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Task Order 0002

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U.S. Army Corps of Engineers
New York, District
New York, New York

Final Report

PHASE I ARCHEOLOGICAL SURVEY OF FIVE PREVIOUSLY REPORTED SITES (NYSM-4825, NYSM-4826, NYSM-4840, NYSM-4823, AND UB-1260) SENECA ARMY DEPOT ACTIVITIES, ROMULUS, SENECA COUNTY, NEW YORK

August 1998

The Greeley-Polhemus Group, Inc.

105 South High Street
West Chester, Pennsylvania 19382-3226
[610] 692-2224

The Greeley-Polhemus Group, Inc.
105 South High Street
West Chester, Pennsylvania 19382
(610) 692-2224

September 2, 1998

Mr. Tom Enroth, CENAN-PP-M
Seneca Army Depot Activities
Building 115
Route 96
Romulus, NY 14541

RE: DACW51-94-D-0035, Task Order #0002, *"Final Report:* Archeological Survey of Five Previously Reported Sites (NYSM-4825, NYSM-4826, NYSM-4840, NYSM-4823, And UB-1260) Seneca Army Depot Activities, Romulus, Seneca County, New York

Dear Tom:

Enclosed, please find one (1) unbound copy and (4) bound copies of the above referenced report. Thank you for the opportunity to work with the Corps on this important project.

If you have any questions, please call me.

Very truly yours,
THE GREELEY-POLHEMUS GROUP, INC.

Van Dyke Polhemus

Van Dyke Polhemus
President

VDP/dp

Enclosures

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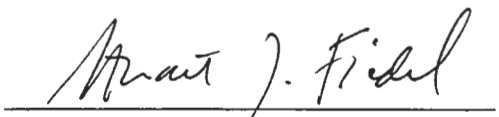
prepared for

The Greeley-Polhemus Group, Inc.
105 South High Street
West Chester, PA 19382

by

Stuart J. Fiedel, Ph.D.



Stuart J. Fiedel, Principal Investigator

John Milner Associates, Inc.

309 North Matlack Street
West Chester, PA 19380

5250 Cherokee Avenue, Suite 410
Alexandria, VA 22312

August 1998

ABSTRACT

An archeological survey was conducted in November, 1995, by John Milner Associates, Inc., within the Seneca Army Depot Activities (SEDA), in Romulus, New York. The purpose of this survey was to attempt to relocate five previously reported prehistoric or protohistoric sites: NYSM-4823, NYSM-4840, NYSM-4825, NYSM-4826, and UB-1260. A total of 223 shovel tests were excavated, accompanied by pedestrian survey. These procedures yielded no indication that these sites are extant. Two isolated prehistoric artifacts were recovered: a chert flake from a shovel test located to the west of reported site UB-1260, and a quartz flake tool found on the surface of a plowed field on the north bank of Kendaia Creek. This tool resembles published examples of Paleo-Indian gravers. In addition to these isolates, a shovel test on the north side of West Romulus Road yielded animal bones and a nineteenth-century nail, probably debris associated with the Jacobus houses, attested by 1874 at this location. No additional investigations of the prehistoric sites are recommended. However, more complete assessment of the historic remains could be undertaken as part of a broader survey of nineteenth-century sites within SEDA.

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1.0 INTRODUCTION

1.1 Purpose of the Investigations

As part of its ongoing program of evaluating its hazardous waste management practices, the Army is performing numerous investigations at various sites within Seneca Army Depot Activities (SEDA), Romulus, Seneca County, New York. These investigations are being conducted to determine whether contamination releases have occurred and, if so, to what extent contamination has been released. SEDA was included on the Federal Facilities National Priorities List (NPL) on July 13, 1989, because of contamination at both the Ash Landfill and Open Burning Ground areas of the installation. It is the policy of the Environmental Protection Agency, Region II, to consider other regulatory areas, including the effect of this work on cultural resources, during the investigation of NPL sites under CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980).

As an agency of the Federal government, SEDA has certain responsibilities for the protection and preservation of cultural resources located on SEDA property. Federal statutes and regulations (including Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended; Executive Order 11593, and the Advisory Council on Historic Preservation's "Procedures for the Protection of Historical and Cultural Properties [36 CFR Part 800]) require the identification and evaluation of cultural resources for their eligibility to the National Register of Historic Places (NRHP), and the mitigation of any adverse effects on NRHP-eligible resources.

An archeological overview and management plan was developed for SEDA outlining the history and prehistory of the land encompassed by the installation (Klein 1986). To date, however, no installation-wide survey has been conducted to determine the archeological potential of SEDA. This investigation is part of a phased effort to complete an archeological survey of the entire installation. The specific purpose of this survey, as initially defined, was to attempt to relocate three of four known archeological sites previously recorded within the boundaries of SEDA (see below). The survey was designed to determine whether any traces of the previously reported sites were present at the locations indicated in state files, or at topographically plausible locaions in the immediate vicinity. This determination would assist SEDA in fulfilling its management responsibilities under Section 110.

John Milner Associates, Inc. (JMA), under subcontract to the Greeley-Polhemus Group, Inc., was contracted to conduct an archeological survey of the presumed locations of these sites. The JMA project team included Dr. Robert G. Kingsley, Project Manager, Dr. Stuart J. Fiedel, Principal Investigator, and five field assistants. Prior to initiating fieldwork, JMA's background research revealed that two additional prehistoric sites were believed to exist within the project area, and that the presumed location of one of the reported sites had been changed as a result of ongoing reassessment of site files by the New York State Museum. The scope of field investigations was modified accordingly.

To assess the archeological resources of the project area, JMA conducted several tasks. These tasks included background research, field investigations, laboratory processing, data analysis, and report preparation. The following report sections present: a description of the project area, results of the background research including a discussion of the cultural context, field and laboratory methods, survey results, data analysis, and interpretive summary and management recommendations. References cited, figures, plates, and an appendix complete the report.

1.2 Description of the Project Area

SEDA is a United States Department of the Army facility located in Romulus, Seneca County, New York (Figure 1). The depot occupies about 10,600 acres, bounded on the west by State Route 96A and on the east by State Route 96. The cities of Geneva and Rochester are located to the northwest; Syracuse lies to the northeast and Ithaca is to the south.

SEDA is comprised of a main storage area of underground igloo-type magazines, above-ground magazines, a headquarters area, operative maintenance and service facilities, a housing area, rail facilities, and an airstrip. The SEDA mission includes operation of a depot for receipt, storage, issue, maintenance, demilitarization, and disposition of weapons and ordnance. The depot also provides administrative, handling, and warehousing services for the General Services Administration and Defense Logistics Agency.

SEDA is situated between Seneca Lake and Cayuga Lake. It lies at the border of two physiographic provinces: the Erie-Ontario-Mohawk Plain to the north, and the Appalachian Plateau to the south. The underlying bedrock, part of the Devonian-age Marcellus and Skaneateles Formation, is a soft black shale, interbedded with fine laminae of limestone. The same Pleistocene glacier that gouged out the beds of the Finger Lakes also deposited till atop the bedrock. Soils of the Darien-Angola association (deep, poorly drained silty to clayey loams) developed from the glacial till in the uplands, and Honeoye-Lima soils (deep, well-drained heavy silt loams and loams) developed in tills along the shore of Seneca Lake (Hutton 1972:135-136). Topography of most of the facility area is flat to rolling, but deeply incised, steep slopes are present along the lake shore. The elevation ranges from 450 feet AMSL along the shore to 760 feet near the summit of the interlacustrine ridge at the eastern boundary of SEDA. Approximately one third of the facility is forested and the surrounding area is used for farming.

Soil types occurring within the areas surveyed include Cazenovia silt loam (CeB), Darien silt loam (DaA), Darien-Danley-Cazenovia silt loam (DdB), and Romulus silty clay loam (Ro) (Hutton 1972). The topsoil or plowzone (Ap horizon) is generally 8 to 10 inches (17 to 25 cm) deep (Hutton 1972:95). It is underlain by a thin A2 horizon. A subdivided B horizon extends from 10 to 29 inches. Shale bedrock is normally encountered between 40 and 72 inches below surface.

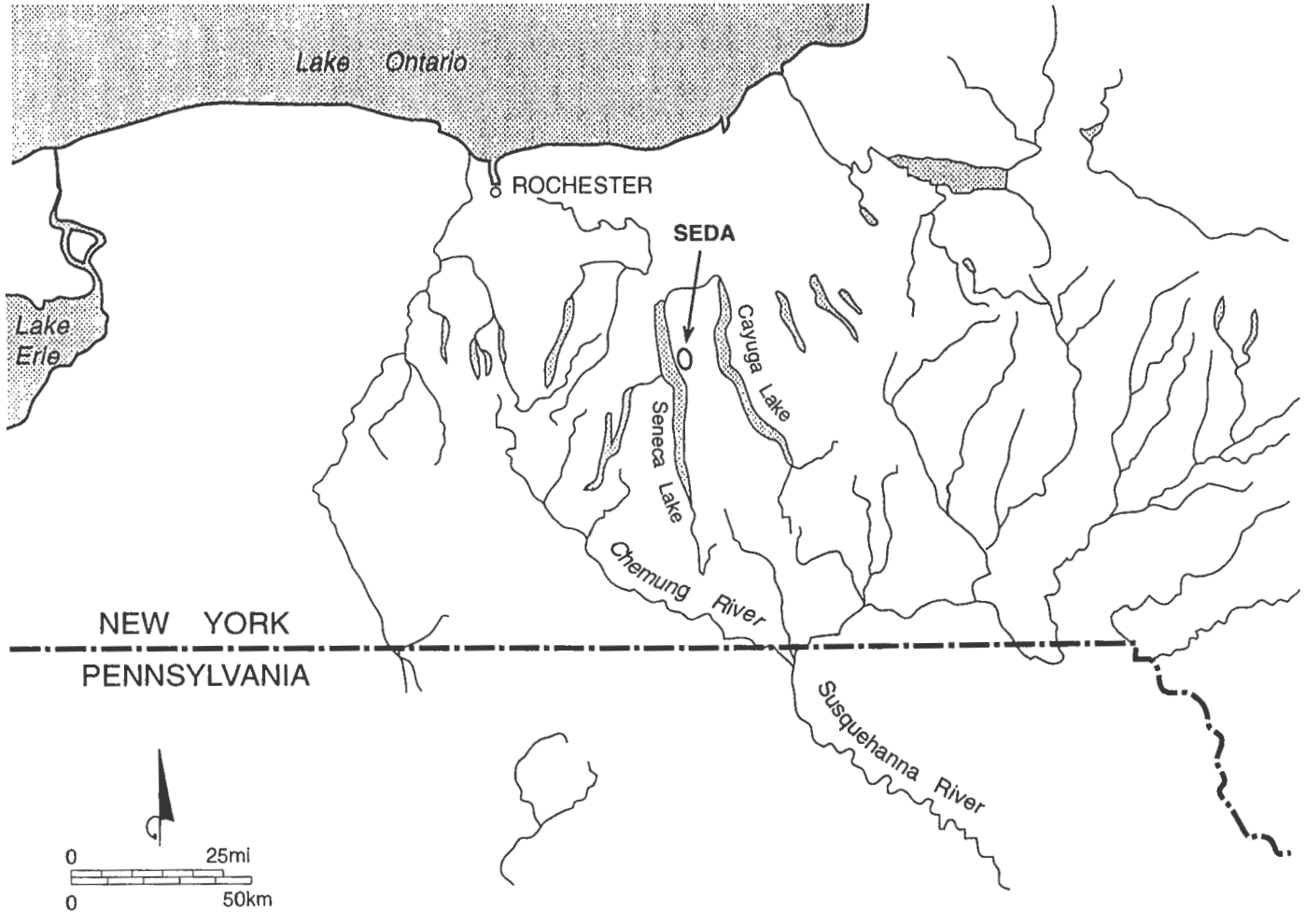

Figure 1. Map of central and western New York, showing location of Seneca Army Depot Activities (SEDA).

2.0 BACKGROUND RESEARCH

Background research was undertaken to determine the possible locations and the cultural context of three sites originally reported in the management plan (NYSM-4825, NYSM-4826, and UB-1260). The primary focus of this research was a review of previous investigations (Klein 1986, Oberon 1995). This task also included review of the state site files, historic maps, local histories, published and unpublished archeological reports, and in-field interviews with local informants. Research in the New York State Museum files disclosed the possible presence of two additional sites, NYSM-4840 and NYSM-4823, within the boundaries of SEDA.

2.1 Previous Research

NYSM-4826 is mapped and recorded in files of the New York State Museum. Klein (1986) identifies this as the Seneca County site, no. 13, reported by William Beauchamp in 1900. Parker (1922) also lists it by the same number. Beauchamp (1900:146) reports this as an "early" site with hearths, "relics" and European artifacts found in the vicinity. The NYSM files also mention shell pits (Klein 1986:4-4). The approximate location of NYSM-4826 is given in the management plan as the north bank of Kendaia Creek, west of the present site of Kendaia (Figure 2). However, Beauchamp (1900:146) describes the site as "west of Kendaia on either side of the mouth of the ravine". This description seems to apply better to the reported site now designated as NYSM-4823, since the mouth of the ravine would seem to imply a lakeside location. However, the revised State Museum map now shows NYSM-4826 as lying south of the creek, some 4000 feet southeast of its former presumed location (Figure 3).

UB-1260, the "Hunt site", is recorded in files of the New York State Archaeological Survey at SUNY Buffalo. This site has been identified as the village site reported by Beauchamp (1900:145) as located on Lot 67, about two miles southwest of Romulus (these numbered lots are derived from the original grid established by surveyors in the late eighteenth century). Beauchamp noted "abundant pottery", while Aldenderfer (formerly at SUNY Buffalo) has reported pipe bowls and stone tools, including triangular points. The latter informant also linked this site with the Hunt farmstead and Bunker 1525 (Aldenderfer 1983, cited by Klein 1986:4-4). Inez Hoffman (personal communication) has located a letter in the files of Cornell University, dated 1879, describing the finding of intact aboriginal pottery vessels and effigy pipes on the J. H. Hunt farm. Although the numbering scheme for the ammunition bunkers has changed, "Bunker 1525" can be identified as one of the igloos in the present "C block". The 1874 map of the area (Nichols 1874) shows a house belonging to Mrs. J. Hunt, on the south side of the road that bisects Lot 67 into northern and southern halves (Figure 4). The Hunt site was probably located somewhere between this house and Kendaia Creek.

The abundant ceramics, pipes, and triangular points reportedly found at UB-1260 are clear indicators that the predominant component of this site dates from the Late Woodland, ca. A.D. 900-1600.

