

Chapter 5

ARCHAEOLOGICAL HISTORY

The Abbott Farm National Historic Landmark (AFNHL) has figured prominently in the history of American archaeology, most notably in the extended international debate over human antiquity in North America that raged from the 1870s into the early 20th century (Willey and Sabloff 1980; Meltzer 1983; Joyce *et al.* 1989; Kraft 1993; Mounier 2003:39-48). At its peak during the late 1880s, 1890s and the first decade of the 20th century this debate engaged scholars in many of the country's elite universities and museums, gained considerable notice in Europe and stimulated intense and long-lasting interest in the prehistoric archaeology and geology of the Delaware Valley. Indeed, the Trenton area and the AFNHL have remained a strong focus of archaeological endeavor down to the present day resulting in several major programs of research and excavation, particularly in the late 1930s and more recently in the 1980s and 1990s (Cross 1956; Wall *et al.* 1996a). Thus, even though the first big debate over the antiquity of Native American imprints in the landscape may now be century-old news, ongoing cultural, environmental, archaeological and historical studies involving the AFNHL have kept the Delaware Valley in the vanguard of North American prehistory.

While the limits of the formally designated landmark cover a broad geographic area extending east from Riverview Cemetery to the White Horse Circle and on south to the mouth of Crosswicks Creek and Bordentown, the core of the AFNHL is the Abbott family farm known as "Three Beeches" and the central figure in the landmark's history is without question Dr. Charles Conrad Abbott himself (Plate 5.1). Beginning with Abbott, this chapter offers a brief summary of the principal archaeological practitioners and their activities within the AFNHL over the past century and

a half, placing them within the broader context of the development of North American and Delaware Valley prehistoric archaeology. The emphasis here, so far as Abbott himself is concerned, is on his contributions to the emerging discipline of New World archaeology; for a more rounded view of his life and surroundings, the reader is referred to Chapter 4, Section E.

Charles Conrad Abbott, born in 1843, grew up at "Three Beeches," a comfortably appointed farm property perched on the rim of the bluff overlooking Watson's and Crosswicks creeks. From early in his youth Abbott nurtured a lifelong fascination with the natural history of the local area and as a logical extension of this interest he soon began studying the Native American artifacts that turned up in abundance in the surrounding farm fields. Despite earning a medical degree from the University of Pennsylvania in 1865, Abbott chose to follow a more penurious career as a naturalist, archaeologist and author. After publishing several brief articles and a few longer texts on nature topics in the 1860s and early 1870s, he started writing pieces on local history and archaeology. Building on his knowledge of artifacts found in the Trenton area, Abbott presented his first major archaeological offering "The Stone Age in New Jersey" in the journal *American Naturalist* in 1872, elaborating and expanding on this in a lengthier article with the same title, which was included in the *Smithsonian Institution Annual Report* for 1875 (Abbott 1872, 1876).

In these early archaeological writings Abbott began to posit the existence of what he called "glacial man" in the New World. Based on the broad similarity of crude argillite artifacts he was finding locally with rough chipped tools then being unearthed in northwest Europe, Abbott believed he was finding evidence of

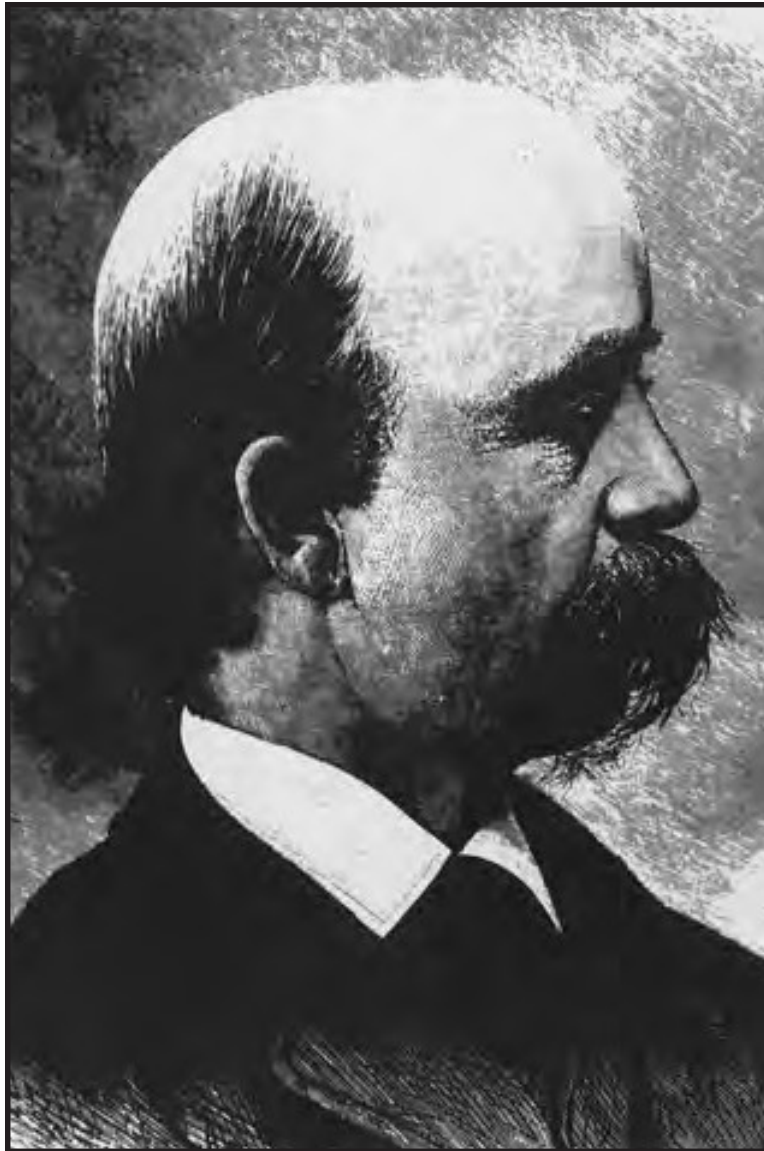


Plate 5.1. Charles Conrad Abbott (Source: Peabody Museum of Archaeology and Ethnology at Harvard University).

“Stone Age” culture in the New World. He alternately suggested that these “palaeoliths” (as he called these stone objects) were made by the direct ancestors of the Indians encountered by the European colonists (i.e., the Lenape-Delaware) or were fashioned by an altogether different, earlier Native American people (Cross 1956:1-2; Joyce *et al.* 1989:60; Mounier 2003:40).

By the early 1880s, having gathered still more artifacts and information from the field, Abbott had expanded his theories somewhat and recognized three distinct and successive but overlapping cultures: a “palaeolithic” culture, characterized by crude chipped stone artifacts, which flourished during the Ice Age, but continued with lessening intensity through into the early historic period (the “glacial” attribution of this culture was based on these artifacts supposedly being recovered from the Trenton outwash gravels); an “argillite” culture, characterized by projectile points and other lithic artifacts fashioned from argillite, typically recovered from a distinctive “yellow sand” that occurred at depths of around two feet on the bluff top; and a “modern Indian” culture, to which he ascribed the Lenape-Delaware peoples, characterized by more refined stone tools made from flint and chert.

Abbott focused most of his attention on the intermediate argillite culture, in part because his hypothesized palaeolithic culture was founded on such a limited yield of artifacts and because the modern Indian culture was, relatively speaking, quite well known and also traceable through ethnography and the historical record. In contrast, archaeological evidence of the argillite culture was freshly recognized, abundant and close at hand, literally outside his own back door beneath the bluff-top farm fields (Plates 5.2 and 5.3). According to Abbott, the artifactual expression of the argillite culture represented “both in workmanship and design a marked advance over the palaeolithic implements, and yet is so uniform in pattern and so inferior in finish, when compared with the average

flint implement of the Indian, that it has been assigned to an earlier date than the latter, and [is] considered the handiwork rather of the descendants of palaeolithic man.” One other theme evident in Abbott’s interpretations around this time was his insistence that Eskimo peoples were descendants of his palaeolithic culture via the argillite culture (Abbott 1883; Cross 1956:2; Joyce *et al.* 1989:60).

By the mid-1880s Abbott’s writings and theories were beginning to reach a wider audience, sparking what proved to be a sometimes contentious debate which lasted for close to a quarter century. Over this period numerous archaeologists and geologists around the world were drawn by Abbott into the argument over the oldness of his finds and their cultural interpretation – several were well-known local figures with specific knowledge of the Trenton area, while others were professors associated with respected museums and institutions of higher learning across the country. Abbott also sought the opinions of many intellectual stalwarts overseas – British and French scholars working to link human antiquity in the Old World to Darwinian evolutionary theory (Plates 5.4-5.6).

Among local archaeologists, Henry Mercer (founder of the Mercer Museum in Doylestown) was initially receptive to Abbott’s theories, but eventually adopted contrary opinions. Local geologists such as Dr. George H. Cook and Professors N.S. Shaler and H. Carville Lewis were also somewhat lukewarm with their support, maintaining circumspection as Abbott tried to use their geological dating of the Trenton gravels to bolster his claims for the advanced age of his palaeolithic culture. However, Abbott early on found support from other geologists, notably George Frederick Wright at Oberlin Theological Seminary, and from the naturalist and anthropologist Frederick Ward Putnam at the Peabody Museum of Archaeology and Ethnology at Harvard University, a seminal figure in the emergence of American archaeology as an academic discipline. Indeed, Putnam, in 1889, com-



Plate 5.2. Charles Conrad Abbott at work in his study at "Three Beeches." "This picture was taken in 1884 – I think – and at a time when I was busier in a literary way, than at any time later" (Abbott n.d., reproduced in Kraft 1993:5).



Plate 5.3. Charles Conrad Abbott (upper right) observing George Frederick Wright (left) as he examines a soil profile at the Abbott Farm.

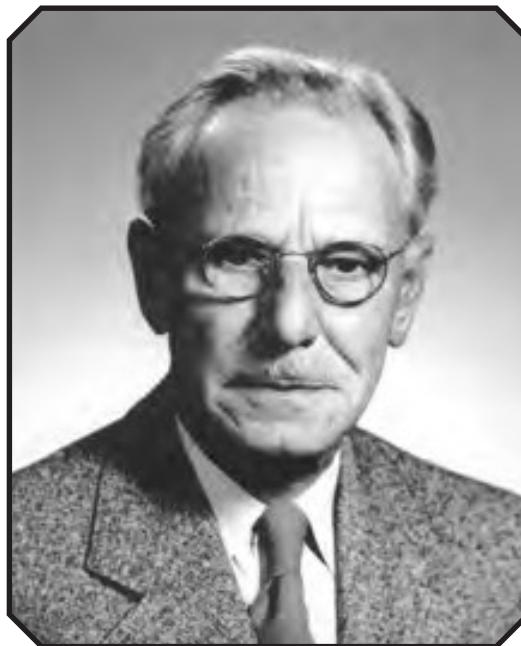


Plate 5.4. Contemporaries of Charles Conrad Abbott engaged in the debate over “palaeolithic” and “argillite” cultures in the Delaware Valley. *Upper left:* Henry Mercer, archaeologist and antiquarian, 1856-1930. *Upper right:* Leslie Spier, anthropologist, 1893-1961. *Lower left:* George H. Cook, geologist, 1818-1889. *Lower right:* Rollin D. Salisbury, geologist, 1858-1922.

