Cultural Resources Data Recovery Report of the

SCHOHARIE CREEK II SITE

TOWN *of* SCHOHARIE, SCHOHARIE COUNTY, NEW YORK

by Christina B. Rieth

Cultural Resource Survey Program Series No. 4

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Cultural Resources Data Recovery Report of the Schoharie Creek II Site (NYSM # 10383): A Multi-Component Site in the Village of Central Bridge, Town of Schoharie, Schoharie County, New York

Prepared by:
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Cover: The upper left images are of red and blue transfer-printed hollowware sherds. Upper right image is an Orient Fishtail projectile point. The background image is of the Schoharie Creek near the village of Central Bridge, New York. All photos provided courtesy of the New York State Museum Cultural Resource Survey Program, Albany, New York.

MANAGEMENT SUMMARY

A. DOT PIN/BIN: PIN 9306.56.122.

B. PROJECT GOAL: Complete data recovery excavations at the Schoharie Creek II site in the Town of Schoharie, Schoharie County, New York prior to the completion of NYSDOT PIN 9306.56.122, which involves the replacement of BIN 1-00413-0 over Schoharie Creek. Secondary impacts will result from road resurfacing and movement of utility poles along the roadway.

C. PROJECT LOCATION AND PROJECT LIMITS: The current project area is located in the village of Central Bridge in the Town of Schoharie, Schoharie County, New York. The Schoharie Creek II site was identified during a 1996 reconnaissance survey and is located along the western bank of the Schoharie Creek on the north and south sides of Route 7. The current project area is confined to the southeast corner of the intersection of Route 7 and Smith Road and is located on the front lawn of Structure F (no address #). The current project area measures 2–12.5 m (6.4–40 ft) wide and 80 m (256 ft) long encompassing approximately 500 m^2 (5,120 ft^2) or 0.05 hectares (0.12 acres).

D. USGS 7.5' QUADRANGLE MAP: 7.5' Schoharie USGS Quadrangle Map.

E. CONTEXT STATEMENT: The Schoharie Creek is a major tributary of the Mohawk River and the associated Schoharie Valley forms a direct corridor between the Susquehanna Valley, located to the west, and the Hudson Valley located to the east. As such, the Schoharie Valley is considered by many archaeologists (e.g. Ritchie and Funk 1973) to have been an important prehistoric travel and resource procurement area. Evidence of this is reflected in the identification of over 50 prehistoric sites within 3.2 kms (2 mi) of the current project area. While Ritchie and Funk (1973) suggest that the Schoharie Valley was continuously occupied during the Archaic, Transitional, and Woodland periods, the absence of professional excavations in the Schoharie Valley has not allowed archaeologists the opportunity to refine the chronology and settlement patterns of the region (Funk 1993; Snow 1995). The recovery of a Jack's Reef Pentagonal point during the site exam suggests that the Schoharie Creek II site was minimally occupied during the Middle Woodland period. In the adjacent Susquehanna and Mohawk Valleys, seasonal encampments and temporary resource procurement stations dating to the Early-Middle Woodland periods have been identified along secondary streams and lakes while larger base camps are primarily found near larger streams or at the confluence of two or more waterways. If the models developed for these two regions are reflective of larger state and regional patterns of settlement and land use, we should expect to find similar site types represented in the Schoharie Valley. Mitigation of the Schoharie Creek II site could provide important information that could be used to address research questions associated with the region's chronology, settlement and subsistence, and organization of lithic technology.

Our understanding of the history of the Schoharie Valley is equally fragmented. When more complete historical accounts of the area are available, these accounts are primarily presented from the perspective of larger, more wealthy land owners and/or within the context of the Revolutionary War Period campaigns that besieged the region. Absent are studies centering on non-elite (especially working and middle class) households during the nineteenth century. The nineteenth century represents an important time period in the history of the county since it represents the period in which the county's agricultural heritage was created, and the transformation of the village of Central Bridge from a small frontier community to a major passenger and agricultural stop on the Albany and Susquehanna Railroad. Given the area of impact, the Schoharie Creek II site has the potential to provide information about this time period from the perspective of the Stuarach and Stever families. Both families were farmers and the property is considered to be part of the original nineteenth century farmstead. As discussed in the text of this report, the deposits associated with these households can provide important information about the historic occupation of this rural community during the mid-late nineteenth century.

F. DESCRIPTION OF SITE AND TESTING RESULTS: Two 5 m^2 block units and 14 smaller 1 m^2 test units were excavated within the project limits. In total, 64 m^2 was excavated during this project. When combined with the 6.4 m^2 excavated during the 1997 reconnaissance survey and the 1998 site examination, 70.4 m^2 or 14% of the refined project area has

been excavated. Thirty-nine thousand two hundred and twenty-eight artifacts were recovered within the project limits. When combined with the 3,737 artifacts recovered during the reconnaissance survey and site examination, 42,965 prehistoric and historic artifacts have been recovered from this site. These artifacts are largely associated with the prehistoric occupation of the property during the Early and Middle Woodland Periods. Prehistoric artifacts including bifaces, projectile points, corded and stamped pottery, ground and pecked stone tools, and fire-cracked rock were recovered. Smaller quantities of historic domestic and architectural refuse were also recovered and document the nineteenth century occupation of the property by the Stuarach and Stever families.

G. **SIGNIFICANCE STATEMENT:** The Schoharie Creek II site possesses much of its original integrity and contributes to our understanding of both the prehistory and history of the region. Given the integrity of the site and its research potential, the site is considered eligible for the National Register of Historic Places under Criteria D, as a place that has and is likely to yield information important to the prehistory and history of the region.

H. **POTENTIAL IMPACTS AND RECOMMENDATIONS:** Cultural deposits associated with the Schoharie Creek II site are located within the proposed right-of-way and will be impacted. Sufficient information has currently been recovered which would allow questions outlined in the approved data recovery plan (Rieth 1999) to be addressed. No additional work is recommended. However, if the project workscope is revised to impact deposits located beyond the current project limits, additional work is recommended to assess the NR eligibility of these deposits.

I. **AUTHOR/INSTITUTION:** Christina B. Rieth, New York State Museum, Division of Research and Collections, 3118 Cultural Education Center, Albany, New York.

J. **DATE:** May 2002.

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NYSDOT PROJECT DESCRIPTION

This report presents the results of a data recovery excavation completed at the Schoharie Creek II site (NYSM # 10383) in the Town of Schoharie, Schoharie County, New York. This project represents the final phase in a series of cultural resource investigations conducted for PIN 9306.56.122, the replacement of BIN 1-00413-0 over the Schoharie Creek and the realignment of Route 7. This work was completed in 1999 by staff from the Cultural Resouce Survey Program at the New York State Museum and conformed to guidelines for such work as outlined in the *New York State Education Department's Work Scope Specifications for Archaeological Investigations on New York State Department of Transportation Projects* (NYSED 1998). The results of this project were determined based upon field excavations, analysis of artifacts, and an extensive literature search of the project area.

NYSDOT PROJECT LOCATION AND DESCRIPTION

The Schoharie Creek II site is located in the village of Central Bridge, Schoharie County, New York (Figures 1 and 2, Photographs 1 and 2) and was identified in 1996 during a reconnaissance survey for Route 7 (Rieth and LoRusso 1996). PIN 9306.56.121 involves the replacement of BIN 1-00413-0 over the Schoharie Creek in the Town of Schoharie, Schoharie County. The new bridge will resemble the old bridge and will be placed in the same general location as the existing bridge. The abutment for the new bridge will be placed west of the current abutment approximately 7.5 m (25 ft) east of the driveway of Structure F (no address #). Currently, a small well for Structure F (no address #) is located in this general area and will also need to be relocated to facilitate the construction of the new bridge. Although the new well is expected to be placed within the current project limits, the exact location of this feature has not yet been determined (Joseph Pollock, Personal Communication, July 1999). In addition to the removal of the bridge, other impacts to the property will result from the removal of trees and shrubs, and the relocation of telephone poles and guardrails along the south side of Route 7. A temporary single lane bridge will also be constructed along the north side of Route 7. This temporary structure will be constructed 20 m (64 ft) north of the existing bridge and will be built on top of the original pre-1927 bridge abutment. The area of impact will be confined to the previously disturbed berm/fill along the north side of the roadway and will not impact the prehistoric deposits that are located along the northwest and northeast corners of BIN 1-00413-0 (Joseph Pollock, Personal Communication, July 1999).

SUMMARY OF PREVIOUS INVESTIGATIONS

The Schoharie Creek II site was identified during a reconnaissance survey of the Route 7 roadway during the Fall of 1996 (Rieth and LoRusso 1996; see also Figures 3 and 4). This survey identified six archaeological sites within the original project limits. Two sites were historic (the Old Schoharie Hotel and Railroad site and the Fanning House site), one prehistoric (the Sidney site), and three (the Warner Site, the Schoharie Creek I, and the Schoharie Creek II sites) multi-component. Given the large concentration of artifacts and the apparent integrity of the sites, site examinations were recommended for the Schoharie Creek I (Figure 4), Schoharie

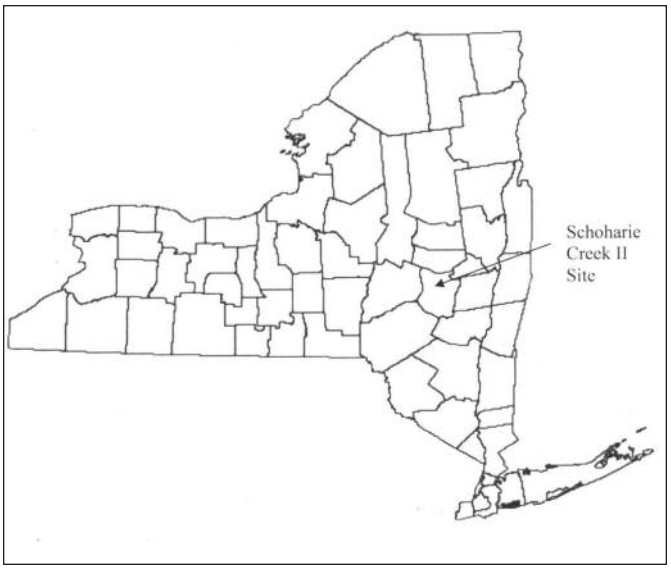

Figure 1. Map showing the location of the Schoharie Creek II site.

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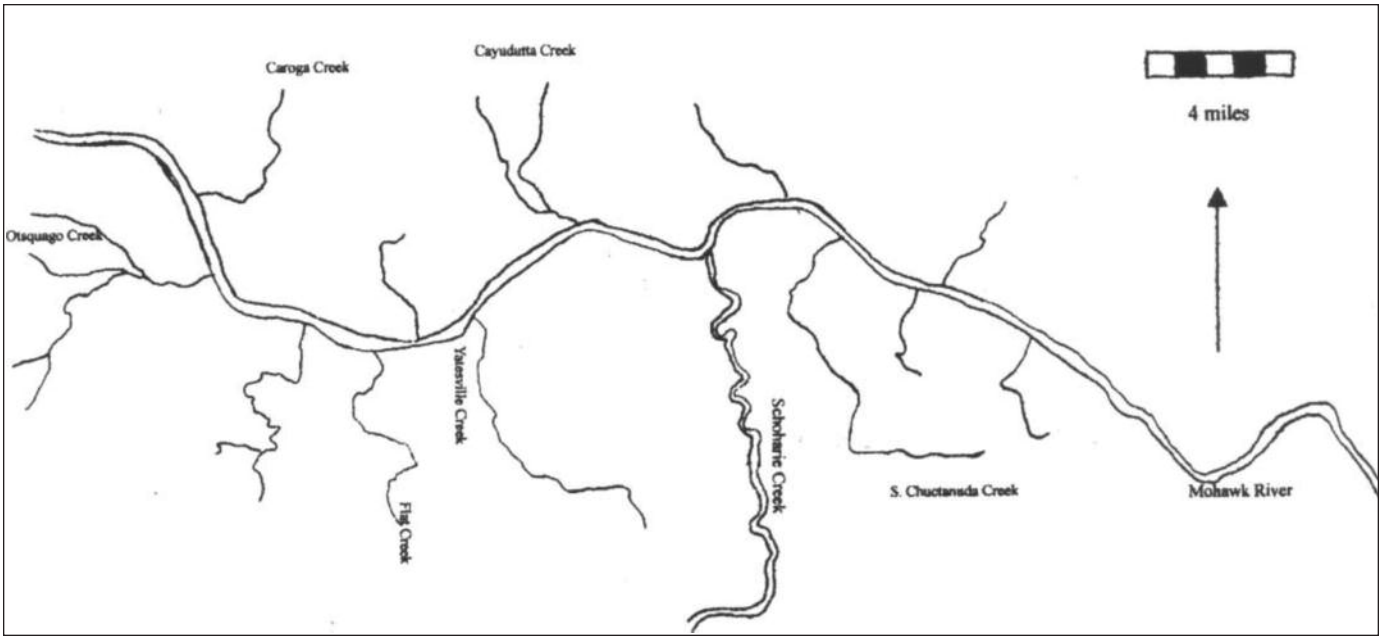

Figure 2. Map showing the Schoharie Creek within the larger drainage system of eastern New York.

Photograph 1. Looking west across the southern half of the Schoharie Creek II site from the eastern bank of the Schoharie Creek.

Photograph 2. Looking east across the southern half of the Schoharie Creek II site from the intersection of Route 7 and Smith Road.

Creek II (Figure 3), and Old Schoharie Hotel and Railroad sites if they could not be avoided. NYSDOT Region 9 determined that the Schoharie Hotel and Railroad site could be avoided although site examinations for the Schoharie Creek I and II sites would need to be completed.

Two hundred and fifty-nine artifacts were recovered from the Schoharie Creek II site during the 1996 reconnaissance survey (Rieth and LoRusso 1996). Approximately 45.9% of these artifacts were prehistoric and included broken, primary/secondary, bifacial thinning, and tertiary flakes, lithic shatter, and chert core fragments (Rieth and LoRusso 1996:Appendix II). The tip of a broken projectile point was also recovered from one of the shovel test pits, but did not contain any diagnostic attributes. Fifty-four percent of the artifacts recovered were historic. Most of these artifacts were nineteenth century domestic and architectural debris including wire and machine cut nails, undecorated and transfer-printed whiteware (c. 1825–1875), and ironstone sherds, square and round bottle glass, pressed table glass, cinder, coal, unidentified brick and mortar, undecorated pipe stem and bowl fragments, lamp and flat window glass, and a slate roofing fragment. The only modern artifact was a piece of blue plastic from the first level of STP # 94.

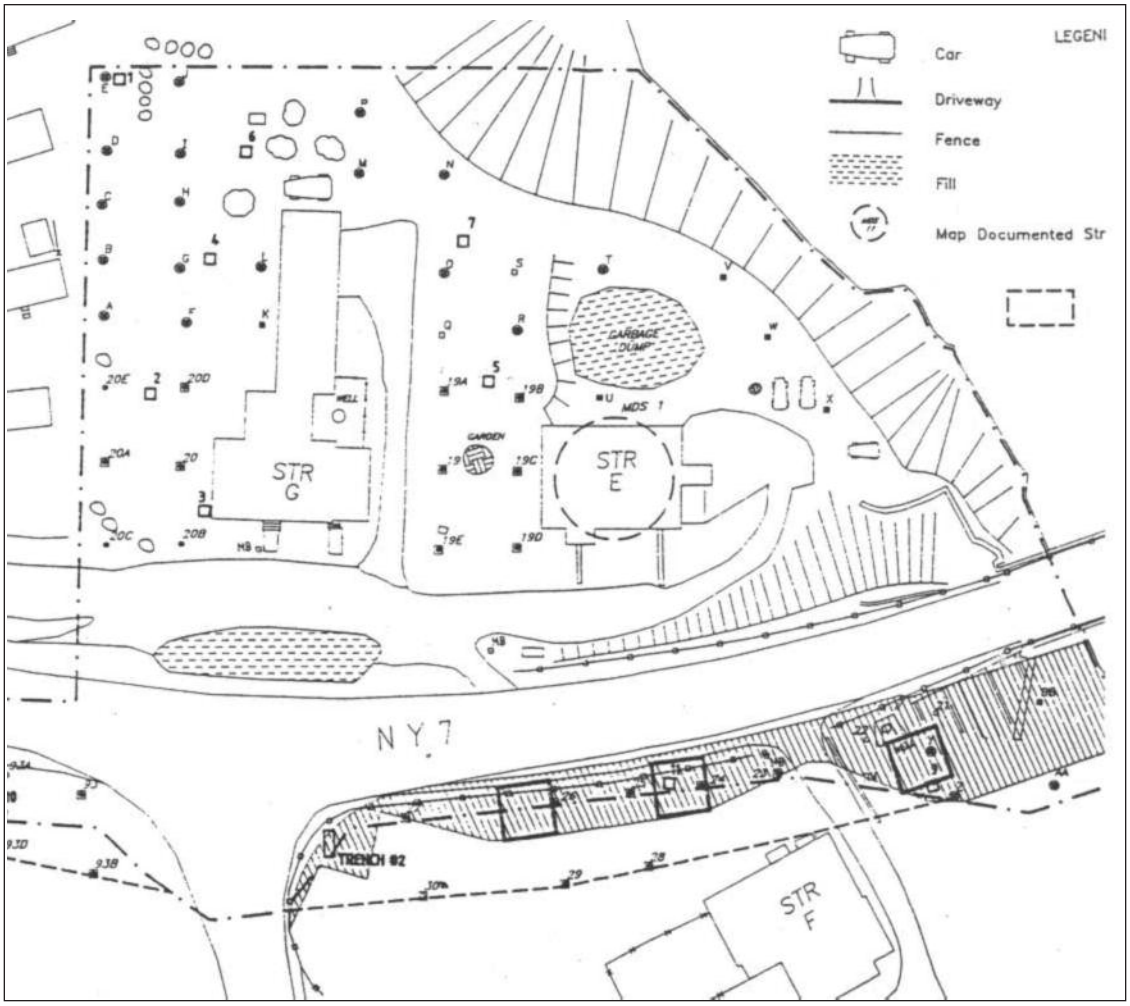

Figure 3. Map showing the Schoharie Creek II Site as excavated during the site exam.

A site examination of the Schoharie Creek II site was completed in 1998 (Rieth 1998; Figures 3 and 4). The deposits located on the front and side lawns of Structure F (no address #) were determined to have research potential and contribute to our understanding of the prehistoric and historic occupation of Schoharie County. During the site examination, 1,128 artifacts were recovered within the project limits. Seven hundred and twelve were prehistoric artifacts including utilized and non-utilized flakes and chipped stone tools. The largest number of prehistoric artifacts (447) was recovered from the front lawn of Structure F (no address #) in Unit 11. The spatial arrangement of these artifacts across the site suggests that a small prehistoric activity area may be located within the project limits. A small concentration of historic artifacts (416) was recovered from within the project limits. These are associated with the nineteenth century occupation of Structure F (no address #).

Based on the integrity, presence of features, and large number of recovered artifacts, the Schoharie Creek II site was recommended to be eligible for the National Register of Historic Places under Criterion D as a property that has or is likely to yield information that is important to the prehistory or history of the region. During the Winter of 1999, the New York State Department of Transportation, the Federal Highway Administration and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) reached an agreement to conduct a Phase III data recovery excavation to mitigate the effects caused by construction.

Within the original project limits, the Schoharie Creek II site measured 17,546 m^2 (57,567 ft^2) or 0.51 hectare (1.3 acres) in size and included deposits along the north and south sides of Route 7 (Rieth 1998). In 1999, the New York State Department of Transportation determined that the deposits located north of Route 7 could be

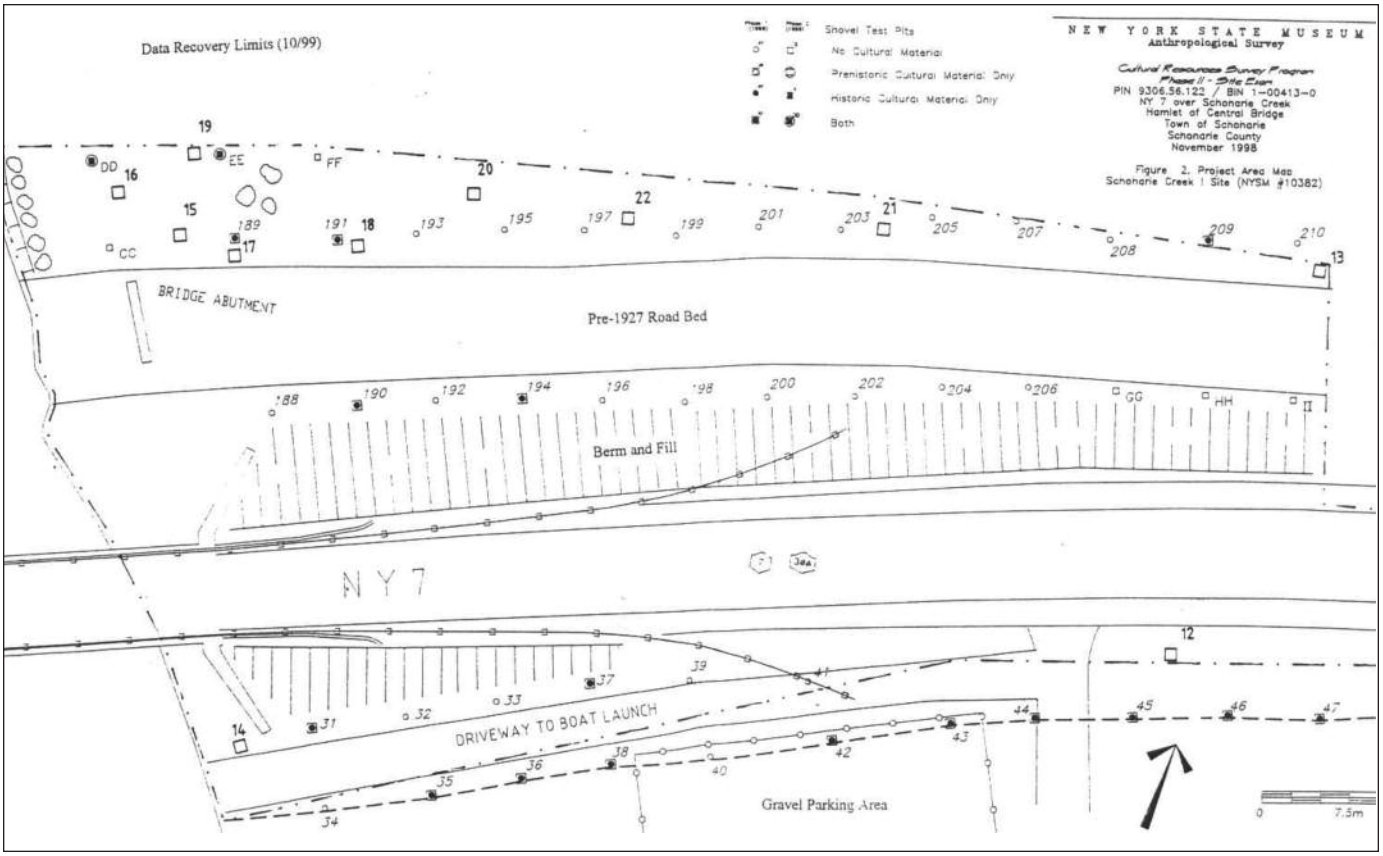

Figure 4. Map showing the location of testing at the nearby Schoharie Creek I Site during the reconnaissance survey and site examination.

avoided and only the deposits located along the south side of the roadway would be impacted. The current project area is confined to the south side of Route 7 and extends from the western bank of the Schoharie Creek west to the intersection of Route 7 and Smith Road (Figure 5, 6, and 7). The site measures 80 m (256 ft) long and has a variable width of 2–12.5 m (6.4–40 ft) within the current project limits. The current project area encompasses 500 m^2 (5,120 ft^2) or 0.05 hectare (0.12 acres).