NYSM-4825 is located near the head of a tributary of Reeder Creek, south of the "B" bunkers. No additional information is available on this site. Klein (1986) notes that it seems to be far enough from UB-1260 not to have been confused with the latter site. Site 4825 is designated as a historic-period archeological site by Klein (1986).

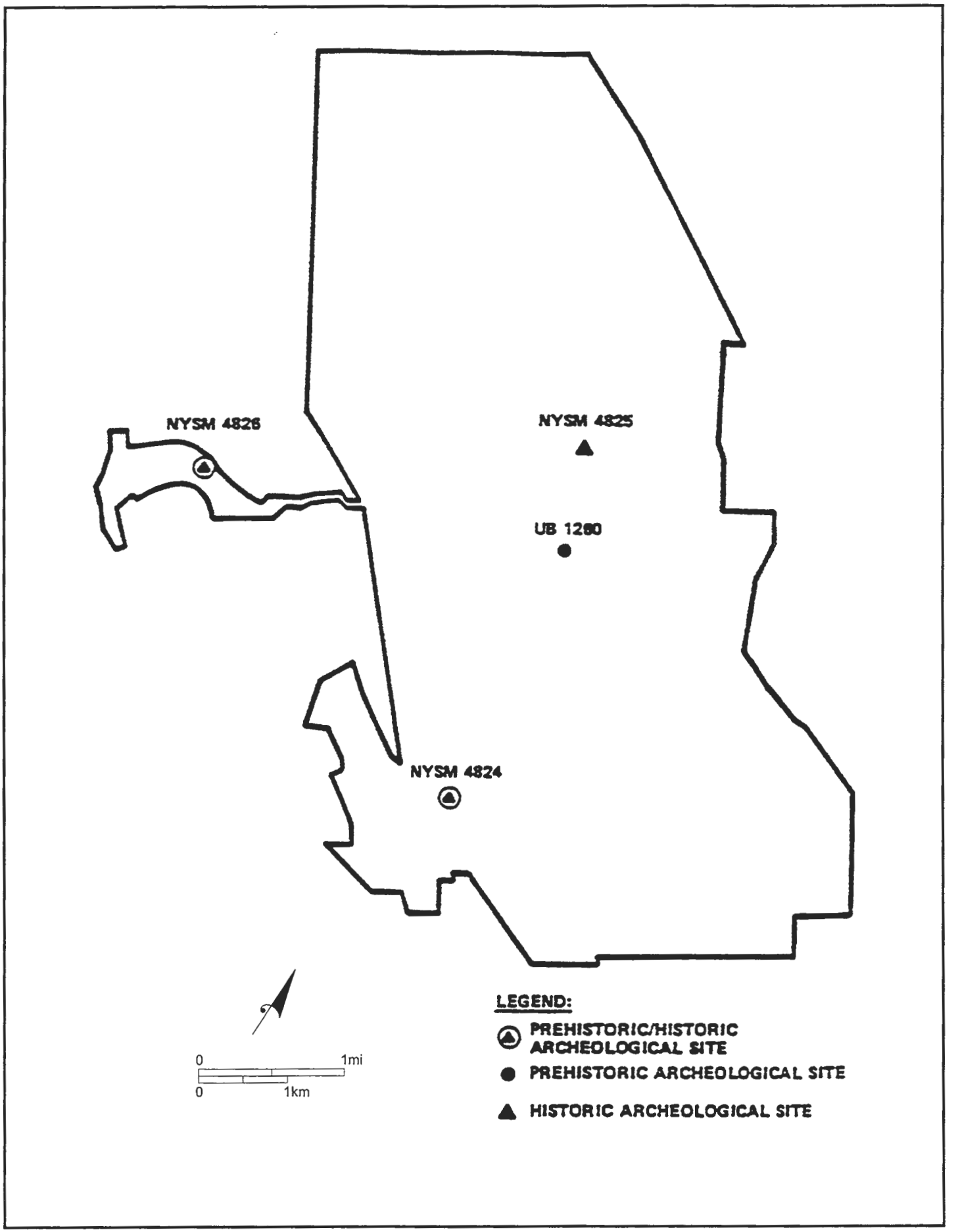

Figure 2. Locations of reported sites as depicted in SEDA management plan (Klein 1986 map).

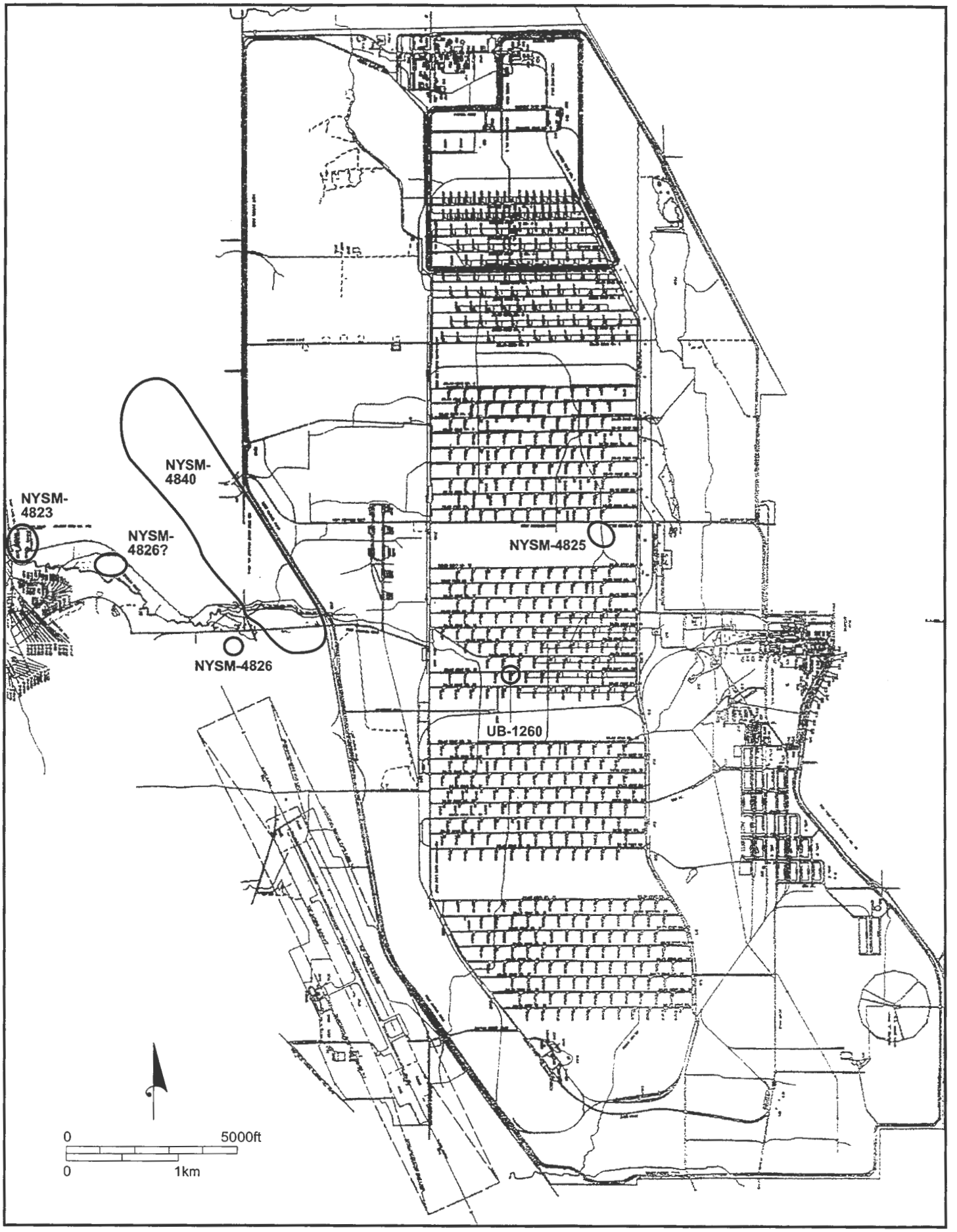

Figure 3. Reported locations of prehistoric sites.

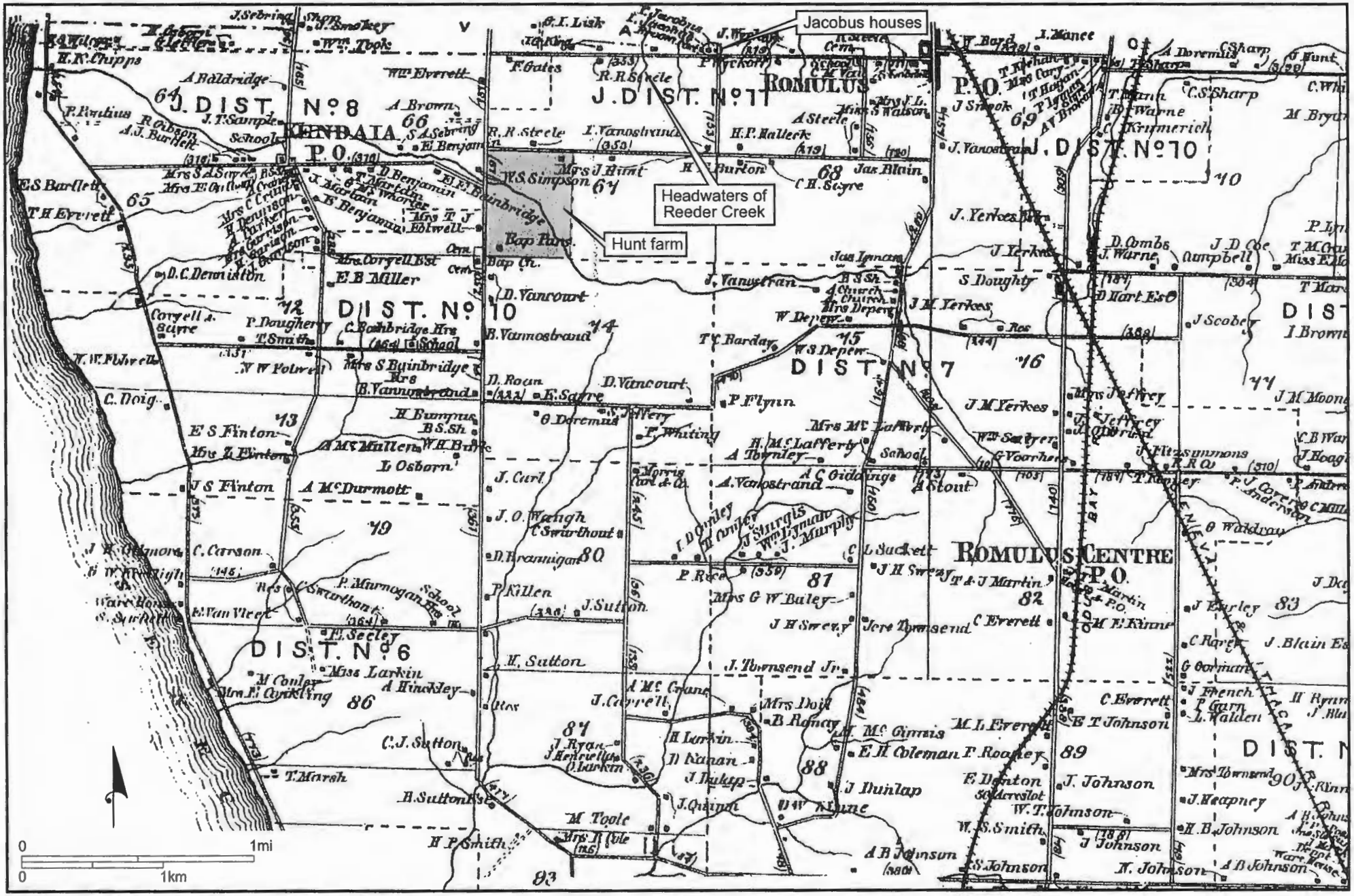

Figure 4. Nichols (1874) map showing Hunt Farm, Jacobus houses, and Reeder Creek headwaters.

The recently revised State Museum map shows two additional Parker sites within the boundaries of SEDA. Site NYSM-4840 comprises "traces of occupation" covering a broad area west of the railroad tracks that define the western boundary of the depot. This site, as mapped, crosses the narrow westward extension of the depot, encompassing the banks of Kendaia Creek (Figure 3).

Another site, NYSM-4823, is now thought to be located at the lakeshore, near the northern edge of the same western prong of SEDA (Figure 2). Parker listed it as a "camp". This may be the same site listed by Beauchamp (1900:145) as his no. 11, "a small site on Lot 64, Romulus. Few relics". The course of Kendaia Creek, west of Route 96A, lies within Lot 64.

Shovel-testing conducted by Oberon (1995) as part of a Phase I study of the area of the ash landfill, approximately one mile southwest of the Hunt site, identified a small prehistoric site. Covering about 30.5 by 18 meters, this site yielded chert artifacts: 2 cores, 46 pieces of debitage, and 2 unfinished points. One point is identified as a probable Vosburg, the second as a Meadowood point (Oberon 1995:38). If these identifications are correct (the artifacts are not illustrated), they would imply two episodes of occupation, one at about 3500-2500 B.C., another about 1200-500 B.C. Vosburg points are most common in the mid-Hudson Valley; in central New York, notched Brewerton points are the contemporaneous type. Both corner-notched and side-notched points occur in Brewerton assemblages, so the most parsimonious interpretation of this small site is that it represents a small, single-episode camp belonging to this complex. It is important to note that Oberon's finds were all recovered within 8 to 12 inches (20-30 cm) from the surface.

In view of the difficulties that JMA's field team was to encounter in the attempt to "ground-truth" the State Museum sites, it is pertinent to note the following description of Arthur C. Parker's *modus operandi*:

> Some of [his] information derived from primary field survey, but most came from local informants and artifact collectors. The results of this work are reported in Part 2 of his 1922 publication, *The Archaeological History of New York*. Although Ritchie (1974) describes this volume as "a virtual copy of Beauchamp's (1900) *Aboriginal Occupation of New York*," files in the State Museum and State Archives are filled with Parker's voluminous correspondence with interested citizens concerning site locations and the kinds of artifacts that were found. Parker's activity reports to the Museum director also chronicle Parker's efforts, while in the field running excavations, to contact local informants about possible site locations.
>
> Many archaeologists working in New York now use the term "Parker site" in an almost technical way to refer to a site of unsure location or existence, but it is actually quite unfair to apply such negatively charged judgments to Parker's work (Bender and Curtin 1990:13). Parker clearly states that the majority of the information had been derived from informants and that it was not possible for him to field check every reported site location. As such, the maps and descriptions were never intended to be precise, but were instead the best means Parker had at his disposal, given limited time and resources, for beginning to characterize the distribution of sites across the state. As such, "Parker sites" should be regarded as "tips" or clues to possible site locations. Of course, in many cases, many of these tips now can never be verified as the land has been forever altered (Sullivan 1992:5).