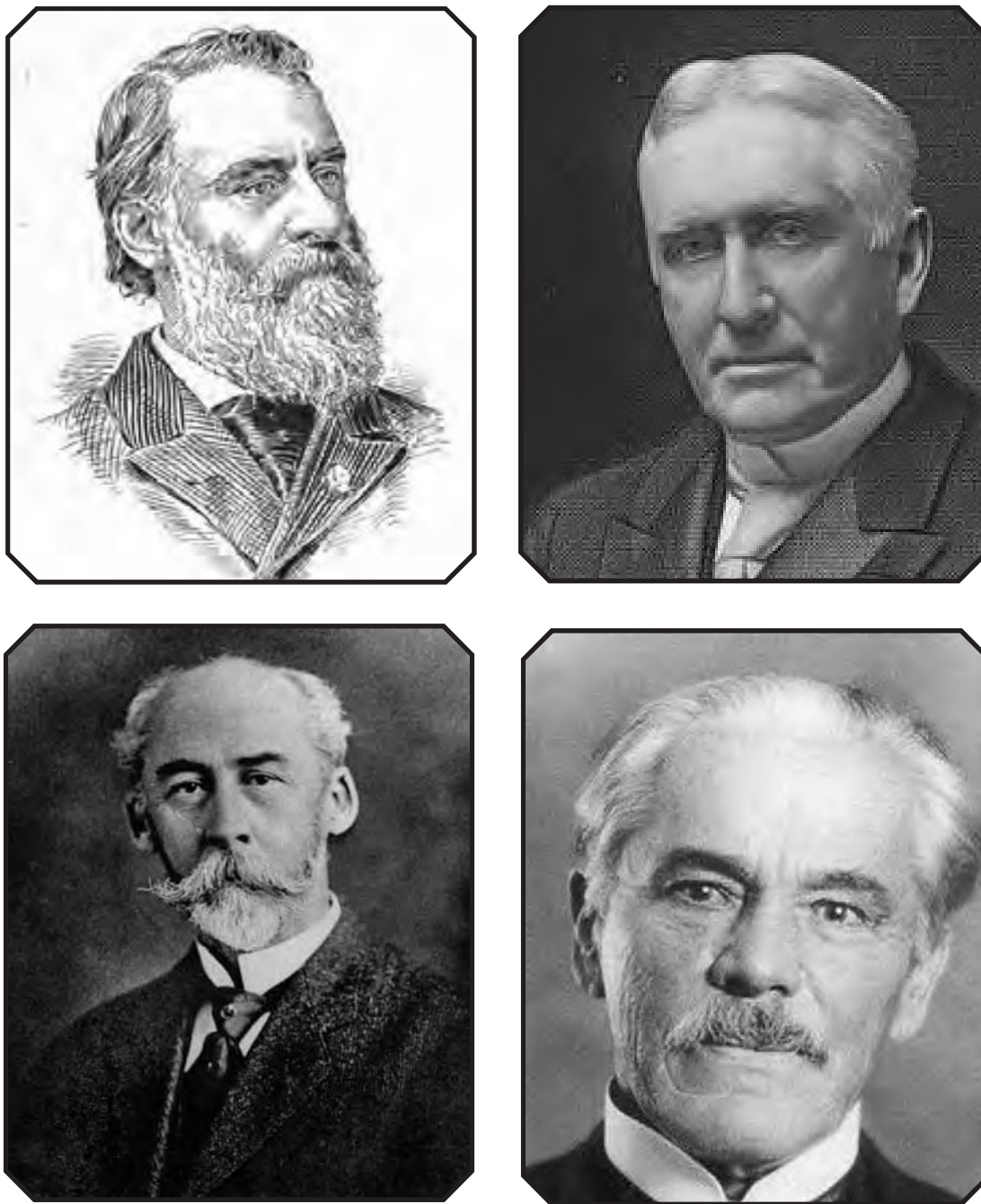


Plate 5.5. Contemporaries of Charles Conrad Abbott engaged in the debate over “palaeolithic” and “argillite” cultures in the Delaware Valley. *Upper left:* Frederick Ward Putnam, naturalist and anthropologist, 1839-1915. *Upper right:* George Frederick Wright, geologist and theologian, 1838-1921. *Lower left:* William Henry Holmes, archaeologist and geologist, 1846-1933. *Lower right:* Ales Hrdlicka, physical anthropologist, 1869-1943.

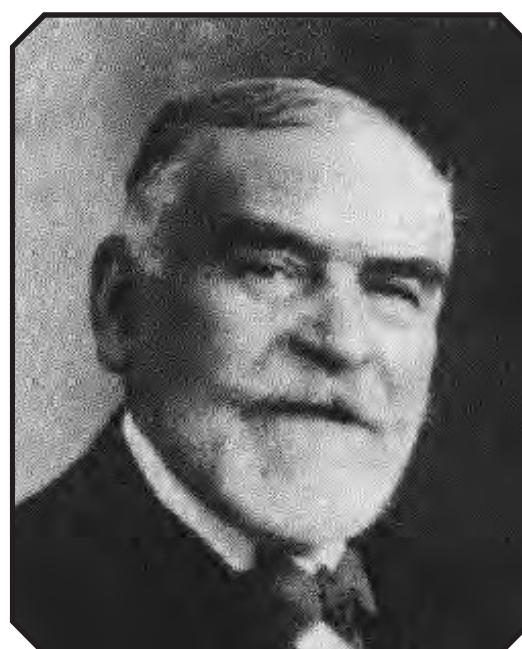
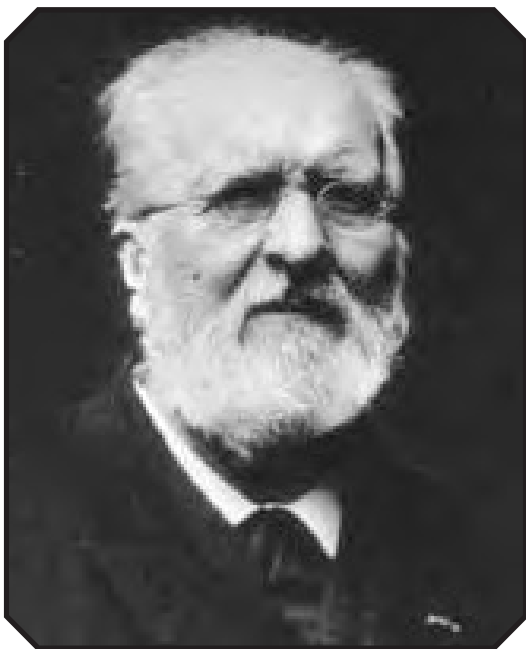


Plate 5.6. Contemporaries of Charles Conrad Abbott engaged in the debate over “palaeolithic” and “argillite” cultures in the Delaware Valley. *Upper left:* William Boyd Dawkins, archaeologist and geologist, 1837-1929. *Upper right:* John Lubbock, naturalist, archaeologist and politician, 1834-1913. *Lower left:* Gabriel de Mortillet, anthropologist, 1821-1898. *Lower right:* Marcellin Boule, paleontologist and archaeologist, 1861-1942.

menced what turned into a more than two-decade-long program of field research in the Trenton area undertaken by Ernest Volk, a protégé, colleague and friend of Abbott. This work specifically aimed to test and expand further on Abbott's hypotheses.

Abbott also sought opinion and credibility from across the Atlantic and corresponded at one time or another with British and French antiquarians and archaeologists, including such leading figures as Sir John Lubbock and William Boyd Dawkins, Gabriel de Mortillet and Marcellin Boule, who were instrumental in framing the Palaeolithic, Mesolithic and Neolithic cultural system in the Old World. Boule, in particular, lent his support to Abbott's theories, visiting Trenton and examining both sites and artifacts (Cross 1956:3-5; Joyce *et al.* 1989:59-62, 66).

Others were less enamored of Abbott's theories and gradually, during the late 1880s and early 1890s, a body of opposition began to coalesce within both the geological and archaeological communities. Geologists T.C. Chamberlin and D.G. Brinton took issue with George Frederick Wright, a particularly vocal proponent of Abbott's ideas, while William Henry Holmes of the U.S. Geological Survey (from 1889 at the U.S. National Museum [which later became the Smithsonian Institution]) questioned both the stratigraphic integrity and human origin of the chipped stone artifacts being found in the outwash gravels. Aside from Abbott himself, who was constantly and often cantankerously publishing and speaking out about his finds and his theories, it was Holmes and Wright who occupied the vortex of the Abbott Farm debate in these early years. The high point for scholarly acceptance of Abbott's views may be placed in the early 1890s, not long after he summarized his work for the American Association for the Advancement of Science (AAAS), an organization of which he was then a Vice-President. Around this time, artifacts from the Abbott Farm were featured in several prestigious museums (the University of Pennsylvania Museum

of Anthropology and Archaeology, the Chicago Field Museum, the American Museum of Natural History, the Peabody Museum) and even displayed at the World's Columbian Exposition in Chicago in 1893 (Abbott 1889; Cross 1956:2-4).

As the 1890s wore on skepticism grew over the validity of Abbott's palaeolithic culture. Holmes's view that the artifacts found in the Trenton gravels had either slumped down into exposed gravel layers from deposits higher up in the stratigraphic sequence, or were of natural not human origin, gained greater credence. By the time of an AAAS meeting in Detroit in the summer of 1897, the balance of opinion was tipping away from Abbott's theories, although Abbott himself fought on vigorously. It was now a quarter century since he had found his first "palaeoliths" and some 22 years since he had found specimens he considered of human origin in the gravels. It was clearly hard for him to renounce his deeply embedded ideas which had for so long been accepted by many in the academic world. However, even Putnam, his most prominent long-time backer, was by this time beginning to waver in his support, a change in heart propelled in part by the ongoing work being undertaken by Ernest Volk on behalf of the Peabody Museum (Abbott 1892; Holmes 1893; Mercer 1894; Holmes 1898; Mercer 1898; Putnam 1898; Abbott 1902; Cross 1956:5-7).

The final nail in Abbott's palaeolithic coffin came in the years immediately following the Detroit meeting when Putnam enlisted the services of Ales Hrdlicka, a physical anthropologist, to examine human skeletal materials believed by Abbott and others to have originated from the Trenton gravels. Hrdlicka, who later enjoyed a stellar career as the first curator of physical anthropology at the U.S. National Museum (Smithsonian Institution), was a leading figure in establishing the now widely accepted theory of human colonization of North America from east Asia. He concluded that the bulk of these human remains were

Indian (some were also attributed to early European immigrants) and of some antiquity, but not of some early pre-Indian “palaeolithic” people. While he reserved judgment on a single human femur recovered from the gravels by Volk in 1899, it was clear to Hrdlicka that these human remains provided no real basis for upholding Abbott’s claims for “glacial man.” Hrdlicka’s conclusions echoed and amplified those recently reached by Frank Russell, another eminent anthropologist who had studied human skeletal remains found in the Trenton gravels. Again, it was generally concluded that these remains, like the bona-fide stone artifacts, had found their way into the gravels at a later date and their stratigraphic provenience had been misinterpreted (Abbott 1885; Russell 1899; Hrdlicka 1902, 1907; Kraft 1993:7-8).