ORGANIZATION OF REPORT

This report summarizes the results of the data recovery project and provides an interpretation of the site from this work. This report is divided into several sections with the second section discussing the environmental, prehistoric, and historic background of the site and the immediate area. The third section presents the research design and outlines the research themes of this project. The fourth section summarizes the field and laboratory methods employed during this project. The fifth section presents the results of this work. The final section provides a synthesis and overall interpretation for this site.

Christina Rieth served as the principal investigator for this project. Victoria Schmitt served as crew chief with Ben Kahn, Rachel Rollo, Jennifer Bollen, Michael Jennings, and Alexander Dupin serving as field crew. Tracey Thomas cataloged the artifacts from this site and Sylvie Browne drafted the project maps. Information concerning the project limits and workscope were provided by Joe Pollock of the New York State Department of Transportation, Region 9. Laura Knapp of Binghamton University edited this report. This project was sponsored by the New York State Department of Transportation and the Federal Highway Administration.

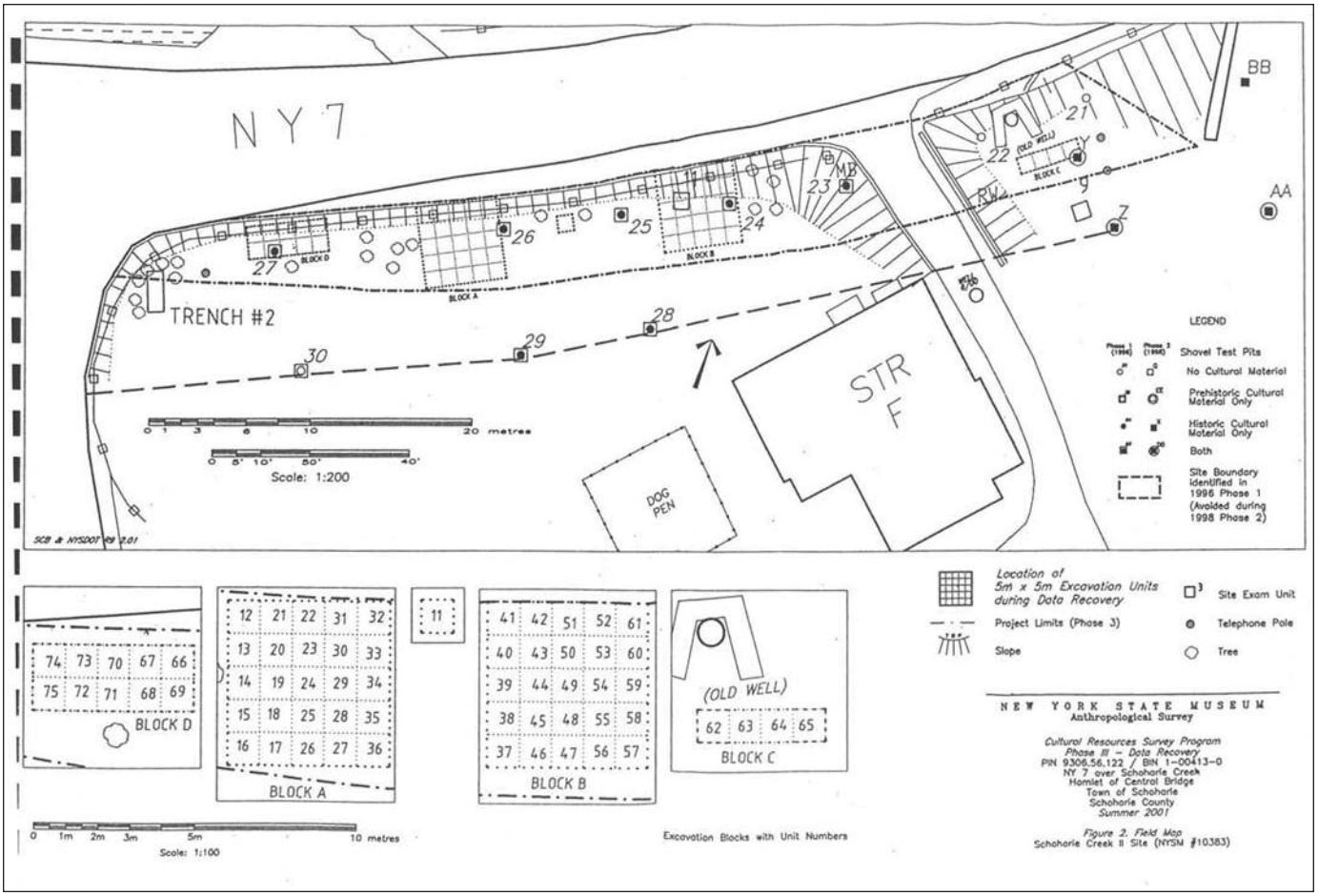

Figure 5. Map showing the location of the units excavated during the data recovery.

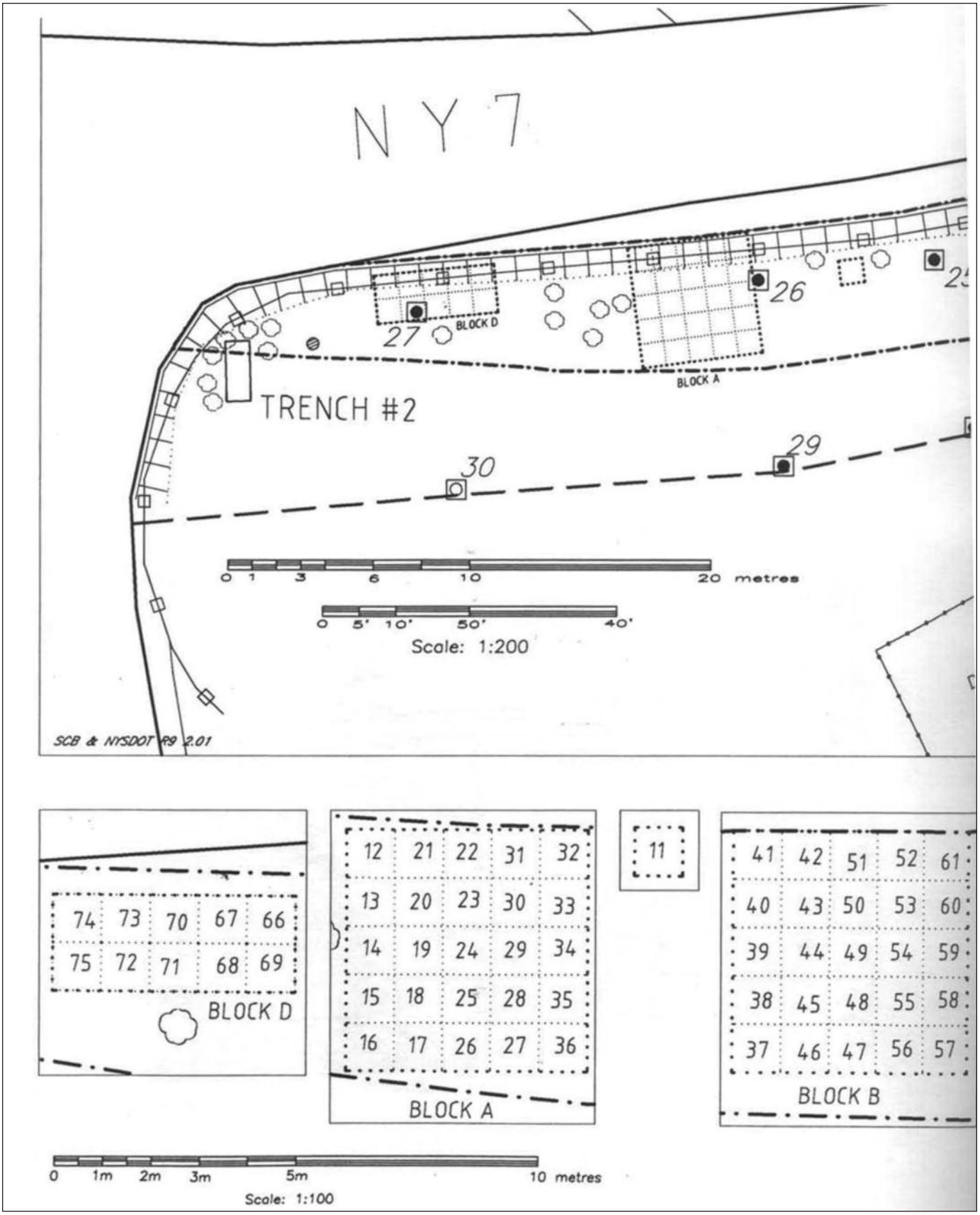

Figure 6. Map showing the western half of the Schoharie Creek II Site.

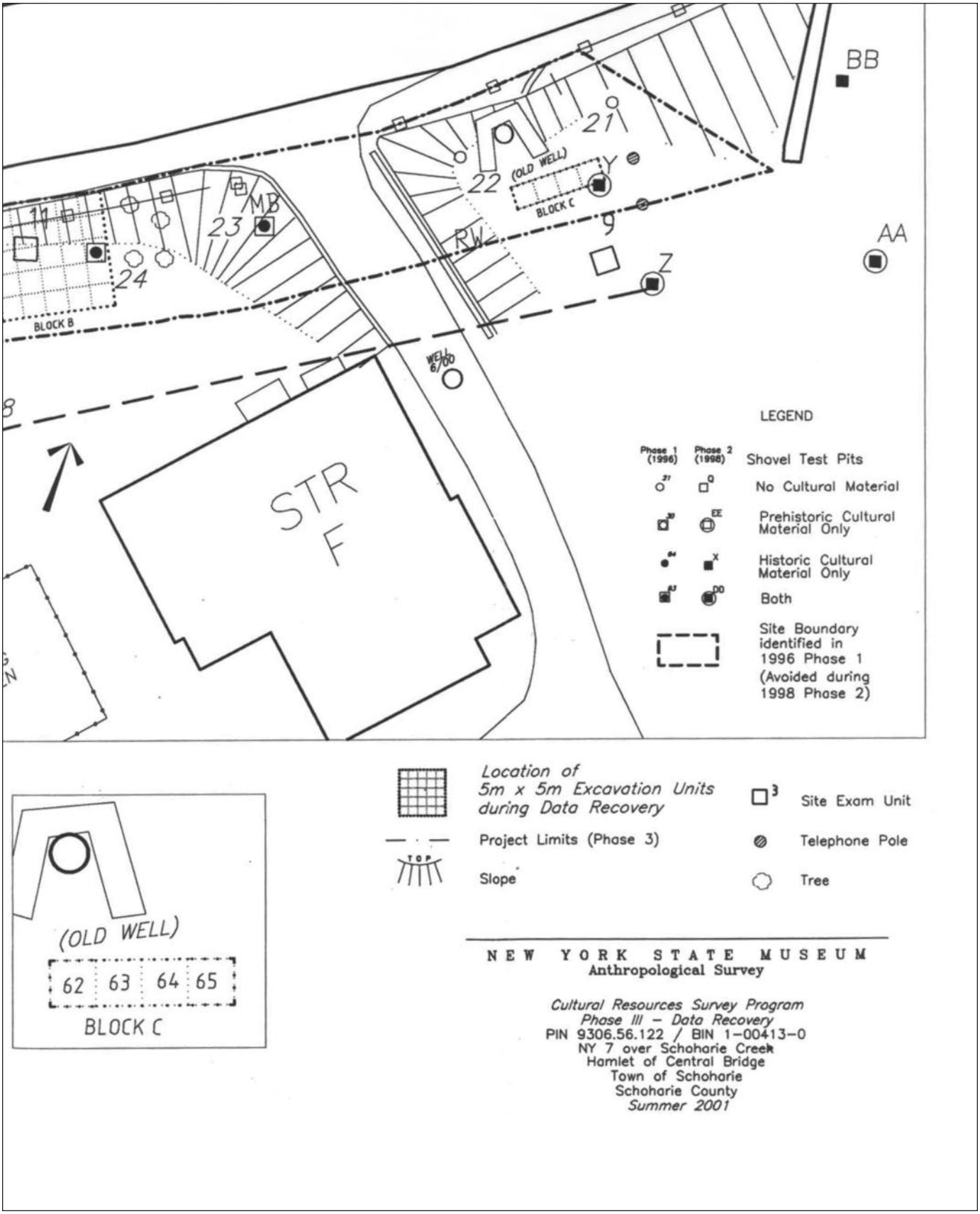

Figure 7. Map showing the eastern half of the Schoharie Creek II site.

BACKGROUND

The Schoharie Creek II site is a small multi-component site located along the western bank of the Schoharie Creek in the village of Central Bridge, Schoharie County, New York. The 1996 reconnaissance survey (Rieth and LoRusso 1996) and the 1998 site examination (Rieth 1998) produced artifacts associated with (1) the occupation of the site as a small prehistoric camp and (2) debris associated with the nineteenth century domestic occupation of Structure F (no address #). In order to place this site within an appropriate local and regional context, the following section provides a brief overview of the local and regional environment, and the prehistory and history of the Schoharie Valley.

ENVIRONMENTAL BACKGROUND

Regional Context

The current project area is located along Route 7, in the village of Central Bridge, Schoharie County. Schoharie County is located in eastern New York and is part of the Appalachian Highlands Region (Van Diver 1985). In northern Schoharie County, this region is characterized by a series of rolling hill plains and terraces that form the western boundary of the Catskill Mountains Region (USGS. 1917:5). The current project area and the larger village of Central Bridge are located along a large rolling plain 365 m (1,200 ft) above sea level. Low-lying areas surround the project area decreasing to an average elevation of 182 m (600 ft) above sea level east of the project area.

The *Soil Survey of Schoharie County, New York* (USGS 1969) indicates that many different soils surround the Schoharie Creek II site. The Tunkhannock and Chenango gravelly silt loam soil series is found along the eastern boundary of the PIN 9306.56.122 project area near the intersection of Junction Road and Route 7 (USGS 1917). This soil series is usually found in low lying areas that are level or contain a slope of less than five percent. The A-horizon is composed of a brown or dark brown friable gravelly silt loam soil that extends to a depth of 10 cm (4 in.) below the ground surface. The B-horizon is a reddish brown gravelly silt loam that extends to a depth of 30 cm (12 in.) below the ground surface. The C-horizon is composed of a reddish yellow silt loam soil that extends to an approximate depth of 50 cms (20 ins.) below the ground surface. These soils are conducive to agriculture and are naturally well drained (USGS 1969:113).

Deposits belonging to the Odessa and Rhinebeck silt loam series are found west of Schoharie Creek (USGS 1969). This soil series produces a dark brown silt loam A-horizon that extends to a depth of 35 cm (11 in.) below the ground surface. A medium reddish brown silt loam subsoil, which extends to a depth of 115–153 cm (36–48 in.) below the ground surface, can be found underneath. Some areas contain a mottled light brown or gray silt clay loam horizon that is often found in between the plowzone and the underlying B-horizon (Figure 8; Photograph 3).

Central Bridge is located at the junction of the Cobleskill and Schoharie Creeks. Historically, these two waterways played an important role in the industrial and the agricultural livelihood of the region. In addition, these two waterways may have also served as important transportation routes and/or resource procurement locations for the prehistoric occupants of the Schoharie Valley. According to the *Soil Survey of Schoharie County, New York* (USGS 1917:5), most of the county is adequately drained with large and small waterways traversing much of the county. Despite the fact that the area is well drained, flooding occurs on an annual basis. Lindner (1987 as cited in Dineen 1987:5) argues that the Schoharie Valley has experienced 16 catastrophic floods since 1784. These floods have damaged mills, canals, dams, and buildings along the creek and may have been facilitated by nineteenth century agricultural practices (Lindner 1987 as cited in Dineen 1987:5).

Site-specific Context

The Schoharie Creek II site is located on a small floodplain and terrace overlooking the western bank of the Schoharie Creek. The site can be found at an elevation of 176–182 m (580–600 ft) above sea level. Although the Schoharie Creek II site is largely flat, east of the driveway the landscape slopes toward the creek forming a small floodplain.

During the 1996 reconnaissance survey (Rieth and LoRusso 1996) and the 1998 site examination (Rieth 1998), three soil layers were identified within the project limits. The first soil layer produced an artifact bearing

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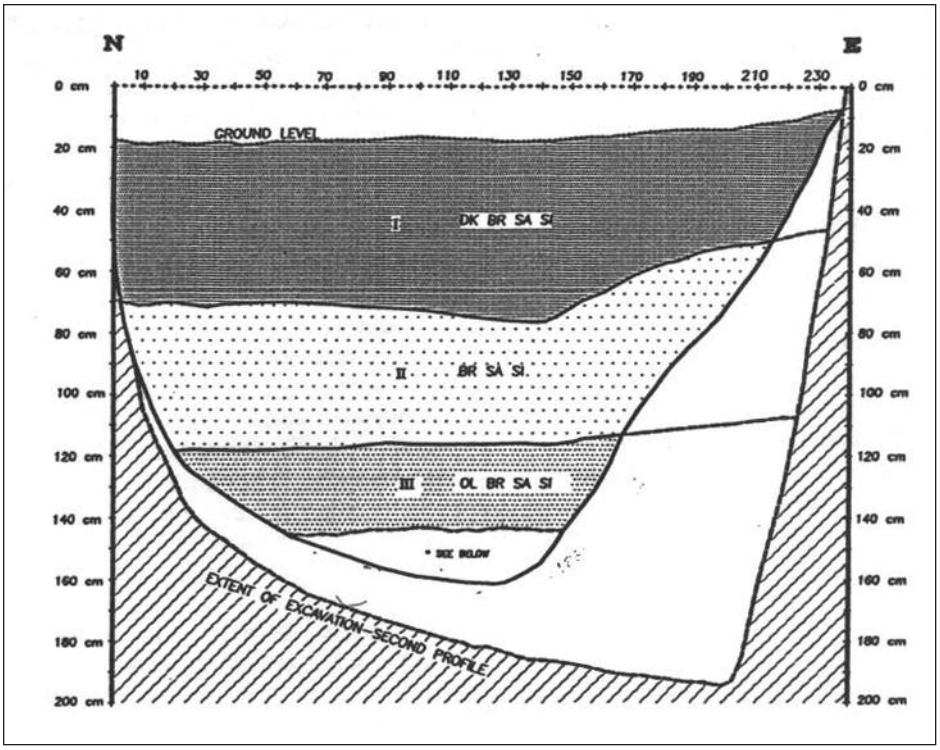

Figure 8. East wall profile of Test Trench 2 excavated during the 1998 site examination.
(Rieth 1998).

Photograph 3. East wall profile of Test Trench 2 excavated during the 1998 site examination.
(Rieth 1998).

dark brown silt (7.5 YR 4/4) soil to an average depth of 30 cm (0–12 in). The second soil layer contained a brown silt soil (7.5 YR 5/4) to a depth of 100 cm (39 in) in Unit 11. In Test Trench # 2, this soil layer was deeper extending to a depth of 120 cm (47 in). Most of the artifacts were recovered from the second soil layer at a depth of 30–50 cm (Rieth 1998:70, Rieth and LoRusso 1996:155). The bottom half of the soil layer (50–120 cm) is sterile. A third olive brown sand clay soil was identified at a depth of 120 cm (47 in) in Test Trench # 2. This soil layer extends to a minimum depth of 152 cm (60 in) and may ultimately extend to a depth of 220+ cm (86 in) below the ground surface. Two prehistoric artifacts (a chert flake and a broken biface) were discovered near the interface of the B and C-horizons (110–130 cm) and was initially thought to represent a second prehistoric component at the site. In Test Trench 2, no prehistoric artifacts were recovered from the base of the third soil horizon (152–220+ cm).

Immediately adjacent to the Schoharie Creek II site is the Schoharie Creek. The Schoharie Creek is the major waterway through the region and may have provided the prehistoric and historic occupants of the PIN 9306.56.122 project area with an important water source for the completion of domestic and agricultural tasks. In addition, this waterway may have also been an important resource for the prehistoric occupants of the project area since it probably served as an important transportation route and may have also served as an important fishing and resource procurement area.

The Schoharie Creek II site is currently used as a residential property. Minor changes to the property between the 1996 reconnaissance survey (Rieth and LoRusso 1996) and the 1999 data recovery excavations include the construction of a small storage shed adjacent to Structure F (no address #) and the construction of a small flower garden east of the driveway.

PREHISTORIC BACKGROUND

The prehistory of the Schoharie Valley spans the last 12,000 years (Ritchie 1994; Ritchie and Funk 1973; Snow 1980) and resembles the culture history of eastern and central New York (Table 1). For the purpose of this report, only the Archaic (8,000–1,500 B.C.), Transitional (1,500–1,000 B.C.), and Woodland (1,000 B.C.–1600 A.D.) periods are discussed since they are most relevant to the current data recovery project. A more detailed discussion of the prehistory of the Schoharie Valley can be found in the reconnaissance survey (Rieth and LoRusso 1996) and site examination (Rieth 1998) reports.

The Late Archaic Period (c. 4,000–1,500 B.C.) is defined by gradual environmental warming during the end of the Wisconsin glaciation (Table 1). Following the warming of the environment and the receding of the glaciers during the Early and Middle Archaic Periods (c. 8,000–4,000 B.C.), indigenous populations often exploited white-tailed deer, turkey, and passenger pigeon. Charred botanical remains indicate that butternuts, acorns, berries, and a variety of aquatic resources were also exploited by the prehistoric occupants of New York. The tool kits utilized by the Late Archaic occupants of New York include small stemmed projectile points (Ritchie and Funk 1973), chipped stone tools (e.g. utilized flakes, scrapers, drills, etc.), ground or pecked stone tools (e.g. celts, beveled adzes, mortars, pestles, anvilstones, pitted stones) as well as other items manufactured from bone and shell. According to Ritchie and Funk (1973), the Late Archaic occupants of eastern New York were mobile and occupied a variety of settlements throughout the year. Small camps, generally located along small lakes, the shallow portions of large lakes, and small rivers and streams, were occupied during the spring and summer months while small backcountry habitations (especially rockshelter sites) were often occupied during the winter months. Currently, Late Archaic occupations have been identified at the nearby Schoharie Creek I (Rieth 1998; Rieth and LoRusso 1996), NYSM # 9281 (New York State Museum Site Files, Albany), NYSM # 220 (New York State Museum Site Files, Albany), Webster (Dean et al. 2002; Rieth 2002) and Chance sites (Ritchie and Funk 1973).

Transitional groups occupied New York from 1,500 to 1,000 B.C. (Ritchie and Funk 1973). These prehistoric groups, like their Archaic predecessors, employed a hunter/gatherer/fishing economy that involved the establishment of small seasonal camps along local

Table 1. Overview of prehistory of central and eastern New York from 10,000 B.C. to A.D. 1600.

Cultural Period	Date (B.C./A.D.)	General Environmental Characteristics	Dominant Subsistence Strategies	Location Preference
Paleo-Indian	10,000–8,000 B.C.	Park tundra	Large game (megafauna); limited plant utilization assumed	High elevation, primarily overlooking major stream
Early Archaic	8,000–6,000 B.C.	Spruce forest transforming into pine forest.	Aquatic resources (avian and piscean), small mammals in area; aquatic plants	Margins of major aquatic features (e.g. bogs, swamps, streams)
Middle Archaic	6,000–4,000 B.C.	Pine forest transforming into deciduous forest	Aquatic resources with more reliance upon game.	Margins of aquatic resources, but more variability in land form.
Late Archaic	4,000–1,500 B.C.	Deciduous hemlock-oak forest	Broad-spectrum resource exploitation, including hunting, fishing, and foraging.	Margins of aquatic resources, but more sites located in different topographic areas.
Transitional	1,500–1,000 B.C.	Deciduous oak forest, hemlock decline	Unclear; broad spectrum with emphasis on aquatic resources.	Unclear; stream orientation.
Early Woodland	1,000–100 B.C.	Deciduous oak forest	Broad-spectrum adaptation similar to Late Archaic	Similar to Late Archaic
Middle Woodland	100 B.C.–1,000 A.D.	Oak forest; hemlock increase	Broad spectrum, possible introduction of certain cultigens	Similar to Late Archaic
Late Woodland	A.D. 1,000–1600	Oak forest; hemlock stabilization	Hunting, fishing, foraging; increasing reliance upon maize horticulture	Diverse according to resource procured.