2.2 Informant Interviews

JMA personnel interviewed several people living in the vicinity of SEDA. Mrs. Joyce Klemann currently occupies a house on the north side of SEDA's western prong, along Kendaia Creek. She has lived there for 20 years, and formerly owned the land adjacent to SEDA property, part of reported site 4840. She could recollect no discoveries of artifacts in the plowed fields. Mrs. Klemann sold the fields to Mr. William Hudson of Romulus. Mr. Hudson, a lifelong resident of the area, also recalled finding no artifacts in the fields. This information is particularly significant, because Hudson and his wife are quite interested in local Native American history. They believe that an Indian camp existed on the shore of Seneca Lake, south of the Kendaia Creek ravine (rather than north, as the State Museum map indicates). They stated that a farmer had discovered artifacts when plowing the area where Army-owned trailers are located today, southwest of Scorpion Road. Several members of the depot security staff were curious about the field investigations. Although they had heard of archeological finds in the region, and could name local collectors, none was aware of any discoveries within the depot boundaries.

2.3 Prehistoric Context

The reported presence of triangular points, ceramics, and pipes, at UB-1260, and items of European manufacture at NYSM-4826, suggests that the former site was late prehistoric image and the latter may have been protohistoric. The existence of a historic Seneca community in the general vicinity is well documented, as their village of Kendaia was destroyed by Sullivan's punitive campaign of 1779. The site of Kendaia, designated as NYSM-4824, is reportedly located within SEDA, but its relocation is not part of the present survey effort.

Oberon's identification of a probable Late Archaic site at SEDA raises the possibility that comparably early material may also be present within the surveyed area. Suitable habitation spots, such as well-drained flats along streams, attracted human occupation continually throughout prehistory. Early archeologists such as Beauchamp worked with a preconception of Indian occupation as relatively recent, and had neither the stratigraphic nor typological means for discriminating earlier from later components of a site. The potential for multicomponent sites warrants the following discussion of the regional cultural sequence.

The prehistoric cultural sequence for central New York is divided into seven periods: Paleo-Indian (11,000 to 8000 B.C.), Early Archaic (8000 to 6500 B.C.), Middle Archaic (6500 to 3000 B.C.), Late Archaic (3000 to 1000 B.C.), Early Woodland (1000 B.C. to A.D. 300), Middle Woodland (A.D. 300 to A.D. 1000), and Late Woodland (A.D. 1000 to 1600).

2.3.1 *Paleo-Indian (11,000 to 8000 B.C.) and Early Archaic (8000 to 6500 B.C.)*

The earliest convincingly attested occupants of the Northeast were Paleo-Indian hunters, who arrived around 11,000 B.C. in calibrated years (equivalent to 9000 B.C. in radiocarbon years). They came at a time of radical climate change at the end of the Wisconsin glacial; as the ice sheets melted and receded northward, spruce-dominated boreal vegetation was replaced by a northward expansion of deciduous forest, and animals migrated to new ranges or were driven to extinction. The diagnostic Paleo-Indian artifact is the basally fluted, lanceolate Clovis point; typically associated tools include scrapers and gravers for working hides and bones. In the high

Plains of the western U.S., Clovis points have been found at kill sites alongside the skeletons of mammoths. No unequivocal evidence exists of mammoth or mastodon hunting by Eastern Paleo-Indians, even though radiocarbon dates show that mastodons persisted in the East at least as late as 9000 B.C. Examples of late glacial mastodons in central and western New York include one from Kings Ferry, Cayuga County, dated to 11,410 ± 410 B.P. (ca. 9450 B.C.), and another found 80 miles to the west, near Byron, Genesee County, dating from 10,450 ± 400 B.P. (ca. 8490 B.C.) (Ritchie 1965:13). A few Paleo-Indian artifacts have recently been recovered in the same deposits with mastodon and other extinct fauna at the Hiscock site, in Genesee County, northeast of Batavia (Laub et al. 1986), but the association does not demonstrate human predation. The few odd bits of identifiable calcined bone that have been recovered from Eastern Paleo-Indian sites suggest hunting of caribou or other cervids by the more northern bands; deer may have been a staple in the diet of more southern groups. Finds at the Shawnee-Minisink site in the Delaware Valley show that the Paleo-Indian diet also included fish, berries, and fruits.

Population density must have been very low, perhaps on the order of 0.0125 to 0.0250 persons per square mile (Turner 1989). High-quality cherts and other cryptocystalline rocks were the preferred lithic materials for the manufacture of Paleo-Indian stone tools, and quarries for these materials may have been central foci in the annual movements of Paleo-Indian bands. The presence of numerous tools made of Onondaga chert, from western New York, at the Shoop site in central Pennsylvania, some 130 miles south of the chert outcrops, shows how expansive the yearly range of Paleo-Indian bands must have been.

No Paleo-Indian artifacts are reported from the eastern shore of Seneca Lake. Two clusters of fluted point loci occur to the northeast of Cayuga Lake. The Potts site, in southern Oswego County, is the only known Paleo-Indian site in the region (Ritchie 1965:22; Gramly and Lothrop 1984).

Stylistic variations in fluted points in the eastern woodlands suggest gradual change and regional differentiation over time, from an original ubiquitous Clovis or Early Paleo type, through the Mid-Paleo Quad, Cumberland, and Debert types, to the Late Paleo Dalton and Hardaway types (Gardner 1989). The small number of Dalton points in the Northeast may indicate a population collapse between 8500 and 8000 B.C.; this might be related to the sudden relapse to cold glacial climate during the Younger Dryas episode.

After 8000 B.C., the regional population seems to have rebounded slowly. A marked stylistic change is evident in the projectile points of the early Early Archaic (8000-7300 B.C.); the diagnostic Palmer, Kirk and Amos types are corner-notched instead of basally thinned. The meaning of this change in hafting technique is unclear; since the spearthrower or atlatl was probably already used by Paleo-Indians, the new point styles cannot indicate its introduction, as has been speculated. Side-notched points of the Warren, Big Sandy and Kessel types appear by 7300 B.C., and Kirk Stemmed points were being made a few centuries later. These Early Archaic point types are nearly absent from central New York. Ritchie (1971) and Fitting (1968) attributed this absence to the post-glacial prevalence of a closed boreal coniferous forest that supported few herd animals of interest to hunters, and also provided few nut-bearing tree species for human exploitation. Recent paleoecological evidence weighs against this explanation, in that Paleo-Indians seem to have adapted to boreal forests, rather than the open tundra formerly envisioned as the periglacial environment (Custer 1990), and deciduous trees such as oak appear to have colonized northern areas more rapidly than had been thought (Dincauze and Mulholland 1977). Excavations at deeply stratified sites on terraces of the Upper Susquehanna in Delaware County have recovered Kirk-like points with associated radiocarbon dates of ca. 7500-6500 B.C. (Funk and Wellman 1984). However, the regional occurrence of Early Archaic diagnostic artifacts is

3.0 FIELD AND LABORATORY METHODS

3.1 Field Methods

Field investigations were conducted during November, 1995, by a six-person JMA team, accompanied by two site safety and health officers from Smith Environmental Technologies Corporation. The survey was designed to determine whether any traces of the previously reported sites were present at the locations indicated in state files, or at topographically plausible locaions in the immediate vicinity. The field investigations included pedestrian survey within the ravine of Kendaia Creek and along the edges of adjacent plowed fields, and the systematic excavation of shovel tests (Figure 5). Fieldwork was adversely affected by unanticipated snowfall between November 13 and 16, which left some six inches of snow on the ground. Fieldwork was discontinued when melting snow rendered the topsoil too muddy for effective screening. By that time, the most critical areas, corresponding to the mapped site locations, had already been tested.

Shovel tests were usually excavated at 20 meter (m) intervals along parallel transects. However, on a judgmental basis, individual tests were sometimes located in areas of particular concern or apparent potential. On the other hand, where prior disturbance was evident, for example in the spaces between igloos, tests were not excavated. No shovel tests were excavated in areas that were too swampy or contained standing water. Shovel tests measured ca. 40 centimeters (cm) in diameter and were excavated into sterile subsoil or to the water-table. Oberon's (1995) previous findings indicated that cultural material would be unlikely at depths below 30 cm. Prior to excavation, each test location was inspected by the safety and health officers, who used a photoionization detector to check for volatile compounds in the air, and a magnetic locator to identify buried metallic objects that might be unexploded ordnance.

Soil matrices were screened through one-quarter-inch hardware cloth to ensure uniform recovery of cultural materials. Information on each shovel test was recorded on standardized forms and included the location, setting, and provenience of the shovel test; the number and type of artifacts; Munsell soil color designations (Munsell 1990); and soil texture descriptions according to standard scientific nomenclature. Whenever possible, shovel tests were excavated stratigraphically, with artifacts from different soil matrices bagged separately.

3.2 Laboratory Methods

Artifacts recovered during the field investigations were placed in polyethylene bags and labeled with the proper excavation proveniences. Upon completion of the field investigations, the artifacts were returned to the JMA laboratory in Alexandria for cleaning, cataloging, and analysis. Artifacts were cleaned according to standard archeological procedures. Lithics and ceramics, with chemically stable surfaces, were washed in warm water, while artifacts with unstable surfaces, such as bone, were dry-brushed once their surfaces were stabilized by drying. Artifacts were classified by relative time period, material of manufacture, and function.

Figure 5. Excavation of shovel test on south side of West Romulus Road.

4.0 SURVEY RESULTS

Archeological investigations within the project area did not identify any prehistoric sites that would correspond to those mapped by Parker and the SUNY Buffalo survey. A total of 223 shovel tests were excavated. In only one of these, ST 1 of Transect 14, was a probable prehistoric artifact found, a small proximal flake fragment of glossy, grey Onondaga chert. Radial tests surrounding this find recovered no additional artifacts.

Testing was initially concentrated in areas that had been designated as likely site locations in the management plan and/or State Museum files (Figure 6). An ammunition igloo, no. C0804 on Igloo Road no. 22, was identified as the former Bunker 1525, which had been mentioned as the location of the Hunt site, UB-1260 (Figure 7). Based on aerial photographs of igloo construction in 1941 (Figures 8-10) examined in the depot environmental office, the immediate vicinity of each structure, and the area between them, had been extensively disturbed by excavation and grading. However, the southern half of each row seems to have been left relatively undisturbed; in some areas, trees were still standing when construction was finished. In light of this information, the areas between igloos were not tested, but the open areas behind them, to the south, were tested. Two north-south rows of tests (transects 4A and 4B) were excavated, at 20-m intervals, west of the former 1525 bunker (Figure 11). No artifacts were discovered in any of these tests. The upper, A stratum, generally extending to 14-20 cm below the surface, was a very dark greyish brown (Munsell 10YR3/2 or 4/2) silt or clay loam. The underlying B stratum was a brown or yellowish brown (2.5Y6/2 or 10YR6/4) clay loam or clay (Figure 12). In several tests (4B.1, 2, and 4), shale bedrock was encountered between 18 and 26 cm below surface. Excavation of the other tests terminated at 35-45 cm below surface. It is noteworthy that two semi-articulated, somewhat weathered cow skeletons were found near the surface in the area south of Igloo Road no. 23. Their condition appeared to be consistent with deposition when the area was still farmed, prior to 1940.

Judging from the 1874 map (Figure 4), the igloo identified as Bunker 1525 is situated near the former eastern boundary of the Hunt property. As the site was reported to be on the Hunt farm, and the 1879 letter describing the site also mentions the former Baptist parsonage (Inez Hoffman, personal communication) depicted to the west of the farm on this map, it was logical to focus testing on the area to the west of the igloo. Apart from the documentary evidence, the general importance of potable water as a determinant of prehistoric settlement locations suggested that there would be a greater likelihood of encountering cultural material as testing proceeded westward, closer to Kendaia Creek. Four tests were excavated to the north (17.4), northeast (17.5), southeast (18.5), and south (18.4) of the igloo. Transects 3, 15 and 16 were located along the banks of Kendaia Creek, in an area that had not been visibly affected by construction (farther southeast, the stream appears to have been channeled) (Figure 11). The A stratum, a silt loam, was somewhat deeper in this area, generally extending to 25-30 cm below surface. The B stratum was a silty clay loam, usually recorded as 10YR3/4, 4/3, or 5/4. A probable Onondaga chert flake was found in ST 14.1, approximately 210 meters west of the 1525 igloo. Radials were excavated at 10 and 20 m distances, in cardinal directions, around this positive test. No additional artifacts were recovered, which indicated that this flake, if indeed created by human rather than geological activity, was an isolated and possibly dislocated occurrence. The flake was found in screening soil from the lower part of the 23 cm-thick A stratum, a dark greyish brown (10YR3/2) silt loam. The B stratum was a silty clay loam, 10YR5/4, excavated to a depth of 35 cm (Figure 12).

