjacent terrace on which site was located, view west.

A total of 41.5 square meters was excavated at the site, yielding a substantial quantity of artifacts, ecofacts, and cultural features that indicated intensive and repeated Native American occupations of the site. A total of 4,920 artifacts were recovered.* They included projectile points, knives, scrapers, a chopper, a "sinew stone", utilized flakes showing cutting and scraping use, a hammer stone, and fragments of clay and soapstone cooking vessels, preforms, cobble and pebble cores, and debitage (Table 1).

The artifacts provided evidence for a variety of human activities at the site: stone tool manufacture/maintenance (a hammer stone, fractured pebbles and cobbles, cores, preforms, a variety of debitage, and finished tools indicate the entire manufacturing process for the quartz cobble core tool reduction technique occurred at the site), cooking (soapstone and clay potsherds), and the procurement and processing of a variety of plant and animal resources (points, knives, scrapers, utilized flakes, a chopper and a sinew stone as well as floral and faunal remains – see below). The large number of projectile points recovered show that hunting was a major focus during these encampments. The quantity and diversity of the artifacts recovered and the number of cultural features identified showed substantial use of the terrace during extended stays.

*This number differs from the total in Table 1 because it includes surface-collected as well as excavated artifacts.

Category/Type	A-horizon	B-Horizon	Total
Fractured			
Pebbles/Cobbles	34	22	56
Fragments/Chunks	221	106	327
Flakes	2289	1569	3858
Chips/Shatter/Debitage	194	145	339
Preform	12	19	31
Utilized Flakes	14	7	21
Hammer	0	2	2
Projectile Pts.	48	53	101
Scrapers	4	7	11
Soapstone bowl frag.	1	1	2
Biface	8	8	16
Anvil	1	1	2
Core	4	2	6
Ground Stone	0	1	1
Knife	1	22	23
Sinew Stone	1	0	1
Unidentified tool	0	1	1
Pottery	42	19	62*
Total	2874	1985	4860

Table 1. Native American artifacts recovered during Phase 1 & 2 archaeological surveys atDibble Creek 1.

*One sherd had no provenience.



Figure 2. Dibble Creek 1 site, one of block excavations (Area A) in domestic area containing hearths and blade cache, view east.

Temporally diagnostic artifacts (mainly projectile points, but also soapstone and clay containers) and radiocarbon dates revealed that the site had been used by different Native American groups over a period of several thousand years, from the Late Archaic period to the Late Woodland period.

Projectile Point Styles

The multi-component nature of the Dibble Creek 1 site is demonstrated by a variety of represented projectile point styles. They include Brewerton Eared Notched, styles of the Narrow Point tradition, Snook Kill/Atlantic Broad Spear, Orient Fishtail, and Fox Creek (Table 2, Figures 3-4).

Туре	Ph.1B	Phase 2	Total
Brewerton Eared Notched	0	1	1
Bare Island-like	1	0	1
Narrow Point tradition	4	50	54
Squibnocket Triangle	0	4	4
Snook Kill/Atlantic/	0	7 projectile pts.	30
Broad Blades		23 knives	
Orient Fishtail	0	2	2
Fox Creek	1	2	3
Unidentified	1	29	30
Total	7	118	125

Table 2. Projectile points and knives recovered at Dibble Creek 1.

The Brewerton point of the Laurentian Tradition is clearly diagnostic of the Late Archaic period (Reeve and Forgacs 1999:21). Orient Fishtail and Broad Spear (including Snook Kill and Atlantic styles) projectile points have been radiocarbon-dated to the Terminal Archaic period, which is also represented by soapstone bowl fragments at Dibble Creek 1 (Reeve and Forgacs 1999:22-25). Feature 2, a Broad Spear blade cache, was located in undisturbed subsoil just below the A/B interface. Narrow Point Tradition projectile points have been radiocarbon-dated to both these time periods and even into the Woodland periods across southern New England (uncalibrated dates ranging from 2660-400 BC), and thus are less useful as a cultural time marker (Reeve and Forgacs 1999:21-25; see also Lavin 1984 and McBride 1984). At Dibble Creek 1, Narrow Point Tradition points were recovered at various levels from the plow zone to 60 cm below surface, confirming the continuity of this stone tool making tradition from the Late Archaic Period into the Woodland Period. By far the most common points recovered at Dibble Creek 1 were those of the Narrow Point Tradition, which included Squibnocket Stemmed and Squibnocket Triangle point styles. All but two of these points were made from local quartz and quartzite. Two early Middle Woodland Period Fox Creek projectile points (made from non-local rhyolite and jasper) were recovered from the plow zone.