Despite Abbott’s intransigence over the palaeolithic question in North America, the debate over the antiquity of the Trenton gravels and the related evidence for early human occupation in the Delaware Valley was effectively settled within the realm of academe in favor of the Holmes/Hrdlicka position well before the end of the first decade of the 20th century. Abbott himself in fact produced very little in the way of new evidence for his palaeolithic culture between 1890 and 1910, while with his pen he mostly rehashed his earlier arguments. Volk, for his part, while adopting Abbott’s tripartite interpretive framework (Trenton gravels/yellow sand/black soil) to report his more than two decades of research in 1911, produced nothing of real substance to support Abbott’s palaeolithic culture (Volk 1911; Cross 1956:8).

History has not been especially kind to Abbott on the matter of his palaeolithic culture. He is frequently cast as a difficult, argumentative and unprofessional archaeologist and ungracious debate loser, which in some respects may be a valid characterization, but he was also curious, literate, extremely knowledgeable about his immediate surroundings and, initially at least, open to intellectual engagement. Were it

not for his early observations, finds and persistent writings, clarity in resolving these early questions about human antiquity in North America and more specifically in the Delaware Valley might have taken years to emerge. After all, a single viewpoint does not a debate make and Abbott’s, although ultimately discredited, represents an immense contribution to the advancement of American archaeology and prehistory. Indeed, in hindsight, Abbott was so nearly right in his arguments – while the outwash gravels of the Wisconsin ice advance are now generally accepted as not containing evidence of human occupation that is contemporary with their deposition, the timeline of Native American activity in the Delaware Valley is viewed as extending back to the immediate post-glacial period, some 13,000 years ago. Some of the stone artifacts recovered by Abbott, Volk and others “from the Trenton gravels” may perhaps, under a modern chronological framework, be assignable to the Paleoindian or Early Archaic periods.

As the furore over the North American palaeolithic receded, interest in Abbott’s so-called argillite culture came to the fore. Much of the proceedings of the Detroit AAAS conference in 1897 were in fact given over to discussion of this intermediate culture, being fueled in large measure by Volk’s ongoing work at the Lalor Farm. “Lalor Fields,” as this site was also known, was located just a short distance along the bluff top to the west of the Abbott Farm (Figures 5.1. and 5.2). Again, both archaeologists and geologists participated and considerable argument ensued over the origin of the “yellow sand,” the principal layer within which artifacts belonging to the argillite culture were found. New Jersey geologists Henry Kummel and Rollin Salisbury posited a wind-blown origin for this deposition; George Frederick Wright, keying on the “red veins” or clayey iron-rich laminations within the sand, preferred a water-laid explanation. Kummel, supported by Salisbury, argued that the red veins were not stratified deposits of aqueous origin, but instead represented “zones or bands of infiltration and depo-

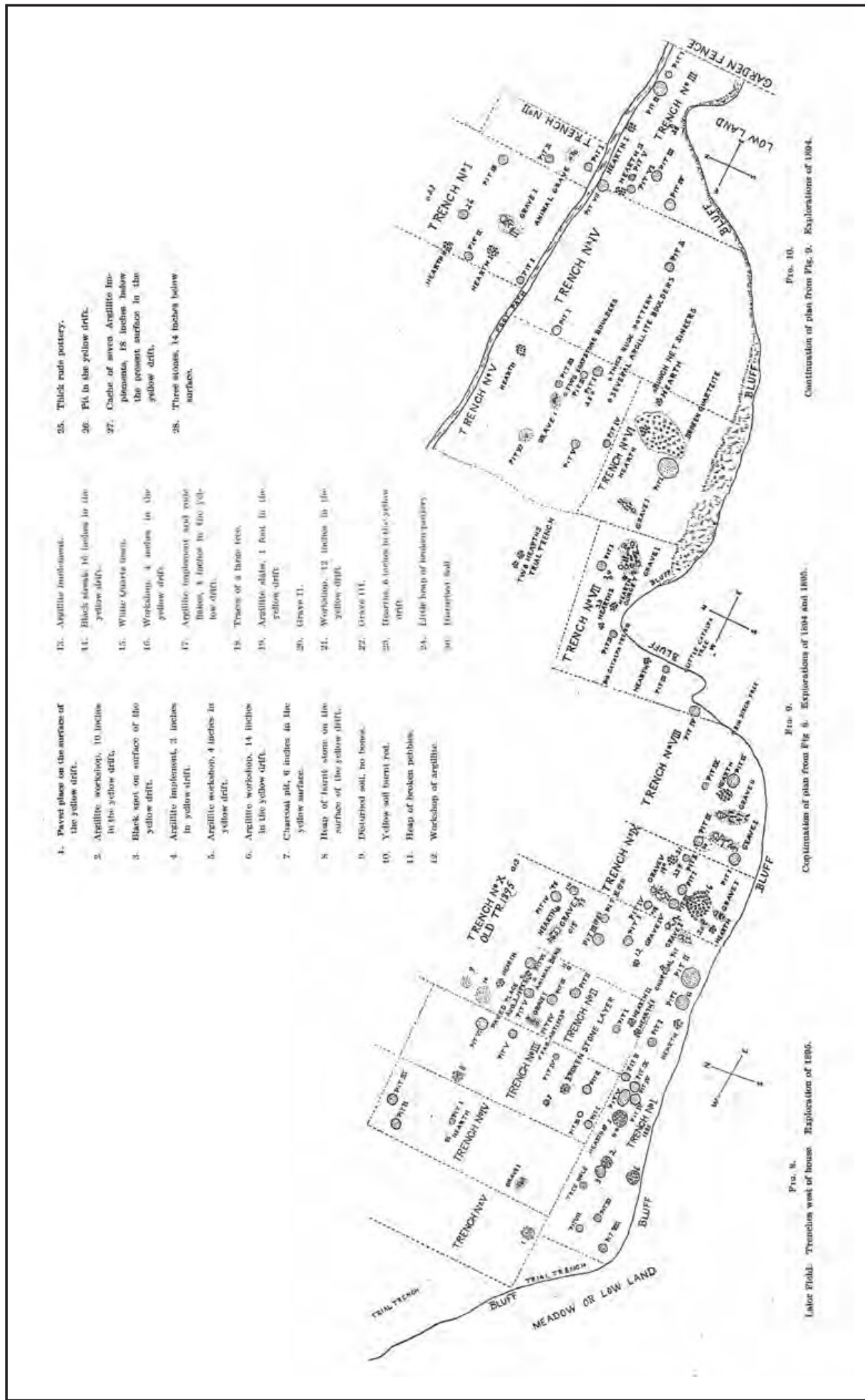


Figure 5.1. Composite Sketch Map Showing Locations of Ernest Volk's Excavations and Archaeological Features Found in the Lalor Farm National Historic Landmark (Source: Volk 1911:25-27). Scale: 1 inch= 200 feet (approximately).



Figure 5.2. Modern Aerial Photograph Showing Approximate Area of Main Excavations by Ernest Volk within the Abbott Farm National Historic Landmark (Source: Volk 1911:25-27; New Jersey Department of Environmental Protection 2002).

sition of ferric oxide which has somewhat cemented the sand grains.” Ultimately, a wind-blown origin for the artifact-bearing yellow sand at Lalor Fields won out and today this interpretation is generally accepted for the upper sandy layers found along the bluff top between Riverview Cemetery and White Horse Circle (Kummel 1898; Salisbury 1898; Wright 1898; Cross 1956:6).

Archaeological discussion of the argillite culture focused chiefly on the stone artifacts, their vertical and horizontal distribution, their typology and the kinds of raw material in use, but argument also centered on whether or not pottery was being found in the yellow sand. Henry Mercer questioned the viability of a distinct argillite culture, noting that artifacts were found over a wide range of depths. Kummel, emphasizing the horizontality of most of the argillite artifacts, made the important point that they were likely *in situ* and of the same age as the sand, and had therefore not been disturbed or redeposited (Mercer 1898; Kummel 1898; Cross 1956:6-8).

These discussions over the argillite culture were all taking place in something of a void, since very little in the way of systematically collected scientific data was available in published form. Abbott, although he continued writing and clung to many of his earlier interpretations up until his death in 1919, never provided a comprehensive or quantitative account of his life-long archaeological explorations. Ernest Volk also published very little during the period when he was actively working in the field and it was not until 1911 that he summarized his 22 years of research in *The Archaeology of the Delaware Valley*, a publication of the Peabody Museum (Volk 1894; Abbott 1907-09; Volk 1911; Abbott 1912).

Volk’s work in the Trenton area on behalf of the Peabody Museum between 1889 and 1910 was wide-ranging and involved not only formal excavations but also extensive monitoring of ground disturbance

caused by new construction and mining. As is apparent from his published journal extracts between 1906 and 1910, included in *The Archaeology of the Delaware Valley*, he examined countless railroad and sewer line cuts, sand and gravel pits, dredge spoil, and excavations for building basements, particularly with an eye to recovering artifacts from the Trenton gravels, a task in which he was not entirely successful. Volk’s formal excavation activity mostly took place on the bluff top to the west of the Abbott Farm, concentrated especially between modern-day Hewitt and Reeger avenues, within 500 feet or so of the bluff rim, on either side of Bow Hill (Figures 5.1 and 5.2). At the time this area consisted of cultivated fields on the outskirts of Trenton on farmland owned by the Lalor and Wright families.

Volk also excavated extensively further to the east on the Rowan farm, including close to the Isaac Watson House (the nucleus of the farm) and in the lowland below the house alongside Watson’s Creek within what is today Roebling Park (Figure 5.2). While sketch maps and representative profiles of Volk’s excavations in the Lalor and Wright fields are included in the publication of 1911, little detail is provided about the precise location and soils of this other work. Nevertheless, it is apparent that both the Rowan and Abbott farms, the lowland and countless other locations all produced a large volume of archaeological features and artifacts (Volk 1911).