(after Ritchie and Funk 1973)

waterways. The Transitional occupants of New York occupied sites along primary streams and/or near the shallow portions of small lakes (Ritchie and Funk 1973:72–73). Presently, only a handful of Transitional Period sites have been located in back-country areas away from sizeable waterways (Ritchie and Funk 1973; Snow 1980). Although the settlement patterns of Transitional groups resemble those of Late Archaic groups, the material objects used by these groups are quite different. Transitional Period tool kits often include the following items: large broad-stemmed Susquehanna, Perkiomen, and Orient Fishtail projectile points (Ritchie 1971), soapstone vessels, small quantities of Vinette I pottery, notched netsinkers, and chipped and ground stone tools. In the Schoharie Valley, components dating to the Transitional Period have been identified at the Chance site (New York State Museum Site Files, Albany).

Sites dating to the Woodland Period (c. 1,000 B.C.–A.D. 1600) have also been reported in the Schoharie Valley. Despite the large number of Late Woodland sites (A.D. 1,000–1,600) that have been located in the adjacent Mohawk Valley, few Late Woodland sites have been identified in the Schoharie Valley. Rather, the majority of the Woodland sites that have been identified date to the Early or Middle Woodland Period (c. 1,000 B.C.–A.D. 1,000). The Early Woodland settlements are found throughout much of New York (1,000–100 B.C.) with settlements often located along the shores of large lakes and streams with some settlements constructed along the same topographic features as Late Archaic sites. The subsistence strategy of these groups is concentrated in seasonal gathering, fishing, and hunting. Although cultivated plants begin to appear on sites in the Eastern Woodlands during this time period, no known domesticates have been found on these sites in New York. Terminal Early/Middle Woodland sites often provide evidence of participation in a regional and/or intra-regional burial ceremonial complex similar to that described for Adena groups in Ohio (Ritchie and Funk 1973). The material culture of these Early Woodland groups is much more diverse than that of the Archaic and Transitional cultures and includes Vinette I pottery, copper ornaments, ground stone tools and ornaments (including birdstones, tubular smoking pipes, gorgets, and boatstones), as well as chipped stone tools (e.g. including Meadowwood and Adena points, drills, scrapers, ovate knives, etc.). Local sites dating to the Early Woodland Period include the Schoharie Creek I (LoRusso et al. 1981) and Nahrwold No. 2 (Ritchie and Funk 1973) sites.

The Middle Woodland (100 B.C.–A.D. 1,000) occupants of New York developed a more complex set of behaviors which not only included the exploitation of a wide variety of wild plants (e.g. chenopodium, sunflower, tobacco) but also required participation in long distance trade networks and complex burial practices resembling those of the Adena-Hopewell culture in Ohio (Ritchie and Funk 1973). Artifacts associated with these groups include small Jack's Reef and larger Fox Creek projectile points, cordmarked and stamped containers, platform pipes and an assortment of ground/pecked and chipped stone tools. Some sites also contain copper and shell ornaments (Snow 1980). Middle Woodland components have been identified at the Westheimer (Ritchie and Funk 1973), NYSM # 220 (New York State Museum Site Files, Albany), and Sebold (NYSM # 8361) sites.

The Late Woodland Period (A.D. 1000 to 1600) is often associated with the Owasco and Iroquoian cultural traditions. The Owasco tradition dates between A.D. 1000 and 1300 and is characterized by the occupation of small sedentary villages along hilltops and defensible knolls (Prezzano and Rieth 2001; Ritchie 1994; Ritchie and Funk 1973). Unlike the earlier occupants of New York, the subsistence strategy of these groups included the consumption of domesticated and non-domesticated plants. The material remains of these Owasco groups include cordmarked containers, triangular projectile points, mortars, netsinkers, corded and incised pipes, awls, and other chipped stone and bone artifacts. By A.D. 1300, the Schoharie Valley was occupied by groups who affiliated themselves with the later Mohawk Iroquois. These groups resided in permanent or semi-permanent palisaded villages atop defensible knolls and hilltops near major rivers and streams (Ritchie and Funk 1973). Other changes, including the intensification of domesticated plants and the use of palisades for defense also occurred during this period. Late Woodland sites identified near the project limits include NYSM # 220 (New York State Museum Site Files, Albany), Van der Werken (New York State Museum Site Files, Albany), Chance (Ritchie and Funk 1973), and Nahrwold (Ritchie and Funk 1973).

Despite the large number of Archaic, Transitional, and Woodland Period sites that have been identified near the project area (see Rieth and LoRusso 1996), only a few sites have been extensively excavated. The largest, and probably the most well known site, is the multi-component Westheimer site. Excavations at the site were completed by William Ritchie (Ritchie and Funk 1973:123) during the summer of 1966. According to Ritchie and Funk (1973), the site is located on a small late-glacial terrace overlooking the main branch of the Schoharie Creek and produced three distinct occupation layers. Occupation 1 consists of a scatter of Early-Middle Owasco material including the rim and body sherds from an Owasco Corded Horizontal vessel,

Levanna projectile points, a variety of chipped stone tools (e.g. perforators, scrapers, a drill, utilized flakes, etc.), netsinkers, a pebble hammer, and two anvilstones. Occupation 2 dates to the Middle Woodland Period and produced artifacts that point to the site's use as a short term camp. Mitigation of the site produced 15 features (mainly postmolds and small hearths) and several hundred artifacts including corded, dentate and incised vessels, lanceolate, stemmed, and side-notched points, large Patalas blades, knives, adze, hammerstones, and anvilstones. Occupation 3 was located underneath and could not be dated to a particular time period. Although Occupation 3 was located underneath, Ritchie and Funk (1973:145) suggest that this occupation may also date to the Middle Woodland Period and may be contemporaneous with artifacts found in Occupation 2. Artifacts recovered from this occupation include thumbnail scrapers, hammerstones, small trianguloid bifaces, and six biface blanks. Several prehistoric sherds were also recovered but could not be associated with a particular time period.

The Nahrwold site is located west of the project area near the village of Middleburg and represents a small Owasco-Iroquoian village site located atop a small terrace overlooking the floodplain of the Schoharie Creek. Although Ritchie (1973) defined two residences at the site, the large number of postmolds suggests that other and/or alternate house patterns may have been utilized. Other prehistoric features were also recovered including small circular hearths and pit features, human burials, and a small dog burial. Among the artifacts recovered from the ground surface and small pit features were small bifaces, cordmarked and incised ceramics, netsinkers, pestles, pitted stones, shell beads, drills, stone pendants, and lithic debitage (Ritchie 1968; Ritchie and Funk 1973). Subsistence remains from the site include white-tailed deer, turkey, Canadian geese, and sturgeon (Guilday 1973 as cited in Ritchie and Funk 1973).

Property History and Relationship to Local Context

The reconnaissance survey and the site examination of the Schoharie Creek II site produced artifacts associated with the prehistoric occupation of the property (Rieth and LoRusso 1996; Rieth 1998) during the Middle Woodland Period as evidenced by the recovery of a Fox Creek Stemmed projectile point base in Unit 6. A second broken projectile point was also recovered from the northern side of Route 7 in STP N but could not be associated with a particular time period or cultural tradition. The units that have been excavated along the south side of Route 7 have not currently produced diagnostic artifacts making it difficult to determine whether these deposits are contemporaneous with similar deposits found along the north side of the road. The recovery of prehistoric artifacts in three different soil layers suggests that stratified deposits dating to several different time periods may also be present at the Schoharie Creek II site.

Several dozen prehistoric sites have been identified within 3.2 km (2 mi) of the PIN 9306.56.122 project area (NYSOPRHP Site Files 1996; Rieth and LoRusso 1996). However, only a handful of these sites have been professionally excavated leaving a gap in our understanding of the regional organization and resource scheduling activities of these prehistoric populations. In the absence of detailed excavations, our understanding of the prehistoric occupation of the Schoharie Valley has largely been interpreted based upon the data recovered from the Middle Woodland Westheimer, and Late Woodland Nahrwold and Chance sites (Ritchie 1968; Ritchie and Funk 1973). Completion of this project not only contributes to our understanding of this site but also contributes to our understanding of the prehistoric occupation of the larger Schoharie Valley.

HISTORIC BACKGROUND

Given the location and small size of the community, much of the history of the village of Central Bridge is tied into the history of the neighboring towns of Cobleskill and Schoharie. The earliest description of the area dates to 1711 and is associated with the purchase of a 400 acre tract of land by Adam Vrooman. Historic records indicate that the land was purchased from a group of Indians for 110 gallons of rum and a few blankets (Hendrix and Hendrix 1988). A few years later in 1718, the town of Schoharie was officially incorporated as part of Albany County. Beginning in 1721, portions of Schoharie County were occupied by a group of German immigrants, who were known locally as the Palentines. The Palentines settled in the Schoharie Valley after fleeing to the United States to avoid religious persecution in Europe. According to LoRusso, Cornell, and Ross (1981:13), the nearby Route 30 was one of the primary transportation routes for these groups as they traveled through the county during the early part of the nineteenth century.

By the end of the eighteenth century, Central Bridge and the surrounding town of Schoharie were continuously ravaged by British and American troops who were anxious to control the region due to its importance as a transportation route between the Hudson and Mohawk Valleys. In addition, the British were also anxious to control the Schoharie Valley since the area was

one of the principal suppliers of wheat for the Continental army (Hendrix and Hendrix 1988). A small blockhouse was soon constructed along the eastern side of the Schoharie Creek near the intersection of Route 7 and County Route 27. According to Hendrix and Hendrix (1988), troops were stationed at the blockhouse and were often deployed to protect local settlements against raids by local Indians and supporters of the British crown.

The eastern portion of the PIN 9306.56.122 project area was occupied as part of Kniskerndorf following the Revolutionary War. Kniskerndorf consisted of a small tract of land owned by J. A. Kniskern and was occupied by him and his family between the years 1780 and 1855. The original Kniskern residence was probably located near the intersection of NYS Route 7 and County Route 27. A deed search of the PIN 9306.56.122 project area indicated that the holdings of the Kniskern family were vast and included properties along the western bank of the Schoharie Creek near Structures E (no address #), F (no address #), and G (no address #).

The population of the Town of Schoharie increased between 1790 and 1800 due to the large influx of families from New England and eastern New York. The population of the town increased from 2,073 in 1790 to 9,808 individuals in 1800 (Hendrix and Hendrix 1988:55).

Beginning in the mid-1800's, construction activities for the town's flourishing transportation industry had begun. According to the 1855 *Map of Schoharie County* (Wenig and Lorey 1855), a small tollgate was constructed along Route 7 near the Schoharie Creek (Figure 9). The purpose of this tollgate is unknown although it was probably associated with travel along the Route 7 roadway (Figure 10 and 11). The tollgate appears to have been removed and was probably relocated to the western bank of the Schoharie Creek near Structure E/MDS 11 between 1855 and 1865.

The Albany and Susquehanna Railroad was initially constructed through southern Schoharie County during the 1830s (Figure 9, 10, and 11). To more efficiently transport goods and passengers to the railroad, a local link (known as the Schoharie Valley Railroad) was con-

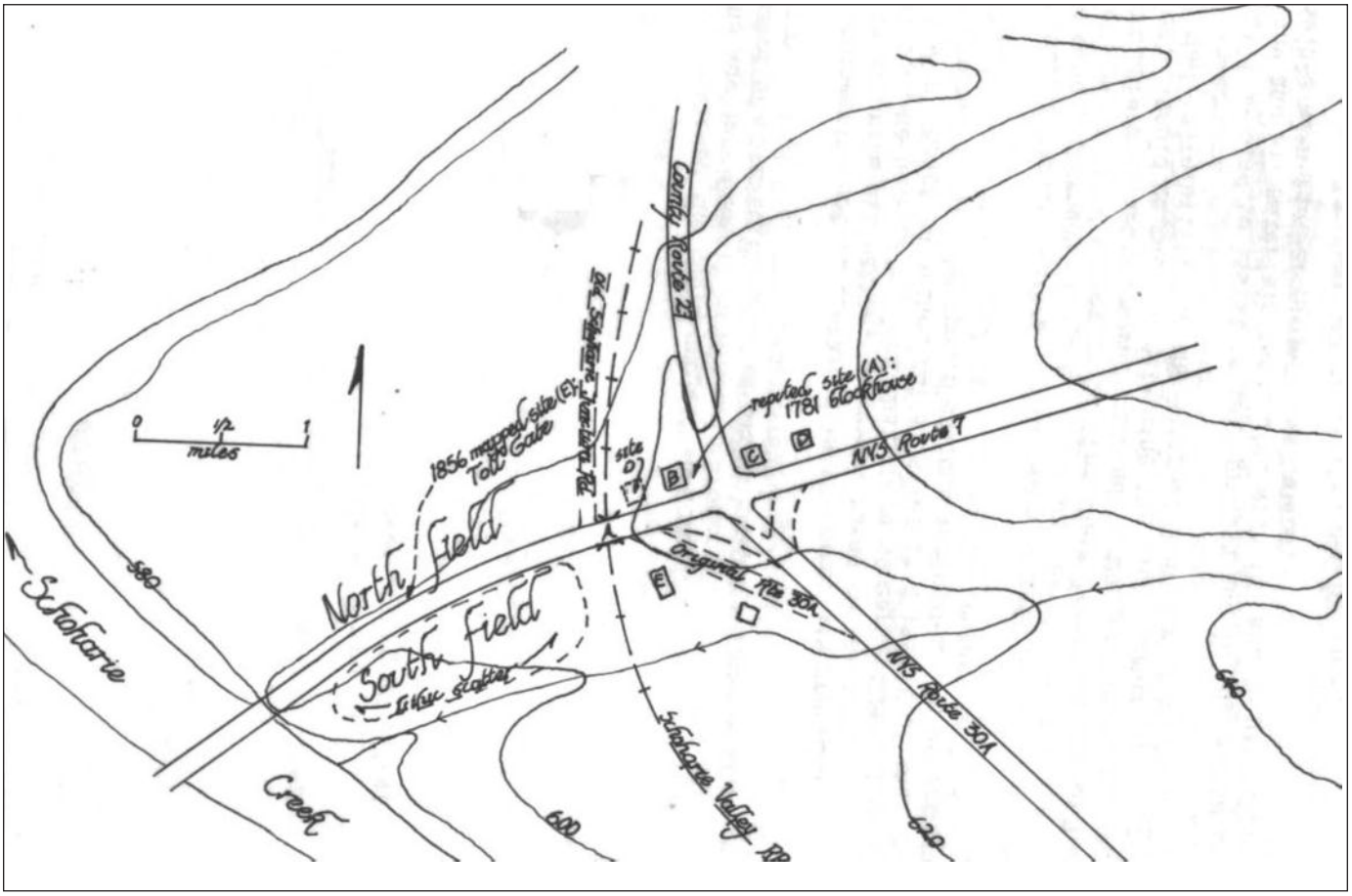

Figure 9. Map reproduced from LoRusso et al. (1981) showing the location of the tollhouse, and Schoharie Valley Railroad east of the project area.

structed through the original project area in 1867. Throughout the next decade, this local link served as a vital means of transporting goods and passengers to markets in eastern and central New York. Several historic maps, indicate that the railroad intersected the project area along the east side of Schoharie Creek. A small roadway was also constructed perpendicular to the Route 7 roadway and was used to load passengers and agricultural products onto the train. Nineteenth century maps of Central Bridge indicate that several buildings including a small hotel (Figure 12), a livery station, and store/inn were also constructed in this area.

Child (1872) indicates that the village of Central Bridge increased in size and importance following the construction of the railroad. By 1870, Central Bridge was no longer a small commercial town but contained 2 churches, a hotel, a store, a harness shop, a blacksmith shop, a wagon shop, 2 gristmills, a sawmill, a machine shop, and 20+ houses. The 1875 *New York State Census of Schoharie County* (New York State Census 1875) also indicates that the village of Central Bridge had grown extensively following the construction of the railroad through the county with the population of the Town of Schoharie increasing to 3,207 individuals by 1870.

The hamlet of Central Bridge continued to be a thriving commercial center in Schoharie County during the last two decades of the nineteenth century. Among these industries were a small livery station and the Central Bridge Automobile Company. Historic descriptions of the livery station indicate that the structure consisted of a multi-story building with public washroom, a room for the caretaker, an area for storing grain and equipment, a chicken coop, and an outhouse (Cooper 1984:25).

Although the Schoharie Valley Railroad continued to operate into the twentieth century, automobiles soon replaced the railroad as the primary means of transportation. With the decline of the railroad, the village of Central Bridge slowly deteriorated with many of the local industries relocating to the neighboring village of Schoharie. Several modifications were also made to the Route 7 roadway including the removal of MDS 11 in 1912 and the realignment of the bridge over Route 7 in 1927.

The village of Central Bridge is currently occupied as

Figure 10. Looking toward former tollhouse and railroad on north side of Route 7.
(reproduced from LoRusso et al. 1981).

Figure 11. Looking toward former tollhouse and railroad on south side of Route 7. The Schoharie Creek II site is shown in the background of the photograph while the Schoharie Creek I site is shown in the foreground.
(Reproduced from LoRusso et al. 1981).

Figure 12. Former tavern located east of the Schoharie Creek II site adjacent to Route 7.
(Reproduced from Lorusso et al. 1981).

a small residential hamlet with many families engaged in farming. Because of the limited number of jobs in the village of Central Bridge, most people work in the neighboring communities of Schoharie and Cobleskill. Much of the project area has remained unchanged since the first two decades of the twentieth century.

Property History and Relationship to Local Context

The Schoharie Creek II site produced artifacts associated with the occupation of Structure F (no address #) between 1865 and 1895. This period is characterized by the transformation of Central Bridge from a small agricultural hamlet to a leading agricultural center in New York. This transformation, which was largely facilitated by the construction of the Schoharie Valley Railroad through the community, probably also led to changes in the socio-economic status, consumption patterns, and organization of individual households. The hamlet of Central Bridge was primarily occupied as a small agricultural community up through the first quarter of the twentieth century. The increased use of the automobile combined with the establishment of better roadways made the railroad obsolete by 1920. Following the decline in the use of the railroad, many of the businesses that had previously been established within the village of Central Bridge relocated to the nearby communities of Schoharie and Middleburg.

The historic context for the Schoharie Creek II site can be associated with the agricultural use of the property during the nineteenth and early twentieth centuries (Table 2). The earliest reference to this property is contained in the 1866 *New Topographic Atlas of Schoharie County, New York* (Beers and Beers 1866). Structure F (no address #) is shown as the residence of William Stuarach. The 1870 *Federal Census of Schoharie County* (Federal Census 1870) lists William Stuarach as a farmer.

This property was owned by Abram and Nancy Stever between 1877 and 1890 (Schoharie County Land

Table 2. Summary of Household Members between 1860-1998.

FED CENSUS	STATE CENSUS	NAME (AGE)	OCCUPATION	HOUSEHOLD MEMBERS (AGE)
1860				
	1865	W. Stuarach	Farmer	
1870		W. Stuarach	Farmer	
	1875	W. Stuarach	Farmer	
1880		Abram Stever (71)	Retired Farmer	Nancy Stever (61)
				Adam Loucks (27)
	1885	Abram Stever	Farmer	
1890		Abram Stever (83)		
	1895			
1900		Mary E. Stalker		
	1905	---		
1910		Edward Stalker (65)	Odd Jobs	Mary Stalker (60)
	1915	Edward Stalker (69)	Farmer	Mary E. Stalker (64)
1920		Edward Stalker (74)	Laborer (Highway)	Mary Stalker (69)
	1925	William Stalker	---	Lottie Stalker
1930		Sherman J. Stalker	---	Emma J. Stalker
	1935	Minerva Benson	---	---
1940		Minerva Benson	---	---
	1945	Minerva Benson	---	---
1950		Minerva Benson	---	---
	1955	Minerva Benson	---	---
1960		Minerva Benson	---	---
	1965	Minerva Benson	---	---
1970		Minerva Benson	---	---
	1975	Louis Benson	---	Virginia Benson
1980		Louis Benson	---	Virginia Benson
	1985-present	George Morris	---	Martha Morris

Deed 1877). The 1880 *New York State Census of Schoharie County* (State Census 1880) indicates that Abram Stever (aged 71) occupied the house with his wife Nancy Stever (aged 61) and her son Adam Loucks (aged 27). In this same document, Stever is listed as a retired farmer and his wife is listed as keeping house. Nancy's son Adam is listed as a farm worker. Although Abram Stever is listed as a retired farmer in 1880, there is some indication that he may have had a more prominent role in the community prior to his occupation of Structure F (no address #). According to the *1872–1873 Business Directory of Schoharie County* (Child 1872), Abram Stever (or Strever) is listed as a "farmer and poor master". The Abram Stever family retained the property until 1897 when the property was transferred to Elmer and Elizabeth Stever by Nancy Stever. The property measured approximately one acre in size at the time of the land transaction. One year later, Elmer and Elizabeth Stever sold the property to their daughter Maria Stever. Between 1897 and 1898, the size of the property increased to 2 acres in size.

Mary E. Stalker purchased the property from Maria Stever in 1899 for $500. According to the 1910 *Federal Census of Schoharie County* (State Census 1915), the Stalker household was composed of Edward Stalker and his wife Mary (then aged 65 and 60). Although Mary Stalker spent much of her life as a housewife, her husband retained several different jobs including a farmer, and highway laborer. Although the 1912 *New York State Department of Transportation Road Construction Map* indicates that the house was occupied by "F. Stalker", this is probably a typographic error. As seen on the 1927 *New York State Department of Transportation Road Construction Map* (NYSDOT 1927), the property was retained by Edward Stalker.

The property was inherited by William and Lottie Stalker upon Mary Stalker's death in 1927 (Schoharie County Will Book 200, page 3). Early twentieth century census records indicate that William Stalker lived nearby and was employed as a farmer (New York State Census of Schoharie County 1925). In 1929, William and Lottie Stalker sold the property to their son Sherman and his wife Emma J. Stalker for $1,200.00. The property measured 2 acres in size at the time of the land transaction (Schoharie County Land Deed 1931). Within two years of its purchase, Sherman Stalker sold the property to Minerva Benson for $1,200.00 (Schoharie County Land Deed 1931). Minerva Benson continued to occupy the property for the next forty-years until her death in the early 1970's. Following her death, the property was inherited by Louis Benson and his wife Virginia (Schoharie County Book of Wills 1985). The property was retained by Louis and Virginia Benson until 1985 when the property was purchased by the current occupants George and Martha Morris (Schoharie County Clerk Land Deed 1985). Recent modifications to the property include the construction of a small flower garden along the southeast corner of Structure F (no address #) and the construction of a dirt driveway along the southwest corner of the house. Both of these modifications occurred beyond the revised project limits and have not impacted the current project area.

RESEARCH ISSUES

PREHISTORIC RESEARCH ISSUES

The Schoharie Creek is a major tributary of the Mohawk River and the associated Schoharie Valley represents an important corridor that links the adjacent Susquehanna, Mohawk, and Hudson Valleys. As such, the Schoharie Valley is considered by many archaeologists (e.g. Ritchie and Funk 1973) to have been an important settlement and resource procurement area throughout the Archaic, Transitional, and Woodland Periods. Unfortunately, the lack of professional excavations in this region has not only limited our ability to interpret activities associated with the regional organization and resource scheduling tasks of these prehistoric populations but has also created a noticeable gap in our understanding of the prehistoric settlement of eastern New York.

Compounding this problem is a distinct bias on the part of archaeologists toward the excavation of larger camps and semi-permanent village sites in the region. As evidenced by the site files at the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation, dozens of prehistoric sites can be found in the Schoharie Valley. These sites are quite diverse with small and large seasonal camps (e.g. SUNY-Binghamton 1974), village sites (e.g. Ritchie and Funk 1973), burial sites, and temporary resource processing stations (e.g. Jones et al. 1992) reported. Unfortunately, only larger base camps and Late Woodland villages (e.g. Ritchie and Funk 1973; Snow 1995) have been intensively investigated. As a result, the diverse relationship between these larger sites and smaller camps continues to be poorly understood.