Lithic Raw Materials

Table 3 lists the stone types identified from Dibble Creek 1. The cultural assemblage consisted of predominantly local stone types, particularly quartz. Local materials comprised 78-79% of the stone artifacts. The most plentiful stone types were quartz (66.81%), quartzite (10.67%), hornfels (5.42%), and basalt (2.78%). Most of the hornfels was recovered from a single judgmental test pit (1-J3). The hornfels debitage appeared badly weathered, possibly fired.

Non-local chert and jasper accounted for 12.24% of the lithic material. Graphite, used for making paint pigment, occurs in Haddam and Portland. Steatite also occurs in Haddam (Figure 5).



Figure 3. All but one are examples of small stemmed quartz points/preforms of the Narrow Point tradition excavated from the Dibble Creek 1 site. Bottom row, far right is an Orient Fishtail point.

According to geo-archaeologist Dr. Barbara Calogero, a black chert projectile point tip from STP D15 contained spots that looked like fossil radiolarians characteristic of Ordovician shale cherts from the Hudson Valley of New York. The sources for hornfels appear to be less distant. Calogero and retired University of Connecticut geologist Dr. Tony Philpotts suggest the Holyoke flow in southern Connecticut for a fine-grained hornfels, and New Haven for a metamorphosed sandstone hornfels. For a spotted hornfels they suggest a source in Meriden or Rocky Hill (Calogero and Philpotts, Appendix 6 in Lavin and Banks 2007). Native Americans who camped at this site still relied heavily on locally available quartz. Cortex visible on many of the artifacts including projectile points indicates that pebbles and cobbles locally available along Dibble Creek or from glacial till were being fractured to obtain the desired flakes from which to fashion projectile points and other tool forms.

Native American Clay Containers

Dibble Creek 1 contained 72 clay body sherds. Several undecorated interior cordmarked body sherds indicate an Early Woodland or early Middle Woodland occupation (Smith 1950; Lavin 1987). Two body sherds are decorated with dentate stamping and represent the pottery style Matinecock Point Stamped, which demonstrates an early Middle Woodland occupation at this

site (*Ibid*). The majority of sherds from this site are small and eroded, probably a function of the historic plowing of the area.



Figure 4. Other point styles represented at the Dibble Creek 1 site.

	A-horizon	B-horizon	Total	Percentage
Material				-
Quartz	1807	1412	3219	66.81
Quartzite	298	216	514	10.67
Basalt	82	52	134	2.78
Hornfels	191	70	261	5.42
Slate/shale	46	16	62	1.29
Sandstone	0	7	7	.15
Schist	1	0	1	.02
Steatite	1	3	4	.08
(Soap stone)				
Chert	400	188	588	12.20
Jasper	2	0	2	.04
Rhyolite	2	1	3	.06
Graphite	2	0	2	.04
Unidentified	16	5	21	.44
Total	2848	1970	4818	100

Table 3. Stone types recovered during Ph	nase 1 & Phase 2 at Dibble Creek 1.
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Figure 5. Steatite (soapstone) bowl fragment with lug handle form the Dibble Creek 1 site.

Cultural Features

During the Phase 2 excavations over 120 soil stains were identified. Each stain was marked and systematically examined to determine whether it resulted from natural occurrences or cultural activities. Some stains were quickly dismissed as rodent burrows, root scars, and other natural disturbances. Distinguishing the origins of many of the features was accomplished by first revealing the shape and horizontal extent of each feature, pedestalling it, and then bisecting it to examine it in profile. In the case of possible post molds, features were quartered if necessary to make a determination, since indigenous posts were sometimes inserted into the ground at an angle. Features were recorded, drawn and/or photographed. Soil samples were taken from charcoal stains and hearths for botanical and faunal analysis. When present, charcoal was extracted for radiocarbon dating. The cultural features are described in Table 4.