Volk’s excavations dealt predominantly with what Abbott had referred to as the black soil (essentially the upper humic layer and plowzone) and the yellow sand (the immediately underlying layers of sand of variable texture and depth, within which were bands of reddish sandy clay, the so-called “red veins”) (Figure 5.3). He found an abundance of cultural material within the yellow sand, especially argillite artifacts, evidence of Abbott’s argillite culture, which today would mostly be assigned to the Middle Woodland period. The darker soil above also yielded large quan-

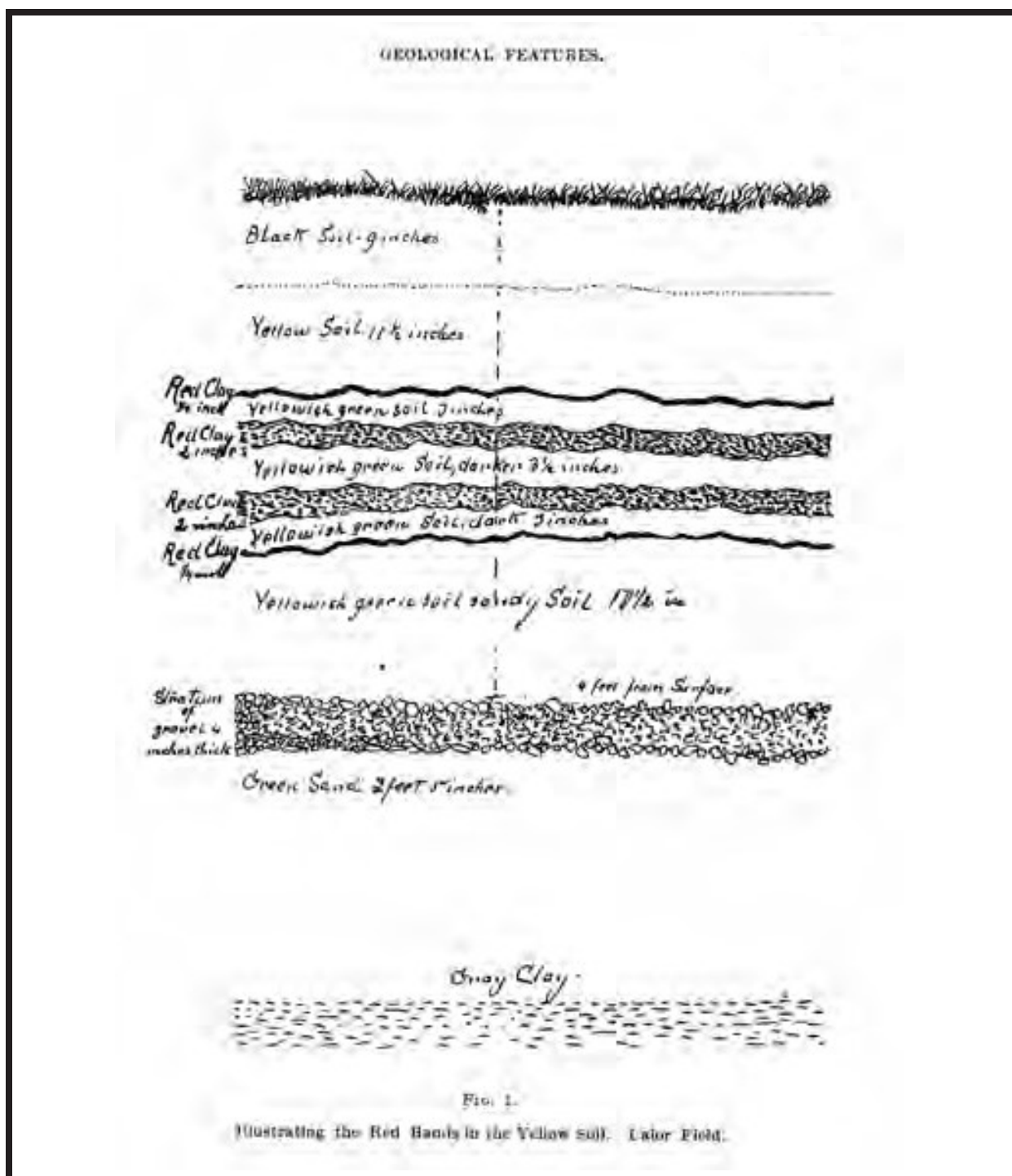


Figure 5.3. Typical Profile from Archaeological Test by Ernest Volk in the Lalor Farm Fields (Source: Volk 1911:9).

tities of artifacts, but with a higher proportion of non-argillaceous material, most likely attributable to the Late Woodland and Contact periods. Numerous pit features, including refuse and storage pits and many graves with human skeletal materials (and occasional grave goods), were identified, mostly at the interface of the black soil and yellow sand, but also within the sand (Plate 5.7).

By modern archaeological standards, Volk's reporting of his Peabody-supported research is disappointing. Locational information is sparse; quantification is absent. Data are presented in selective fashion using Abbott's earlier tripartite cultural framework, but with minimal synthesis and no real conclusions. Perhaps this was done in deference to Abbott, from whose friendship and mentoring Volk had benefited early on in his archaeological career. In any event, Abbott found enough in Volk's publication to feel vindicated in his opinions, so much so that he resumed a correspondence with Frederick Ward Putnam in which he felt able to articulate his legacy in his own mind, even if few others would have agreed:

".... although I won out in the end, I suppose the archaeologists in the future will steal all my thunder and become celebrated and I be forgotten, yet you know well enough, I did more than anyone to put archaeology of this country on a really scientific basis and not let it remain a mere matter of Indian history. But let the past bury its dead." (Letter, Charles Conrad Abbott to Frederick Ward Putnam, December 12, 1912 [Kraft 1993:9]).

In his twilight years Abbott approached the American Museum of Natural History and asked this institution to mount an excavation in advance of the planned sale of the "Three Beeches" property for development. As a result, in the summer and fall of 1914, Alanson Skinner, an Assistant Curator of Anthropology at the museum, assisted by Leslie Spier, then a student, dug a series of trenches in the Abbott's Lane area, close to

the point where Independence Avenue today crosses over Route I-295. Spier (Plate 5.4), who later made his name as an archaeologist and anthropologist specializing in Native American peoples of the American Northwest and Southwest, continued the work in the following year and ultimately reported on the findings. While limited in scope, this work was notable for its thoroughness and for some statistical analysis of the depths at which artifacts and fire-cracked pebbles were found. Spier reported that only around 16% of the artifacts were found in the "yellow sand" and thus attributable to the argillite culture; the remainder were recovered from the topsoil and linked to Delaware Indian occupation. Spier effectively distinguished two principal components: a deeper-buried, relatively simple argillite culture of some antiquity, characterized by predominantly argillite artifacts; and a more developed Delaware Indian culture within the plow-zone and upper sand layers, characterized by a broader range of artifact types that included blades, projectile points, hammerstones and rubbing stones fashioned from raw materials other than just argillite (Skinner 1915; Spier 1918; Cross 1956:8-9; Perazio 1986:8).

On November 13, 1914, not long after Skinner and Spier completed their initial season of fieldwork at the Abbott Farm, a fire started by pheasant hunters in the meadows along Watson's Creek spread on to the bluff, burning down the Abbott home and outbuildings. Abbott's library, his furnishings, many of his papers and numerous artifacts were all destroyed and Abbott himself was devastated. By now in his 70s and the hub of his life's work reduced to ashes, he removed to Bristol, Pennsylvania, where he spent his final years writing a family history that remains unpublished to this day. Abbott died on July 27, 1919. He was buried in Riverview Cemetery where his grave is marked, not inappropriately, by a rough glacial boulder, supposedly dredged from the bed of the Delaware River, on which a plaque is mounted and wishfully inscribed: "IN THIS NEIGHBORHOOD



Plate 5.7. One of many human skeletons discovered by Ernest Volk; Grave 4, Skeleton 1, Wright's Field, 1891 (Source: Volk 1911:Plate XXXIII).

DR. ABBOTT DISCOVERED THE EXISTENCE OF PALEOLITHIC MAN IN AMERICA” (Plate 5.8) (Kraft 1993:9).

Following Spier’s research there was no formal archaeological exploration of the Abbott Farm or the immediately surrounding area until the New Jersey State Museum, supported by the Works Progress Administration (WPA), instituted the far-reaching program of the Indian Site Survey on April 17, 1936. In the interim, however, the notoriety of the Abbott Farm encouraged collectors and avocational archaeologists to search for artifacts in the fields and keep an eagle eye on development-driven ground disturbance as suburban Trenton expanded southeast across the bluff top. The New Jersey State Museum was frequently called upon to identify objects recovered by local residents from the bluffs and made occasional forays into the field to examine possible burials and other archaeological features. In 1929, the museum invited Ernst Antevs, a Swedish geologist later famous for his work on North American varves, to investigate and provide his opinion on the yellow sand. Following microscopic and particle size analysis and lengthy debate with New Jersey State Geologist Henry B. Kummel, it was concluded that the sand could be of either windblown or fluvial origin, but was of post-glacial origin (Cross 1956:9-10).

The Abbott Farm excavations carried out between April 1936 and February 1941 were the flagship project of the Indian Site Survey. Directed by Dr. Dorothy Cross of the New Jersey State Museum and carried out with funding assistance from the federal government through the WPA, these represent by far the single largest program of archaeological excavation ever carried out in the State of New Jersey and quite possibly along the entire eastern seaboard. For much of the period of the excavations large field crews were mobilized and the project became an important source of work for many unemployed surveyors, draftsmen and laborers in the Trenton area (Plate 5.9).

In Dorothy Cross, a recent graduate of the University of Pennsylvania with a background in Middle Eastern archaeology, the Indian Site Survey possessed a rigorous and focused leader, a tenacious, well-educated woman who more than held her own in a traditionally male-dominated discipline (Plate 5.10). The voluminous site archive, maintained by the State Museum, and the quality of the second volume of *Archaeology of New Jersey*, published in 1956, which synthesized and interpreted the Abbott Farm work, are a clear testimony to the intellectual and organizational abilities of Cross. This latter publication, which received an award from the American Association for State and Local History, has stood the test of time well and more than half a century later remains a critical benchmark in the study of New Jersey and North American prehistory. In addition to her duties as head of the Indian Site Survey, New Jersey State Archaeologist and Curator of Archaeology at the New Jersey State Museum, Dorothy Cross also held a professorship in the anthropology department at Hunter College and played a leading role in the founding of the graduate program in anthropology at the City University of New York (Cross 1956; Claassen 1994:14-17).

The Indian Site Survey’s five-year program at the Abbott Farm entailed excavations, several of them immense in scale, at some 20 different locations, most of them on the bluff top, but some also in the lowland surrounding Watson’s Creek and Sturgeon Pond (Figures 5.4-5.7; Table 5.1). In all, an area in excess of 170,000 square feet was subject to excavation and roughly 25,000 cubic yards of soil were archaeologically removed by hand to depths of around four feet below grade (and considerably deeper in some locations). Some parts of the site, notably Excavations 2, 3, 9, 10, 11 and 12 on the bluff top and Excavation 14 in the lowland directly below the Isaac Watson House, produced an abundance of features and artifacts (Plate 5.11). These areas yielded no less than 85 burials, most of them within pits, and 35 caches (deliberately placed concentrations) of various types of stone artifacts. In



Plate 5.8. The rough boulder and plaque that mark the grave of Charles Conrad Abbott in Riverview Cemetery (Photographer: Michael Murphy, Hunter Research, Inc.).