Test 1 was located on the crest of a narrow ridge nose, overlooking the steep ravine at the mouth of Kendaia Creek. Eight tests (transects 19 and 20) were located at 20-m intervals, north of the

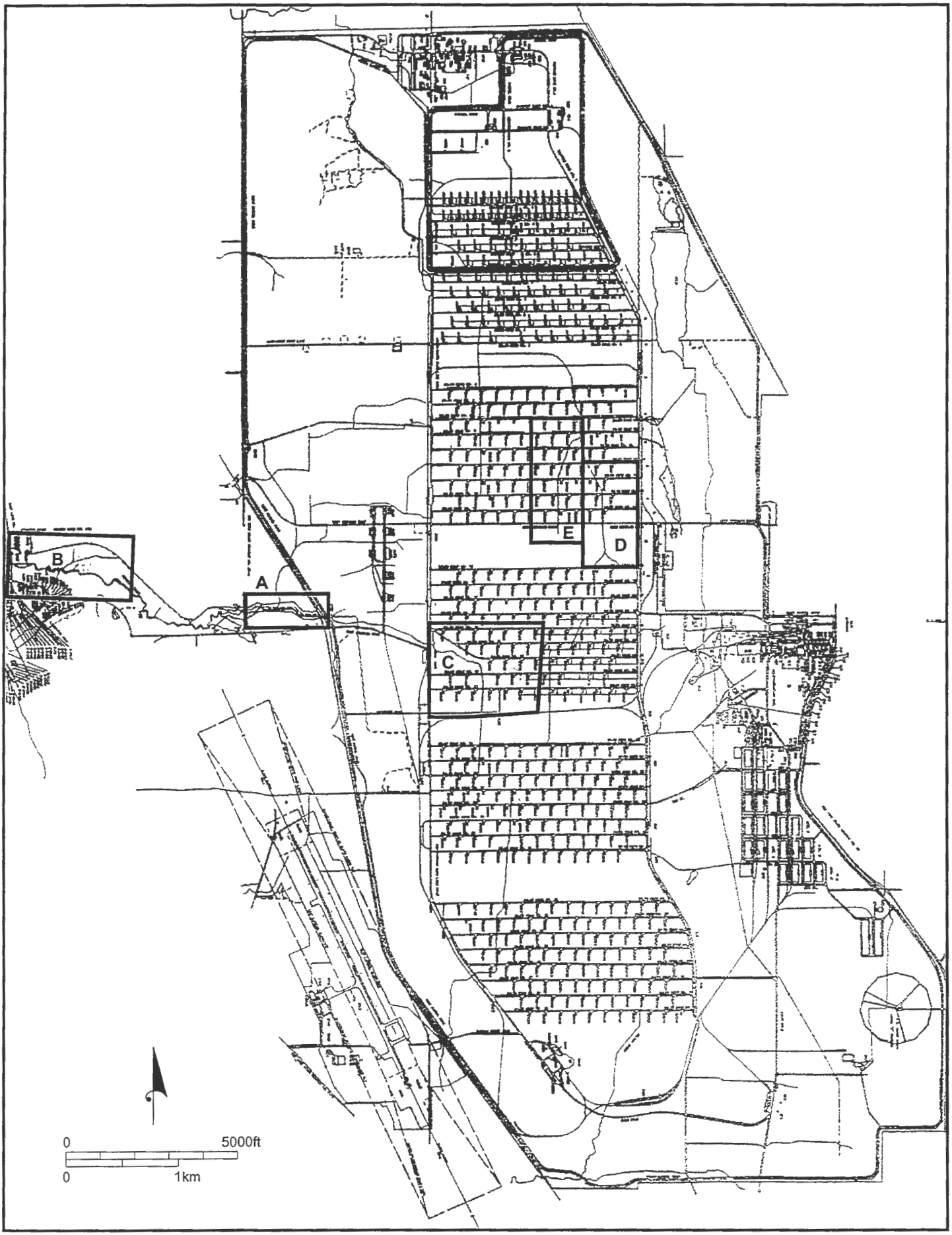

Figure 6. Overview of Seneca Army Depot, showing areas tested.

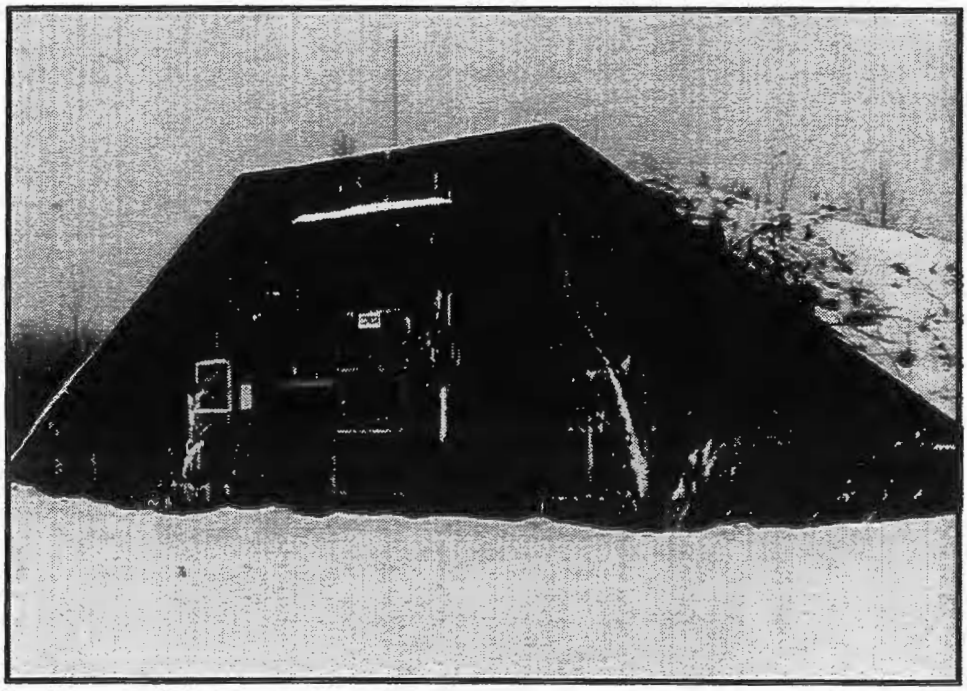

Figure 7. Igloo C0804, formerly Bunker 1525.

Figure 8. Aerial photograph of SEDA, October 1941, view to northwest, showing igloo construction (from SEDA archives).

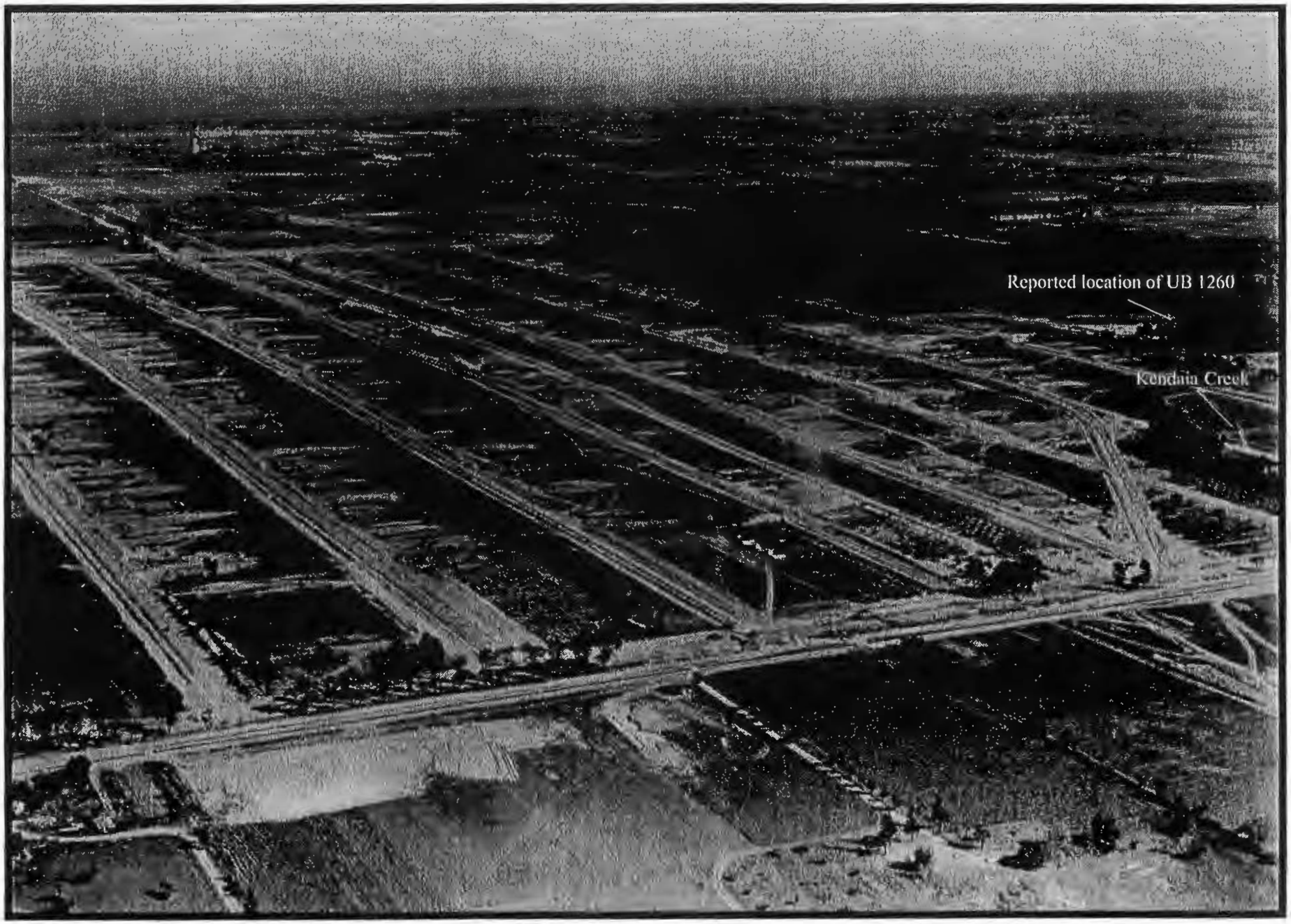

Figure 9. Aerial photograph of SEDA, September 1941, view to southeast showing igloo construction (from SEDA archives).

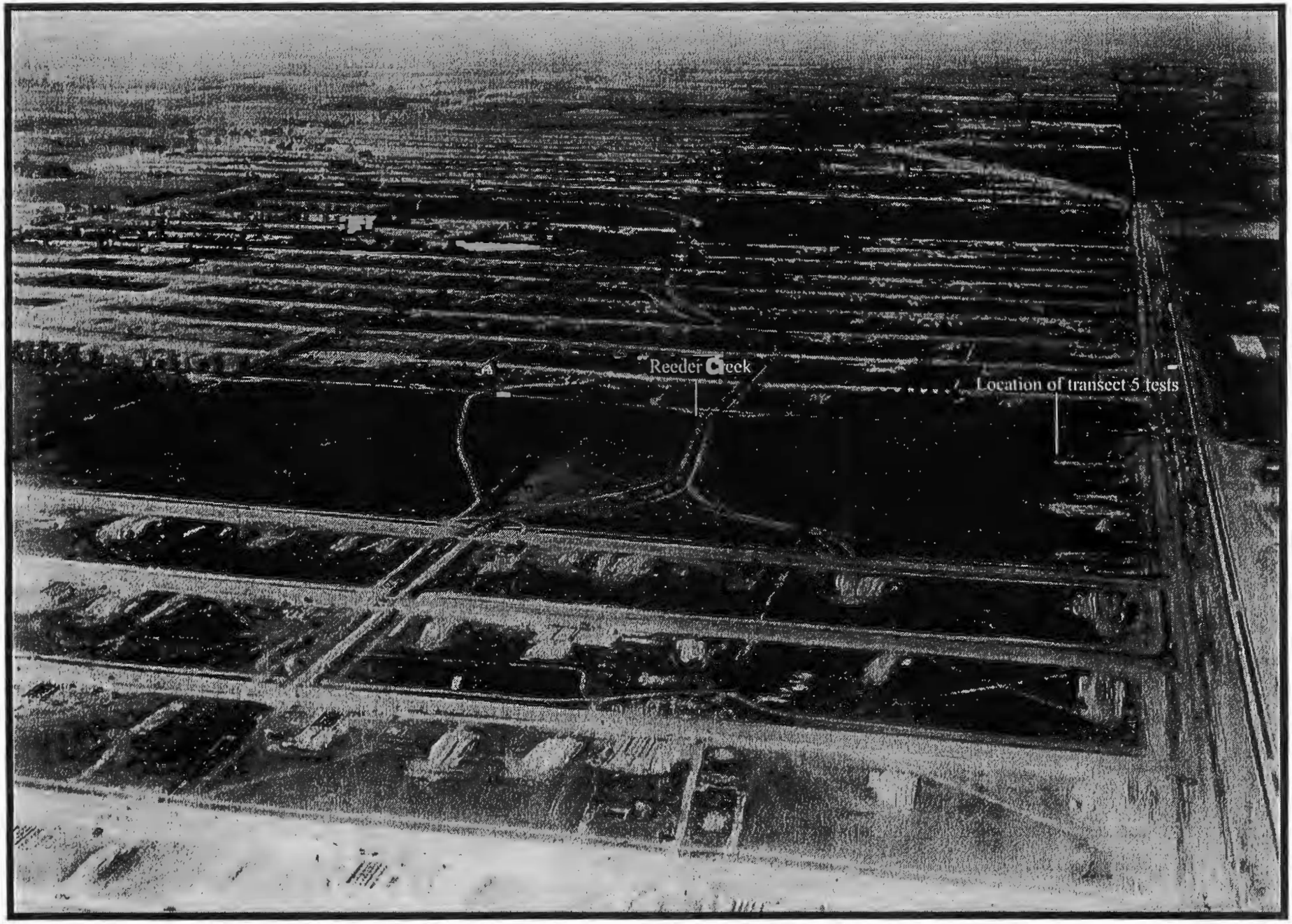

Figure 10. Aerial photograph of SEDA, September 1941,view to north showing igloo construction (from SEDA archives).