Mitigation of the Schoharie Creek II site has contributed to our understanding of the prehistoric settlement of the Schoharie Valley by producing information about the subsistence and settlement activities of one of these small camps. Specific research themes that were addressed during this project include (1) chronology; (2) settlement organization and site function; (3) subsistence; (4) organization of lithic technology; and (5) site formation processes. A detailed discussion of these research themes is provided in the following pages.

Chronology

The chronology of the Schoharie Creek II site needs to be refined before other research questions can be addressed. As discussed in the Background section, the base of a Jack's Reef Pentagonal or Fox Creek Stemmed projectile point has already been recovered from the north side of the Route 7 roadway in Unit 6. These points are usually found on sites dating to the Middle Woodland Period and probably indicate that the deposits on the north side of the road date c. 2000–1000 B.P. (Ritchie 1971; Ritchie and Funk 1973). Prior to the mitigation of the Schoharie Creek II site, no diagnostic artifacts were recovered from the south side of the roadway. Although we initially expected the deposits identified in the first and second soil layers to also date to the Middle Woodland Period, successful completion of this data recovery project required confirmation of the temporal affiliation of this portion of the site using radiocarbon dating and/or stylistic analysis. Specific research questions addressed included the following: When was the south side of the roadway occupied? and Are the deposits on the south side of the roadway contemporaneous with the deposits located on the north side of the road? Data required for AMS dating derived from carbon-bearing features. Stylistic analysis was also employed and required the recovery of temporally diagnostic artifacts (e.g. ceramics, projectile points, etc.) from identified features and living floor contexts within the project limits.

Site Formation Processes

The second research theme addresses questions related to the formation of the natural and cultural landscape. Reconstructing the formation processes of a site is a complex task that requires an understanding of the dynamic relationship between past populations and the local environment. According to Butzer (1990:37-39), this complex relationship often requires that a geomorphological study be completed so that questions related to prehistoric/historic land use and development of the local landscape can be adequately addressed.

The formation of the Schoharie Creek II site was reconstructed through a detailed study of the site's geomorphology. Analysis of the soils (and their association with cultural material) allowed researchers to document how individual soil horizons (and the corresponding floodplain and terrace) formed and allowed issues related to the post-glacial deposition of prehistoric materials in two distinct soil layers to be studied. These types of

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data revealed information regarding site stratification and assisted archaeologists in clarifying issues related to the vertical and horizontal distribution of artifacts across the site.

Since excavation units were placed along the terrace and the western edge of the floodplain, a comparative study of the geomorphology of these two environments was possible and further enhanced our understanding of the formation of this prehistoric site. Soil samples were collected for organic carbon and particle size analysis and provided insights into the physical characteristics and prehistoric use of these different environments.

Specific research questions that were addressed included: Does the geomorphology of the site support the belief that the Schoharie Creek II site contained two distinct prehistoric occupations? If not, what processes were responsible for the deposition of prehistoric cultural materials in different stratigraphic layers? Is the age of the soils consistent with the artifacts found in them? and How has the formation of the site (and the adjacent Schoharie Creek) affected the vertical and horizontal distribution of artifacts across the site?

Spatial Patterning and Site Function

The third research theme addressed questions relating to the spatial patterning and function of the Schoharie Creek II site. Information about the spatial patterning and function of a site is most readily reflected in the distribution of structures, features, and artifacts across the site. Archaeologists reconstructed the spatial patterning of the Schoharie Creek II site through an analysis of the horizontal and vertical distribution of artifacts and features within the project limits. As discussed in the Background section, two vertically discrete concentrations of artifacts were identified within the current project limits. The first concentration of artifacts was previously identified along the interface of the first and second soil layers at an approximate depth of 20–50 cm (8–20 in) (see Rieth 1998). This concentration of artifacts represents the primary prehistoric component at the site and was tentatively interpreted as a small hunter-gather camp during the previous site examination. The second concentration of artifacts was identified at a depth of 120–152 cm (47–60 in) and produced a broken biface and a chert flake. Due to the limited amount of testing at the base of the second and third soil layers during the site examination, researchers were unable to determine whether these artifacts represented a second prehistoric component or whether they represented isolated artifacts that were deposited as a result of some other process. During the current data recovery project, this issue was explored through the excavation of deep 2 m^2 units across the site to a final depth of approximately 152 cm. Specific research questions associated with this work included: How many prehistoric occupations are present at the site?, and What is the vertical relationship between these different occupations?

Refinement of the horizontal distribution of artifacts across the site is equally important and also represented a major research focus of this mitigation project. As discussed in Rieth (1998), two artifact clusters were identified within the original project limits. Both of these artifact clusters were identified along the interface of the first and second soil layers and one of these artifact clusters produced a Middle Woodland projectile point. Although the artifact cluster on the north side of the roadway was avoided, the cluster along the south side of the road remained within the current project limits. Mitigation of this artifact cluster produced data that assisted archaeologists in addressing the following research questions: What is the size of this artifact cluster within the current project limits?, Can specific activity areas be defined within this artifact cluster?, If so, how do these activities relate to our current interpretation of the site? A detailed examination of the types and spatial distribution of artifacts within this cluster formed the basis for addressing these research questions.

The identification of features within the project limits is important and provided information about the site's function and duration of use. Northeast archaeologists regularly argue that the function of a site is dependent upon the types of features that are found (Ritchie and Funk 1973; Snow 1980). Moeller (1992) similarly argues that a detailed analysis of the size, shape, and feature contents can provide meaningful information about the site's duration of use, seasonality, and activities. Identification of features within the project limits allowed archaeologists to address the following research questions: How many features are located within the project limits? Do these features consist solely of small hearths or are other features (e.g. postmolds, storage pits) present within the project limits? and What do these features tell us about the site's duration of occupation? Archaeologists located features by excavating larger units within the project limits. Two units were placed within and immediately adjacent to one of these large artifact clusters. Information about the size, shape, and feature contents was recorded on standard field forms. In addition, flotation samples were collected from each feature and produced carbonized seeds, nutshell, and wood charcoal that was used to enhance our understanding of the seasonality of this hunter-gatherer site.

Finally, the artifacts themselves provided information about the spatial organization and function of this

prehistoric site. Archaeologists often argue that the types of chipped stone tools and the types of debitage that are deposited at a site are indicative of group mobility and settlement organization (Binford 1978; Kintigh 1984; Magne 1985). Despite these claims, only a handful of Northeast archaeologists have used lithics to enhance their discussion of settlement organization (Cesarski 1996; Versaggi 1987). Mitigation of the Schoharie Creek II site provided an opportunity to contribute to this research theme by exploring the unique relationship between lithic technology and settlement organization. As discussed in the following pages, a detailed analysis of the lithics was completed and questions about settlement organization were addressed, including: Do the lithics support the use of the site as a small prehistoric camp? If not, what type of settlement pattern do they reflect?

Subsistence

The fourth research theme addressed research questions concerning the subsistence economies of these prehistoric hunter-gatherer populations. Arcaeologists have long constructed subsistence models that emphasize the important role that hunting and gathering played among the prehistoric peoples of the Northeast. Although aviary and aquatic resources are often recovered from these sites, these specimens are not considered to be primary food items and have been regarded as supplementary foods among Northeast hunter-gatherer populations. An important aspect of these models is the belief that this type of subsistence strategy was uniformly adopted across the Northeast and continued to be practiced (relatively unchanged) between the Late Archaic (c. 6,000 B.P.) and the first half of the Middle Woodland (c. 1,500 B.P) Periods (Ritchie 1968; Ritchie and Funk 1973). Recently, archaeologists have questioned this assumption, suggesting that the subsistence strategies of these prehistoric populations were probably more complex with prehistoric groups consuming different types and frequencies of foods (e.g. Asch Sidell 1999; Bernstein 1992, 1999; Cassedy 1998; Versaggi 1999).

Mitigation of the Schoharie Creek II site has contributed to this research issue by documenting the subsistence practices of the occupants of this small site. As discussed in the Artifact Analysis section, questions relating to the subsistence economy of the site's occupants were addressed based upon the recovery of floral and faunal remains from features and living floor contexts. Identification of floral remains was completed by a professional archaeobotanist while identification of the faunal remains from the site was completed by staff from the New York State Museum.

Microscopic analysis of the chipped stone tools and utilized flakes also contributed to our understanding of the subsistence activities of prehistoric groups. A small portion of the lithic assemblage was examined for use-wear analysis (see Organization of Lithic Technology section). Microscopic analysis of these artifacts produced detailed information about the range of materials (e.g. bone, meat, plants, etc.) that were being processed by the occupants of this site.

Mitigation of the Schoharie Creek II site produced enough information to allow the following research questions to be addressed: What types of foods were being consumed by the occupants of this site? Do the food remains suggest that the site was occupied during a particular season? and, How do the floral and faunal remains from this site compare with contemporaneous sites in eastern New York?

Organization of Lithic Technology

Questions relating to the use and manufacture of stone tools were also pursued. Stone tools and debitage are often one of the most important artifact classes found on prehistoric sites due to their abundance, imperishability, and information content (Callahan 1979; Morrow 1997:51–69; Odell 1996). Recent studies of these types of artifacts using macro- and microscopic techniques have not only provided archaeologists with information about how these objects were manufactured (Callahan 1979) but have also contributed information about prehistoric site use and duration of occupation (Odell 1996), the subsistence patterns of prehistoric populations (Kay 1996), and the accumulation and exchange of raw materials across a larger geographic region (Shott 1994). The reconnaissance survey and the site examination of the Schoharie Creek II site produced over 700 lithic artifacts within the current project limits (Rieth and LoRusso 1996; Rieth 1998). Mitigation of the Schoharie Creek II site also generated a large number of flakes and other bifacially worked tools that could be analyzed using general and microscopic techniques.

Throughout the last two decades archaeologists have become aware of the importance of modeling lithic production trajectories (e.g. Kintigh 1984; Magne 1985; Odell 1996). As a result, researchers have attempted to (1) understand the processes through which unmodified raw materials are transformed into finished tools and (2) establish a typology for the flakes generated by the production of stone tools. Previous work conducted during the site examination suggests that examination of both the finished tools and the debitage will help us to understand the types and range of tool-making activities that were occurring at the Schoharie Creek II site (Rieth 1998). During this project, staff from the New

York State Museum reconstructed the stages of manufacture (using both the finished tools themselves and the associated debitage) so that questions about settlement systems, group mobility, and stone tool production could be addressed. Specific research questions include: Were the occupants of this site exploiting several different quarries or does the range of materials suggest that a single local outcrop or quarry was exploited? Is the lithic assemblage composed of artifacts that reflect many different reduction stages or does the assemblage reflect only a few distinct reduction stages? and What can this information tell us about the settlement patterns of the site?

The bifacially worked tools and a sample of debitage were subjected to microscopic use-wear analysis. Use-wear analysis informs us about the range of the materials processed (e.g. meat, bone, hide, shell, plants, etc.), the activities involved in the preparation of these materials (e.g. scraping, boring, crushing, etc.), and whether expedient tools were hafted. Although only one other lithic use-wear study exists for the Schoharie Valley (Jones et al. 1992; Versaggi et al. 1993), several similar studies have been completed for sites in southern and eastern New York (e.g. Pagoulatos 1992; Pope 1996) and serve as models for this project. Specific research questions pursued include: What types of materials are being processed at the Schoharie Creek II site?, What types of techniques are used to process these materials?, and Is there any evidence that the utilized flakes and the other expedient tools were hafted prior to use?

HISTORIC RESEARCH ISSUES

Investigation of the nineteenth century occupation represents a minor research focus of this data recovery project. According to Fitts (1999:39–63), the solidification of the middle class is characterized by the transformation from a rural agrarian to a market economy, the reorganization of households, changes in the socio-economic status of individual households and increased participation in a regional economy. Mitigation of the Schoharie Creek II site generated data that could be used to address research questions relating to two aspects of this transformation (1) the socio-economic status of the site's occupants and, (2) the internal and external relations of this rural nineteenth century household.

Socio-economic Status

Mitigation of the Schoharie Creek II site generated data that could be used to assess the socio-economic status of the occupants of this mid-late nineteenth century household. According to Spencer-Wood (1987), a household's socio-economic status is not only reflected in their consumer choices and attitudes but is also reflected in the amount of surplus money that a household has to purchase material goods. For example, non-locally produced items, including matched tea sets and table wares, were often expensive to purchase and were only used by the most affluent members of the community. By comparison, basic household necessities (e.g. redware and stoneware bowls, milk pans, etc.) were relatively inexpensive items to produce and were purchased by a larger segment of the population. An important aspect of a household's socio-economic status is reflected in the symbolism or social prestige that is assigned to the item by both the user and the rest of the community. Pieces of porcelain and matched tea and table wares from the side yard of Structure F (no address #) suggest that the occupants of this household may have been using these items as "public symbols" of their social and class standing within the community.

Evidence of socio-economic status is also evident in the dietary patterns of individual households (Huelsbeck 1991). In his analysis of the community of Canandaigua, Siles (1990:160) argues that the consumption patterns of wealthy and lower class households can provide valuable information about the social characteristics of rural farming communities. For example, although middle and lower class households both ate a combination of animal foods and vegetables, wealthier households consumed greater quantities of fresh vegetables than poorer households. Wealthier households generally consumed large quantities of beef and chicken while lower class households consumed pork and fish. Both upper and lower class households consumed cider and corn whiskey. However, wealthier households consumed wine and French brandy with dinner while lower class households drank beer with their meals (Siles 1990:160).

Mitigation of the Schoharie Creek II site generated data that allowed archaeologists to address the following research questions: What is the socio-economic status of the occupants of this rural household? Is the household's socio-economic status reflected in the types of material goods that were used? and Did the residents of Structure F (no address #) consume foods that were consistent with the household's socio-economic status?

Internal and External Relations

The final research question relates to the internal and external relations of this rural household. Questions relating to the internal relations of the household explored how the occupants of this rural farmstead interacted with other households in the village.

Analysis of the artifacts from the reconnaissance survey and the site examination suggest that these interaction patterns may have occurred along social and economic lines with socially structured events (e.g. afternoon teas and elaborate dinners) being important venues of interaction. Questions relating to the external relations of the household examined how the occupants of the community interacted with groups living outside of the community. Previous research suggests that the construction of the Schoharie Valley Railroad may have increased interaction between the Schoharie Valley and outlying areas as well as affording the occupants of this site greater access to non-locally produced goods (Rieth 1998). During the data recovery project, the following research questions were addressed: Were the goods utilized by the residents of Structure F (no address #) locally produced or was this household participating in a larger regional economy? Were the residents of this property heavily reliant on markets in Albany and Binghamton for household and farming goods or does this household appear to have been self-sufficient?, and How did local events (e.g. establishment of the Schoharie Valley Railroad) affect the external relations of this rural household?

METHODOLOGY

FIELD METHODS

The horizontal and vertical extent of the site will need to be adequately investigated to address the research questions proposed for the data recovery project. The current project workscope indicates that field investigations needed to be completed in an area measuring approximately 80 m (256 ft) long and 2–12.5 m (6.4–40 ft) wide. In total, the project area encompassed approximately 500 m^2 (5,120 ft^2) or 0.05 hectares (0.12 acres). One hundred and ten shovel test pits (STPs), 11 1 m^2 units, and 2 backhoe trenches have already been excavated within the original boundaries of the Schoharie Creek II site during the reconnaissance survey and site examination (Rieth and LoRusso 1996; Rieth 1998). Of these, 11 STPs, 2 1 m^2 units, and 1 backhoe trench were excavated within the current project limits. In total, 6.4 m^2 (20.48 ft^2) or 1.2% of the current project area has already been investigated.

Another 14.6% of the Schoharie Creek II site was excavated as a result of this mitigation project. Mitigation of the Schoharie Creek II site involved the excavation of two 5 m^2 (16 ft^2) units and 14 1 m^2 units within the refined project limits. Given the unique characteristics of this project, the two large 5 m^2 units were excavated for the following reasons. First, successful completion of this data recovery project required that features be identified within the project limits. Although features could be located in smaller units, the large size of these units increased the likelihood that such features would be identified within the project limits. Second, deep testing was required to thoroughly evaluate the deposits at the top of the third soil layer.

The two 5 m^2 units were placed on the front lawn of Structure F (no address #), while the remaining units were distributed on the east and west sides of Structure F (no address #). Excavation of the larger 5 m^2 units proceeded in two stages. First, each of the 5 m^2 was divided into smaller 1 m^2 units which were individually excavated 15 cm (6 ins.) into the sterile soils encountered at the top of the second soil layer (approximate depth of 50 cm) using shovels and trowels. Each of these units were excavated in 10 cm (4 in) arbitrary levels within natural soil horizons. Natural soil horizons were identified by changes in the color and texture of the soils. Changes in the color of the soil were determined using the *Munsell Soil Color Charts* (Munsell 1975) while changes in the texture of the soils were determined based upon the quantity or frequency of sand, silt, and clay present in a particular layer. The soils that were removed from these units were screened through ¼ inch (0.63 cm) mesh hardware cloth and the artifacts that were recovered from each of the units were bagged by excavation layer or feature and were returned to the Anthropology Laboratory at the New York State Museum to be washed and catalogued.

Once these units were excavated to the top of the second soil layer, a 2 m^2 (6.4 ft^2) unit was excavated through the floor of each of the 5 m^2 units. Excavation of this unit was important for three reasons. First, this unit was needed to determine whether the artifacts encountered in the third soil layer of Trench # 2 represent a second prehistoric component or whether these artifacts represent isolated finds that have been deposited as a result of other processes. Second, this unit provided the project's geomorphologist with several deep units for assessing changes in the pedology of the site. Finally, excavation of this unit allowed the deposits in the intervening soils to be further examined to insure that previously unidentified cultural deposits were not present in this soil layer.

As discussed in the following pages, intact features were located within the project limits. All of the features were photographed and drawn in plan view prior to excavation. Once the feature was bisected and a cross-section of the feature was visible in the wall or floor of the unit, basic information (e.g. feature type, the size and shape of the feature, whether the feature contains artifacts) about the feature was recorded on standard field forms and a sectional profile of the feature was drawn.

Flotation samples were collected from features and living floor contexts in standard 10 liter units with initial processing (floating and sorting) of the samples occurring at the Anthropology Laboratory of the New York State Museum. After processing, these samples were sent to a professional archaeobotanist (Nancy Asch Sidell) for identification. Analysis and identification of faunal remains were completed in-house by Elizabeth Horton of the New York State Museum. Recovery of floral and faunal remains from the site not only contributed to our understanding of the subsis-

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Photograph 4. Looking south across 5 m^2 unit located at western end of site (Block A) showing partial excavation of 2 m^2 through the floor of unit.

tence strategies of these prehistoric populations but also provided basic information about the range of plants and animals that were locally available.

Charcoal samples were collected from intact features and living floors for radiometric dating. Of the samples collected, 4 wood charcoal samples were sent to Beta Analytic, Inc. for dating using accelerator mass spectrometry (AMS). A more detailed discussion of the samples selected and their provenience is contained in the results section of this report.

Analysis of the site's geomorphology was completed by Dr. Julieann Van Nest of the New York State Museum. Soil samples were collected and sent to the University of Wisconsin for particle size (PSA) and organic carbon analysis (OCA).

PREHISTORIC ARTIFACT ANALYSIS AND INTERPRETATION

Processing and Artifact Analysis

All artifacts were returned to the Anthropology Laboratory at the New York State Museum to be washed and catalogued. Prehistoric artifacts were catalogued according to procedures developed by staff from the New York State Museum in Albany and involved assignment of artifacts to one of seven distinct material classes including chipped stone, ground stone, pottery, shell, bone, and other. Each of these material classes was further broken down into distinct subcategories based upon their specific material form, surface treatment, and/or function (e.g. gray chert Meadowwood projectile point). Approximate periods of use and/or information concerning the cultural tradition were recorded when appropriate. The resulting catalogs were entered into a relational data base management program (ACCESS) to facilitate subsequent analysis and accessioning of artifacts. With the exception of the samples that were submitted for AMS dating, all of the artifacts that were sent to consultants for analysis were returned to the New York State Museum upon the completion of the analysis. Since the samples that were submitted for AMS dating were destroyed during analysis, documentation of the submitted samples (e.g. weight, number of specimens, etc.) was completed prior to submission to Beta Analytic, Inc., for analysis. This information is included in the final artifact catalog.

Prehistoric artifacts were recovered from each of the three test units and allowed questions related to the chronology, site formation processes, spatial organization and function, subsistence, and organization of lithic technology to be addressed. Questions related to the chronology of the site were addressed using AMS dating and stylistic analysis of artifacts. Stylistic analysis of artifacts was completed by staff from the New York State Museum and involved comparing the artifacts against previously established artifact typologies. Projectile points were assigned to a particular time period based upon established point types in Ritchie (1971). Prehistoric ceramics were also recovered from the site and were assigned to types as described in Ritchie and MacNeish (1949:97–124) and MacNeish (1952).

Four wood charcoal samples were selected for AMS dating. These samples were selected to (1) maximize the likelihood that features from different occupation levels could be identified and (2) date important features across the site.

A study of the site's geomorphology was completed by Dr. Julieann Van Nest of the New York State Museum and produced data that allowed questions concerning the formation of the site to be addressed. The formation of the site was reconstructed from a visual examination and analysis of soils across the site. This work was facilitated by the collection of soil samples for particle size analysis and organic carbon analysis. Particle size analysis allowed researchers to document the physical properties (e.g. lithology, stratigraphy, etc.) of the sediments (Brown 1997). Organic carbon analysis produced information about the development and modification of soils as a result of human activity (Brown 1997). Soil samples collected from Blocks A and B were sent to the University of Wisconsin Department of Agronomy for analysis.

Given the large size and location of the excavation units across the terrace and floodplain of the Schoharie Creek, researchers collected information that allowed issues relating to the development of the site to be documented and the age of individual soil layers to be

estimated (Tankersley et al. 1997). Information regarding the formation and age of these deposits was further refined once the physical properties of the soils, artifacts, and radiocarbon dates from features were compared. Excavation of portions of the 5 m^2 units to a minimum depth of 150 cm (59 ins) should also be sufficient to allow questions regarding the stratified nature of the site to also be resolved.

Questions relating to the organization of lithic technology were examined through a detailed analysis of the chipped stone tools and debitage from the site. Processing and general cataloging of chipped stone tools were completed using the criteria outlined in the reconnaissance survey and the site examination reports (Rieth and LoRusso 1996; Rieth 1998:25–26). Initial analysis involved cataloging these artifacts according to their functional or technological attributes (e.g. biface, projectile point, debitage, utilized flake, etc.), material type, and size. Flakes and pieces of lithic shatter were further assigned to one of nine debitage categories (Table 3) and general edge wear inspection of these artifacts was completed using a binocular microscope.