Table 4. Dibble Creek I reatures identified as cultural in origin				
Feature	Unit/Quad	Depth	(cm	Description
		bs)		
1	D1			Historic plow scar.
2	D9-NW	c.22		Cache of points and blades; top of cache may
	D20-SW			have been truncated by plowing as 2 similar
				knives were recovered in the plow zone (Figure
				6,7). The cache of artifacts was stacked in six
				overlapping layers separated by thin layers of
				soil. Broad Blades including Snook Kill
				projectile points date feature to Terminal
				Archaic. A quartz Narrow Point Tradition
				projectile point was situated at the same depth
				and just southwest of the stacked artifacts. This
				point and the strong presence of the Narrow
				Point Tradition within the Dibble Creek
				assemblage in general, provide evidence that

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Table 4.	DIDDIE	стеек і	reatures	паенинеа	аз синига	1 111	origin
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			the blade cache is associated with the occupation of the Narrow Point making people. The asymmetric form, the number (19) of the knife blades and inferences from the floral and faunal analyses suggests large-scale processing of a terrestrial resource(s). The cache is unlike other caches found in southern New England in that it was not associated with a burial(s) or appear to have been ceremonial, but rather its blades seem to have been stored for future economic use. It differed also in that it was located amongst other artifacts and features describing a domestic space within a living area (Calogero and Philpotts 2006).
3	D9-NE D20-SE D28-SW D29-NW	c.22	Somewhat oval-shaped charcoal stain/hearth, just east of blade cache (Feature 2); Contained debitage, a Squibnocket Triangle projectile point, a cord-marked potsherd with smoothed over impressions, a utilized chert flake, large quantities of calcined bone fragments; flotation analysis located charred hickory nutshells, an acorn fragment, and wood charcoal from hickory, maple, oak, and birch trees. Uncalibrated C14 date of AD 1080 (Beta 203462), calibrated two sigmas to AD 1040- 1270. The Squibnocket point and the potshard appear to be out of context, indicating that the people who occupied the site during the Late Woodland dug this pit feature into earlier Native American occupation levels. Although both Features 2 and 3 were both identified at the same depth, the date for Feature 3 is far too young to be associated with Terminal Archaic artifacts recovered in Feature 2. The most likely explanation for this disparity is that Feature 3 was truncated by historic plowing and it was the lower portion of the stain that was observed in the subsoil. All traces of the stain were gone by 60 cm below the surface.
4	D5-NW	c.25	Charcoal stain, surrounded by fire-cracked rock: debitage and unidentified calcined bone.
4a	D5-SW D16-SE	c.28	Charcoal stain; debitage, hickory charcoal, and unidentified calcined bone. Matinecock Point Stamped potsherd found in unit in level 29- 39cm, suggesting feature is early Middle Woodland.

4b	D9-SE	20	Charcoal stain, very shallow 0-5cm deep, appears to have leached from Feature 4, 1 calcined bone fragment recovered. Features 4, 4a, and 4b may form part of a large hearth. Quantities of fire-cracked rock scattered across this area suggest that the feature, possibly a roasting platform, was truncated by plowing as described above for Feature 3; debitage and unidentified calcined bone.
9	D16-NW D18-SW	Stone visible at 31	An extensive cooking/drying platform extended across much of the western portion of Area A (Figs 2,8). Fire-cracked rock scattered suggests that the feature continues into unexcavated areas to the west. Calcined bone recovered from test units across this portion of Area A are likely associated with this feature.
47	D1-NE D2-NW	c.33-43	A stone hearth identified at c.33-43 cm below the surface was associated charcoal stain (Feature 50).
50	D24-SW	c.37-53+	A charcoal stain detected at approximately 37 cm below the surface in the B horizon was associated with Feature 47. A charcoal sample yielded a C14 date 3950+/-70 years BP (Late Archaic). Debitage, calcined bone fragments and a charred walnut shell and American beech charcoal were recovered from this feature.
53	D27-SE	c.24	Despite the large area excavated at the site this was the only definite post mold identified. The absence of post molds raises questions about the nature of the shelters and the season(s) during which the site was occupied. Light- weight structures may have left little evidence in the archaeological record. Warm weather occupations may have precluded the use of larger/heavier structures that may have had greater archaeological visibility. Since botanical data indicate a fall-winter encampment, it is more likely that a structure(s) was located in a non-artifact bearing locality on the terrace- where excavations were less intensive- and their remains- the small ca. 7 cm (3") wide diameter post molds missed.
69	D4-NW	c.32	This feature, charcoal stain and fire-cracked rock, yielded smoothed over interior cordmarked body shards. This feature appeared to be more of Feature 9 platform hearth.