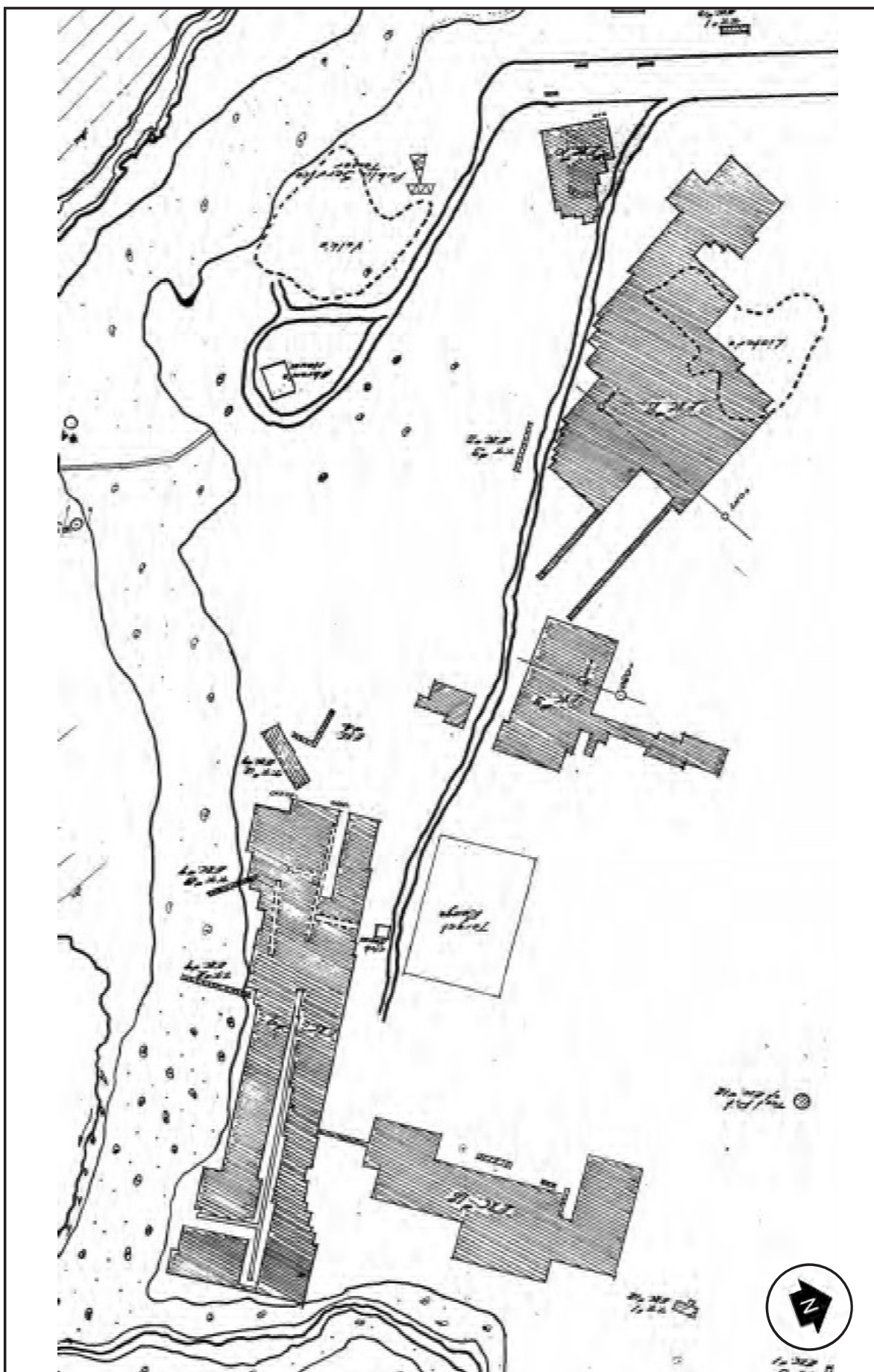


Plate 5.9. The Indian Site Survey excavations at the Abbott Farm mobilized large field crews during a time of high unemployment; a general view of excavators and surveyors working at Excavation 3 (Source: Cross 1956:Plate 1a).



Plate 5.10. Dorothy Cross and Eugene Golomshtok excavating a Native American ceramic storage vessel found in Burial Pit 32, Excavation 2 at the Abbott Farm Site (Source: Cross 1956:Plate 19b).

Figure 5.4. Portion of Manuscript Site Plan Showing Locations of Indian Site Survey Excavations of 1936-41 at the Abbott Farm Site (Source: New Jersey State Museum, Indian Site Survey). Scale: 1 inch= 150 feet (approximately).



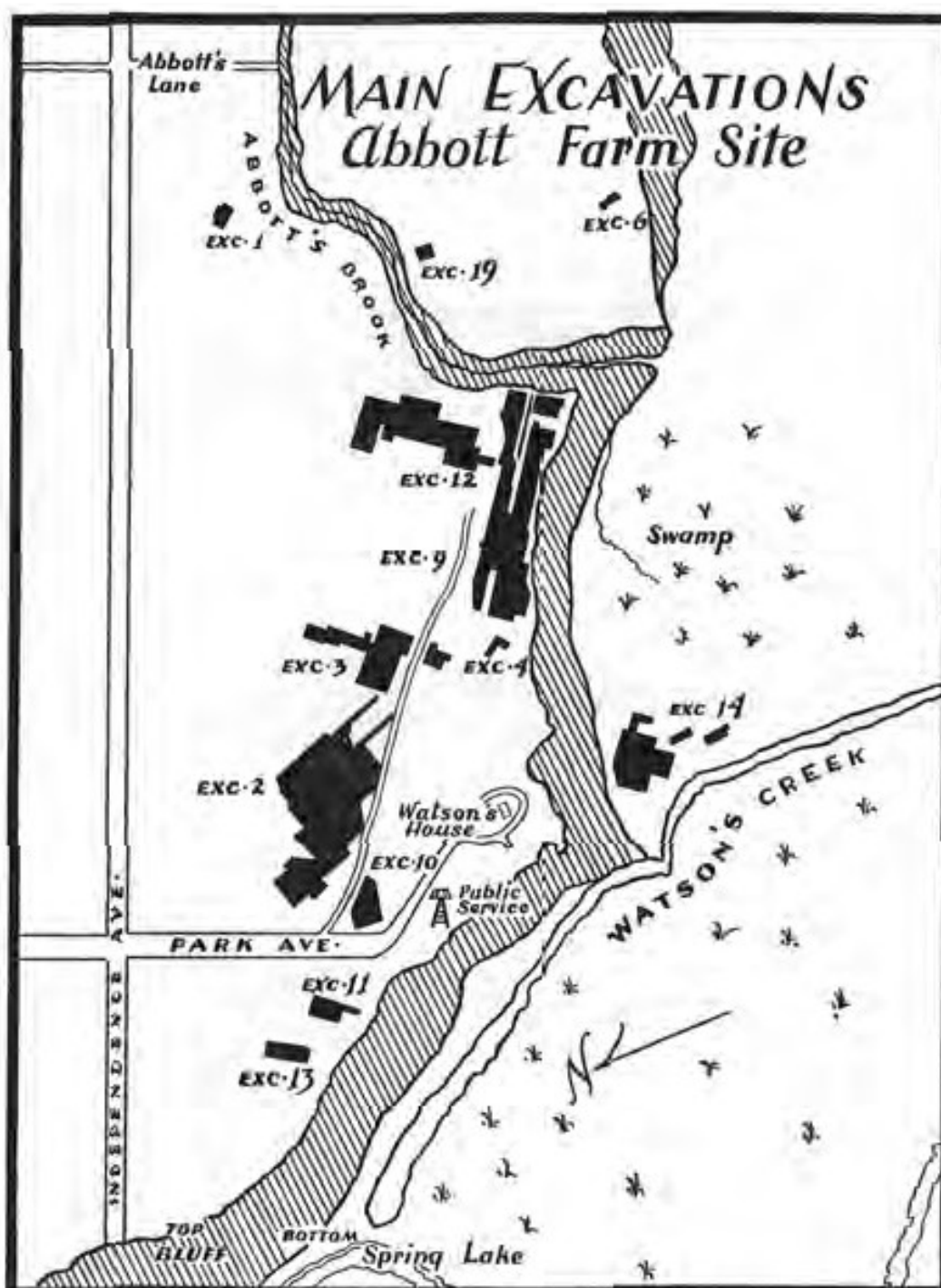


Figure 5.5. Published Site Plan Showing Locations of Indian Site Survey Excavations of 1936-41 at the Abbott Farm Site (Source: Cross 1956:13). Scale: 1 inch= 200 feet (approximately).



Plate 5.11. Eugene Golomshtok (left) and unidentified New Jersey State Museum staff member examine a large stone pestle discovered in Excavation 3 at the Abbott Farm Site (Source: New Jersey State Museum, Indian Site Survey Photographic Archive, #573).

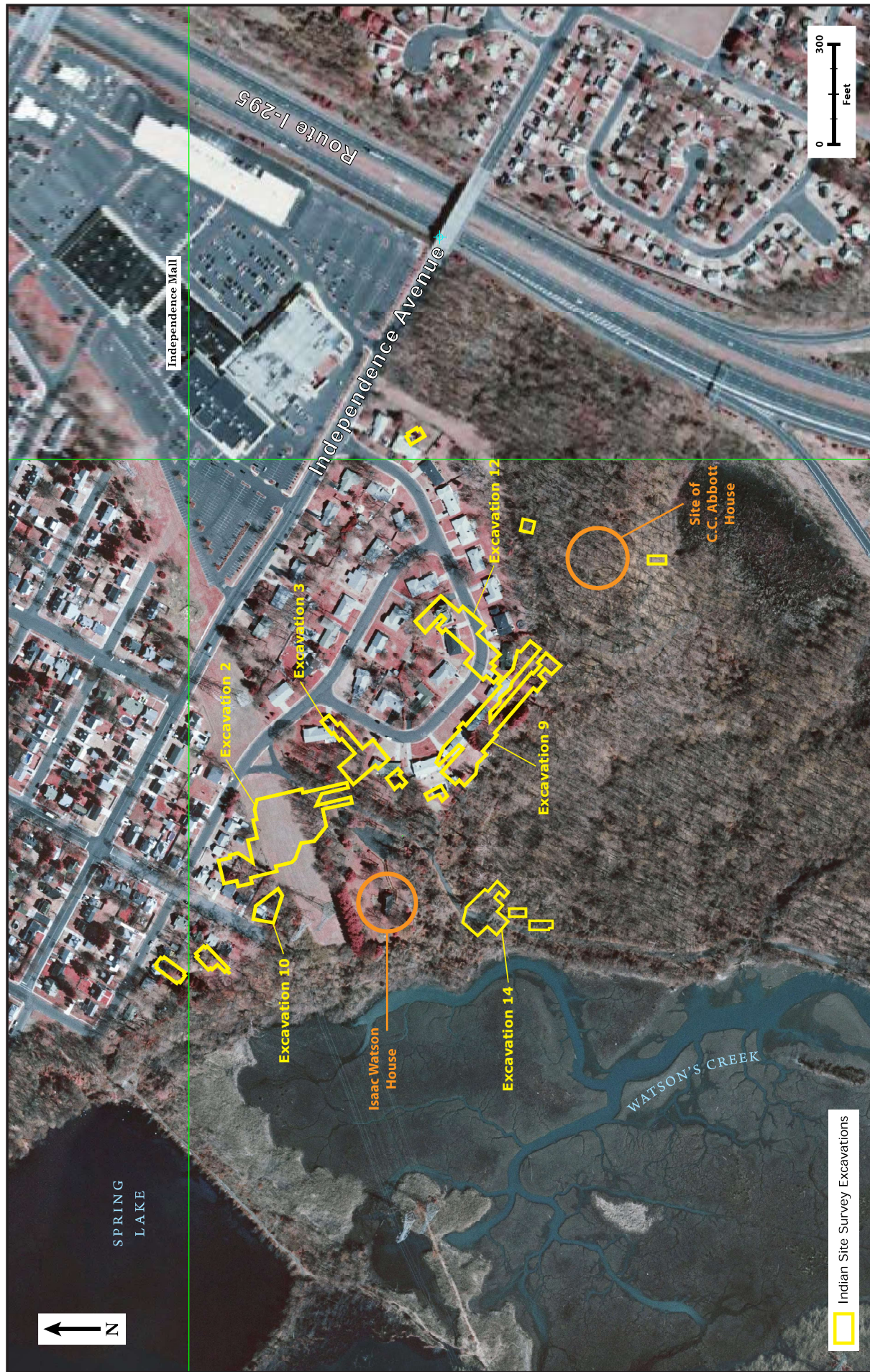


Figure 5.6. Modern Aerial Photograph Showing Approximate Area of Main Excavations by the Indian Site Survey within the Abbott Farm National Historic Landmark (Source: Jersey State Museum, Indian Site Survey; Cross 1956.13; New Jersey Department of Environmental Protection 2002).