Table 3. Definition of Flake Categories for the Schoharie Creek II site (NYSM # 10383).[1,2]

Flake Type	Reduction	Definition/Flake Characteristics
Primary	Early Biface Reduction	Primary flakes are characterized by more than 50% cortical material along the dorsal surface of the flake, and variation in the amount of platform preparation with some flakes exhibiting little or no cortex while others contain more extensive amounts of platform preparation. Primary flakes are usually the largest flakes in an assemblage and are formed during the initial reduction or shaping of lithic cores.
Secondary	Early Biface Reduction	Secondary flakes usually contain less than 50% cortex along the dorsal surface, often contain one or more flake scars, and show variation in the amount of platform preparation. Usually large flakes are associated with activities involving the initial reduction and shaping of lithic cores.
Tertiary	Mid-Late Biface Reduction	Tertiary flakes contain a prominent bulb of percussion and striking platform and a relative absence of cortical material along the dorsal surface. The surface of the flake may contain multiple flake scars and are usually smaller and thinner than primary and secondary reduction flakes.
Bifacial Thinning	Late Biface Reduction	Bifacial thinning flakes generally lack cortex along the dorsal surface and are smaller and thinner than primary and secondary flakes. Bifacial thinning flakes may contain an acute angle between the platform and the dorsal surface that results in a flake that has a curved lenticular appearance when viewed in cross-section. Many flakes have a lipped and/or multifaceted platform and many negative flake scars across the surface.
Pressure	Late Biface Reduction	Pressure flakes usually lack cortex along the dorsal surface and are produced during sharpening of bifacially worked tools. These types of flakes usually lack any type of formal platform preparation and are usually represented by the smallest flakes in an assemblage.
Broken	All Stages	Broken flakes consist of distal and medial flake fragments that could not be assigned to a particular flake category due to the absence of proximal end with associated platform remnant information, may occur as a result of poor materials and/or inexperience of knapper.
Utilized flakes	All Stages	Utilized flakes are flakes that have been reworked into expedient tools. These types of flakes are characterized by the presence of retouch along one or more faces and/or evidence of use wear as depicted by polish and/or striations along the edge or the artifact.
General shatter	All Stages	General shatter consists of small amorphous pieces of debitage that lack typical flake characteristics (e.g. evidence of platform preparation, a particular termination point, etc.). Shatter can be produced at all stages of reduction and can appear in a variety of sizes.
Block shatter	All Stages	Block shatter consists of large angular pieces of shatter that lack one or more flake characteristics including a well defined striking platform and/or bulb of percussion.

[1]-Refers to biface reduction stage in which flakes are produced as determined by Callahan (1979), [2]-Flake categories constructed from data outlined in Crabtree (1972), Hart and Creemens (1991), and Sullivan and Rosen (1985).

Once general morphological analysis of these artifacts was completed, a sample of the lithic assemblage was subjected to use-wear analysis. Use-wear analysis of these artifacts allowed archaeologists to determine how and under what conditions these expedient and curated tools were used. The analyzed sample included artifacts that exhibit evidence of polishes or striations on the artifact's surface as determined during general examination under low magnification. Detailed analysis of the striations (e.g. type, density, and distribution) and identification of polishes was completed using a binocular microscope at a magnification of 10x to 100x. Photographs of these types of polishes and striations were completed when possible so that a permanent record of the use-wear patterns of these artifacts could be created. Some of these photographs are included in the Results section of this report.

Ground and pecked stone tools were catalogued according to their functional characteristics (e.g. hammerstone, pitted stone, netsinkers, etc.) and material type. Correlation of these artifacts with other artifacts not only contributed to our understanding of the organization of lithic technology but also to our understanding of the function and settlement organization of the site. Before being discarded in the field, pieces of fire-cracked rock were counted and weighed. When possible, the location of recovery was recorded on the project map so that this information could be used to assess the function and settlement organization of the site.

The spatial organization and function of the site was reconstructed through an analysis of the spatial patterning of artifacts and features across the site. As previously discussed, the reconnaissance survey and the site examination identified at least one artifact cluster within the boundaries of the project area. Two of the 5 m^2 test units were excavated within the boundaries of this artifact cluster and detailed information about the horizontal arrangement of artifacts and features within this cluster resulted in the delineation of smaller activity areas across the site. Association of these activity areas with a particular function or activity was largely determined based upon the types of features and artifacts that were identified.

A detailed analysis of the vertical arrangement of artifacts in each soil layer was employed and contributes to our understanding of the stratified nature of the site as well as assisting archaeologists in determining how many different prehistoric occupations are present at the site. If two or more occupation layers are identified, variations in the distribution of chipped stone tools, debitage, and other artifacts between these different occupation levels is expected to be informative and will enhance our understanding of changes in the spatial organization and use of this site.

Site function was determined by the number and types of activities that could be assigned to a particular occupation layer. The discovery of features within the project limits (and the subsequent analysis of feature contents) formed the basis for our interpretation of the site's function. Features were assigned to different functional categories (e.g. hearths, storage pits, postmolds, etc.) based upon their contents, shape, size, and relationship to other site attributes (Moeller 1992). Features that failed to produce diagnostic artifacts but were identified in the same soil layer were considered contemporaneous. Documentation of the location of these features across the site and in relationship to high concentrations of artifacts is important and also contributed to our understanding of the spatial organization of the site.

Detailed analysis of the types of artifacts (e.g. ground and chipped stone tools) also contributed information about the function of the site. The identification of specific polishes and striations on expedient and curated chipped stone tools allowed archaeologists to make inferences about the types of resources that were exploited, the processing/preparation of these resources, and the degree of mobility needed to acquire such resources.

Documentation of the subsistence economies of the occupants of this site was determined based upon the recovery of floral and faunal remains from intact features. Flotation samples were collected in 10 liter units and were initially processed (or floated) by staff at the New York State Museum. Fourteen floral samples were sent to a professional archaeobotanist (Nancy Asch Sidell) for identification. All floral remains were identified to the lowest possible taxonomic level. Identification of individual specimens was determined based upon the size and shape of the seed. This information has been integrated with other types of data (e.g. faunal remains, lithic use-wear analysis, etc.) so that questions about seasonality and prehistoric subsistence can be addressed.

Faunal analysis was completed by Elizabeth Horton of the New York State Museum. Analysis of these specimens involved recording general information about the identification, age, and sex of the animal. When possible, more specific information about the specific bone element and portion, bone fusion, and presence of more specific markings (e.g. cut marks) was recorded. State of bone fusion can provide information about the age of the animal at the time of death. Prehistoric butchering techniques and post depositional processes (especially those caused by rodent activity) can also be inferred from markings present on the bone.

Interpretation

The resulting data were integrated to provide an interpretation of the use and function of this prehistoric site. Use-wear analysis and identification of subsistence remains from features not only provided critical information about the seasonality and function of the site but also provided information about the types of resources that were exploited and the range of activities that occurred at the site. A detailed understanding of the organization of lithic technology also contributed to our understanding of lithic exchange networks and the movement of groups throughout the Schoharie Valley. Finally, an assessment of the physical characteristics of the soils and their relationship to artifacts provided information about the chronology and the formation of the site.

An important aspect of this work involved an interpretation of the site's relationship to regional settlement and subsistence patterns. In the absence of an adequate settlement and subsistence model for the Schoharie Valley, the data that are generated will be interpreted in relationship to Versaggi's hunter-gatherer settlement model (Versaggi 1987). Although this model was originally constructed for the adjacent Susquehanna Valley, use of the model in eastern Schoharie and Albany Counties (Jones et al. 1992; Versaggi and McDonald 1991) suggests that it can provide a basic framework against which small camps can be interpreted. In the future, as new sites are identified in the Schoharie Valley, this model can be refined so that the unique characteristics of these hunter-gatherer populations are reflected.

HISTORIC ARTIFACT ANALYSIS AND INTERPRETATION

Processing and Artifact Analysis

All of the historic artifacts that were collected during this data recovery project were returned to the New York State Museum to be washed and processed. Processing of artifacts followed criteria outlined in South (1976) and involved washing, dry brushing fragile materials, cataloging, and numbering of artifacts. When possible, ceramic vessels and glass bottles were refitted so that information regarding the minimum number of vessels and vessel function could be determined.

Analysis of historic artifacts initially involved assignment of all artifacts to one of four general artifact classes based upon their function as domestic (e.g. ceramic containers, bottles, etc.), architectural (e.g. nails, bricks, mortar, shingles, window glass, etc.), personal (e.g. clothing fragments, coins, etc.), or miscellaneous artifacts (e.g. clam shell, bone, etc.). All artifacts were further classified based upon their manufacturing technique, surface decoration, form, and/or object function (e.g. blue-hand painted pearlware cup). Approximate age ranges or periods of use were assigned to specific artifact classes when appropriate. The resulting catalogs were entered into a relational data base management program (ACCESS) to facilitate subsequent analysis and accessioning of artifacts.

Analysis of artifacts in this manner is important since it allows questions concerning the socio-economic status and internal/external relations of this rural household to be addressed. A detailed analysis of the use of domestic artifacts (especially ceramics and glass tablewares) is important since it can be used to document changes in class preferences and attitudes toward material goods. The frequency of these artifacts within a particular excavation level is important since such information can also be used to assess changes in household consumption patterns and increasing participation in a regional economy.

The reconnaissance survey (Rieth and LoRusso 1996) and the site examination (Rieth 1998) produced animal bone and clam/oyster shell. Analysis of similar remains during the data recovery was completed by staff from the New York State Museum. Ranking of specific meat cuts was completed so questions concerning the relationship between household consumption and socio-economic status could be addressed.

Interpretation

Historic artifacts were also recovered from the site and provide the primary means of addressing research questions associated with the socio-economic status of the site's occupants and their internal/external interactions. The domestic artifacts that were recovered from these units are important and can be used to refine the chronology of the site and document the socio-economic status of the site's occupants. These artifacts, when combined with architectural, personal, and other miscellaneous remains, will also help archaeologists determine the degree to which this nineteenth century household participated in a regional economy. Interpretation of the site will be based on comparisons of the quantity and classes of artifacts, the use of the natural landscape, and the identification of features within the project limits. In addition, a detailed analysis of the artifacts from this property can also be used to document the social boundaries and prevailing attitudes of the members of this mid-late nineteenth century household.

CURATION

All artifacts and project documentation (e.g. unit forms, field notes, project maps, etc.) associated with the excavation of the Schoharie Creek II site are curated in the Division of Research and Collections at the New York State Museum in Albany. These artifacts are curated according to state and federal guidelines for the curation of archaeological remains as outlined in the *New York State Education Department Cultural Resource Survey Program Work Scope Specifications for Cultural Resource Investigations on New York State Department of Transportation Projects* (NYSED 1998). The New York State Museum meets state and federal guidelines for being a repository for such items.

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RESULTS

Mitigation of the Schoharie Creek II site (NYSM # 10383) produced artifacts associated with the prehistoric occupation of the site as a small hunter-gatherer camp during the Early Woodland and Middle Woodland Periods. Historic artifacts were also recovered from the site and produced information about the use of the property between c. 1865 to 1895 as the domestic residence of W. Stuarach and Abram Stever. The following section provides a description of the results of these excavations and contains a discussion of the site's natural and cultural stratigraphy, features, artifacts, and spatial arrangement.

NATURAL AND CULTURAL STRATIGRAPHY

Natural Stratigraphy (from Van Nest 2001)

The interpretation of soil development and stratigraphy at the Schoharie Creek II site are based on a geomorphologic study completed by Dr. Julieann Van Nest of the New York State Museum. According to Van Nest, the archaeological deposits at the Schoharie Creek II site are comprised of alluvial over bank deposits that are classified in the soil survey system as silt and silt loam. In square 54, approximately 1.0 m (3.2 ft) of prehistoric silt loam overlies muddy sand and pebbly gravel, and at the base of the studied section, a cobbly gravel that refused a 2.5-inch hand auger at 2.1 m below the surface. These deposits are dominated by finer fractions of silt, with clay-free rations of very coarse and coarse silt to medium and fine silt.

Soil development into the overbank deposits at the Schoharie Creek II site is typified by the section described for Unit 24, where a moderately well-developed soil with A-BE-Bt-BC-2C soil horizonation has formed. Similar soils were identified in Unit 54 but are identified as 2Ab-2Beb-2BCb-3C since they were buried by historic fill. The A horizon of this soil is typically very dark grayish brown (10YR3/2) silt loam with a granular or crumb structure and numerous worm-sized burrows. Beneath the A horizon lies the BE horizon, a yellowish brown (10YR5/4) silt loam soil with a weak angular blocky structure. Its light color and low clay content indicate that the horizon has undergone eluvial loss of both clay and iron. The Bt horizon is a dark yellowish brown (10YR4/4) silt loam with a moderate medium to coarse subangular blocky structure. Clay skins (argillans) line the faces of peds in this horizon providing field evidence for illuvial clay. Below the Bt horizon, in the BC horizon, dark yellowish brown (10YR4/4) silt loam grades with depth to reddish brown (5 YR 4/3) silt loam and loam.

In Unit 54 (and other units in Block B), four thin layers of historic fill were present and occurred as alternating light- and dark-colored soils with a total thickness of 33 cm (13 in). In the field it was evident that dark-colored fill was re-deposited A horizon soil material, while the lighter-colored fill matched BE soil horizon materials (Photographs 5 and 6). No Bt soil horizon materials were present, indicating that the fill was derived by scraping of near-surface soil materials rather than excavating a hole deep enough to reach the Bt horizon. Laboratory data confirm the soil source matches, although the organic carbon content of the dark historic fills is substantially greater than the portion of the A-horizon preserved beneath the fill. This probably reflects a more organic-rich source of fill, or possibly, it may reflect the loss of soil organic material once the soil was buried below the surface, beyond the activities of soil fauna and flora that recycle carbon.

Most prehistoric artifacts were scattered throughout the A and BE soil horizons of the surface soil. Few or no

Photograph 5. Looking east toward the east wall profile of Unit 16 showing A and BE horizons.

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Photograph 6. Looking north toward north wall profile of Unit 18 showing A and BE horizons.

Photograph 7. Looking west toward west wall profile of Unit 24 showing Bt, BC, and 2C horizons.

Photograph 8. Looking west toward west wall profile of Units 57, 58, 59, 60, and 61. Redeposited A and BE soils are shown above Buried A and BE soils.

Photograph 9. South wall profile of Units 37, 46, 47, 56, and 57. Redeposited A and BE soils are shown above Buried A and BE soils.

Photograph 10. Looking north toward north wall of Unit 61.

artifacts were recovered from the Bt horizon, below about 53 cm (21 in) surface depth at Unit 54, and 35 cm (13.8 in) surface depth at Unit 24. Phase II data for Unit 11, for example, show that the highest frequency of artifacts was recovered from Level 3, along the base of the A horizon. Such vertical up-and-down movement of artifacts can readily be attributed to soil bioturbation. In the case of the Schoharie Creek II site, most of the debris is likely to have been derived from flint-knapping

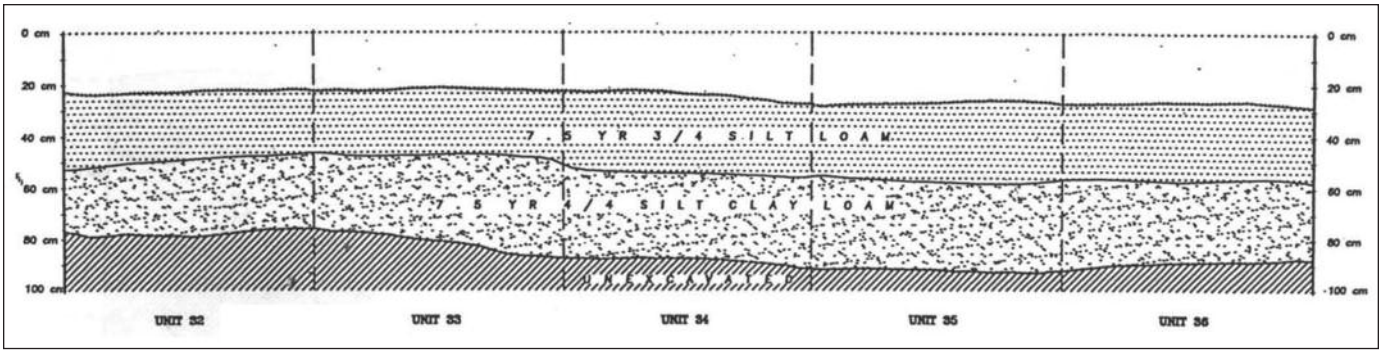

Figure 13. North wall profile of Block A showing A and BE soils.

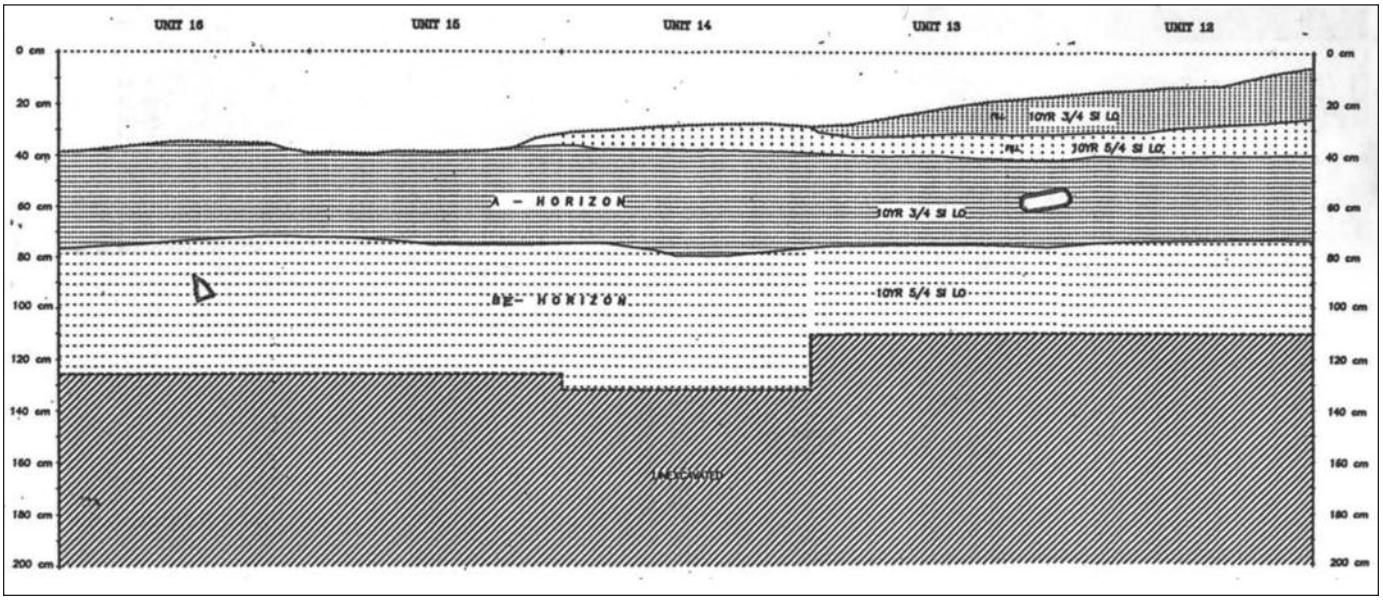

Figure 14. East wall profile of Block A showing road berm on top of A and BE soils.

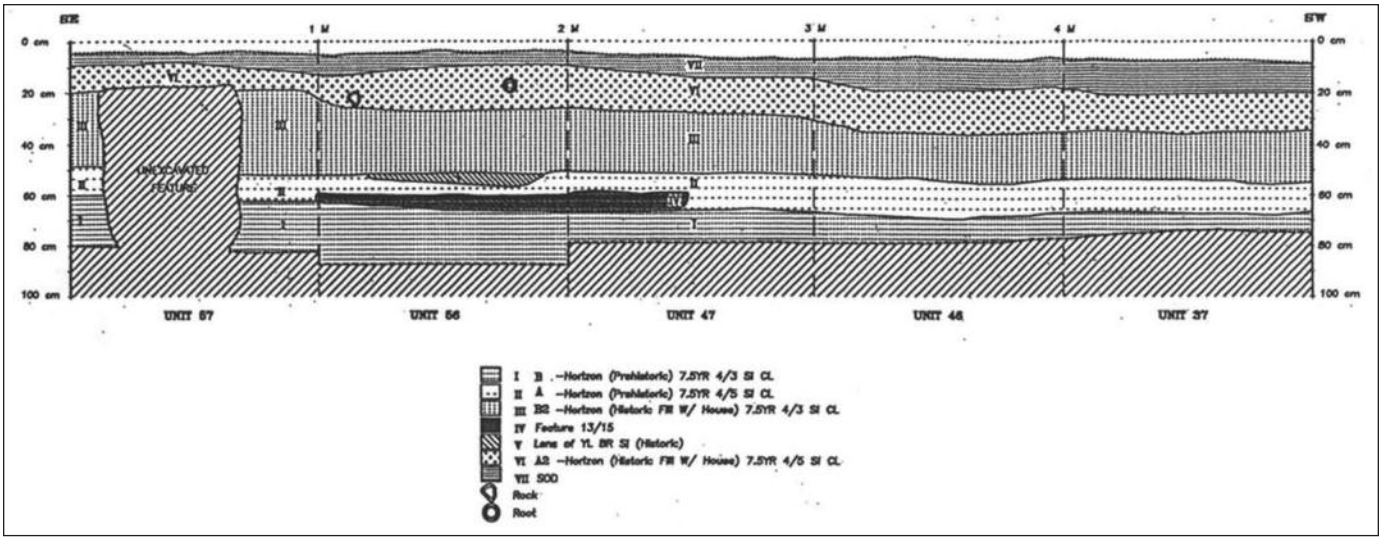

Figure 15. South wall profile of Block B showing redeposited soils on top of A and BE soils.

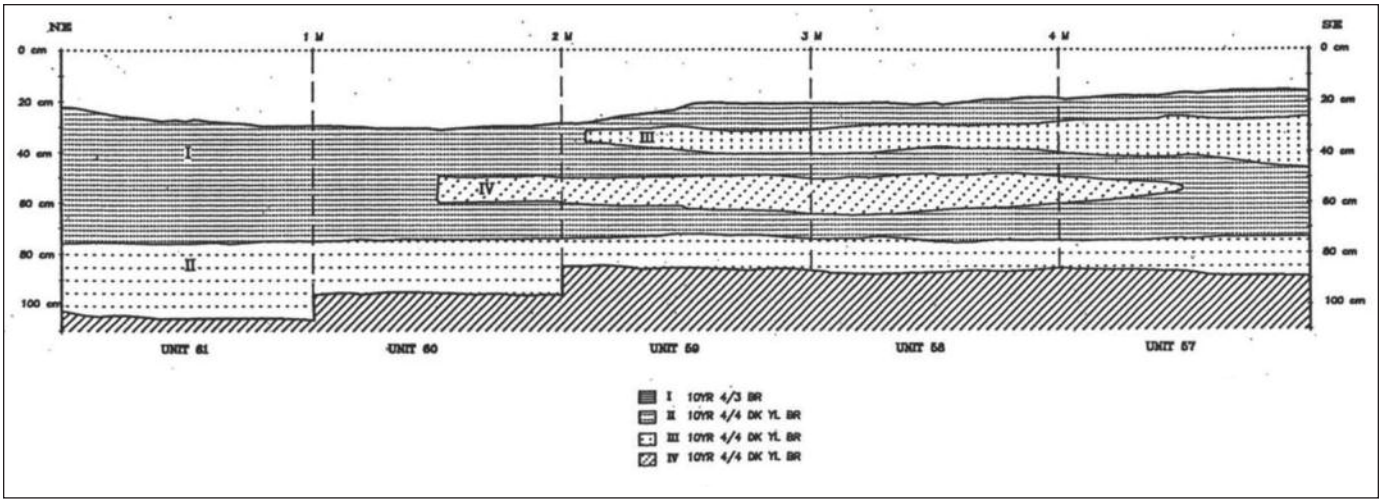

Figure 16. East wall profile of Block B showing historic fill layers on top of A and BE soils.

features originally deposited at the ground surface that have since moved downward.

In many soils, given sufficient time, artifacts can become concentrated in subsurface stone lines that form near the base of the A horizon (and E horizon if present). Relatively small-sized soil fauna such as earthworms and ants move soil particles over the top of the artifacts as well as excavate burrows beneath the artifacts. Other turbation processes, especially those associated with the growth of tree roots, act to counter the development of well-defined stone zones. Archaeological remains in open-air sites are almost always intimately involved in some stage of an evolving biomantle, but the final end product seen upon excavation of any given site is the result of complex soil histories, and many fundamental questions about these processes remain little studied. Because the age of the artifacts at the Schoharie Creek II site are more-or-less known, and because of the presence of argillic horizon, the unprocessed bulk density column from the site may provide useful comparative data for future research into the effects of biomantle formation at the site.