89	D19-NE	c.42	Feature 89, circular charcoal stain across center of quad, 30 cm north to south, 28 cm east to west, yielded two charred walnut shells, two quartz Narrow Stemmed points and one rhyolite Snook Kill point at the level of the stain and one smoothed exterior/smoothed interior potsherd below the stain. This reversal of position between the temporally earlier Snook Kill point and the later occurring potsherd suggests some parts of this unit have been subjected to a disturbance(s) that have disrupted the soil stratigraphy. Given the many tree roots encountered at the end of this excavation block, the movement of artifacts either up or down would not be unexpected. Freezing and thawing of the soil could also account for the vertical movement of artifacts
96	D14 D15-NW D15-SW	c.22-54	Remnants of another platform hearth were encountered at the northern end of Area B near the intersections of Units D14 and D15 at approximately 22 cm below the surface. The rock formation extended to a depth of 54 cm below surface. It appeared that some of the rock that composed the hearth had toppled southward following the natural slope of the terrace. The feature clearly extended northward, but time did not permit opening additional units.
99	D25-SE	c.32	Stain below cache (Feature 2) at intersection of D25-SE, D20-SW, D18-NE and D9-NW
103	D25-NE	35	A Soil stain with charcoal/ash, 21 cm from south, 7 cm from west, dia.=12cm north to south, 15 cm east to west, adjacent, was probably associated with Fea. 111, which suggests a Late Archaic date
107/9	D31-NW	40-56	A soil stain with charcoal staining continues north into D32-SW. The feature is probably associated with the platform hearth (Feature 9) across the western half of Area A. A charcoal sample yielded a C14 date 3580+/-50 years BP (early Terminal Archaic). This date fits well with the early part of the Terminal Archaic Period and indicates a possible relationship between the large platform hearth (Feature #9, 69, 107, 110, 112) and the blade cache (Feature 2). A Middle Woodland Matinecock Point

			Stamped sherd found well above the level of this feature at 25cm in adjacent quad D31-NE supports date. The feature clearly continues to the west, but the remaining time for fieldwork precluded further excavation in that direction.
108	D9-NW	44-47	A small (6cm x 9cm) charcoal stain found in the northwest quad of Unit D9. The stain was shallow with an irregularly shaped base. The origin, cultural or natural, of this feature is unclear.
110/9	D16-SE	c.27	Soil staining in Unit D16 is believed to be related to burning on the large stone platform hearth that crosses Area A as described above
111	D25	<35-60	A nearly circular (approximately 65 cm from east to west and 60 cm from north to south) stone hearth became clearly visible at 43 cm below the surface west of, but stratigraphically lower than Feature 2. The hearth was lined with stone that extended to 60 cm below the surface (Figure 9). A small amount of quartz, quartzite and chert debitage, small compact calcined bone fragments, one charred walnut shell and hickory charcoal were also recovered from within and adjacent to the hearth. A charcoal sample from the hearth yielded a C14 date 4010+/-50 years BP (Late Archaic).
112/9	D19-SE	c.38	This soil stain appears to have leached from the large platform hearth across the western portion of Area A. Charcoal and several calcined bone fragments were present. A quartz point of the Narrow Point tradition and a rhyolite Snook kill point were recovered from 38 and 39 cm below the surface within this quad, supporting a Terminal Archaic date for the platform hearth.
116	D20-NE	c.60-97	A second possible post mold 6-8 cm in diameter was located 44 cm from the south, 30 cm from the west of D20-NE. The stain terminated after 37 cm and displayed a rather blunt end. Whether Features 53 and 116 were related to a house structure, drying rack(s) or roasting rack is unclear.