Figure 5.7. Aerial photograph taken in 1940 showing several of the large-scale Indian Site Survey excavations at the Abbott Farm Site (Source: United States Department of Agriculture 1940). Scale: 1 inch= 215 feet (approximately).

TABLE 5.1. SUMMARY OF INDIAN SITE SURVEY EXCAVATIONS AT THE ABBOTT FARM, 1936-41

Excavation #	Location	Dates Excavated	Excavation Type	Typical Depth (ft.)	Area Excavated (sq. ft.)	Volume Excavated (cu. ft.)	# of Pits	# of Hearths	# of Burials	# of Caches
Excavation 1	bluff top	4/17/36-5/6/36	1 block, 7 trenches	five to 8	750	6450				
Excavation 2	bluff top	5/7/36-2/26/38	1 block, 5 trenches	four	42900	171989	69		5	18
Excavation 3	bluff top	6/7/36-3/11/38	2 blocks	four	15725	67761	13		2	4
Excavation 4	bluff top	7/7/36-7/12/36	1 trench	four	425	1612				
Excavation 5	lowland	8/12/36-10/15/36	9 trenches	four and a half	975	4387				
Excavation 6	bluff top	10/19/36-12/18/36	2 trenches	no data	275	640				
Excavation 7	bluff top	1/5/37-8/14/40	4 trenches	4.5 to 5	2925	12900				
Excavation 8	bluff top	1/28/37-2/2/37	6 trenches	no data	721	2204				
Excavation 9	bluff top	12/3/37-8/8/39	1 block, 9 trenches	four	56800	206837	52		2	20
Excavation 10	bluff top	8/29/38-1/15/39	1 block	four	5250	20624	14			2
Excavation 11	bluff top	1/12/39-3/26/39	1 block, 1 trench	four	2675	9000	8		3	
Excavation 12	bluff top	2/14/39-8/4/39	1 block, 4 trenches, 1 test pit	no data	21625	72332	15		2	1
Excavation 13	bluff top	4/12/39-4/27/39	1 block, 1 trench	three and a half	3125	10940	6			
Excavation 14	lowland	8/7/39-2/4/41	1 block, 8 test pits	five and a half	10241	61478	44		13	39
Excavation 15	lowland	8/15/39-8/16/39	15 test pits	four	250	1000				
Excavations 16-18	bluff top	8/21/39-9/28-39	3 blocks, 10 trenches	1.5 to 4	5615	16583				1
Excavation 19	bluff top	3/5/1940	1 trench	three	300	900				
Excavation 20	lowland	3/27/40-4/17/40	7 trenches	no data	875	2187				
TOTALS					171542	669824	221	24	85	35

Source: Cross 1956

all, 245 pits and hearths, close to 20,000 stone, bone and antler artifacts and roughly 30,000 sherds of pottery were found. While the bluff-top locations were characterized by a fairly straightforward and uniform sequence of topsoil over yellow sand with laminations over progressively more gravelly deposits of sand (much like Volk's excavations), Excavation 14, on the other hand, within a 12-foot soil column, revealed a series of three buried humus layers, each separated by mostly sterile sand.

Cross's eventual publication of the Abbott Farm excavations in 1956 reviewed the earlier work of Abbott, Volk and others, summarized the state of geological knowledge as it then existed, presented the archaeological data in a concise and logical – if somewhat selective – form, and then developed a noticeably more coherent cultural interpretation of the site drawing heavily on typological analyses of the stone artifacts and pottery. Using the then relatively new cultural time frame that still remains largely in use today she recognized artifacts attributable to all the major cultural periods (Paleoindian through Archaic and Woodland to European contact) and interpreted the vast and varied body of archaeological data as part of an occupational “continuum” ranging all along the top and base of the bluff with particularly intense activity taking place in the Early and Middle Woodland periods. For students of the prehistoric archaeology of the Delaware Valley, Cross's Abbott Farm volume remains essential reading even today and is a vital link to the work of Abbott, Volk and others involved in the debate over North American human antiquity. However, it was not universally well received: a contemporary review published by well-known North American archaeologist Richard S. MacNeish in *American Antiquity* noted, not a little unkindly, that “little or no cultural assignment either in terms of time periods or in terms of focus or phase is given in these archaeological features” (1958:443).

Even as Cross was analyzing her excavation results and bringing her work on the Abbott Farm to final publication, the richness of the archaeological resource was becoming more widely known within the local Hamilton-Trenton community. Although antiquarians and collectors had undoubtedly roamed the farm fields on top of the bluff ever since Abbott's day, picking up stray artifacts brought to the surface through cultivation, it has been mostly since World War II that the Abbott Farm Site has experienced a steady rise in looting and uncontrolled digging. In addition, with the spread of residential development across the bluff top between the 1950s and 1970s, construction of homes and infrastructure was continually encountering Native American remains, including numerous burials. Even the most innocuous of domestic activities like gardening will still occasionally turn up artifacts. Sadly, while some finds have been reported to the State Museum, most objects recovered during the course of development activity or through home gardening have gone unrecorded, with the materials in question remaining in private hands.

Today, many people who have lived and grown up in the area do fully appreciate the wealth of Native American culture that lies in the ground and can speak anecdotally and knowledgeably of where particular finds occurred during the most intense period of development in the third quarter of the 20th century. Of note in this regard are individuals such as Robert J. Cunningham and Andrew Stanzeski, two avocational archaeologists who have shared much valuable information with the professional archaeological community from their observations and activities during their youth in the 1960s. Cunningham and Stanzeski continue to serve as a vital link between archaeologists and residents, knowing personally many of the homeowners who have private collections of artifacts from the Abbott Farm Site. Former Hamilton Township Mayor Jack Rafferty is another locally knowledgeable

able individual appreciative of the importance of the Abbott Farm, who likewise has been a valuable conduit for archaeological information.

It was not until a quarter century after the Indian Site Survey finished fieldwork at the Abbott Farm Site that the next formally reported archaeological investigation took place there. In the fall of 1966 a delicate balance was struck between private property owner, collector, avocational archaeologist and professional archaeologist to achieve some limited controlled excavation on the grounds of the Isaac Watson House, within the heart of what is today the AFNHL. In advance of the grounds being “permanently landscaped” by Mercer County and the Daughters of the American Revolution, the Unami Chapter of the Archaeological Society of New Jersey, under the direction of Janet S. Pollak, then a professional archaeologist in training, undertook an excavation of 700 square feet, finding no less than 28 separate Native American features, including three burials and four hearths. Artifacts dating from as early as the Early Archaic period were recovered, but the bulk of the cultural materials found were of Middle Woodland and Late Woodland age, including a hitherto unrecognized type of Middle Woodland pottery classified as “Abbott Zoned Punctate.” A brief note, without drawings, was published on this work in the *Bulletin of the New Jersey Academy of Science* (Pollak 1968:84).

Janet Pollak went on to complete a Master’s degree in anthropology at Temple University, using her work at the Isaac Watson House and a wealth of other artifacts recovered by local residents during construction in the Westcott Avenue/Wedge Drive area as the basis for a thesis in which she re-interpreted some of the Indian Site Survey excavation results in this part of the AFNHL. In particular she emphasized the strong Hopewellian influences in the Middle Woodland component of the Abbott Farm Site, recognizing what she referred to as the “Abbott Phase.” She also hinted at the possibility of “a special or perhaps ceremonial

caching area” on the bluffs east of the Watson House around what is today the western end of Wedge Drive, just southeast of Cross’s Excavation 3 in the general vicinity of the target range shown on the Indian Site Survey excavation plan (Figure 5.4) (Pollak 1971:78-79, 115-118).

Over the past four decades or so, important tenurial changes and legislative initiatives have occurred that have helped to secure the future of the Abbott Farm Site as one of the nation’s most prized archaeological resources, affording its physical remains a level of recognition and protection they did not previously enjoy. Much of the land lying within what is now the landmark has come into public ownership during this period, most notably several sizeable tracts of lowland and tidal wetland that have been progressively acquired by Mercer County, the State of New Jersey and Hamilton and Bordentown townships. Smaller parcels on the bluff top and rim northwest of Crosswicks Creek have also been bought by Mercer County and Hamilton Township, most notably the Isaac Watson property, which was purchased by Mercer County in 1964. The State of New Jersey, Burlington County and Bordentown Township have acquired land or bought up development rights with preservation in mind for upland areas on the opposite bank of the creek.

Nationwide, public ownership of land and development controls exercised by public agencies have been coupled with environmental and historic preservation legislation to the benefit of archaeology, although the main preservation emphasis has typically been more on natural and above-ground cultural as opposed to below-ground archaeological resources. Nevertheless, federal laws, such as the National Historic Preservation Act of 1966 and the National Environmental Policy Act (NEPA) of 1969, and matching state laws, such as the New Jersey Register of Historic Places Act of 1970, along with state permitting procedures and county and municipal regula-

tions, can all potentially ensure a measure of responsible management for the archaeology of the Abbott Farm. To date, archaeological resource management of the Abbott Farm has been predominantly addressed at the federal and state level through government review authority rooted in the designation process of the New Jersey and National Registers of Historic Places and related land use regulations. So far as the Abbott Farm is concerned, there are no county or municipal ordinances specifically aimed at protecting or managing archaeological resources on lands under these agencies' ownership or jurisdiction.

Federal and state-level environmental and historic preservation laws and regulations brought into being in the late 1960s and early 1970s dictate that publicly funded and permitted actions consider, and minimize, project effects on historical and archaeological resources meeting the eligibility criteria of the National Register of Historic Places. Longstanding plans to complete the national interstate highway network in the Trenton area required the Federal Highway Administration (FHWA) and the New Jersey Department of Transportation (NJDOT) to develop a project that was in compliance with both NEPA and Section 106 of the National Historic Preservation Act. Planning and design for the "Trenton Complex," as the massive interchange of Routes I-195 and I-295 and N.J. Routes 29 and 129 came to be known, consequently involved the completion of numerous environmental and cultural resource studies, which soon brought to the fore two major areas of potential environmental impact – one relating to natural resources and the tidal wetlands at the confluence of Crosswicks Creek and the Delaware River; the other centering on the archaeology of the Abbott Farm Site. Thus, in 1975, there commenced an extended program of archaeological survey and excavation, involving identification and evaluation of resources followed by mitigation of project impacts through archaeological

data recovery, a program that was not fully implemented until the late 1990s when the final publication of the results of this work was completed.

At the outset of this long and arduous tale of environmental compliance, the Abbott Farm Site was a well-known, but as yet undesignated historic resource, the subject of more than a century of concerted archaeological study and the intermittent focus of intense scholarly debates over human antiquity in North America and the prehistory of the Delaware Valley. The proposed highway improvements (completed in the early 1990s) involved construction of a massive interchange in the lowland straddling Watson's Creek with roadways leading in to this spot from the north, just east of the site of "Three Beeches;" from the east along the north side of Crosswicks Creek, just below the White Horse Circle; from the south across the mouth of Crosswicks Creek and Duck Island; and from the west between Sturgeon Pond and Duck Island (Figure 5.2). The Trenton Complex highway project was effectively due to be set directly within the core of the Abbott Farm Site and ultimately spawned one of the largest, most complicated examples of archaeological resource management in the Middle Atlantic region – a protracted slow-motion collision of transportation infrastructure development with a particularly sensitive expanse of natural and cultural landscape, mediated by a cumbersome multi-level bureaucracy still learning – rather, still braiding – the ropes of environmental compliance.