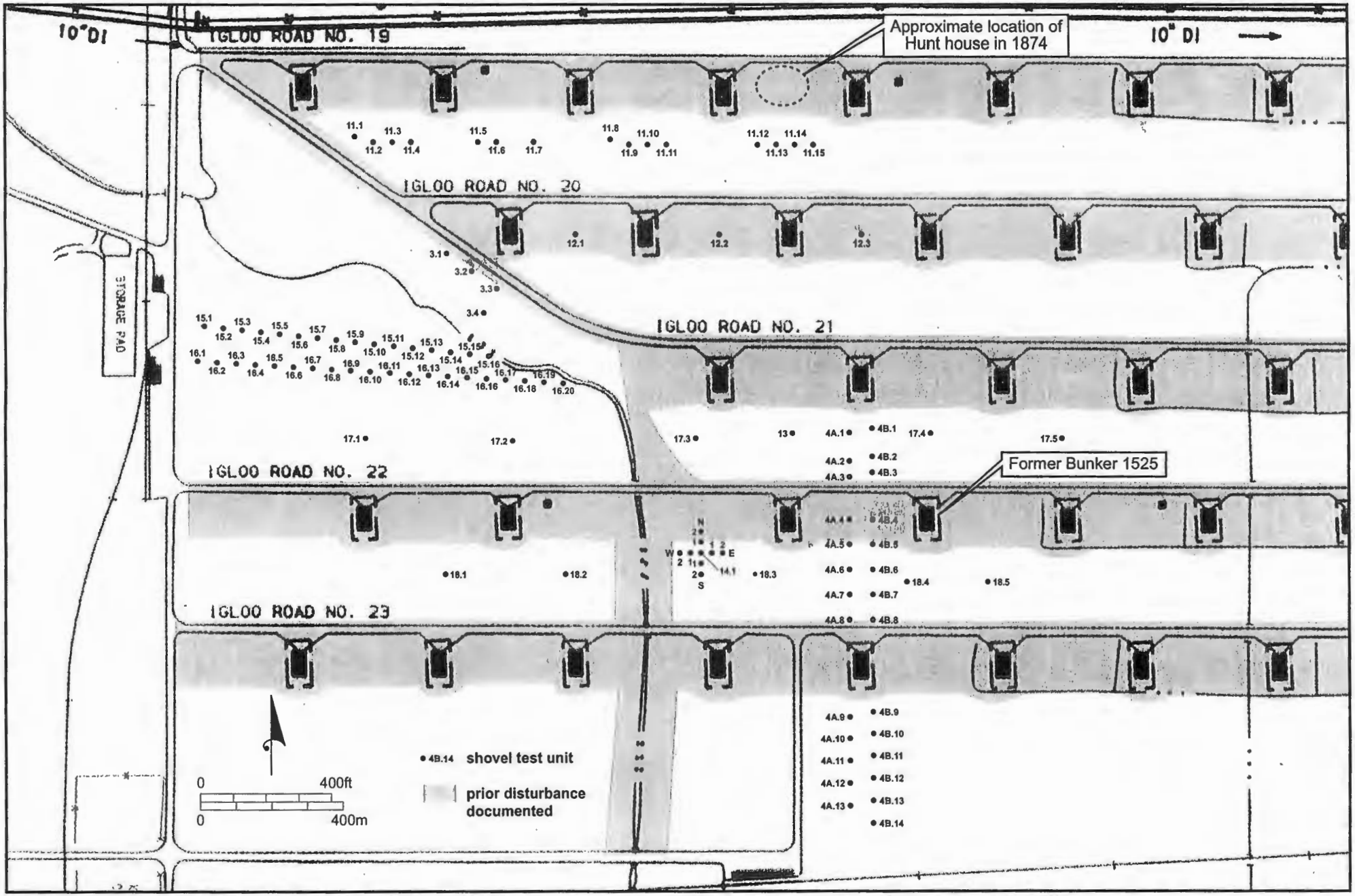

Figure 11. Shovel tests in vicinity of reported site UB-1260 (corresponds to Figure 5, block C).

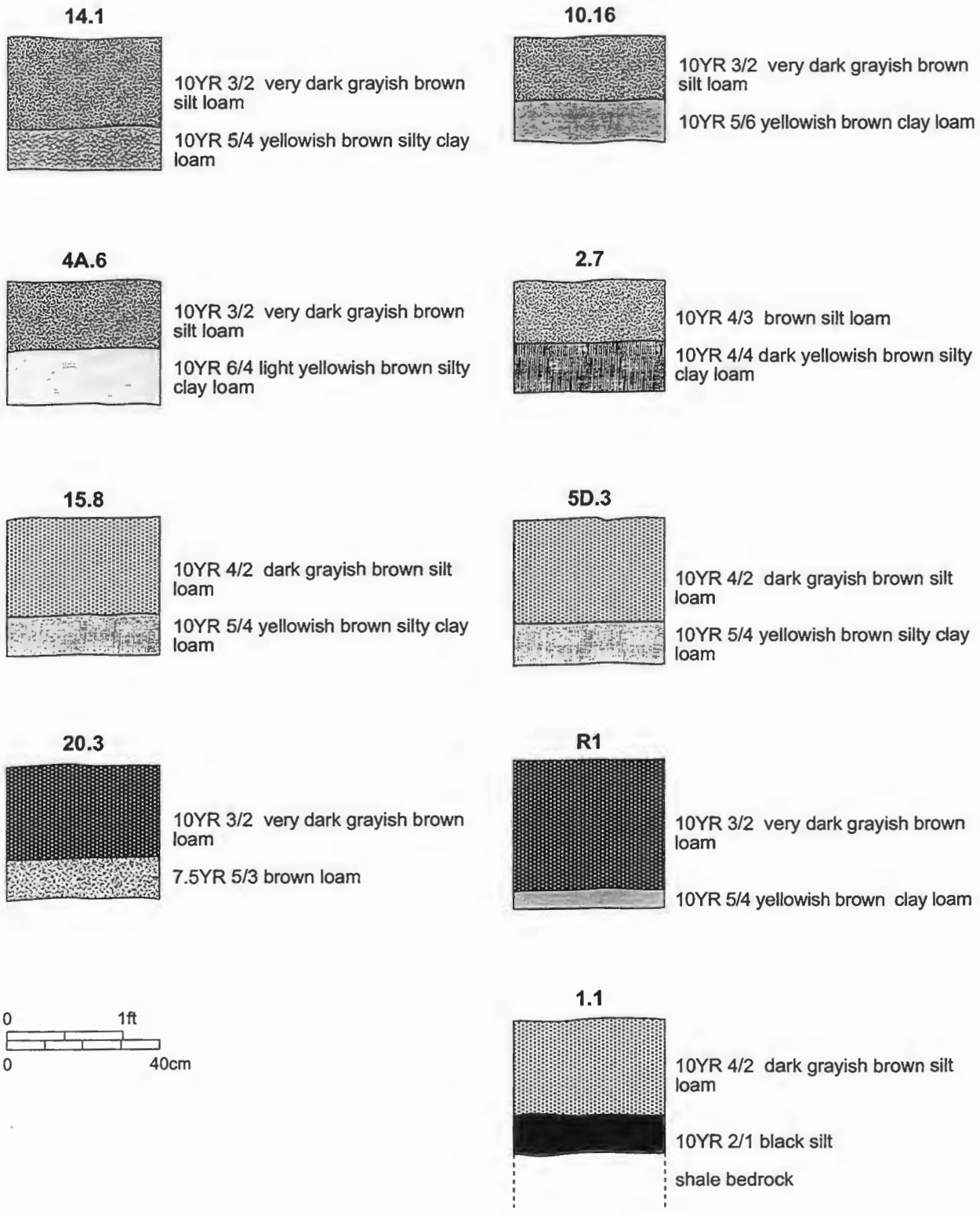

Figure 12. Representative shovel test profiles and soil descriptions.

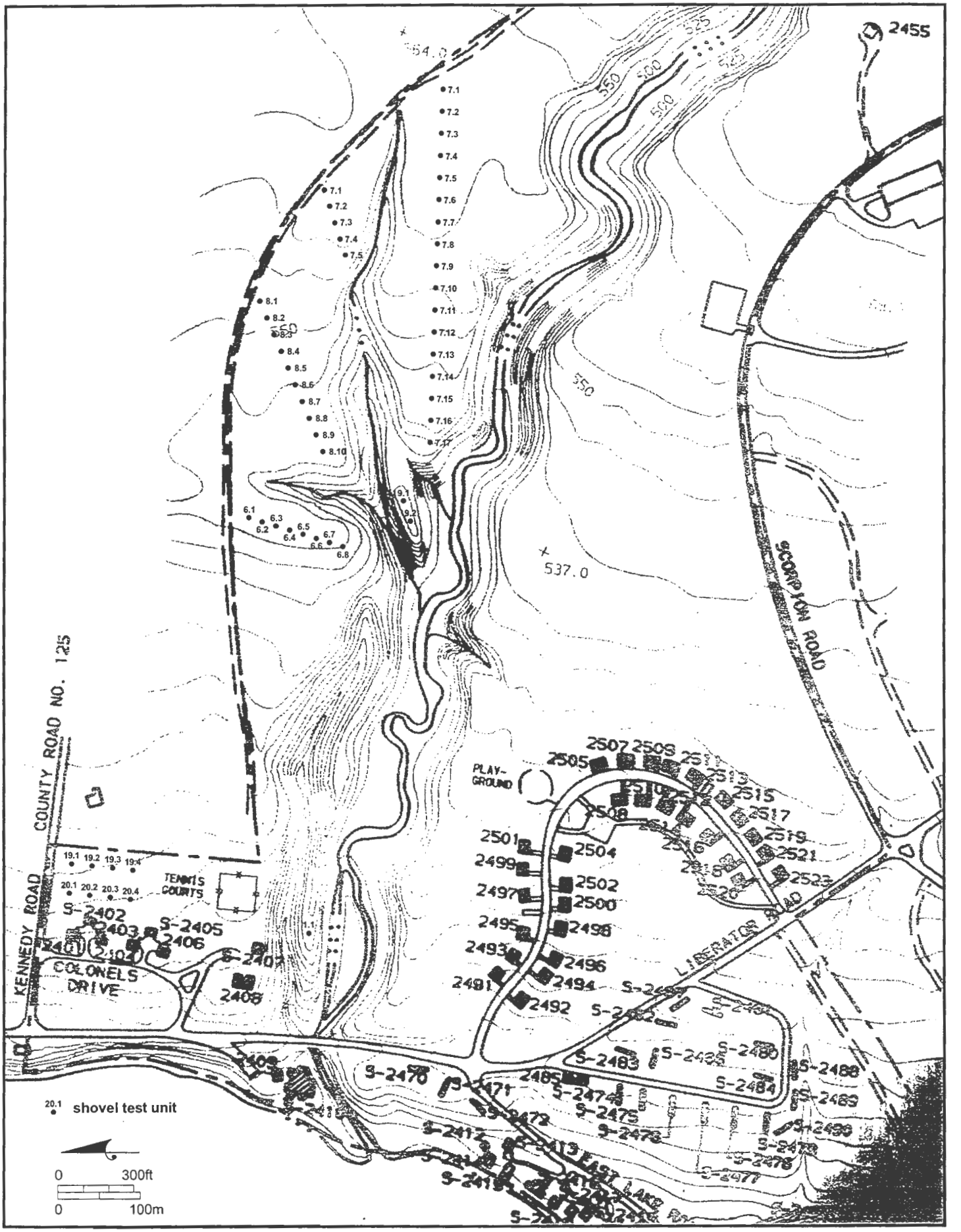

Figure 13. Shovel tests in vicinity of reported sites NYSM-4823 and NYSM-4826 (corresponds to Figure 5, block B).

officers' houses above the lake, in the area supposed to contain site NYSM-4823 (Figure 13). Some of these tests indicated prior disturbance. No tests were placed on the gentle slope south of the houses because depot personnel indicated that this area had been extensively modified and contained buried utilities (Figure 14). Pedestrian reconnaissance within the ravine, as far as 1000 m east from the mouth, indicated a lack of flat, well-drained areas, protected from stream flooding, where habitation would have been feasible (Figure 15). Reconnaissance along the ravine's southern rim, from the creek mouth east to Route 96A, failed to reveal any likely site locations. However, on the north rim, several flat areas, lying near tributary streams and a possible spring, were observed at a location roughly corresponding to the original mapped location of Parker's site NYSM-4826. Transects 6, 7, 8, 9, and 10 were placed on the ridgetop here (Figure 13). No prehistoric artifacts were found in any of these tests. One tiny fragment of whiteware was found in Transect 6, ST2, and another fragment of whiteware was found in Transect 8, ST 2. A small fragment of flat greenish glass and a small piece of red brick were recovered from Transect 8, ST 3.

Transect 2 was designed to discover some trace of Parker's extensive site NYSM-4840 along Kendaia Creek, within the narrow portion of SEDA property lying between Route 96A and the railroad tracks to the east. This transect consisted of 28 tests along the north side of the creek (Figure 16). In addition to shovel tests, the surfaces of the plowed cornfield and wheatfield edges on both sides of the stream were visually examined (Figure 17). Surface visibility was good, particularly during a rainstorm on November 7. A flake of translucent quartz was collected from the southern edge of the cornfield, 6 m northeast of ST7. Subsequent analysis suggests that it may be a Paleo-Indian tool (see Section 5, below).

Transect 5, a 20-m interval grid of shovel tests, was intended to locate Parker's site NYSM-4825, reportedly near the headwaters of Reeder Creek. This description is rather imprecise, since it is clear from the 1874 and 1876 maps (Figure 18) of the area that, prior to channeling, three small streams in blocks 67, 62, and 68 fed into the creek. In spite of artificial straightening, these branches can still be discerned today. The location of site NYSM-4825 as shown in the State Museum maps and management plan is adjacent to the central branch. Transect 5 was situated in this area (Figures 19 and 20). It was centered to the eastern side of the mapped location, because the ground dipped into a shallow swale to the west, close to the stream. This poorly drained area had low potential for prehistoric sites and was not intensively tested. After Transect 5 tests yielded no artifacts, an additional 27 tests (R1-R27) were excavated, following the stream northward. No evidence of prehistoric occupation was found. ST R1, west of the intersection of Fayette Road and West Romulus Road, yielded animal long bone and bone fragments, a square-headed machine-cut nail, crumbs of brick, and a piece of clam shell. The nail can be dated to some time between ca. 1820 and 1900, which suggests that this material is probably associated with the I. Jacobus and T. Jacobus houses, shown at this site on the 1859 Gray and Lothrop map and the 1874 Nichols map (Figure 4).

Figure 14. North Side of Kendaia Creek, near its mouth; Seneca Lake in background, looking west; note landscaping that has altered original countours.

still very sparse; of 1740 points of all periods from collections in the Upper Susquehanna Valley typed by Funk, only 2 Kirk Stemmed, 2 Kirk Corner-notched, and 1 possible Hardaway point were recognized. After weighing several alternative explanations for this scarcity, Funk and Wellman (1984) continue to regard the low productivity of post-Pleistocene forests as the most likely cause of low population density during the Early Archaic.

2.3.2 *Middle Archaic (6500 to 3000 B.C.)*

The Middle Archaic period corresponds to a climatic episode marked by rising temperatures, decreasing precipitation, and the development of more seasonally variable climate. Diagnostic projectile points of the Middle Archaic period include bifurcate-base types (Lecroy, St. Albans, Kanawha), dated from 6800 to 6000 B.C., Neville (6000-5000 B.C.), Stark (5000-4500 B.C.), and Otter Creek (4500-3000 B.C.). Finds of this period in central New York are only slightly more common than Early Archaic material (Funk and Wellman 1984:81); among the 1740 points from collections in the Upper Susquehanna Valley, Funk recorded only 10 bifurcate-base and 4 Neville points. In deeply buried strata at the Russ site on the Upper Susquehanna, radiocarbon dates of ca. 6000 B.C. were associated with Kanawha-like points. A poorly defined late Middle Archaic horizon, characterized by Otter Creek points and perhaps related to the Big Sandy and Raddatz complexes of the Southeast and Midwest, may be ancestral to the Laurentian complexes of the early Late Archaic (Funk 1988).