Cultural Stratigraphy

The cultural components identified at the Schoharie Creek II site did not stratify according to the natural soil horizons described in the previous section. Instead, frequencies of artifact categories were used to define occupations, which could then be dated using diagnostic artifacts and accelerator mass spectrometry (AMS). The results of this analysis suggest that post depositional mixing, caused by aboriginal ground disturbances, trampling, animal burrowing, and root activity have minimally affected the integrity of these deposits. The degree of vertical displacement was examined by observing the depth range and cross-mending of diagnostic artifacts. The high degree of component mixing made it difficult to define components beyond two very broad categories, Early Woodland and Middle Woodland, which were not always stratigraphically separable. In addition, artifact distributions from successive excavation levels were sometimes combined to indicate possible clusters and/or features, which may represent occupational episodes. This approach is based on the assumption that prehistoric groups may have utilized different areas of the site through time. Changes in the vertical distribution of material relied on the following types of data: ceramics and projectile points, bifacially worked tools, quantity and size of debitage by raw material, features, and the location of piece-plotted tools.

Ceramic materials were quantified both by weight and count due to their fragmented nature. Bifacially worked tools were used as indicators of potential depositional planes because of the likelihood that they are displaced less easily than small artifacts. The distribution of debitage by size classes was investigated to examine the possibility of differential movement. The distributions of debitage were also categorized by raw materials, which served to assess whether different activities or seasonal occupations existed. Features were also expected to be good indicators of occupational surfaces. Finally, piece-plotted artifacts could potentially reveal occupation surfaces, which did not conform to excavation levels.

The results of this work indicate that in some parts of the site the original contexts of the Early Woodland and Middle Woodland components have been disturbed by natural processes, so that cultural material spanning

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site.

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
1*	1	0-10/11	Layer I (A)	Dark Brown Loam Silt (7.5YR4/4)	8	62	-	-	70
	2	10/11-20	Layer I(A)	Dark Brown Loam Silt (7.5YR4/4	116	41	-	-	157
	3	20-30/31	Layer I(A)	Dark Brown Loam Silt (7.5YR4/4)	109	9	-	-	116
	4	30/31-36/39	Layer II(B)	Brown Silt (7.5YR4/4)	15	-	-	-	15
	5	36/39-46/49	Layer II(BE)	Brown Silt (7.5YR4/4)	-	-	-	-	-
	STP	46/49-87/89	Layer II(BE)	Brown Silt (7.5YR4/4)	-	-	-	-	-
				Total	248	112	-	-	358
2*	1	0-9/16	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	3	78	-	-	81
	2	9/16-19/20	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	3	183	-	-	186
	3	19/20-28/30	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	4	69	-	-	73
	4	28/30-39/43	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	15	18	-	-	33
	5	39/43-47/58	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
	STP	47/58-80/83	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
				Total	25	348	-	-	373
3*	1	0-10/12	Layer I(Fea. 1)	Dark Brown Sandy Silt (10YR4/3)	2	85	-	-	87
	2	10/12-20/22	Layer I(Fea. 1)	Dark Brown Sandy Silt (10YR4/3)	19	132	-	-	151
	3	20/22-29/33	Layer I(Fea. 1)	Dark Brown Sandy Silt (10YR4/3)	7	133	-	-	140
	4	29/33-40/45	Layer II	Dark Brown Sandy Silt (7.5YR4/4)	3	46	-	-	49
	5	40/45-50/52	Layer II	Dark Brown Sandy Silt (7.5YR4/4)	22	29	-	-	51
	6	50/52-60/62	Layer III(A)	Dark Brown Loam Silt (7.5YR4/4)	2	6	-	-	8
	7	60/62-70/76	Layer III(A)	Dark Brown Loam Silt (7.5YR4/4)	-	-	-	-	-
	8	70/76-80/87	Layer IV(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
	STP	80/87-100	Layer IV(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
				Total	55	431	-	-	175
4*	1	0-10	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	15	93	-	-	108
	2	10-19/21	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	8	40	-	-	48
	3	19/21-23/26	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	3	8	-	-	11
	4	23/26-32/34	Layer II(BE)	Brown Silt (7.5YR5/4)	1	6	-	-	7
	5	32/34-43/45	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
	6	43/45-53/55	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
	STP	53/55-90	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
				Total	27	147	-	-	175
5*	1	0-10/11	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	10	73	-	-	83
	2	10/11-20/22	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	32	178	-	-	210
	3	20/22-29/33	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	26	118	-	-	144
	4	29/33-39/40	Layer II(BE)	Brown Silt (7.5YR5/4)	12	4	-	-	16
	5	39/40-49/50	Layer II(BE)	Brown Silt (7.5YR5/4)	18	-	-	-	18
	6	49/50-59/60	Layer II(BE)	Brown Silt (7.5YR5/4)	3	-	-	-	3
	7	59/60-69/71	Layer II(BE)	Brown Silt (7.5YR5/4)	8	-	-	-	8
	8	69/71-79/81	Layer II(BE)	Brown Silt (7.5YR5/4)	6	-	-	-	6
	9	79/81-89/92	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
	10	89/92-99/104	Layer III©	Dark Yellow Brown Sandy Silt (10YR4/4)	-	-	-	-	-
				Total	115	373	-	-	488

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
6*	1	0-10	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	45	98	-	-	143
	2	10-20	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	25	108	-	-	134
	3	20-30/32	Layer II(B1)	Brown Silt (7.5YR5/4)	62	55	-	-	117
	4	30/32-40	Layer II(B1)	Brown Silt(7.5YR5/4)	75	16	-	-	91
	5	40-50/51	Layer II(B2)	Yellow Brown Silt (10YR5/6)	3	-	-	-	3
	6	50/51-60/63	Layer II(B2)	Yellow Brown Silt (10YR5/6)	-	-	-	-	-
	STP	60/63-93	Layer II(B2)	Yellow Brown Silt (10YR5/6)	-	-	-	-	-
				Total	210	277	-	-	488
7*	1	0-9/11	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	8	7	-	-	15
	2	9/11-19/21	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	3	13	-	-	16
	3	19/21-28/31	Layer I(A)	Dark Brown Silt Loam (7.5YR4/4)	30	5	-	-	35
	4	28/31-39/41	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	4	-	-	-	4
	5	39/41-48/53	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
	6	48/53-59/63	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
				Total	45	25	-	-	70
8	1	0-43/50	Layer I(Berm)	Gravel and Rocks	-	13	-	-	13
	2	43/50-53/60	Layer II(Fill)	Brown Silt Sand (7.5YR5/4)	-	20	-	-	20
	3	53/60-65/70	Layer II(Fill)	Brown Silt Sand (7.5YR5/4)	-	-	-	-	-
				Total	-	33	-	-	33
9	1	0-8/10	Layer I(A)	Brown Silt Loam (10YR5/3)	3	22	-	-	25
	2	8/10-10/20	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	64	125	-	-	189
	3	10/20-20/30	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	41	40	-	-	81
	4	20/30-40/45	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	52	31	-	-	83
	5	40/45-50	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	20	19	-	-	39
	6	50-53/60	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	20	15	-	-	35
	7	53/60-65/70	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	11	4	-	-	15
	8	65/70-75/80	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	7	8	-	-	15
	9	75/80-83/90	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	5	2	-	-	7
	10	83/90-94/100	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	4	3	-	-	7
	11	94/100-104/110	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	8	10	-	-	18
	12	104/110-115/123	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	1	8	-	-	9
	13	115/123-125/133	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	-	-	-	-	-
	14	125/133-135/143	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	3	3	-	-	6
	15	135/143-150	Layer II(Fea. 2)	Brown Loam Silt (7.5YR5/4)	-	-	-	-	-
				Total	246	290	-	-	536
10*	1	0-10	Layer I(Fill)	Brown Clay Silt (7.5YR5/4)	1	5	-	-	6
	2	10-20/22	Layer II(Fill)	Dark Brown Clay Silt (7.5YR4/4)	1	8	-	-	9
	3	20/22-24/30	Layer II(Fill)	Dark Brown Clay Silt (7.5YR4/4)	-	5	-	-	5
	4	24/30-38/40	Layer III(Ab)	Dark Brown Silt Loam (7.5YR4/4)	1	18	-	-	19
	5	38/40-49/50	Layer III(Ab)	Dark Brown Silt Loam (7.5YR4/4)	-	5	-	-	5
	6	49/50-60	Layer IV(Bb)	Brown Silt (7.5YR5/4)	4	9	-	-	13
	7	60-70/71	Layer IV(Bb)	Brown Silt (7.5YR5/4)	-	13	-	-	13
	8	70/71-80/82	Layer IV(Bb)	Brown Silt (7.5YR5/4)	-	10	-	-	10
	STP	80/82-100	Layer IV(Bb)	Brown Silt (7.5YR5/4)	-	3	-	-	3
				Total	7	76	-	-	83

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
11*	1	0-11	Layer I(A)	Dark Brown Silt (7.5YR4/4)	14	24	-	-	38
	2	11-20/21	Layer I(A)	Dark Brown Silt (7.5YR4/4)	100	26	-	-	126
	3	20/21-28/30	Layer I(A)	Dark Brown Silt (7.5YR4/4)	186	-	-	-	186
	4	28/30-35/36	Layer II(BE)	Brown Silt (7.5YR5/4)	145	-	-	-	145
	5	35/36-45/46	Layer II(BE)	Brown Silt (7.5YR5/4)	28	-	-	-	28
	6	45/46-59/61	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
	STP	59/61-100	Layer II(BE)	Brown Silt (7.5YR5/4)	-	-	-	-	-
				Total	473	30	-	-	503
12	1	5/30-25/30	Layer I(Fill)	Dark Yellow Brown Silt Loam (10YR5/4)	-	2	-	3	5
	2	25/30-35	Layer II(A)	Dark Brown Silt Loam (10YR3/2)	3	4	-	-	7
	3	35-45	Layer II(A)	Dark Brown Silt Loam (10YR3/2)	8	17	3	-	28
	4	45-55	Layer II(A)	Dark Brown Silt Loam (10YR3/2)	22	8	2	-	32
	5	55-60	Layer II(A)	Dark Brown Silt Loam (10YR3/4)	247	10	1	-	258
	6	60-70	Layer III(BE)	Yellow Brown Silt Loam (10YR5/6)	62	-	-	-	62
	7	70-75	Layer III(BE)	Yellow Brown Silt Loam (10YR5/6)	5	-	-	-	5
				Total	347	41	6	3	397
13	1	31/34-35	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	-	-	-	-	-
	2	35-45	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	141	42	-	1	184
	3	45-55	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	296	-	2	-	298
	4	55-60	Layer II(BE)	Dark Brown Silt Clay (7.5YR4/4)	302	5	8	-	315
	5	60-69/70	Layer II(C)	Yellow Brown Silt Loam (10YR5/6)	90	-	-	-	90
	6	69/70-76/77	Layer II (C)	Yellow Brown Silt Loam (10YR5/6)	8	-	-	-	8
				Total	837	47	10	1	895
14	1	2/3-23/24	Layer I(A)	Dark Brown Silt Clay Loam (7.5YR3/2)	498	40	1	2	544
	2	23/24-33/34	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	62	-	-	-	62
	3	33/34-43/44	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	17	-	-	-	17
	4	43/44-48/49	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	-	-	-	-	-
				Total	577	40	1	2	623
15	1	2/5-24/27	Layer I(A)	Dark Brown Silt Clay Loam (7.5YR3/2)	333	47	2	-	382
	2	24/27-34/37	Layer II(BE)	Brown Silt Clay Loam (7.5YR5/4)	40	4	-	-	44
	3	34/37-44/47	Layer II(BE)	Brown Silt Clay Loam (7.5YR5/4)	14	8	-	-	22
	4	44/47-54/57	Layer II(BE)	Brown Silt Clay Loam (7.5YR5/4)	3	-	-	-	3
	5	54/57-59/65	Layer II(BE)	Brown Silt Clay Loam (7.5YR5/4)	-	-	-	-	-
				Total	390	59	2	-	451
16	1	3/5-24/28	Layer I(A)	Dark Brown Silt Clay Loam (7.5YR4/4)	198	39	1	-	238
	2	24/28-35/37	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	103	9	-	-	112
	3	35/37-45/47	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	4	-	-	-	4
	4	45/47-64/67	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	1	-	-	-	1
				Total	306	48	1	-	355
17	1	2/5-25/29	Layer I(A)	Dark Brown Silty Clay Loam (7.5YR3/2)	276	33	4	-	314
	2	25/29-36/39	Layer II(BE)	Brown Silty Clay Loam (7.5YR4/4)	17	-	-	-	17
	3	36/39-46/48	Layer II(BE)	Brown Silty Clay Loam (7.5YR4/4)	-	-	-	-	-
	4	46/48-56/60	Layer II(BE)	Brown Silty Clay Loam (7.5YR4/4)	-	-	-	-	
	5	56/60-64/67	Layer II(BE)	Brown Silty Clay Loam (7.5YR4/4)	3	-	-	-	3
				Total	296	33	4	-	333

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
18	1	¾-25/30	Layer I(A)	Dark Brown Silty Clay Loam (7.5YR3/2)	362	37	10	1	410
	2	25/30-37/40	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	24	1	-	-	25
	3	37/40-47/50	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	2	1	-	-	3
	4	47/50-57/60	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	-	-	-	-	-
	5	57/60-64/66	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	-	-	-	-	-
				Total	388	39	10	1	438
19	1	1/8-22/28	Layer I(A)	Dark Brown Silty Clay Loam (7.5YR3/2)	444	31	-	-	475
	2	22/28-32/38	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	67	1	-	-	68
	3	32/38-42/48	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	17	3	-	-	20
	4	42/48-47/53	Layer II(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	3	-	-	-	3
				Total	531	35	-	-	566
20	1	27/31-35	Layer I (A)	Dark Brown Silty Clay Loam (10YR3/2)	2	-	-	-	2
	2	35-45	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	59	19	-	-	78
	3	45-55	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	121	4	5	-	130
	4	55-60	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	103	-	-	-	103
	5	60-70	Layer II(BE)	Yellow Brown Silty Loam (10YR5/6)	186	-	1	-	187
	6	70-75	Layer II(BE)	Yellow Brown Silty Loam (10YR5/6)	2	-	-	-	2
				Total	473	23	6	-	502
21	1	35/50-45	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	71	9	4	-	84
	2	45-55	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	199	8	3	-	210
	3	55-65	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	-	-	-	-	-
	4	65-75	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	107	1	-	-	108
				Total	377	18	7	-	402
22	1	32/35-35	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	1	-	-	4	5
	2	35-45	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	102	10	5	-	117
	3	45-55	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	272	7	9	-	288
	4	55-54/60	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	92	4	2	-	98
	5	54/60-67	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	43	1	-	-	44
	6	67-75	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	17	3	-	-	20
	7	75-113	Fea. 6	Feature 6	528	26	14	4	572
				Total	1056	52	28	8	1144
23	1	23/30-35	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	1	1	-	-	2
	2	35-45	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	178	46	3	-	227
	3	45-55	Layer I(A)	Dark Brown Silty Loam (10YR3/2)	456	-	-	-	456
	4	55-65	Layer II(BE)	Yellow Brown Silty Loam (10YR5/6)	25	-	-	-	25
	5	65-75/77	Layer II(BE)	Yellow Brown Silty Loam (10YR5/6)	5	-	-	-	5
				Total	665	47	3	-	715
24	1	31/34-51/56	Layer I(A)	Dark Brown Silt Loam (7.5YR3/2)	259	12	1	-	272
	2	51/56-53/56	Layer I(A)	Dark Brown Silt Loam (7.5YR3/2)	197	-	-	-	197
	3	53/56-56/59	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	37	-	-	-	37
	4	56/59-65/75	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	-	-	-	-	-
	5	65/75-75/76	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	-	-	-	-	-
				Total	493	12	1	-	506
25	1	3-/4-26/30	Layer I(A)	Dark Brown Silty Clay (7.5YR3/2)	458	27	-	-	485
	2	26/30-36/40	Layer II(BE)	Brown Silty Clay (7.5YR5/4)	16	1	-	-	17
	3	36/40-46/50	Layer II(BE)	Brown Silty Clay (7.5YR5/4)	3	-	-	-	3
				Total	477	28	2	-	509

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
26	1	3/5-22/28	Layer I(A)	Dark Brown Silty Clay Loam (7.5YR3/2)	423	41	13	-	477
	2	22/28-32/38	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	3	2	1	-	6
	3	32/38-42/48	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	2	1	-	-	3
	4	42/48-53/55	Layer II(BE)	Brown Silty Clay Loam (7.5YR5/4)	-	-	-	-	-
				Total	428	44	14	-	486
27	1	3/5-22/25	Layer I(A)	Brown Loam (7.5YR3/2)	345	74	-	-	419
	2	22/25-30/35	Layer I(A)	Brown Silty Loam (7.5YR5/4)	455	9	3	-	457
	3	30/35-39/46	Layer II(BE)	Brown Silty Clay (7.5YR5/4)	7	-	-	-	7
	4	39/46-51/58	Layer II(BE)	Brown Silty Clay (7.5YR5/4)	6	-	-	-	6
				Total	813	83	3	-	889
28	1	3/4-26/31	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	442	81	2	-	525
	2	26/31-37	Layer III(C)	Yellow Brown Silt Loam (10YR5/6)	99	-	42	-	141
	3	37-45	Layer III(C)	Yellow Brown Silt Loam (10YR5/6)	3	-	-	-	3
	4	45-55	Layer III9(C)	Yellow Brown Silt Loam (10YR5/6)	1	-	-	-	1
				Total	545	81	44	-	670
29	1	2/4-21/23	Layer I(A)	Brown Silt Loam 7.5YR3/4	212	35	1	-	248
	2	21/23	Layer I(A)	Brown Silt Loam7.5YR3/4		177	-	-	-
177									
	3	21/24-36/39	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	3	-	-	-	3
	4	36/39-47/51	Layer II(BE)	Dark Brown Silt Clay (7.5YR3/3)	5	-	-	-	5
	5	47/51-51/56	Layer II(BE)	Dark Brown Silt Clay (7.5YR3/3)	-	-	-	-	-
				Total	397	35	1	-	406
30	1	23/29-47/53	Layer I(A)	Dark Yellowish Brown Silty Loam (10YR3/4)	154	15	5	-	174
	2	47/53-56/63	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	313	1	-	-	314
	3	56/63-67/72	Layer II(BE)	Yellowish Brown Clay Loam (10YR5/4)	26	-	-	-	26
	4	67/72-71/78	Layer II(BE)	Yellowish Brown Clay Loam (10YR5/4)	-	-	-	-	-
	5	71/78-79/84	Layer II(BE)	Yellowish Brown Clay Loam (10YR5/4)	-	-	-	-	-
				Total	493	16	5	-	514
31	1	Xx/xx-25/35	Layer I(A-Fill)	-	-	-	-	-	
	2	25/35-44/49	Layer II	Dark Brown Silt Clay (10YR3/3)	43	6	6	-	55
	3	44/49-54/56	Layer II	Dark Brown Silt Clay (10YR3/3)	375	3	-	-	378
	4	54/56-61/66	Layer III(C)	Dark Brown Silt Clay (10YR3/3)	91	-	-	-	91
	5	61/66-73/79	Layer III(C)	Brown Silt Clay (10YR4/3)	4	-	-	-	4
	6	73/79	Layer IV(D)	Wall Scraping	-	1	-	-	1
				Total	513	10	6	-	529
32	1	6/9-37/39	Layer I(A)	Very Dark Grayish Brown Clay Silt (10YR3/2)	1	2	-	-	3
	2	37/39-41/48	Layer I(A)	Dark Brown Clay Silt (10YR3/3)	1	-	-	-	1
	3	41/48-50/58	Layer I(A)	Dark Brown Clay Silt (10YR3/3)	137	17	3	-	157
	4	50/58-57/64	Layer II(BE)	Dark Yellowish Brown Silt Clay (10YR4/4)	111	1	-	-	112
	5	57/64-69/74	Layer II(BE)	Dark Yellowish Brown Silt Clay (10YR4/4)	9	-	-	-	9
				Total	259	20	3	-	282
33	1	19/26-32/39	Layer I(A)	Dark Brown Silt Clay (10YR3/3)	31	41	9	-	81
	2	32/39-46/54	Layer I(A)	Dark Brown Silt Clay (10YR3/3)	348	17	4	-	369
	3	46/54-54/74	Layer II(BE)	Brown Silt Clay (7.5YR4/3)	66	-	2	-	68
	4	54/74-73/76	Layer II(BE)	Brown Silt Clay (7.5YR4/3)	4	-	-	-	4
				Total	449	58	15	-	522

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
34	1	0/3-10	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	23	25	5	1	54
	2	10-20	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	85	18	19	-	123
	3	20-30	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	255	4	14	-	273
	4	30-40	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	23	4	-	-	27
	5	40-50	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	4	-	-	-	4
				Total	390	51	38	1	480
35	1	2/3-24/25	Layer I(A)	Dark Brown Clay Loam (7.5YR3/3)	300	54	14	-	368
	2	24/25-28/34	Layer I(A)	Dark Brown Clay Loam (7.5YR3/3)	-	-	-	-	-
	3	28/34-40/42	Layer II(BE)	Brown Silt Clay (7.5YR3/2)	-	-	-	-	-
	4	40/42-51/54	Layer II(BE)	Brown Silt Clay (7.5YR3/2)	-	-	-	-	-
				Total	300	54	14	-	368
36	1	5/7-21/28	Layer I(A)	Very Dark Brown Silt Clay (7.5YR3/1)	65	38	1	-	104
	2	21/28-32/35	Layer I(A)	Very Dark Brown Silt Clay (7.5YR3/1)	386	32	9	-	427
	3	32/35-	Layer II(BE)	Dark Yellowish Brown Clay Loam (10YR4/4)	120	3	-	-	123
				Total	571	73	10	-	654
37	1	2/19-10/19	Layer I(A)	Dark Yellowish Brown Clay Loam (10YR4/4)	25	45	-	1	71
	2	10/19-17/19	Layer II(BE)	Brown Silty Loam (10YR4/3)	75	98	-	-	173
	3	17/19-30/32	Layer III(C)	Dark Yellowish Brown Clay Loam (10YR4/4)	35	76	-	-	111
	4	30/32-36/40	Layer III(C)	Dark Grayish Brown Silt Loam (10YR4/2)	303	1	-	-	304
	5	36/40-45/48	Layer IV(D)	Dark Yellowish Brown Clay Loam (10YR4/4)	166	1	-	-	167
	6	45/48-58/61	Layer IV(D)	Dark Yellowish Brown Clay Loam (10YR4/4)	-	-	-	-	-
				Total	604	221	-	1	826
38	1	1/7-13/16	Layer II(BE)	Brown Silt Loam (10YR4/3)	25	71	1	-	97
	2	13/16-18/23	Layer II(BE)	Brown Silt Loam (10YR4/3)	20	74	-	-	94
	3	18/23-26/30	Layer III (C)	Mottled Brown Silt Clay Loam (10YR4/3)	18	22	1	-	41
	4	26/30-38/39	Layer IV(D)	Brown Silt Loam (10YR4/3)	73	7	-	-	80
	5	38/39-47/51	Layer IV(D)	Brown Silt Loam (10YR4/3)	523	6	2	-	531
	6	47/51-62/66	Layer IV(D)	Brown Silt Loam (10YR4/3)	13	-	-	-	13
				Total	672	180	3	-	856
39	1	8/18-19/25	Layer I(A)	Brown Silt Clay Loam (10YR4/3)	19	22	-	-	41
	2	19/25-26/29	Layer II(BE)	Yellow Brown Clay Silt Loam (10YR5/4)	37	16	-	-	53
	3	26/29-36/42	Layer III (C)	Yellow Brown Clay Silt Loam (10YR4/3)	72	22	-	-	94
	4	36/42-42/46	Layer IV(D)	Yellow Brown Clay Silt Loam (10YR5/4)	66	-	-	-	66
	5	42/46-51/55	Layer V(E)	Yellow Brown Clay Silt Loam (10YR4/3)	790	-	-	-	790
	6	51/55-	Layer VI(F)	Yellow Brown Clay Silt Loam (10YR5/4)	25	-	-	-	25
				Total	1009	60	-	-	1069
40	1	12/23-32/43	Layer I(A)	Brown Silt Clay Loam (10YR4/3)	75	22	3	-	100
	2	32/43-55/56	Layer I(A)	Brown Silt Clay Loam (10YR4/3)	937	1	-	-	938
	3	55/56-69/73	Layer II(BE)	Yellow Brown Clay Silt Loam (10YR5/4)	23	-	-	-	23
				Total	1035	23	3	-	1061
41	1	2/24-32/44	Layer I (A)	Dark Grayish Brown (10YR4/2)	40	166	1	-	207
	2	32/44-53/56	Layer II(BE)	Dark Brown Clay Loam (10YR3/3)	809	10	-	-	819
	3	53/56-70/74	Layer III(C)	Dark Yellowish Brown (10YR4/4)	16	-	-	-	16
				Total	865	176	1	-	1042