As part of the initial Section 106 compliance, NJDOT and FHWA contracted in 1975 with Louis Berger & Associates, Inc., the engineering consulting firm responsible for the Trenton Complex highway design, for completion of the requisite cultural resource studies. Berger in turn subcontracted with Janet S. Pollak for treatment of prehistoric archaeological resources and with the firm of Historic Sites Research (headed by Edward Larrabee and Susan Kardas) for handling historic sites and structures. Phase I-level surveys

were duly conducted to identify historic and archaeological resources within the limits of the proposed construction corridor. In the case of the prehistoric archaeological studies, Pollak produced a detailed diary of the fieldwork that was undertaken, which included subsurface testing at numerous locations along the highway alignment where buried features and artifacts were documented (Pollak 1975). The detailed results of the Phase I cultural resource investigations were presented in the form of a technical appendix to the project's draft environmental impact statement and as a "case report" (FHWA and NJDOT 1976; Pollak 1977).

An important outcome of this initial round of survey work, directly favoring the preservation of the Abbott Farm Site, was the formal designation of the resource. This critical and overdue step, in effect a classic case of resource designation playing "catch-up" with environmental review, followed the New Jersey State Historic Preservation Officer's issuance of an opinion on December 19, 1975, as part of the Section 106 process, that the Abbott Farm Site met the criteria for eligibility for inclusion in the National Register of Historic Places. Appropriately, given the significance and history of the site, the nomination documentation for what was referred to as the "Abbott Farm Historic District" (confusing terminology considering that this was a prehistoric resource) was prepared by staff of the New Jersey State Museum and the National Park Service (Williams *et al.* 1976). Almost a year later, AFNHL, with only marginally more fitting nomenclature, received its landmark designation from the National Park Service, at which time it was also accepted into the National Register of Historic Places (December 8, 1976; NHL ID #1654; NR Reference #76001158).

In the late 1970s the fate of the landmark with respect to the Trenton Complex was bounced back and forth between several federal and state agencies (chiefly FHWA, the U.S. Department of Transportation, the

National Park Service, the Advisory Council on Historic Preservation, NJDOT and the New Jersey Department of Environmental Protection). Extended discussion took place over how the highway design could be modified to minimize effects on archaeological remains. On August 16, 1979, the designation status of the landmark was cemented at the state level when it was accepted into the New Jersey Register of Historic Places, meaning that the Trenton Complex project would now also be subject to review under the New Jersey Register of Historic Places Act of 1970. Emphasizing the significance of the resource, the New Jersey State Historic Preservation Officer issued a second confirmatory opinion of National Register eligibility on November 6, 1979.

It is worth noting that, at this juncture, the planning for the highway construction had reached a relatively developed stage with little room for adjustment of road alignments, while the designation of the landmark took in a vast area of land of almost 2,000 acres, including several tracts of housing, Independence Mall, a number of commercial strips, transmission lines, roads, a sewage disposal plant and other infrastructure, the construction of much of which had likely compromised or removed soils of archaeological interest. In retrospect, while sufficient funding was not made available to accomplish this at the time, a more rigorous and judicious delineation of the landmark boundary, particularly on the bluff top, might well have brought greater clarity to defining the archaeological implications of the Trenton Complex and accrued to the long-term benefit of local land use regulation in Hamilton and Bordentown townships.

After the initial cultural resource surveys and the designation of the landmark, it rapidly became apparent that the Trenton Complex highway project could have an immense impact on cultural resources, including both historic architectural properties and prehistoric and historical archaeological resources, and that further evaluation and mitigation of the project's effects

would be necessary. As a direct consequence of this realization Louis Berger & Associates, Inc. in 1980 established its own archaeology and historic preservation section within the structure of the larger engineering corporation, a department that continues in existence to this day. The Cultural Resource Group of Louis Berger & Associates, Inc. thus undertook all subsequent historical and archaeological activity related to the Trenton Complex project.

Throughout the late 1970s and early 1980s, FHWA, NJDOT and Berger continued with the full range of environmental compliance work required under NEPA with the historical and archaeological studies serving as one of the most critical subsets of activity. The final environmental impact statement for the project was completed and formally submitted in January 1981. With considerable uncertainty still surrounding the character and extent of archaeological remains within the project corridor, Berger archaeologists in 1981-82 conducted more focused Phase II cultural resource surveys along the various alignments of the Trenton Complex, evaluating specific historic and archaeological resources in greater detail (Louis Berger & Associates, Inc. 1983a). Following on from this and in coordination with the predecessor agencies of today's New Jersey Historic Preservation Office (first the Office of Cultural and Environmental Services; then the Office of New Jersey Heritage), Berger on behalf of NJDOT and FHWA formulated mitigation plans for individual archaeological sites both within and outside the landmark that could form the basis for an overarching Memorandum of Agreement between the key state and federal agencies involved with the Trenton Complex (Louis Berger & Associates, Inc. 1983b).

Beginning in May of 1982 at the Shady Brook Site, a series of Phase III data recovery excavations were carried out at ten different Native American sites that lay within the path of the Trenton Complex and which were judged to meet the National Register of Historic

Places eligibility criteria (Figure 5.8; Table 5.2). Three of the ten sites, the Shady Brook, Groppe's Lake and Bordentown Waterworks sites, lay outside the landmark boundaries. Of the seven within the landmark, four were located on the bluff top (the White Horse West, Carney Rose, Lister and Abbott's Lane sites) and three were in the lowland (the Area B, Area D and Sturgeon Pond sites). The bulk of these data recovery excavations were completed between the fall of 1983 and late 1985. A supplementary phase of data recovery work was completed in 1989 at the Area D Site where deeply buried deposits below the present-day water table produced important new evidence of Archaic period occupation in the tidal wetland portion of the landmark.

The Berger excavations of the 1980s were nothing like as extensive as those carried out by Volk or by Cross and the Indian Site Survey. The actual placement of the excavations was dictated by the limits of the proposed highway-related ground disturbance and by the exigencies of the environmental impact review process. However, with the increasing sophistication of archaeological excavation and analytical techniques over the course of the 20th century, the Berger investigations were carried out in a more exacting and scientifically rigorous manner than the earlier work within the AFNHL and have generated valuable new data and new insights. Considerably more attention was given to controlled methods of excavation and recording, to quantitative analysis of artifacts, to paleoenvironmental reconstruction, and to geomorphological and sedimentological studies. Advantage was also taken of recent advances in archaeometry with carbon-14 dates being derived for several key levels and features.

In 1996 a 15-volume series of technical reports was published by the Cultural Resource Group of Louis Berger & Associates, Inc., which detailed the results of the more than two decades of archaeological study undertaken in connection with the Trenton Complex.

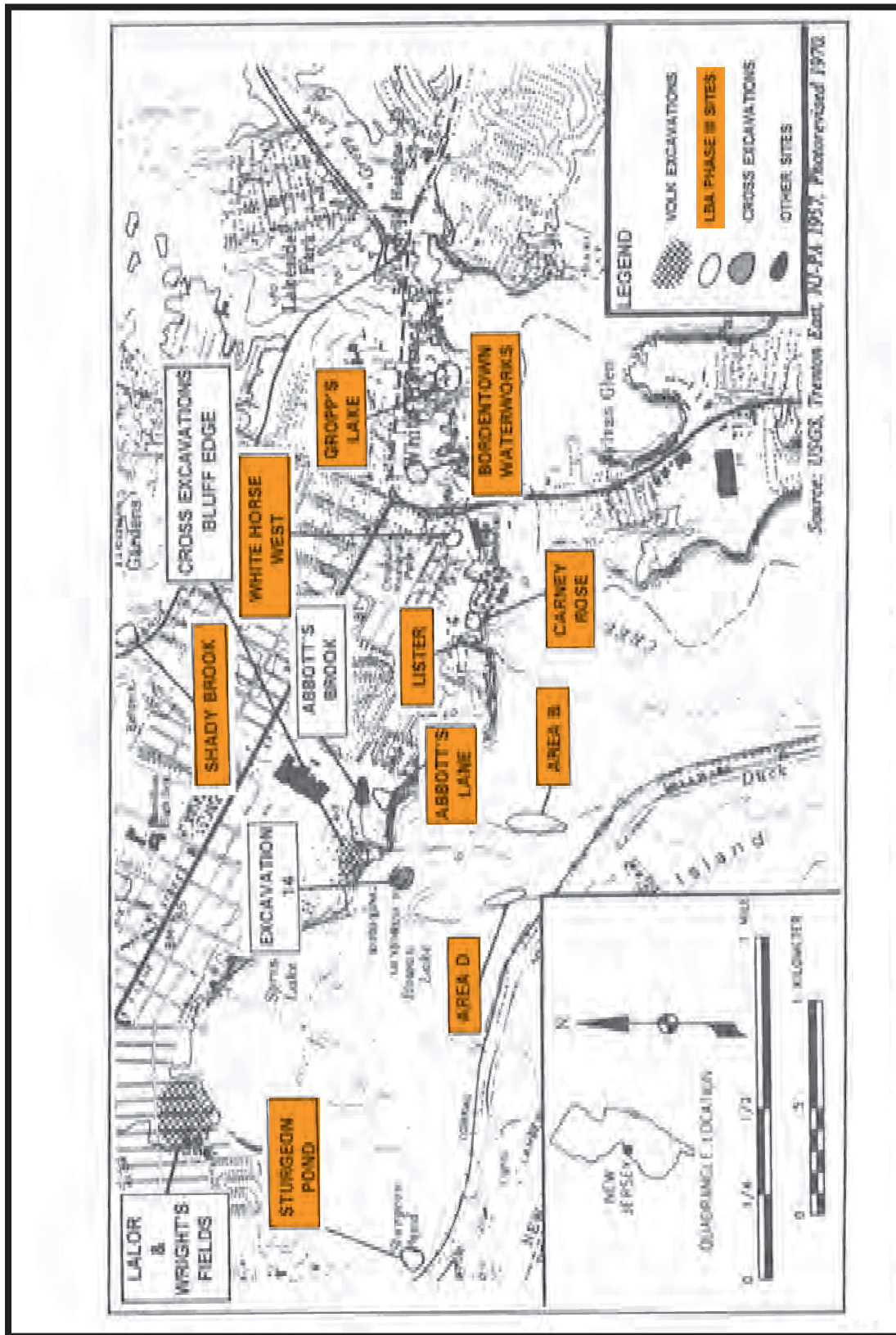


Figure 5.8. Locations of Prehistoric Archaeological Sites Subjected to Phase III Data Recovery Excavations by the Cultural Resource Group of Louis Berger & Associates, Inc. in connection with the Trenton Complex (Source: Wall *et al.* 1996a:2).