2.3.3 *Late Archaic (3000 to 1000 B.C.)*

The chronological and cultural relationships of the Late Archaic complexes of central and western New York are still not entirely understood. The quintessential site of this period is Lamoka Lake, excavated by Ritchie in the late 1920s and early 1960s. At this site, located about 25 miles southwest of SEDA, bone preservation was excellent, providing an exceptional view of Archaic non-lithic industries, diet, and mortuary practices. Numerous postmolds allowed tentative reconstruction of Archaic house plans (Ritchie 1965:72). Radiocarbon dates placed this occupation around 2500 B.C. Diagnostic lithic artifacts of the Lamoka culture included groundstone beveled adzes and narrow stemmed points. A related occupation was found at the Geneva site, at the northern end of Seneca Lake (Ritchie 1965:52, 54, 69). Another important Late Archaic site excavated by Ritchie was Frontenac Island, located in Cayuga Lake about 10 miles northeast of SEDA. Burials found here were bedecked with bone and shell ornaments. Diagnostic artifacts of both Lamoka and Brewerton complexes were associated, leading Ritchie (1965:103) to interpret the site as indicating gradual assimilation of the Lamoka population by the intrusive Brewerton complex. Presence of two apparently distinct physical types in the skeletal population appeared to support this interpretation. Radiocarbon dates of ca. 2500-2000 B.C. indicated contemporaneity with the Lamoka Lake settlement.

More recently, Funk (1988) has cited evidence that, as in the Hudson Valley, the Brewerton complex of side-notched, corner-notched, and eared triangular points actually preceded the Lamoka complex in central New York. A few dates and stratigraphic sequences suggest that Brewerton initially appeared about 3000 B.C. The ancestral culture from which it derived is termed Proto-Laurentian and is characterized by Otter Creek points. The Brewerton culture is assigned to the Laurentian tradition because of the presence of copper and ground stone celts, adzes, and gouges, stone plummets, and ground slate points and knives. Important Brewerton sites include Robinson and Oberlander 1, at the foot of Oneida Lake (Ritchie 1965:87).

Following Lamoka in central New York, Funk (1988:25, 27) suggests that a phase termed variously "Cole" or "Farrell" represented a final development of the narrow stemmed point tradition. This phase would be the local equivalent of the River phase of the mid-Hudson Valley, which is characterized by narrow side-notched points of the Normanskill type.

A new cultural tradition, probably originating in the southeastern Piedmont and spreading northward by diffusion and migration, appears in New York around 2000 B.C. Its characteristic artifacts are large, broad-bladed spearpoints or knives. The earliest broadspear points in the Northeast are assigned to the Genesee type. Points of this type were found at Frontenac Island. Snook Kill points, dated to about 1900-1600 B.C., probably developed from the Genesee type. The next type in the same stylistic sequence is the Perkiomen, followed ca. 1500-1300 B.C. by the Susquehanna Broadspear. In central New York, Susquehanna is regarded as diagnostic of a "Frost Island" phase; other attributes of this phase include carved soapstone bowls and primarily riverine campsites. Because the soapstone bowls appear to be precursors of ceramic vessels, the Broadspear tradition is sometime referred to as a "Transitional" cultural manifestation between the Archaic and Woodland periods.

2.3.4 *Early Woodland (1000 B.C. to A.D. 1)*

The Early Woodland begins with the adoption of ceramic technology. Although steatite-tempered pottery in the Mid-Atlantic Piedmont may date from 1200 B.C., the earliest known ceramic ware in central New York is Vinette I, dating from about 1000 B.C. This pottery is conoidal in shape, grit-tempered, and cordmarked on both interior and exterior surfaces. It is has been found in possible association with Susquehanna points, but more securely with side-notched points of the Meadowood type. Radiocarbon dates for Meadowood range from about 1200 to 500 B.C. Besides pottery, innovations of this period include tubular ceramic smoking pipes, perforated stone gorgets, birdstones and boatstones (possibly ornamental spearthrower attachments). Most known Meadowood sites are small cemeteries, where the dead were usually cremated (Ritchie 1965:180).

Around 500 B.C., an enigmatic mortuary cult with strong ties to the Adena culture of the Ohio Valley appeared in the Northeast. Ritchie (1965) referred to this eastern Adena horizon as "Middlesex", after the Vine Valley site in Middlesex, Yates County (about 30 miles west of SEDA). Typical items include blocked-end tubular pipes, boaststones, gorgets, cylindrical copper beads, and lobate-based spearheads. Ritchie initially interpreted the various isolated mortuary caches as resulting from trait diffusion, but later decided that actual migration of splinter groups from the Adena heartland must have been involved (Ritchie and Dragoo 1960). Subsequently, most researchers have abandoned the idea of migration, and prefer to view Middlesex as some sort of exchange system, whereby mortuary cult ideas and exotic grave goods were transported from Ohio to the indigenous occupants of various locations in the Northeast.

2.3.5 *Middle Woodland (A.D. 1 to A.D. 900)*

The Middle Woodland was marked by the appearance of new ceramic types that appear to have been derived from the Upper Great Lakes. Decorative styles of this Point Peninsula pottery include pseudo-scallop-shell, dentate, complex-dentate, and rocker-stamped. Although dates in southern Ontario suggest that this ceramic horizon originated there as early as 600 B.C., the few radiocarbon dates for early Point Peninsula in central New York are considerably later. At the O'Neil site, on the Seneca River in Cayuga County, this horizon was dated at A.D. 240 ± 80

(Ritchie 1965:206); a date of A.D. 140 ± 100 is associated with Point Peninsula pottery and side-notched and stemmed points at the Cottage site on the upper Susquehanna (Funk 1983:166). Side-notched points seem to be typical of the early Middle Woodland (Ritchie 1965:208). Around A.D. 600, Jack's Reef pentagonal and corner-notched types appeared. By about A.D. 800, triangular Levanna points were being made. These probably indicate adoption of the bow and arrow.

Subsistence remains of the Middle Woodland indicate a continued reliance on hunting, gathering (perhaps focused on wild rice and hickory nuts), and especially fishing (as indicated by netsinkers, bone harpoons, and copper fishhooks, as well as abundant fishbones). Evidence of agriculture is lacking, and seed-grinding equipment is unknown. Of possible relevance to site NYSM-4826, where the brief description mentions a shell-heap, Ritchie (1965:205, 211) notes the frequent occurrence of freshwater mussel shells on early Point Peninsula sites. In contrast, mussel shell was conspicuously absent from Archaic contexts at Lamoka Lake (Ritchie 1965:54).

At the same time that cultural influences from the Great Lakes were permeating west-central New York, the Hopewell culture of southern Ohio also had some effect on local cultures. In western New York, burial mounds were constructed by people of the Squawkie Hill phase, around A.D. 150, and exotic objects such as Snyders points, blades of Flint Ridge (Ohio) chert, copper awls, and mica were deposited with the dead. This Hopewellian influence is manifested in central New York by the Rector site in Savannah township, Wayne County, where a small mound, about 35 feet in diameter and only two feet high, was built over 15 burials (Ritchie 1965:221-225).

Later (A.D. 300-900) phases of the Point Peninsula complex, marked by changes in ceramic decoration, are best known from excavations on Kipp Island and other sites on the Seneca River (Ritchie 1965:232-253). Diagnostic traits of this phase include Jack's Reef points, platform pipes, moose-antler combs, and antler harpoons. Cultural connections with Ohio and Michigan are apparent (Ritchie 1965:233). Traces of a probable circular house, ca. 6 m in diameter, were recognized among the many postmolds at Kipp Island (Ritchie 1965:246-247). Again, it is noteworthy that a midden composed chiefly of freshwater mussel shells, containing Jack's Reef and side-notched points and late Point Peninsula pottery, was excavated at the Felix site in Elbridge, Onondaga County, on the south side of the Seneca River (Ritchie 1965:237).

2.3.6 *Late Woodland (A.D. 900 to 1600) and Protohistoric (1600-1750)*

Around A.D. 900, maize horticulture was adopted by many groups in the Middle Atlantic and Northeast. In central New York, the earliest known remains of cultigens are associated with the Owasco culture. Ritchie saw evidence of a gradual *in situ* transition from Late Point Peninsula, through the Hunter's Home phase, into early Owasco. He also postulated gradual development from Owasco into a prehistoric culture ancestral to that of the early historic Iroquois of central New York. However, Ritchie ignored an apparent contradiction, since he also regarded Point Peninsula as ancestral to historic Algonquian-speaking groups (1965:211; see also Fiedel 1990, 1991). Snow (1995) has recently proposed that Hunter's Home represents a mixture of separable archeological components, rather than a transitional phase. However, Funk (1983 and personal communication) continues to see Hunter's Home as valid evidence of an *in situ* transformation of Late Point Peninsula into Owasco. Snow suggests that Owasco represents an aggressive northward intrusion by maize-growing Iroquoian-speakers from central Pennsylvania, where the Clemson's Island culture may be immediately ancestral to Owasco.

Owasco is arbitrarily divided into three sequential phases--Carpenter Brook, Canandaigua, and Castle Creek--covering the period of ca. A.D. 1000-1300. Owasco ceramic vessels were made by the paddle-and-anvil technique, instead of coiling, which was the typical Middle Woodland method. Exterior surfaces of these large (2 to 12 gallon) vessels were cord-malleated, and rims and shoulders were decorated using cord-wrapped sticks or paddle edges. Carpenter Brook vessels were elongate, with semiconoidal bases; Canandaigua phase vessels became more globular; and Castle Creek vessels bore collars, often with incised, linear-stamped, or appliqué decoration. Straight or elbow-shaped ceramic pipes were common, becoming more elaborately decorated over time. Diagnostic lithic artifacts of the Late Woodland period include Levanna and Madison triangular points, certainly used as arrowheads.

Owasco sites vary in size and function. They include villages probably occupied year-round, hamlets, a large workshop, and small, briefly inhabited hunting or fishing camps. Villages sometimes extended over three acres, with populations on the order of 250-350 people. House form was variable, including small, 6 m-diameter oval structures and round-ended longhouses, measuring 26 by 6.5 meters. At least by Middle Owasco times, and possibly earlier, the villages were protected by palisades, showing increased conflict. Cannibalism is suggested by the presence of broken and burned human bones in middens (Funk 1983:352).

In central New York, Castle Creek Owasco developed with minor changes in ceramic and pipe forms into the Oak Hill phase (A.D. 1300-1400), recognized as the earliest expression of Iroquoian culture. Oak Hill vessels often bore corded collars; less frequently, pots had incised and notched lips. Body surfaces were sometimes check-stamped (Funk 1983:352). Recent ceramic analysis in west-central New York, in the Seneca homeland south of Rochester, has indicated the Castle Creek phase is not present there; Middle Owasco Canandaigua types persisted until A.D. 1250 when, under strong influence from intrusive Ontario Iroquois, a western variant of the Oak Hill phase took shape (Niemczycki 1987:35).

Until recently, the development of Cayuga and Seneca cultures from a presumed Oak Hill base has been poorly attested. The prevalent theory, before Niemczycki's (1984) work in the area, was that the Seneca had arrived in late prehistoric times and pushed the Cayuga eastward to Cayuga Lake. In the early seventeenth century, the area of the present-day SEDA lay between the territories of the Senecas and Cayugas. In 1653, the Cayugas lived in three principal villages: Oiogouen, probably a few miles south of Union Springs, and Thiohero and Onontare, both on the Seneca River. The name "Cayuga" seems to have been derived from Iroquois *kayohkho.no'*, meaning "people of Oiogouen" (White et al. 1978). By 1677, the villages had been moved to an area two or three miles east of Cayuga Lake (probably the sites of St. Joseph, Crane Brook, and Fleming). Niemczycki (1991) traces the origin of the southern Cayuga back to Middle Owasco (A.D. 1100-1200) communities, Levanna on the east side of Cayuga Lake and Lakeside Park at the north end of Owasco Lake. Several sites east of the lake represent the "proto-Cayuga" population between A.D. 1250 and 1450; they began to consolidate into villages after 1350. In the late prehistoric period, A.D. 1450-1550, two village clusters were present, one on the east side of the lake, the other southwest of the lake. The southwestern cluster (Klinko, Payne, Indian Fort Road, Schempp, and Parker sites) has been interpreted as representing the north to south shifting of a single village population. Ceramic resemblances suggest that this population was derived from the group living east of the lake; local antecedents do not occur west of Cayuga Lake. Around A.D. 1550-1600, three formerly separate local Cayuga populations appear to have coalesced, perhaps occupying a village at East Genoa on Big Salmon Creek. This settlement may have shifted north along the creek to Myer's Station by A.D. 1625. Another northward shift after 1640 led to establishment of a single village at Venice (identified by Niemczycki [1991] as the village visited by Radisson in 1653). The northern Cayuga group that occupied Thiohero and

Onontare (renamed, respectively, St. Stephen and St. Rene by the Jesuit missionaries), has not been traced into prehistory, and may have originated somewhere outside historic Cayuga territory.

Clearly, late prehistoric sites lying in the SEDA area do not fit into the proto-Cayuga sequence. They do not fit into the developmental sequence of the late prehistoric and protohistoric Seneca, either. The Senecas seem to have coalesced as a tribe as a social response of the local Owasco population of the Genesee Valley, south of Rochester, to an intrusion of Ontario Iroquoians around A.D. 1250. The continuing expansion of the Ontario Iroquoians forced the proto-Seneca on the southern Genesee and western Finger Lakes to construct palisaded villages ca. A.D. 1350. Pressure from the Ontario Iroquoians led to the abandonment of the Genesee villages by the proto-Seneca ca. A.D. 1450. They shifted eastward to creeks and outlets draining the western Finger Lakes, where they built palisaded villages and probably created an integrative tribal organization between 1450 and 1540. By this time, the Ontario Iroquoians had abandoned the region, or had been absorbed.

The movements of the eastern and western Senecas from 1540 until 1687 can be traced archeologically at 14 major sites south of Rochester, between the Genesee River and Canandaigua Lake (Saunders and Sempowski 1991). The two chains of sequentially occupied villages begin north of Hemlock Lake. Each group maintained a major village with about 100 houses, and two smaller ones, each with 20 to 30 houses. Every 10-20 years, as the land around the village became exhausted by planting and firewood grew sparse, the Senecas would move to a new village. This process continued until 1687 when, under attack by the French and Hurons, the Senecas were forced out of this area and had to take refuge with the Cayuga to the east, eventually settling between Seneca and Canadaigua Lakes.