Figure 6. Cache deposit of broad spears, pedestaled and profiled, showing stacked layers of blades with sand between each layer.



Figure 7. Ten of the broad-bladed points and knives found in the underground cache deposit shown in Figure 6.

Faunal and Floral Analysis

A goodly amount of calcined bone fragments were recovered from Dibble Creek 1. Most are too small for identification purposes. When identifiable, archaeo-faunal specialist Renee Petruzelli described them as mammalian (Appendix 4 in Lavin and Banks 2007). She identified several as representing a large mammal, one from a large ungulate. Renee also reported two avian bone fragments and one possible avian fragment. The former are from "duck sized" fowl.

The archaeo-botanical analysis conducted by Dr. Lucinda McWeeney identified the presence of mainly carbonized hickory nutshells but also carbonized walnut shells and a carbonized acorn shell in the cultural features at Dibble Creek 1 (Appendix 2A in Lavin and Banks 2007). Features also contained charcoal from the following tree species: hickory, maple, birch, American beech, white oak, and red oak. Based on the presence of oak charcoal at the site, McWeeney believes that the occupants

"were also probably collecting acorns, but not processing them in the same way as the hickory and walnuts where the nutshells ended up in the fire (Dr. Lucinda McWeeney, personal communication May14, 2005)."

Subsequent analysis of features 9 and 107 by archaeo-botanist Tonya Largy identified only acorn and hickory shell fragments, and one apparently post-contact, intrusive purslane seed, supporting McWeeney's conclusions (Appendix 2B in Lavin and Banks 2007).

McWeeney found no evidence for indigenous exploitation of aquatic plant resources, fruits, seeds, or terrestrial root crops. That, and the exploitation of "resources drawn from the upland, mid-slope and low slope forest for the oak, hickory and maple and drawing from the ravines for" the birch and beech rather than the riverine environment led her to suggest a fall-winter occupation for Dibble Creek 1 (Lavin and Banks 2007: Appendix 2; Lucinda McWeeney, personal communication dated August 4, 2005).

The botanical analysis is supported by the faunal analysis. The presence of large mammal, ungulate, and duck-sized fowl remains and total absence of fish remains (particularly spring-running anadromous species, which were so abundant in the Salmon and Connecticut Rivers prior to historic industrialization) indicate an emphasis on the hunting of terrestrial animals and migratory ducks, tentatively suggesting an autumn/early winter occupation.

Summary of Findings

Dibble Creek 1 Site is a virtually undisturbed, stratified archaeology site that was occupied by Native American peoples over several thousand years, from the Late Archaic Period to the Late Woodland Period. The diagnostic artifacts and dated cultural features suggest the greatest periods of occupation were the Late Archaic through early Middle Woodland. For at least portions of that time span it appears to have served as a fall-winter base camp for a local Native American community, where its members processed plants and animals into food, cooked and ate meals, manufactured stone tools, and performed other tasks involving scraping, cutting, and

chopping activities. The presence of graphite suggests pigment manufacture, since graphite could be scraped to produce a powder for such purposes. Substantial numbers of projectile points indicate that hunting played an important role during site occupation. The base camp is the focus of a group's seasonal subsistence/settlement round. An undisturbed base camp is significant for the information on indigenous lifeways it can provide. Additionally, this base camp contains a rare blade cache.



Figure 8. Block excavation showing base of large stone platform hearth and other cultural features, Dibble Creek 1 site.



Figure 9. Circular stone-lined Late Archaic hearth from Dibble Creek 1 radiocarbon-dated to 2060 BC +/-50 years (uncalibrated).

Several blade caches have been located in Connecticut (e.g., Calogero and Philpotts 2006). Many have little information on provenience and cultural associations. For example, a cache of 22 quartzite blades was discovered in nearby Colchester during field clearing; nothing else was reported about them (OSA Site Files 1980:# 28-11). Some blade caches are associated with cremation burials. The authors are aware of none associated with a domestic area within a residential settlement. This in itself makes Dibble Creek 1 a unique and significant archaeology site that we believe is eligible for listing on the National Register of Historic Places.

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