TABLE 5.2. SUMMARY OF PREHISTORIC ARCHAEOLOGICAL SITES SUBJECTED TO PHASE III DATA RECOVERY EXCAVATIONS PRIOR TO CONSTRUCTION OF THE TRENTON COMPLEX													
Site Name	Site #	Within AFNHL	Setting	Date Excavated	Lead Investigator	Cultural Period							Reference
						P*	EA	MA	LA	EW	MW	LW	C
Shady Brook Site	28Me20/28Me99	no	upland interior	May-July 1982	Michael Stewart				x	x	x	x	
White Horse West Site	28Me116	yes	bluff rim	October-November 1983	Douglas McLearen				x	x	x	x	
Gropp's Lake Site	28Me100G	no	bluff rim	October-November 1983	Michael Stewart				x	x	x	x	
Carney Rose Site	28Me106	yes	bluff rim	October-November 1983	Robert Foss			x	x	x	x	x	
Lister Site	28Me1-A	yes	bluff rim	October-November 1983	Michael Stewart				x	x	x	x	
Bordertown Waterworks Site	28Me37	no	bluff rim	October-November 1983	Douglas McLearen				x	x	x	x	
Abbott's Lane Site	28Me1-I	yes	bluff rim	July-September 1984	Philip Perazio				x	x	x	x	
Area B	28Me1-B	yes	lowland	August-December 1984	John Cavallo				x	x	x	x	
Sturgeon Pond	28Me114	yes	lowland	July-October 1985	Michael Stewart				x	x	x	x	
Area D	28Me1-D	yes	lowland	summer/fall 1985; summer/fall 1989	John Cavallo; Michael Stewart			x	x	x	x	x	

Source: Wall et al. 1996a; *Abbreviations: P - Paleo Indian, EA - Early Archaic, MA - Middle Archaic, LA - Late Archaic, EW - Early Woodland, MW - Middle Woodland, LW - Late Woodland, C - Contact

In addition to the ten volumes that comprise individual site reports (Table 5.2), this series contains: a volume on the Delaware and Raritan Canal dealing with the survey and excavation of Locks 4 and 6A (Louis Berger & Associates, Inc. 1996); a volume summarizing work at several historic sites within the project corridor (four farmsteads sites, a mill site and some submerged Revolutionary War vessels) (Louis Berger & Associates, Inc. 1998); a volume that presents a typological and technological framework for the analysis of stone artifacts from the Abbott Farm Site and surrounding area (Wall *et al.* 1996c); a volume that presents a synthesis and analysis of Native American ceramic types represented at the Abbott Farm Site (Stewart 1998); and a final volume that presents a “prehistoric archaeological synthesis” for the entire program of Trenton Complex archaeological work (Wall *et al.* 1996a). Other non-technical, educational products from the Trenton Complex cultural resource compliance work are *The Turtle Stone: The Legacy of the Abbott Farm* video and teacher’s guide (for use in the 4th to 8th grades) and a 24-page booklet oriented to general readers.

Viewed as a whole, the Trenton Complex work has contributed substantively to our knowledge of the AFNHL and helped to clarify the main types of Native American activity taking place in lowland and upland settings around the mouth of Crosswicks Creek. The basic chronology and material culture of Native American occupation have been characterized with greater confidence, in greater detail and with fresh insights. For example, one of the sites studied in the lowland, the Area B Site, located along a levee bordering Watson’s Creek and Muckey Meadow Creek, has been characterized as a Terminal Archaic and Early Woodland “specialized camp,” seasonally occupied in the early spring for the procurement and processing of anadromous fish (Cavallo 1987). The Area D Site, located nearby, allowed recognition of this same type of activity back into the Middle Archaic period (Wall *et al.* 1996b). On the rim of the bluff

overlooking the lowland, several sites, both within and outside the landmark boundary, have been cast as typical, intermittently occupied transient camps in use from the Late Archaic through Late Woodland times. Excavations at these sites indicated that the most intensive use occurred during Middle/Late Woodland times (e.g., Dumont and McLearn 1986; Stewart 1986b, 1987).

Over the past quarter century, many other archaeological investigations have been conducted within the AFNHL, mostly in response to the dictates of the environmental impact review process. None of these have been of equivalent scale to those performed by Berger for the Trenton Complex, but some have produced important evidence that has contributed to our knowledge of Native American activity in the area. A rich site has been identified in the upland area surrounding the Bordentown Township Sewage Treatment Plant. Referred to as the Mile Hollow Site, this location has been extensively looted by collectors over the years, but has recently been acquired by the State of New Jersey. It has reportedly yielded artifacts of Paleoindian through Late Woodland date (Mounier 1986). On the bluff rim, adjacent to the Lister Site examined by Berger, archaeological survey in advance of planned residential construction identified Late Archaic through Late Woodland remains, as well as a Paleoindian fluted point, at what is known as the Abbott-DeCou Prehistoric Site (Cultural Resource Consulting Group 1993; Bello and Pagoulatos 1995:80-83). Another survey, for the planned Bywater Residential Subdivision, encountered Late Archaic/Early Woodland artifacts on the bluffs overlooking Crosswicks Creek, west of U.S. Route 206 in Bordentown Township (Richard Grubb & Associates, Inc. 2000). Just beyond the limits of the landmark, archaeological survey and data recovery along the recently reconstructed section of N.J. Route 29 between Duck Island and the Amtrak Northeast Corridor rail line have helped to expand the broader context of Native American settlement in the Abbott

Farm area further upstream to the falls of the Delaware and the mouth of Assunpink Creek (Hunter Research, Inc. 1997, 2002).

Currently, two important archaeological projects are in progress within the AFNHL. Within the core of the landmark, a stone's throw from the Isaac Watson House, archaeological investigations are being carried out in advance of soil remediation and new construction at the Abbott Farm Interpretive Center, a new Mercer County facility whose mission is to promote public appreciation of the natural and cultural resources of the landmark. Part of this site lies within the footprint of Dorothy Cross's Excavation 3, but archaeological testing has nevertheless yielded an abundance of Woodland period (predominantly Middle Woodland) artifacts, as well as several suspected Native American burials (Hunter Research, Inc. 2009). On the Point Breeze promontory, just north of Bordentown, Monmouth University is conducting an archaeological field school under the direction of Dr. Richard Veit. While the main focus of this work is the early 19th-century estate and mansions of Joseph Bonaparte, whose historical significance is a world apart from that of Charles Conrad Abbott and the Abbott Farm, excavations are finding ample evidence of Native American occupation that more than justifies the inclusion of this property within the landmark (Veit 2007).

As the Point Breeze excavation activity indicates, there is a wealth of historical archaeological resources within the AFNHL. Interest in the archaeology of the historical period of the United States is mostly a post-World War II phenomenon and began in earnest with the work that was conducted at colonial sites such as Jamestown and Williamsburg in Virginia, and Plimoth Plantation in Massachusetts, in the third quarter of the 20th century. Within the landmark, historical archaeological endeavors effectively commenced with the Trenton Complex cultural resource surveys of the mid-1970s and early 1980s, which considered

several of the bluff-top colonial farmstead sites. One of these properties, the site of the late 17th/early 18th-century Tindall/Pearson Farmstead, was ultimately subjected to archaeological data recovery (Louis Berger & Associates, Inc. 1998). Limited study of other historical archaeological sites in the area has also taken place over the past quarter century, much of it centered on the Delaware and Raritan Canal. With the emphasis of archaeological inquiry so focused on the nationally significant Native American remains concentrated within the landmark, the potential for significant historical archaeological remains often tends to be overlooked. The landmark contains a wide variety of historic sites capable of producing valuable archaeological data of which the most important are probably the bluff-top farmstead nuclei, their associated landings and fishing stations in the lowlands, and the wrecks of several Revolutionary War-era vessels sunk or scuttled in Crosswicks and Watson's creeks during the fight for control of the Delaware River in 1777-78.

In conclusion, while the Abbott Farm area has been the focus of intense professional archaeological and geological scrutiny for close to a century and half, driving much of the early debate over human antiquity in the New World and then more recently receiving rigorous and sophisticated study through the environmental impact review process, it is sobering indeed to reflect on how many archaeological finds have undoubtedly been dispersed into private hands during this period without documentation of provenance and informed analysis. One has only to inspect modern aerial photographs to see how much land has been given over to development and ground-altering land use over the past 80 years or so, and one realizes that vast portions of the landmark are now archaeologically compromised. Especially sad to see on the ground are the acres of pock-marked woodland along the bluff rim, many of them publicly owned and recently disturbed (within the past five to ten years), where shovel-bearing looters have scoured the

landscape in search of salable collectibles. The hope is that, with coordinated public outreach and public education, more and more residents, corporations, public and private institutions, and public agencies will learn to appreciate not only the archaeological and academic value of the landmark, but also its extraordinary potential contributions to the life of the local community. Opportunities abound for using the landmark and its archaeological content as a means of engaging and bringing together the local community in ways that can protect and celebrate the deep and time-wrought landscape it sometimes so heedlessly occupies. AFNHL, imperfect as it may be in terms of pure preservation, still deserves the most sensitive cultural resource management and has a vital future as a shared heritage asset of the highest order.

Chapter 6

SUMMARY OF CULTURAL RESOURCES

An important component of the technical studies performed in conjunction with the interpretive plan centered on compiling basic information on pre-historic archaeological resources, historic architectural resources and historic archaeological resources within and immediately adjacent to the Abbott Farm National Historic Landmark (AFNHL). This task commenced with a comprehensive review of agency files and secondary sources, then proceeded on to a systematic analysis of historic maps and aerial photographs, and finally involved some carefully targeted field inspection. Information on individual resources was organized within a database using MS Access. Resource locations were mapped and in some instances delineated (e.g., historic districts; areas of archaeological investigative activity) using AutoCAD and also exported into ArcView for compatibility with Mercer County's GIS mapping system. Ultimately, two maps were created as ArcGIS files and linked to the database: one covering the AFNHL and the area within a one-mile radius of the landmark (excluding the Pennsylvania side of the Delaware River) that shows the locations of historic sites, archaeological resources and tourism and recreational sites; the other covering an area within an approximate ten-mile radius of the AFNHL (including the Pennsylvania side of the Delaware River) showing the locations of publicly accessible historic sites, museums, parks and wildlife areas in the surrounding region. New Jersey Department of Environmental Protection digital orthoimagery quarter quadrangle (DOQQ) aerial mapping produced in 2002 served as a base for plotting resource locations.

This chapter, with the help of tables generated from the resource database and location maps, gives a brief summary of the cultural resources (prehistoric, his-

toric architectural and historic archaeological) within the landmark boundaries, along with a few additional comments about other resources in the surrounding area. Sample forms from the database are reproduced in Appendix B and show the types of resource information gathered. The full database and related mapping are provided on the DVD accompanying this document.

Also incorporated into the resource database and mapping is information on recreational and tourism sites within an approximate ten-mile radius of the AFNHL. These data, gathered by David Byers, form the basis for a memorandum reproduced as Appendix C in this report. The full body of recreational and tourism data and related mapping are included on the DVD accompanying this document.

A. PREHISTORIC RESOURCES

A total of 31 separate locations within the AFNHL are noted where prehistoric archaeological resources have been identified (Figure 6.1; Table 6.1). Twenty-two of these locations fall within Hamilton Township, Mercer County; nine are within Bordentown Township, Burlington County. Twelve of the 22 Hamilton Township locations are ranged along the bluff top between Riverview Cemetery and White Horse Circle, mostly within 500 feet of the bluff rim overlooking Sturgeon Pond, Watson's Creek and Crosswicks Creek. The remaining ten locations are in the low-land below the bluff, comprising six in the vicinity of Sturgeon Pond and four within Roebling Park on the east side of Watson's Creek. All of the Bordentown