After the establishment of a formal treaty between the Iroquois and the French in 1701, the eastern Senecas did not resettle the destroyed villages in their original homeland. They drifted eastward, establishing their principal village, Canadasaga, at the foot (the north end) of Seneca Lake. From there, they colonized both sides of Seneca Lake, and also settled along the Chemung River. Because they were no longer threatened by the French or other tribes, the eighteenth century Senecas did not build palisades around their villages, as had been their former practice (Abler and Tooker 1978:507).

Based on this historic evidence, NYSM-4826, with its reported European artifacts, should date to the first half of the eighteenth century. The effigy pipes reported from UB-1260 could date to any time from about A.D. 1250 to 1600 (Ritchie 1965:311; Funk 1983:352).

Figure 15. View of Kendaia Creek ravine, near its mouth, looking east and upstream.

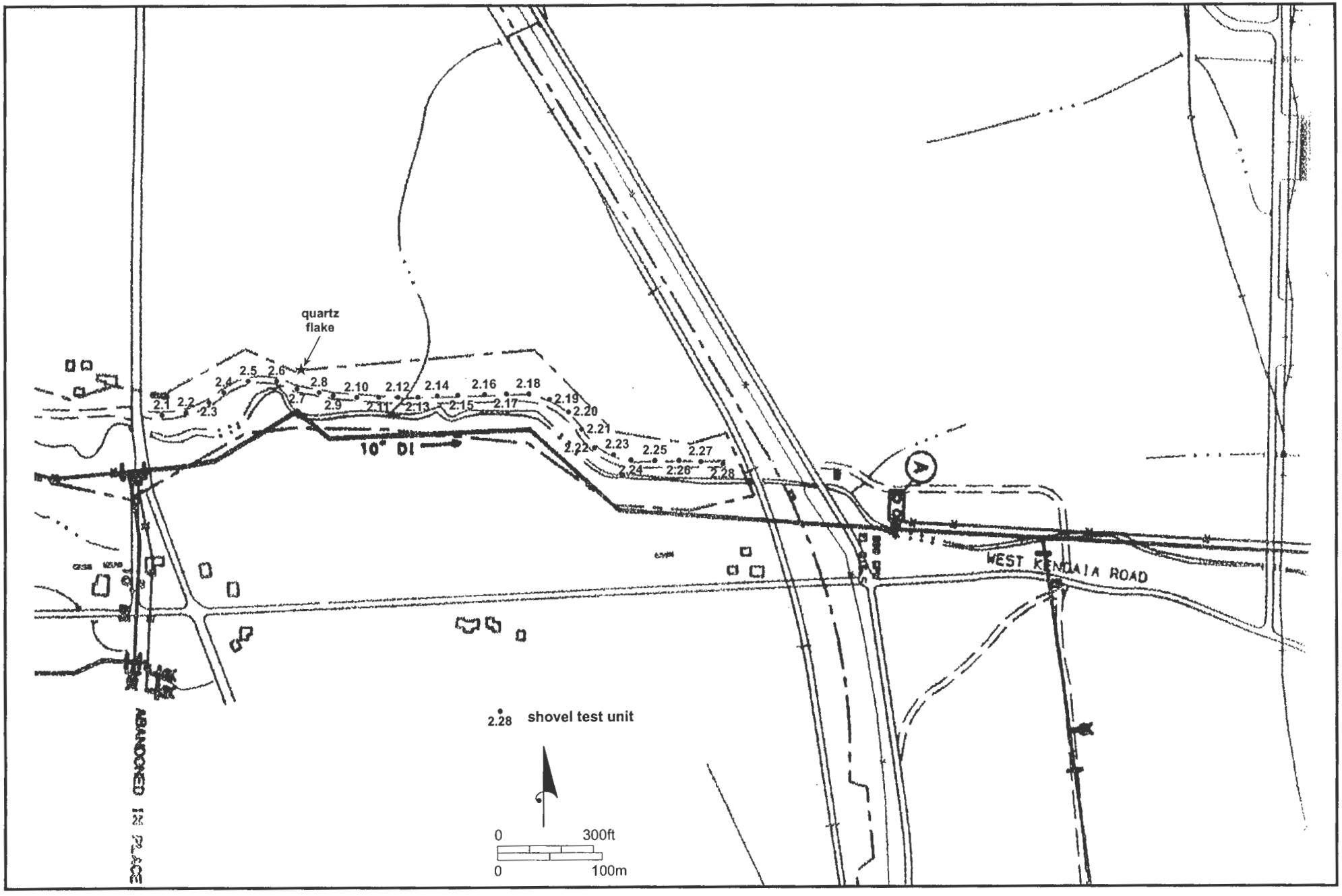

Figure 16. Shovel tests in vicinity of reported site NYSM-4840 (corresponds to Figure 5, block A).

Figure 17. View eastward along survey transect 2; Kendaia Creek is to the right; quartz flake was found at edge of fields to the left.

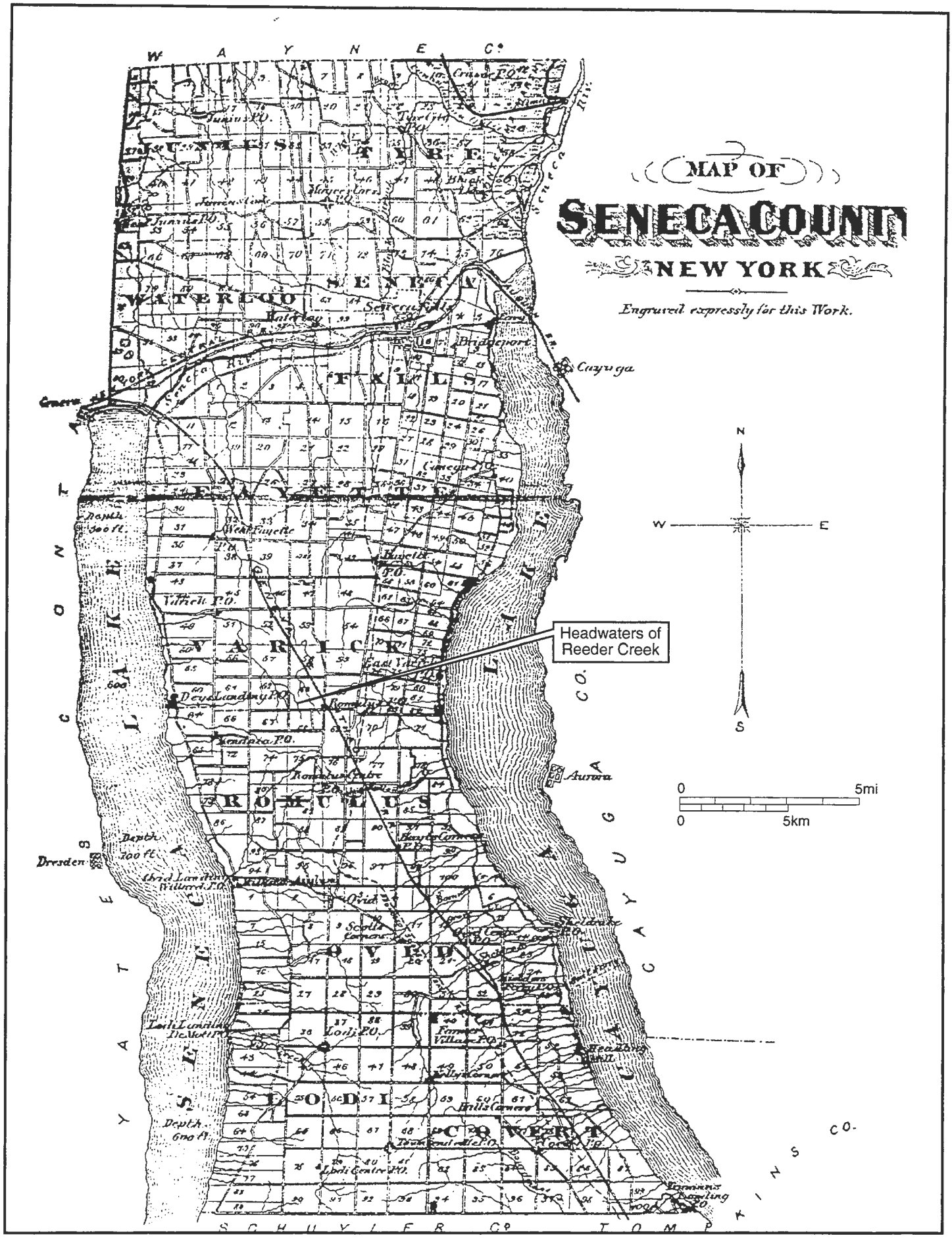

Figure 18. Headwaters of Reeder Creek and vicinity of the present SEDA in 1876 (from Everts et al. 1876).

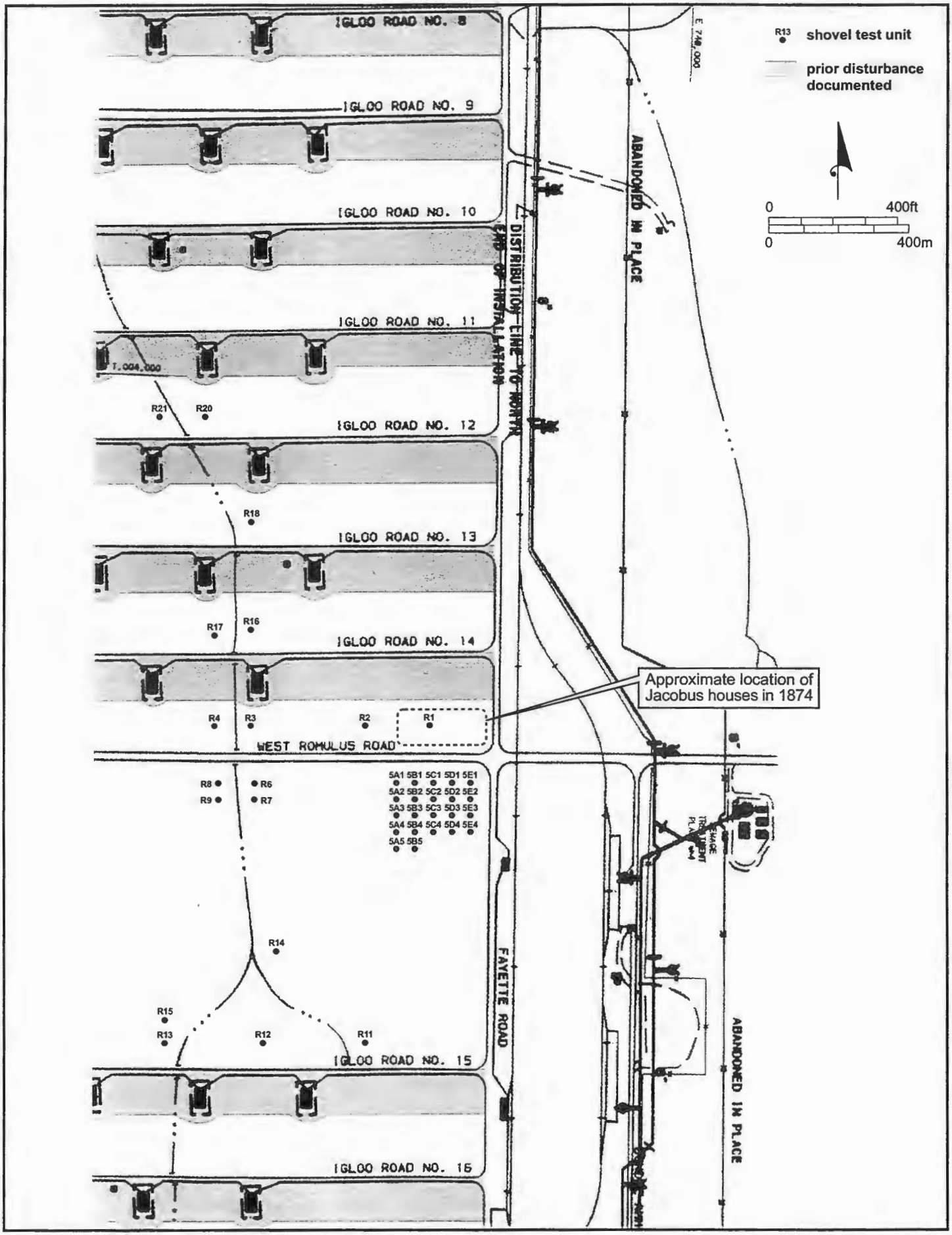

Figure 19. Shovel tests in area of reported site NYSM-4825 (corresponds to Figure 5, block D).

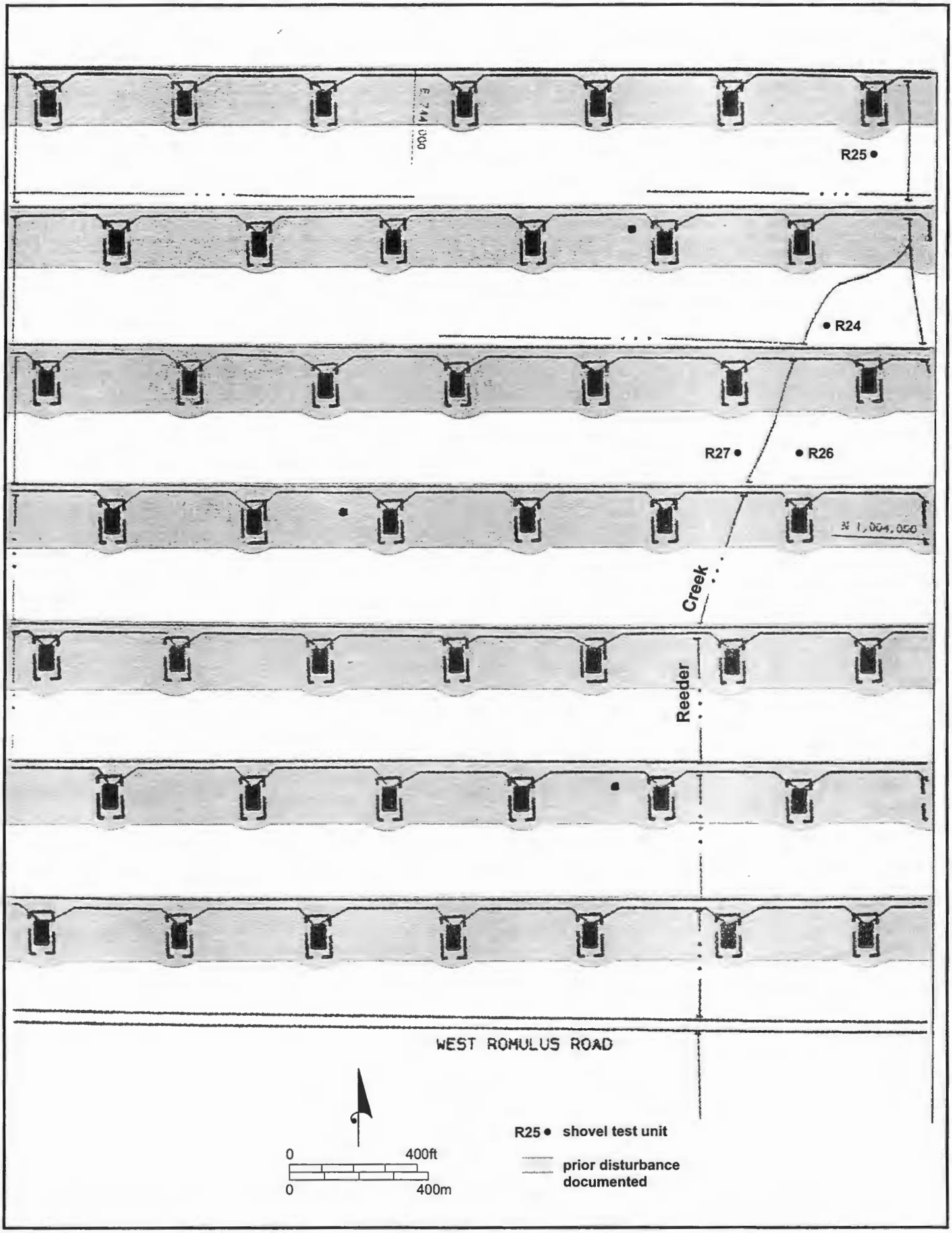

Figure 20. Shovel tests along Reeder Creek (corresponds to Figure 5, block E).