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
42	1	9/21-34/40	Layer I(A)	Dark Grayish Brown (10YR4/2)	93	248	4	-	326
	2	34/40-38/49	Layer II(BE)	Dark Brown Clay Loam (10YR3/3)	173	18	-	-	191
	3	38/49-48/55	Layer II(BE)	Dark Brown Clay Loam (10YR3/3)	483	-	-	-	483
	4	48/55-55/56	Layer II(BE)	Dark Brown Clay Loam (10YR3/3)	239	-	-	-	239
	5	55/56-	Layer II(BE)	Dark Brown Clay Loam (10YR3/3)	23	1	-	-	24
				Total	1011	267	4	-	1263
43	1	15/20-35/40	Layer I(A)	Brown Clay Silt Loam (10YR4/3)	71	25	-	3	99
	2	35/40-45/50	Layer I(A)	Brown Clay Silt Loam (10YR4/3)	570	2	-	-	572
	3	45/50-53/54	Layer II(BE)	Yellow Brown Clay Silt Loam (10YR5/4)	401	-	-	-	401
	4	53/54-63/64	Layer II(BE)	Yellow Brown Clay Silt Loam (10YR5/4)	31	-	-	-	31
	5	63/64-69/70	Layer II(BE)	Yellow Brown Clay Silt Loam (10YR5/4)	1	-	-	-	1
				Total	1074	27	-	3	1104
44	1	5/15-10/15	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	20	27	-	-	47
	2	10/15-19/21	Layer II(BE)	Yellowish Brown Silt Loam (10YR5/6)	30	46	5	-	81
	3	19/21-29/30	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	426	17	3	-	446
	4	29/30-40/41	Layer IV(D)	Dark Yellow Brown Silt Loam (10YR4/4)	385	1	1	-	387
	5	40/41-45/47	Layer V(E)	Dark Brown Silt Loam (10YR3/3)	487	-	-	-	487
	6	45/47-55/57	Layer VI(F)	Yellow Brown Silt Clay Loam (10YR5/6)	57	1	-	-	58
	7	55/57-65/66	Layer VI(F)	Yellow Brown Silt Clay Loam (10YR5/6)	16	-	-	-	16
				Total	1421	92	9	-	1522
45	1	1/8-21/28	Layer I(A)	Brown Clay Silt Loam (10YR4/3)	68	68	10	-	146
	2	21/28-25/31	Layer I(A)	Brown Clay Silt Loam (10YR4/3)	7	9	-	-	16
	3	25/31-37/38	Layer II(BE)	Dark Yellow Brown (10YR4/4)	56	-	-	-	56
	4	37/38-47/50	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	442	-	1	-	443
	5	47/50-62/65	Layer IV(D)	Dark Yellow Brown Silt Clay (10YR4/4)	2	-	-	-	2
				Total	575	77	11	-	663
46	1	2/7-14/16	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	133	173	-	-	306
	2	14/16-20/22	Layer I(A)	Dark Brown Silt Clay (7.5YR3/3)	19	81	4	-	104
	3	20/22-28/33	Layer II(BE)	Brown Clay (10YR5/3)	54	21	6	-	81
	4	28/33-46/48	Layer III(C)	Dark Brown Silt Clay (7.5YR3/3)	573	-	-	-	573
	5	46/48-58/62	Layer III(C)	Brown Silt Clay (10YR5/3)	14	1	1	-	16
				Total	793	276	11	-	1080
47	1	3/5-23/28	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	12	9	-	-	21
	2	23/28-34/39	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	53	27	-	-	80
	3	34/39-44/49	Layer II(BE)	Yellow Brown Silt Loam (10YR4/4)	39	14	1	-	54
	4	44/49-54/57	Layer II(BE)	Yellow Brown Silt Loam (10YR4/4)	553	4	5	-	562
	5	54/57-70/72	Layer III(C)	Dark Brown Silt Loam (7.5YR3/4)	8	-	-	-	8
	6	70/72-75	Layer III(C)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	7	75/78/79	Layer III(C)	Dark Brown Silt Loam (7.5YR3/4)	45	-	83	-	128
				Total	709	54	89	-	852
48	1	2/5-8/24	Layer I(A)	Dark Brown Silt Loam (7.5YR3/2)	58	49	2	1	110
	2	8/24-28/31	Layer I(A)	Dark Brown Silt Loam (7.5YR3/2)	32	18	1	-	51
	3	28/31-33/38	Layer II(BE)	Strong Brown Silt Loam (7.5YR4/6)	27	15	-	-	42
	4	33/38-42/49	Layer III(C)	Dark Brown Silt Loam (7.5YR3/3)	297	-	-	-	297
	5	42/49-48/53	Layer III(C)	Brown Silt Loam (7.5YR4/4)	231	-	1	-	232
	6	48/53-58/62	Layer IV(D)	Brown Silt Clay (7.5YR4/4)	9	-	-	-	9
				Total	654	82	4	1	741

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
49	1	0/1-18/21	Layer I(A)	Brown Silt Clay Loam (7.5YR5/5)	39	104	-	-	143
	2	18/21-18/23	Layer I(A)	Brown Silt Clay Loam (7.5YR5/5)	41	61	7	-	109
	3	18/23-28/31	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/2)	86	1	1	-	88
	4	28/31-39/41	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/2)	211	-	22	-	233
	5	39/41-42/50	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/2)	16	-	-	-	16
	6	42/50-58/62	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/2)	-	-	-	-	-
	7	58/62-68/70	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/2)	-	-	-	-	-
				Total	393	166	30	-	589
50	1	18/38-33/42	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	143	61	-	1	205
	2	33/42-36/45	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	-	-	-	-	-
	3	36/45-40/46	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	192	12	-	-	204
	4	40/46-53/55	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	534	3	1	-	538
	5	53/55-63/65	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	12	1	-	-	13
	6	63/65-67/72	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	2	-	-	-	2
				Total	883	77	1	1	962
51	1	10/18-25/42	Layer I(A)	Dark Brown Clay Loam (7.5YR3/3)	146	18	1	-	165
	2	25/42-41/51	Layer II(BE)	Brown Clay Loam (10YR4/3)	37	12	-	-	49
	3	41/51-58/62	Layer III(C)	Dark Yellowish Brown Clay Loam (10YR4/4)	807	2	3	-	812
	4	58/62-69/73	Layer IV(C)	Dark Yellowish Brown Silt Loam (10YR4/4)	21	-	-	-	21
	5	69/73-73/77	Layer IV(C)	Dark Yellowish Brown Silt Loam (10YR4/4)	2	1	-	-	3
				Total	1013	33	4	-	1050
52	1	3/13-19/31	Layer I(A)	Dark Yellow Brown Silt Clay Loam (10YR3/4)	37	46	-	-	83
	2	19/31-40/51	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	295	80	5	-	380
	3	40/51-50/54	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/3)	1095	2	-	-	1097
	4	50/54-60/65	Layer III(C)	Brown Silt Clay Loam (7.5YR4/4)	58	-	-	-	58
	5	60/65-67/70	Layer III(C)	Brown Silt Clay Loam (7.5YR4/4)	15	-	1	-	16
				Total	1500	128	6	-	1634
53	1	10/19-30/39	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	99	61	13	-	173
	2	30/39-40/46	Layer II(BE)	Brown Silty Loam (7.5YR4/3)	167	5	9	-	181
	3	40/46-48/54	Layer III(C)	Dark Brown Silty Loam (7.5YR3/3)	795	1	-	-	796
	4	48/54-58/64	Layer IV(D)	Brown Silty Clay Loam (7.5YR4/4)	28	3	-	-	31
	5	58/64-66/72	Layer IV(D)	Brown Silty Clay Loam (7.5YR4/4)	6	-	-	-	6
				Total	1095	70	22	-	1187
54	1	3/14-7/15	Layer I(A)	Dark Gray Brown Silt Loam (10YR4/1)	46	23	-	1	70
	2	7/15-20	Layer II(BE)	Dark Yellow Brown Silt Clay Loam (10YR4/4)	43	21	5	-	69
	3	20-23/29	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	25	8	-	-	33
	4	23/29-40	Layer IV(D)	Dark Yellow Brown Silt Loam (10YR4/4)	79	-	-	-	79
	5	40-50	Layer V(E)	Dark Brown Silt Loam (10YR3/3)	682	1	-	-	683
	6	50-62/64	Layer VI(F)	Dark Yellow Brown Silt Clay Loam (10YR4/4)	88	-	1	-	89
	7	62/64-66/68	Layer VI(F)	Dark Yellow Brown Silt Clay Loam (10YR4/4)	108	-	-	-	108
				Total	1071	53	6	1	1131
55	1	2/5-5/12	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	38	114	-	3	155
	2	5/12-14/20	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	39	48	1	-	88
	3	14/20-24/30	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	12	15	-	-	27
	4	24/30-30/36	Layer IV(D)	Yellow Brown Silt Loam (10YR5/6)	6	-	-	-	6
	5	30/36-34/39	Layer IV(D)	Yellow Brown Silt Loam (10YR5/6)	25	-	-	-	25
	6	34/39-47/50	Layer V(E)	Dark Brown Silt Loam (10YR3/3)	575	1	-	-	576
	7	47/50-58/61	Layer VI(F)	Dark Yellow Brown Silt Loam (10YR4/6)	6	-	-	-	6
				Total	701	178	1	3	883

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
56	1	1/3-4/8	Layer I(A)	Dark Gray Brown Silt Loam (10YR4/2)	30	22	-	-	52
	2	4/8-14/16	Layer I(A)	Dark Gray Brown Silt Loam (10YR4/2)	92	120	2	-	214
	3	14/16-23/27	Layer II(BE)	Yellow Brown Silt Loam (10YR5/4)	39	92	9	-	140
	4	23/27-34/35	Layer II(BE)	Dark Yellow Brown Silt Loam (10YR4/6)	31	7	2	-	40
	5	34/35-37/40	Layer II(BE)	Dark Yellowish Brown Silt Loam (10YR4/6)	36	-	-	-	36
	6	37/40-49/50	Layer II(BE)	Brown Silt Loam (10YR4/3)	637	1	3	-	641
	7	49/50-60/61	Layer III(C)	Dark Yellow Brown Silt Clay Loam (10YR4/6)	285	-	173	-	458
	8	60/61-71	Layer III(C)	Dark Yellow Brown Silt Clay Loam (10YR4/6)	7	1	2	-	10
				Total	1157	243	191	-	1591
57	1	1/3-4/10	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	63	55	-	1	119
	2	4/10-20	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	64	52	3	-	119
	3	20-30	Layer III(C)	Yellow Brown Silt Loam (10YR5/6)	8	49	2	-	59
	4	30-35/36	Layer IV(D)	Yellow Brown Silt Loam (10YR5/6)	17	13	-	-	30
	5	35/36-45/46	Layer V(E)	Yellow Brown Silt Loam (10YR5/6)	117	-	-	-	117
	6	45/46-55/57	Layer VI(F)	Dark Brown Silt Loam (10YR3/3)	327	-	-	-	327
	7	55/57-64/68	Layer VII(G)	Dark Brown Silt Loam (10YR3/3)	17	-	-	-	17
				Total	613	169	5	1	788
58	1	3-4/8	Layer I(A)	Dark Brown Silt Loam (10YR3/2)	24	51	-	-	75
	2	4/8-8/14	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	39	27	-	-	66
	3	8/14-17/22	Layer II(BE)	Yellow Brown Silt Loam (10YR5/6)	21	19	5	-	45
	4	17/22-23/26	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	2	14	-	-	16
	5	23/26-29/30	Layer IV(D)	Dark Brown Silt Loam (10YR3/3)	2	6	-	-	8
	6	29/30-40	Layer IV(D)	Dark Brown Silt Loam (10YR3/3)	69	-	-	-	69
	7	40-42/43	Layer IV(D)	Dark Brown Silt Loam (10YR3/3)	14	1	-	-	15
	8	42/43-51/55	Layer V(E)	Dark Brown Silt Loam (10YR3/3)	517	-	-	-	517
	9	51/55-61/64	Layer VI(F)	Yellow Brown Silt Loam (10YR5/6)	6	-	2	-	8
				Total	694	118	7	-	819
59	1	3/7-7/11	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	61	39	2	-	102
	2	7/11-22/25	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	22	8	-	-	30
	3	22/25-29/31	Layer II(BE)	Brown Silt Loam (10YR4/3)	-	-	-	-	-
	4	29/31-43/49	Layer III(C)	Dark Brown Silt Loam (10YR3/3)	69	1	3	-	73
	5	43/49-52/54	Layer IV(D)	Strong Brown Clay Loam (7.5YR5/6)	457	-	1	-	458
	6	52/54-57/64	Layer IV(D)	Strong Brown Clay Loam (7.5YR5/6)	11	1	-	-	12
	7	Wall	Wall	Wall	21	-	-	-	21
				Total	641	49	6	-	696
60	1	9/16-26/36	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	85	48	-	1	134
	2	26/36-29/56	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	562	-	-	-	562
	3	29/56-39/46	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	57	1	-	-	58
	4	39/46-50/56	Layer III(C)	Dark Brown Silt Clay Loam (7.5YR3/3)	505	-	-	-	505
	5	50/56-60/66	Layer IV(D)	Brown Silt Clay Loam (7.5YR4/4)	28	-	-	-	28
	6	60/66-	Layer V(E)	Brown Silt Clay Loam (7.5YR4/4)	7	-	-	-	7
				Total	1244	49	-	1	1294
61	1	4/14-19/29	Layer I(Fill)	Very Dark Grayish Brown Silt Clay Loam (10YR3/2)	8	12	-	-	20
	2	19/29-53/62	Layer II(A)	Dark Brown Clay Silt Loam (10YR3/3)	921	44	3	-	968
	3	53/62-63/72	Layer III(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	211	-	-	-	211
	4	63/72-73/82	Layer III(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	251	-	-	-	251
	5	73/82-83/92	Layer III(BE)	Dark Yellow Brown Clay Silt Loam (10YR4/4)	4	-	-	-	4
				Total	1395	56	3	-	1454

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
62	1	5/10-19/30	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	40	3	20	-	63
	2	19/30-29/40	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	3	29/40-31/44	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	4	31/44-41/57	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
	5	41/57-53/65	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
	6	53/65-64/75	Layer II(BE)	Brown Silt Clay Loam (7.5YR5/4)	-	-	-	-	-
				Total	40	3	20	-	63
63	1	1/7-21/27	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	2	21/27-34/39	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	3	34/39-41/47	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	4	41/47-51/57	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
	5	51/57-62/66	Layer II(BE)	Brown Silt Loam (7.5YR5/4)	-	-	-	-	-
				Total	-	-	-	-	-
64	1	0/15-20/34	Layer I(A)	Dark Brown Silt Loam (7.5YR3/3)	2	-	1	-	3
	2	20/34-26/36	Layer I(A)	Dark Brown Silt Clay (7.5YR3/3)	-	-	-	-	-
	3	26/36-36/47	Layer II(BE)	Brown Silt Clay (7.5YR4/3)	35	20	1	-	56
	4	36/47-48/59	Layer II(BE)	Brown Silt Clay (7.5YR4/3)	-	-	-	-	-
	5	48/59-58/72	Layer II(BE)	Brown Silt Clay (7.5YR4/3)	-	-	-	-	-
	6	58/72-60/77	Layer III(C)	Brown Silt Clay Sand (7.5YR4/3)	-	-	-	-	-
				Total	37	20	2	-	59
65	1	0/5-18/21	Layer I(A)	Brown Silt Clay (7.5YR4/3)	-	-	-	-	-
	2	18/21-26/29	Layer I(A)	Brown Silt Clay (7.5YR4/3)	-	-	-	-	-
	3	26/29-36/39	Layer II(BE)	Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	4	36/39-45/50	Layer II(BE)	Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
				Total	-	-	-	-	-
66	1	2/8-14/17	Layer I(A)	Brown Silt (7.5YR4/4)	-	-	-	-	-
	2	14/17-18/21	Layer II(BE)	Yellow Brown Clay	-	-	-	-	-
	3	18/21-25/28	Layer III(C)	Dark Brown Silt (7.5YR4/3)	-	-	-	-	-
	4	25/28-35/38	Layer III(C)	Dark Brown Silt (7.5YR4/3)	-	-	-	-	-
	5	35/38-46/48	Layer IV(D)	Dark Yellow Brown Silt (7.5YR4/4)	-	-	-	-	-
	6	46/48-56/58	Layer IV(D)	Yellow Brown Silt Clay (7.5YR5/4)	-	-	-	-	-
	7	56/58-64/68	Layer IV(D)	Yellow Brown Silt Clay (7.5YR5/4)	-	-	-	-	-
				Total	-	-	-	-	-
67	1	7/15-15/25	Layer I(A)	Yellow Brown Silt (7.5YR5/4)		-	-	-	--
	2	15/25-19/29	Layer II(BE)	Yellow Brown Silt Clay (7.5YR5/4)	-	-	-	-	-
	3	19/29-29/38	Layer III(C)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	4	29/38-36/39	Layer III(C)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
				Total	-	-	-	-	-
68	1	2/8-22/29	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	2	22/29-30/36	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	3	30/36-40/46	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	4	40/46-50/56	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	5	50/56-60/66	Layer II(BE)	Brown Silt Clay Loam(7.5YR4/3)	-	-	-	-	-
	6	60/66-70/76	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	7	70/76-80/88	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	8	80/88-90/99	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	9	90/99-110/126	Layer II(BE)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
				Total	-	-	-	-	-

continues

Table 4: Summary of Soil Layers and Artifacts for the Schoharie Creek II Site, continues

Test Unit	Level	Depth (cm)	Soil Layer/ (Soil Horizon)*	Soil Profile	Prehistoric Artifacts	Historic Artifacts	Misc. Artifacts	Modern Artifacts	Total
69	1	6/10-25/30	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	8	-	-	-	8
	2	25/30-35/40	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	3	35/40-45/50	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	4	45/50-55/60	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	5	55/60-65/69	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	6	65/69-75/79	Layer II(BE)	Dark Brown Silt Clay (7.5YR3/4)	-	-	-	-	-
	7	75/79-87/90	Layer II(BE)	Dark Brown Silt Clay (7.5YR3/4)	-	-	-	-	-
	8	87/90-100/102	Layer II(BE)	Dark Brown Silt Clay (7.5YR3/4)	-	-	-	-	-
	9	100/102-110/113	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	10	110/113-124/126	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	11	124/126-140/141	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	12	140-141-150/151	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	13	150/151-160/164	Layer III(C)	Olive Green Silt Clay (Gley)	-	-	-	-	-
				Total	8	-	-	-	8
70	1	5/7-15/17	Layer I(A)	Brown Silt Loam (7.5YR4/3)	-	-	-	-	-
	2	15/17-25/27	Layer I(A)	Brown silt Loam (7.5YR4/3)	1	-	-	-	1
	3	25/27-30/35	Layer II(BE)	Brown Silt Loam (7.5YR4/3)	1	-	-	-	1
	4	30/35-40/45	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	5	40/45-52/56	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	6	52/56-63/68	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	7			Total	2	-	-	-	2
71	1	5/7-15/17	Layer I(A)	Brown Silt Loam (7.5YR3/4)	12	-	-	-	12
	2	15/17-25/27	Layer I(A)	Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	3	25/27-30/37	Layer II(BE)	Brown Silt Loam (7.5YR4/3)	-	-	-	-	-
	4	30/37-40/47	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	5	40/47-50/57	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
	6	50/57-60/67	Layer II(BE)	Dark Brown Silt Loam (7.5YR3/4)	-	-	-	-	-
				Total	12	-	-	-	12
72	1	2/7-21/29	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	2	21/29-30/39	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	3	30/39-40/49	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	156	-	-	-	156
	4	40/49-49/59	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	5	49/59-59/69	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
				Total	156	-	-	-	156
73	1	2/4-23/24	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	2	23/24-33/34	Layer I(A)	Brown Silt Clay Loam (7.5YR4/3)	-	-	-	-	-
	3	33/34-45/49	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	4	45/49-56/57	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	5	56/57-59/64	Layer II(BE)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
				Total	-	-	-	-	-
74	1	4/9-21/25	Layer I(A)	Dark Brown Silt Clay Loam (10YR3/4)	-	-	-	-	-
	2	21/25-30/33	Layer I(A)	Dark Brown Silt Clay Loam (10YR3/4)	-	-	-	-	-
	3	30/33-43/46	Layer II(BE)	Brown Silt Loam (7.5YR3/4)	1	-	-	-	1
				Total	1	-	-	-	1
75	1	5/7-23/27	Layer I(A)	Dark Brown Silt Loam (10YR3/3)	-	-	-	-	-
	2	23/27-35/40	Layer II(BE)	Dark Brown Silt Clay Loam (10YR3/2)	-	-	-	-	-
	3	35/40-46/50	Layer III(C)	Dark Brown Silt Clay Loam (10YR3/2)	-	-	-	-	-
	4	46/50-49/58	Layer III(C)	Dark Brown Silt Clay Loam (10YR3/2)	-	-	-	-	-
	5	49/58-60/70	Layer IV(D)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
	6	60/70-70/81	Layer IV(D)	Dark Brown Silt Clay Loam (7.5YR3/4)	-	-	-	-	-
				Total	-	-	-	-	-

several thousand years has become mixed. The natural downward movement of artifacts through natural means accounts for some of this mixing. Historic period artifacts are generally concentrated in the first twenty centimeters. However in some cases, these artifacts have migrated downward by as much as a 30–40 centimeters. Roots, tree falls, burrowing animals, and frost heaving are other causes of ground disturbance. Roots, particularly those of trees, often spread underground and collapse soil as they grow and decay, thereby creating channels down which artifacts could move. Tree throws, often caused by storms, create large localized disturbances, which move material to the ground surface and leave gaping holes surrounding objects. Nineteenth century land clearing activities may have also included removing tree stumps, which would have had a similar effect. Burrowing animals can cause significant movement of archaeological material. Finally, significant frost heaving may also contribute to the vertical displacement of artifacts.

Examination of the vertical distribution of different artifact classes provides information about the degree of vertical displacement that has taken place at the Schoharie Creek II site. Considering that these artifacts were deposited within the last 150 years, the number of artifacts that have moved out of the A-horizon into the BE-horizon may be indicative of the rate of post depositional movement across the terrace.

Table 5 provides a summary of the vertical distribution of lithic debitage across the site. As shown below, lithic debitage was recovered from the first seven excavation levels at the site. The largest number of artifacts was recovered from the first three excavation levels at a depth of approximately 0–30 cm (0–12 in) below ground surface. Levels 4 and 5 show a decreased number of artifacts and the least number of artifacts were recovered from excavation Levels 6 and 7. The largest number of flakes (17,608 or 91.7%) range from 0–1 cm (0–0.4 in) and 1–2 cm (0.4–0.8 in) in diameter. Smaller numbers of artifacts (1586 or 8.3%) ranging from 2–5 cm (0.8–1.97 in) in diameter were also recovered (Table 5).

The first excavation layer is distinct from the rest of the site in the high number of flakes recovered. While this may be partially due to natural processes, the eastern portion of the site consists of fill suggesting that a large number of artifacts may have been re-deposited across the site. A contrast is apparent between the number of flakes measuring less than 2 cm and greater than 2 cm. The large number of smaller flakes (less than 2 cm) recovered from the base of the BE horizon (Levels 6 and 7) suggest that smaller artifacts may have moved downward through the soil profile. The low frequencies of debitage in lower levels have been tentatively interpreted as the result of vertical displacement rather than *in situ* deposits. These interpretations remain speculative without knowledge of the original composition and depositional contexts of each level.