5.0 DATA ANALYSIS

Upon laboratory examination, the quartz flake found on the surface near ST7 of Transect 2 proved to be worked along the edge to form a graver spur; three less prominent projections also occur along the edge (Figure 21). This type of tool is often found in Paleo-Indian assemblages (e.g., Gramly 1982:129, Curran 1984:38, Kraft 1973:73,107, Gramly and Lothrop 1984:154, Deller and Ellis 1984:68, Grimes et al. 1984:183). At Bull Brook, in eastern Massachusetts, no consistency was noted in the kinds of flakes that were used to make gravers, but "there is a clear tendency toward placement of spurs at the termini of dorsal flake ridges" (Grimes at al. 1984:165). This description could also apply to the graver from SEDA. Most Paleo-Indian gravers have one or two spurs, although one specimen from Bull Brook had five. The SEDA tool was examined by Michael Johnson, who has studied the gravers from the Thunderbird Paleo-Indian site in Virginia and other specimens of this functional type as well. Johnson has also had extensive experience in replicative knapping of quartz. He agreed that the retouching of the SEDA flake was definitely artifactual, and that it closely resembled Paleo-Indian tools that he has personally examined. Johnson has not encountered similar tools in post-Paleo contexts (Michael Johnson, personal communication). In the archeological literature, gravers or cutters are infrequently noted in assemblages from later periods, but Gramly and Lothrop (1984:133) caution that they may not be temporally diagnostic; "Flaked gravers have even been recovered from Ceramic period sites in New Hampshire".

In all prehistoric periods, quartz artifacts are extremely rare in central and western New York (Robert Funk, personal communication). Onondaga chert is readily available, and was the preferred material of groups residing in this area throughout prehistory. Use of quartz would only make sense for people recently arrived and as yet unfamiliar with the local lithic resources. Gramly (1988) has presented a similar explanation of the presence of exotic lithics in the Paleo-Indian assemblage from the Lamb site in Genesee County. Paleo-Indian artifacts made of quartz have been found near the north shore of Lake Ontario (Roberts 1984) and in the coastal plain of Maryland (Ebright 1993). If the SEDA artifact is a Paleo-Indian graver, a possibility difficult to demonstrate without secure context or associated diagnostic artifacts, it could have been brought to the area by bands from either of these regions.

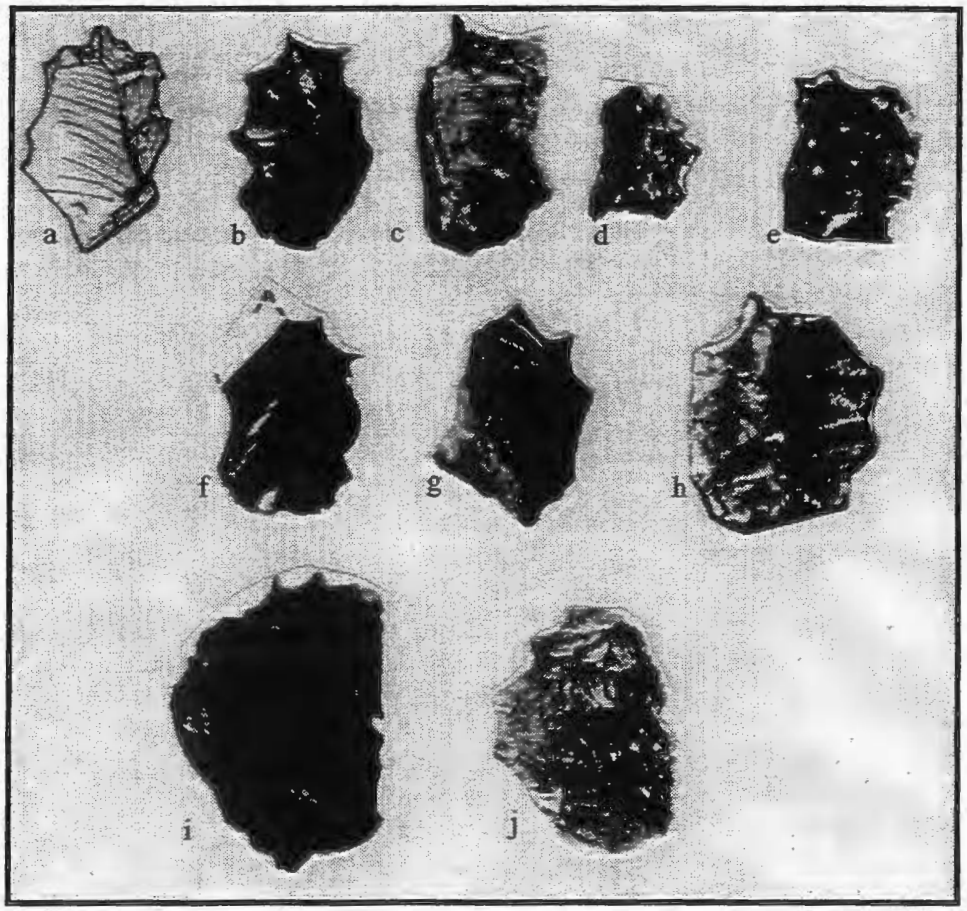

Figure 21. Quartz graver from north bank of Kendaia Creek, compared to specimens from eastern Paleo-Indian assemblages. (a) SEDA; (b) and (c) Vail (Maine) (after Gramly 1982); (d) and (e) Plenge (New Jersey) (after Kraft 1973); (f) and (g) Potts (central New York) (after Gramly and Lothrop 1984); (h) Bull Brook (Massachusetts) (after Grimes et al. 1984); (i) Crowfield (Ontario) (after Deller and Ellis 1984); (j) Whipple (New Hampshire) (after Curran 1984). All approximately actual size.

6.0 INTERPRETIVE SUMMARY AND MANAGEMENT RECOMMENDATIONS

6.1 Summary of Archeological Investigations

JMA's investigations were designed to determine whether there were extant archeological traces within the boundaries of SEDA of five previously reported prehistoric or protohistoric sites. Site NYSM-4823 was reported to lie near the lake shore, north of the mouth of Kendaia Creek. Shovel tests in the vicinity of the officers' houses in that area yielded no evidence of prehistoric occupation. It is possible that any vestiges of earlier inhabitants were destroyed during construction of these houses and grading of the adjacent area.

Two possible locations had been mapped for NYSM-4826, one on the north side of Kendaia Creek, the other on the south side, some 4000 feet southeast of the first possible site. Several promising-looking flat areas were shovel-tested on the ridge at a location corresponding to the northern site; no prehistoric material was found. Reconnaissance along the southern bank revealed no likely site locations. If site NYSM-4826 is to be found anywhere nearby, it is probably located farther south, off SEDA property. Native burials reportedly excavated in Sampson State Park (Thomas Enroth, personal communication) may have been associated with this village.

Site NYSM-4825 was supposed to be situated near the headwaters of Reeder Creek. The State Museum map placed it near the central of three headwater branches, in the northeastern corner of the area south of the B block in the ammunition storage area. No prehistoric artifacts were found in shovel tests in this area, nor in additional tests judgmentally placed northward along the stream course. However, animal bones, brick fragments, and a nail dating between ca. 1820 and 1900, were recovered from a shovel test (R1) on the north side of West Romulus Road. This historic period debris is probably associated with the Jacobus houses, shown on the 1859 and 1874 maps of this location.

Site UB-1260 was reported to be located on the former Hunt farm, in the vicinity of an igloo formerly designated as "1525", and now located in the southwestern section of the C block of the ammunition storage area. Shovel tests in the immediate vicinity of this structure were unproductive, but a test located 210 meters to the west yielded a small flake of brownish grey Onondaga chert, which is almost certainly artifactual. However, radial shovel tests produced no additional finds. This flake might represent a remnant of a very thin lithic scatter on the periphery of the reported site; it might be associated with a discrete small site, comparable to the one found by Oberon (1995) about a mile to the south; or it might be an isolate, displaced from its original location during construction of the storage area.

Site NYSM-4840 was a large area east of Route 96A which, according to Parker, contained "traces of occupation". This can probably be interpreted as scattered artifacts found in the local farmers' fields. Interviews with local informants indicated that no comparable finds have been made during the past few decades. Surface inspection along the edge of the cornfield that encroaches on the northern border of SEDA property along Kendaia Creek resulted in discovery of an isolated quartz flake. Although quartz is practically unknown as a lithic raw material in this region, the flake is definitely an artifact, and its retouched edge bears a graver spur that resembles a common Paleo-Indian tool type. No other surface finds were made in this vicinity. The closest shovel test, six meters to the south, was culturally sterile, as were all other shovel tests in Transect 2, which ran parallel to the creek on its north side. The quartz flake is an isolated find and, based on Parker's description, a well-defined concentration probably did not exist anywhere in this area.

In sum, none of the reported site locations was verified by field investigations. The lack of evidence of archeological materials or sites could reflect the original inexact mapping, dispersion by plowing and collecting between ca. 1870 and 1940, topsoil removal during depot construction, or some combination of these factors.

6.2 Management Recommendations

This survey did not result in discovery of archeological sites at any of the five previously reported locations; therefore, delineation of site boundaries and determination of integrity are not required. No further investigation of the purported locations of these five prehistoric sites is recommended. The two prehistoric artifacts that were found appear to be isolates. The chert flake in ST 14.1 was surrounded on four sides by culturally sterile radial tests at 10- and 20-m distances. The quartz graver is a surface find with no other associated artifacts. It was found at the edge of SEDA property, and the closest shovel test in Transect 2, 6 meters distant, yielded no cultural material. If any buried components are associated with this artifact, they would probably lie beyond the border of SEDA property. No additional testing is warranted or recommended in the vicinity of these isolates.

Shovel Test R1, on the north side of West Romulus Road, contained a substantial quantity of well-preserved animal bone and other material indicating a mid- to late- nineteenth century date. These materials likely represent debris from the Jacobus household, dating from 1859 or earlier. The site management plan suggests that remains from some 230 historic households may exist on SEDA property. The potential significance of the Jacobus site would be best assessed as part of a broader study aimed at determining the integrity of other historic period archeological deposits on depot property, as recommended in item 6.3.3 of the site management plan (Klein 1986).

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APPENDIX I:

INTERIM REPORTS

JOHN MILNER ASSOCIATES

ARCHITECTS · ARCHEOLOGISTS · PLANNERS

restoration & reuse · design · prehistoric & historic archeology · historical research · building materials conservation

January 10, 1996

principals:
Allan H. Steenhusen
Daniel G. Roberts
F. Neale Quenzel
Peter S. Richardson
Patricia P. Reaifer
Thomas L. Struthers
Charles D. Cheb

Mr. Jack Urie
The Greeley-Polhemus Group, Inc.
105 South High Street
West Chester, Pennsylvania 19380

Re: **Interim Report No. 1**
Work Order No. 0002
Archeological Survey of Three Known Sites
Seneca Army Depot Activities
Romulus, Seneca County, New York

Dear Jack:

John Milner Associates, Inc. (JMA) is pleased to present this Interim Report for the project referenced above.

Activities associated with the project conducted to date involve Phase I archeological field work, informant interviews, data analysis, report preparation, and graphics production. As you are aware, JMA's informant interviews and data analysis revealed that two additional possible prehistoric sites, as well as the original three, had been recorded within the boundaries of SEDA. Accordingly, the locations of all five possible sites were investigated. None of the sites was relocated. Only two prehistoric artifacts were discovered, neither of which represents a significant archeological resource or site. Thus, it may be concluded that, whatever their former condition or status, these sites are no longer extant, and will sustain no effects from activities associated with SEDA. The draft report of the investigation is presently nearing completion and will be submitted prior to the end of the month.

I trust that this Interim Report will be acceptable to your needs. As always, if you have any questions or if I can be of further assistance, please do not hesitate to contact me at our West Chester office.

Sincerely,

JOHN MILNER ASSOCIATES, INC.

Robert G. Kingsley, Ph.D.
Senior Project Manager
Associate

/rgk
cc. Thomas L. Struthers
Stuart J. Fiedel

309 north matlack street, west chester, pennsylvania 19380 · 610-436-9000 / fax 610-436-8468
1216 arch street, 5th floor, philadelphia, pennsylvania 19107 · 215-561-7637 / fax 215-977-7360
5250 cherokee avenue, 4th floor, alexandria, virginia 22312 · 703-354-9737 / fax 703-642-1837

APPENDIX II:

ARTIFACT INVENTORY

Artifact Inventory

Shovel Test 14.1	1	flake, proximal fragment, Onondaga chert
Shovel Test 6.2	1	sherd whiteware
Shovel Test 8.7	1	sherd whiteware, crazed exterior surface
Shovel Test 8.3	1	brick fragment
		1 shard flat glass, bluish
Shovel Test R1	1	cut nail
	4	brick fragments
	1	long bone (tibia? unidentified mammal species)
	4	bone fragments
	1	clam shell fragment
Surface, near 2.7	1	quartz flake, probable graver