Levels 2, 3, 4, and 5 are similar both in total debitage quantity and size patterning. Given the limited patterning of diagnostic artifacts in these layers, there is limited evidence that would allow us to make distinctions between specific depositional episodes. Rather, it is suggested that some homogenization of layers has occurred through post depositional disturbance and the movement of artifacts through the profile. The proportion of smaller to larger debitage increases while the overall quantity of artifacts per level steadily declines in Level 4.

The vertical distribution of larger bifacially worked and cobble stone tools were also investigated to examine the possibility of differential movement of artifacts within strata. The results of this work indicate that the number of artifacts recovered from the first four excavation levels remains fairly constant suggesting vertical displacement of artifacts across the site. However, there is a marked decline in the number of artifacts found in Levels 5 (approximate depth of 40–50 cm) and 6 (approximate depth of 50–60 cm) which may

Table 5. Distribution of Lithic Debitage by Size and Level at the Schoharie Creek II Site (NYSM # 10383).

Level	0–1 cm (%)	1–2 cm (%)	2–3 cm (%)	3–4 cm (%)	4–5 cm (%)	Total (%)
Level 1	1051 (5.5%)	3487 (18.2%)	439 (2.3%)	13 (0.07%)	—-	4990 (26%)
Level 2	1325 (6.9%)	1729 (9%)	284 (1.5%)	4 (0.02%)	2 (0.01%)	3344 (17.4%)
Level 3	1486 (7.7%)	2503 (13%)	308 (1.6%)	35 (0.18%)	—-	4332 (22.6%)
Level 4	991 (5.2%)	1690 (8.8%)	260 (1.4%)	6 (0.03%)	—-	2947 (15.4%)
Level 5	829 (4.3%)	1120 (5.8%)	102 (0.5%)	4 (0.02%)	—-	2055 (10.7%)
Level 6	342 (1.8%)	776 (4%)	93 (0.5%)	10 (0.05%)	—-	1221 (6.4%)
Level 7	137 (0.7%)	136 (0.7%)	26 (0.14%)	—-	—-	299 (1.6%)
Level 8	6 (0.03%)	1 (0.005%)	—-	—-	—-	7 (0.04%)
Total	**6167 (32%)**	**11442 (59%)**	**1512 (7.9%)**	**72 (0.4%)**	**2 (0.01%)**	**19,193 (—-)**

indicate a transitional zone between the original depositional contexts and material trampled or otherwise displaced into shallower or deeper strata (Table 6).

Based on most of the above observations, it appears that the Schoharie Creek II site has been subjected to some vertical mixing. This has affected all classes of cultural material, but smaller artifacts (e.g. debitage) to a greater degree. The lack of stratigraphic integrity also impacts the horizontal association of artifacts. For example, it is not possible to determine whether the site represents two single occupations or repeated occupations within two different time periods. This situation has also caused potential differences between the contexts to be blurred and may have the effect of limiting the range and complexity of site activities that can be detected.

Cross-mending of artifacts within and across specific layers was also completed (Figure 17). The largest number of cross-mended artifacts was found along the western half of the site in Block B suggesting that more extensive modifications may have occurred in this part of the site. As shown in Figure 17, 5 artifacts cross-mended in Block A and 10 artifacts cross-mended in Block B. No artifacts cross-mended in either Blocks C or D. The artifacts that were cross-mended included the following artifact classes: chert bifaces, historic ceram-

Table 6. Vertical Distribution of Bifacially Worked and Cobble Tools by Depth.

Level	Depth Below Ground Surface (cm)	Number of Artifacts (%)
1	0–10	29 (17.6%)
2	10–20	35 (21.2%)
3	20–30	34 (20.6%)
4	30–40	33 (20%)
5	40–50	22 (13.3%)
6	50–60	12 (7.3%)
Total	—	165 (100%)

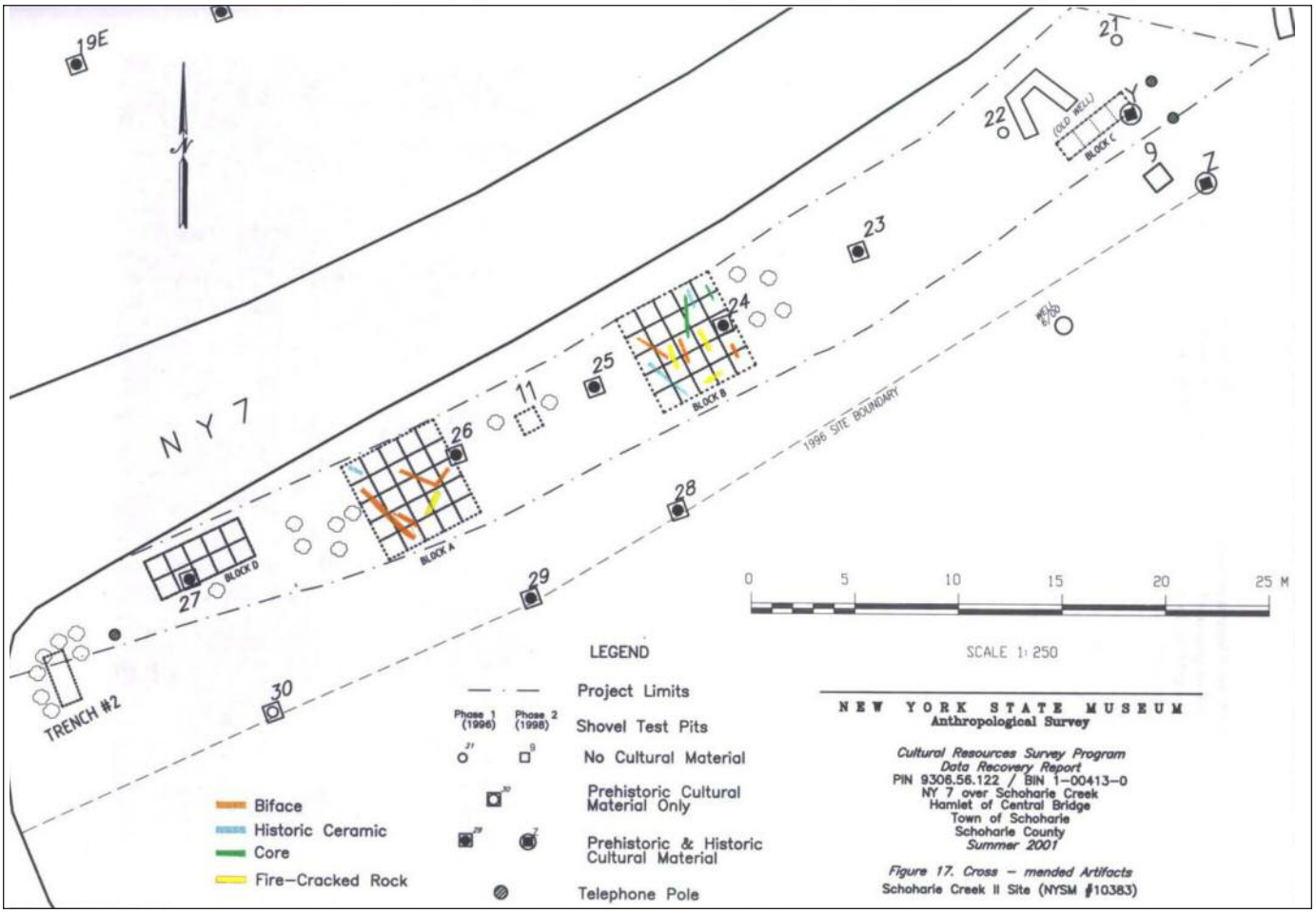

Figure 17. Crossmended artifacts from the Schoharie Creek II site.

ics, fire-cracked rock, and one piece of prehistoric pottery. Eighty-nine percent of the cross-mended artifacts were mended from the same excavation and/or soil layer. The remaining 11% were cross-mended from the soil layer immediately above and/or below each other further suggesting that some vertical displacement of artifacts occurred across the site.

Although mixing of different occupation layers appears to have occurred in some parts of the site, identified features appear to have retained much of their original integrity and exhibit limited disturbance as evidenced by the presence of diagnostic artifacts within features dated to similar time periods. Diagnostic artifacts and features were recovered during the 1998 site examination (Rieth 1998) and the current data recovery project. Included among these diagnostic artifacts were small chert points dating to the Early and Middle Woodland periods. A more complete description of these features is provided later in this report.

Four wood charcoal samples were assayed to assist in dating occupations represented at the Schoharie Creek II site (Table 7). All of these samples were recovered from feature contexts and were submitted to Beta Analytic of Coral Gables, Florida for analysis using accelerator mass spectrometry (AMS). At the Schoharie Creek II site, charcoal samples were collected from features and living floor contexts using two separate methods. Large pieces of wood charcoal were directly collected from features and living floor contexts. While this method was preferred for the collection of samples, most features produced small pieces of wood charcoal making it difficult to collect large samples. Only Features 12 and 15c produced large pieces of wood charcoal that could be directly collected. Instead, most wood charcoal samples were collected from the flotation of soil samples. The wood charcoal samples collected from Features 15b and 14 were collected in this manner. Ethnobotanical analysis, involving counting of wood charcoal fragments and identification of samples by taxa, was completed before these four samples were submitted for AMS dating. A summary of this information is provided in the Features and Artifact Analysis sections of this report.

Selection of samples was completed by the Principal Investigator and all samples were sorted and cleaned before being submitted for AMS dating. All four samples were further cleaned and pretreated at Beta Analytic in order to eliminate secondary carbon components. If cleaning and pretreatment were not completed, these components could result in dates that are too old or too young. Although there are several different types of pretreatment techniques, all four samples were pretreated using the "acid/alkali/acid" technique described in Beta Analytic's Pretreatment Glossary (n.d.). Under this technique, the sample was crushed/dispersed in deionized water. It was then subjected to a hot HCl acid wash to eliminate carbonates and alkali washes (NaOH) to remove secondary organic acids. The alkali wash was followed by a final acid rinse to neutralize the solution prior to drying. The samples then underwent normal benzene synthesis and counting. All of the samples were of sufficient size and

Table 7. Summary of AMS dates from the Schoharie Creek II Site (NYSM # 10383).

Sample No.	Unit	Natural Stratum	Feature No.	Feature Type	Material	Sample Size Gram Carbon	Radiocarbon Age(BP)	Calibrated Date Range 2 σ	13C/12C Ratio
Beta-15357	Unit 56	Interface A-B horizon at depth of 60–70 cms below ground surface	Fea. 15c	Charcoal stain	Wood Charcoal	5.2 grams	2070 ± 40 BP	BC 190 to AD 10	-24.4 ‰
Beta-15378	Unit 56	A-horizon at approximate depth of 40–50 cms below ground surface	Fea. 15b stain	Charcoal	Wood Charcoal	3.7 grams	1370 ± 40 BP	AD 610 to 690	-23.7 ‰
Beta-15379	Unit 47	Interface A-B horizon at depth of 60–70 cms below ground surface	Fea. 12	Hearth	Wood Charcoal	2.3 grams	2500 ± 40 BP	BC 790 to 420	-25.3 ‰
Beta-15380	Unit 54	A-horizon a depth of 40–67 cms below ground surface	Fea. 14	Charcoal stain	Wood Charcoal	2.1 grams	1420 ± 40 BP	AD 600 to 680	-26.5 ‰

none of the samples required extended counting time to increase estimation precision.

The age determination data presented in Table 7 indicate that these four dates fall within the Early and Middle Woodland Periods. The dates produced for the Early Woodland component are acceptable and consistent with other published dates for this time period. The dates obtained from features 12 and 15c date to 2500 and 2070 B.P. Although these dates are separated by approximately 500 years, the date produced by Feature 12 is squarely within the Meadowwood/Middlesex phase of the Early Woodland. The date produced by Feature 15c is somewhat later and represents a transitional date between the Early Woodland Meadowwood/Middlesex and Middle Woodland Canoe Point Phases. Differences between these dates may be due to one or more factors including the use of older firewood and/or the repeated use of the site by hunter-gatherers during the Early Woodland Period.

The date from Feature 12 produced a calibrated AMS date (2 sigma) between BC 790 and 420 while the sample from Feature 15c produced a calibrated AMS date (2 sigma) between BC 190 and AD 10. These dates are consistent with similar dates produced for Meadowwood/Middlesex phase occupations in eastern and central New York (Granger 1978:23, Table 2.2; Ritchie 1994:181; Ritchie and Funk 1973). In the Schoharie Valley, occupations dating to the Early Woodland Period have been identified at the Nahrwold and Westheimer sites. These sites have produced dates of 2,710 B.P. and 2,520 B.P. and have been interpreted as small temporary occupations. More detailed descriptions of the artifacts and settlement characteristics of these sites and their relationship to the Schoharie Creek II site are presented later in this report.

Projectile points associated with the Early Woodland Period were recovered from the Schoharie Creek II site. A broken Meadowwood projectile point was recovered from Unit 25. According to Ritchie (1971:35) and others (Granger 1978), Meadowwood points are the characteristic point type of the Meadowwood phase and are often associated with contexts dating between 2,448 and 563 B.C. Although these types of artifacts are commonly found in western and central New York, their distribution in eastern and southern New York is limited (Ritchie 1971:37) leading some archaeologists to speculate that the Meadowwood culture actually represents a regional phenomena (Versaggi 1999). In the Schoharie Valley, Meadowwood projectile points have been recovered at several sites including the Nahrwold (Ritchie 1994; Granger 1978:Table 2.2) and Schoharie Creek I sites (LoRusso et. al. 1981:24; see also Rieth 1998; Rieth and LoRusso 1996:74). A radiocarbon date of 760 B.C. ±80 (Y-1651) was obtained from a piece of wood charcoal at the Nahrwold site (Granger 1978: Table 2.2; Ritchie 1994:xxiii).

An Orient Fishtail projectile point was recovered from Unit 18 (Photograph 11). According to Ritchie (1971), Orient points have been found on sites dating to the Late Archaic and Early Woodland Periods in New York. In eastern and southern New York, these points represent diagnostic artifacts of the Orient Tradition and date between 1044 ± 300 B.C. (M-586) (Crane and Griffen 1958:1101) and 763 ± 220 B.C. (W-543) (Ritchie 1959). Cassedy (1998) and Sopko and Feister (1994) suggest that these points may have been manufactured as late as A.D. 220 as suggested by radiocarbon and AMS dates from associated features in eastern New York. In the Schoharie Valley, Orient points have been recovered from other nearby sites including the Smith-Holloway site (NYSM Site Files).

An unidentified projectile point midsection and base were also recovered from Unit 15. This artifact has been reworked into a drill or other utilitarian artifact. Despite these modifications, the point exhibits some similarities with the Orient Fishtail point type described above (Photograph 11). A more complete description of the artifact is provided in the artifact analysis section of this report.

The Middle Woodland Period is represented by two dates from Features 14 and 15b. These dates produced a tight cluster within the Middle Woodland Period and range from 1420 to 1370 B.P. A difference of 50 years separates the two dates. The AMS date from Feature 15b produced a calibrated (2 σ) date ranging between A.D. 610 and 690 while Feature 14 produced a calibrated date (2 σ) ranging between A.D. 600 and 680. These two dates fall within the late Point Peninsula Kipp Island Phase. Occupations dating to the Kipp Island phase

Photograph 11. Meadowwood (left), Orient Fishtail (center), and Unidentified (right) projectile points.

commonly consist of small temporary camps located in lacustrine and riverine environments (Ritchie 1994). In the Schoharie Valley, other sites producing late Point Peninsula Phase occupations were identified at the Westheimer site (NYSM and OPRHP Site Files 1999; Ritchie and Funk 1973). A small triangular point and point tip were also recovered from the Vroman I site and suggest that this site may also date to the Woodland Period (Rieth 1999a:57).

Diagnostic Middle Woodland projectile points include Jack's Reef Pentagonal and Corner-Notched Points (Ritchie 1971). The base of a small Fox Creek Projectile Point was recovered from the north side of Route 7 during the 1998 site examination (Rieth 1998). Although Fox Creek or Steubenville Points are commonly found on sites dating to the earlier Fox Creek Phase (Ritchie 1971; Ritchie and Funk 1973:120), the recovery of this artifact at the Schoharie Creek II site suggests either that the point type had a more extensive uselife, was curated, or that the deposits on the north side of Route 7 may be slightly earlier than those identified along the south side of the roadway.

Five ceramic sherds were also recovered from the Schoharie Creek II site. These artifacts consist of small grit-tempered body sherds recovered from Units 38, 44, 52, 53, and 59. Four sherds were undecorated and one sherd exhibited a cordmarked motif on the exterior surface. Ritchie and MacNeish (1949:100, 107) argue that cord-marked vessels are commonly found on late Point Peninsula and Owasco sites throughout New York. Although none of the artifacts could be associated with a specific ceramic type or cultural tradition, the characteristics of the ceramic paste and the wall thickness of the artifacts resemble other late Point Peninsula sherds found in the adjacent Susquehanna, Hudson, and Mohawk Valleys (Funk 1993; Ritchie and Funk 1973; Snow 1980, 1995). The current property owner indicates that similar artifacts were recovered along the southeast corner of Structure F (no address #) during the repair of a water pipe in the early 1990's (George Morris, Personal Communication, 2000). These artifacts were not saved by the property owner and are not currently available for analysis.

Ceramic sherds, bottle glass, and nails were used to refine the historic occupation of the Schoharie Creek II site. Ceramic vessels were catalogued into one of several types including creamware, pearlware, whiteware, ironstone, stoneware, semi-vitreous china, yellowware, and redware. Table 8 summarizes the date range, mean ceramic date, and percentage of each type of ceramic recovered from the front yard of Structure F (no address #). Of the 20 dateable vessels, 15 (75%) were identified as whiteware and ironstone vessels with respective mean ceramic dates of 1860 and 1849. Smaller quantities of yellowware (2 vessels or 10%) were also recovered and point to the continued use of the site throughout the late nineteenth century. Three pearlware containers were also recovered. These vessels produced a mean ceramic date of 1805 and may represent the disposal of "heirloom" pieces by the W. Stuarach and Abram Stever families. Other ceramic types, including pieces of stoneware, redware, porcelain, and unidentified white earthenware, were recovered but could not be associated with a specific time period.

Other domestic artifacts including amethyst and aqua bottle glass were also recovered and provide evidence for the nineteenth century occupation of the site by the Stuarach and Stever families. As discussed in the Artifact Analysis section of this report, the remains of several different bottles and pieces of glass stemware were recovered during the reconnaissance survey, site examination, and data recovery of the Schoharie Creek II site (Rieth 1998; Rieth and LoRusso 1996). Of these bottles, 4 containers were manufactured from green glass, 15 containers were manufactured from aqua glass, and 5 containers were manufactured from

Table 8. Summary of Ceramic Types Recovered from the Schoharie Creek II Site (NYSM # 10383).

Ceramic Type	Date Range	Mean Ceramic Date	Number of Vessels Recovered (%)
Pearlware	1780–1830	1805	3 (8.6%)
Whiteware	1820–1900	1860	11 (31.4%)
Ironstone	1813–1885	1849	4 (11.4%)
Stoneware	—-	—-	3 (8.6%)
Redware	—-	—-	9 (25.7%)
Yellowware	1830–1940	1885	2 (5.7%)
Porcelain	—-	—-	1 (2.9%)
White Earthenware	—-	—-	1 (2.9%)
Semi-vitreous china	Ca. 1880+	—-	1 (2.9%)
Total	**—-**	**—-**	**35 (100%)**

amethyst glass. During the mid to late nineteenth century, most medicine, food, and household bottles were manufactured from aqua or green glass. These types of artifacts continued to be used until the end of the nineteenth century when new glass manufacturing techniques were introduced. Bottles manufactured from amethyst bottle glass are primarily found on sites dating to the late 19th century. The recovery of these artifacts from the Schoharie Creek II site provide further evidence for the occupation of the site during the late nineteenth century.

Nails were recovered from the Schoharie Creek II site and help to date the historic occupation of the Schoharie Creek II site. As discussed in the Artifact Analysis section of this report, 6 (3%) wrought-iron, 136 (68%) machine cut, 20 (10%) common wire, and 34 (17%) square nails were recovered from the Schoharie Creek II site.

Four (2%) additional nails were recovered but could not be identified. Machine cut and square nails predominate the assemblage. As discussed in Leach (2000), machine cut nails are regularly used after 1835 and continue to be found on sites during the mid to late nineteenth century. Square nails have been found on sites dating between 1820 and 1900. The presence of these artifacts point to the construction of Structure F (no address #) during the mid-nineteenth century by the Stuarach and Stever families. Wire nails are generally found on sites dating from the late nineteenth century to the present (Leach 2000). Recovery of these nails at the Schoharie Creek II site suggests that modifications may have been made to Structure F (no address #) during the last quarter of the nineteenth century. Finally, a few wrought-iron nails were also recovered from the Schoharie Creek II site. According to Leach (2000), wrought-iron nails generally predate 1820. The presence of these artifacts at the Schoharie Creek II site is curious and was initially thought to provide evidence for the early nineteenth century occupation of the property. However, the absence of any MDSs or an earlier structure at the site suggest that these artifacts were either curated from another earlier structure or that blacksmiths in the Schoharie Valley may have continued to make these types of nails after 1820.

FEATURES

Twenty-five features were identified at the Schoharie Creek II site. Four features were identified during the 1998 site examination (Rieth 1998) and 21 features were identified during the 1999 data recovery project. Four features were historic, 17 prehistoric, and 4 non-cultural in origin. A brief description of these features is provided below and in Table 9.

Prehistoric Features

Seventeen prehistoric features were identified at the Schoharie Creek II site. Prehistoric features were identified based upon the presence of multiple prehistoric artifacts, a lack of historic or modern debris, and a clearly defined feature shape in the subsoil (Table 9). All features were completely excavated according to the procedures described in the Methods section of this report. Four AMS dates were obtained from four different features at the site. None of the features produced temporally diagnostic artifacts. Following Moeller (1992), and others (Hatch and Stevenson 1980; Ledbetter 1995; Renfrew and Bahn 1991:42; Stewart 1977), features were assigned to three different classes based upon their size, shape, and internal contents. These classes of features include postmolds, hearths, and charcoal stains. The spatial distribution of these prehistoric features within the current project boundaries is provided in Figure 18.

Two postmolds were identified during the 1999 data recovery project. Postmolds often represent the residues of posts that have either deteriorated or were burned in place. Postmolds also signify remnants of posts that were removed from a site during the abandonment and/or realignment of a structure. Postmolds are generally characterized by a dark circular band of soil that is often equal or greater in length than in width. In many instances, the bottoms of postmolds are often pointed or rounded and designate the shape of the post. While postmolds are often indicative of larger residences, such features also represent the remains of small temporary lean-to type structures as well as other ancillary features associated with larger cooking and resource processing features. As discussed below, the limited number of postmolds identified within the current project limits makes it difficult to determine how and under what conditions these features were used.

Feature 9, a small postmold, was identified in the buried BE-horizon of Unit 59 (Figure 18, Table 9). The feature measured 20 cm (7.89 in) in diameter and 16 cm (6.3 in) deep and produced a mottled brown (10YR3/3) and yellow brown (10YR4/4) silt loam soil. Unlike the other postmold encountered at the Schoharie Creek II site, the feature produced a flat bottom suggesting that the post may have been further modified after being cut. Several small pieces of wood charcoal were recovered and have been identified as pieces of white oak (*Quercus* spp.). No charred seeds were recovered from Feature 9. Two small bifacial thinning flakes were also recovered from this feature. Both of these artifacts measure less than 1 cm (0.39 in) in size and are manufactured from gray Onondaga chert.

Feature 17, another postmold, was identified in Unit 45 at an approximate depth of 48 cm (18.9 in) below

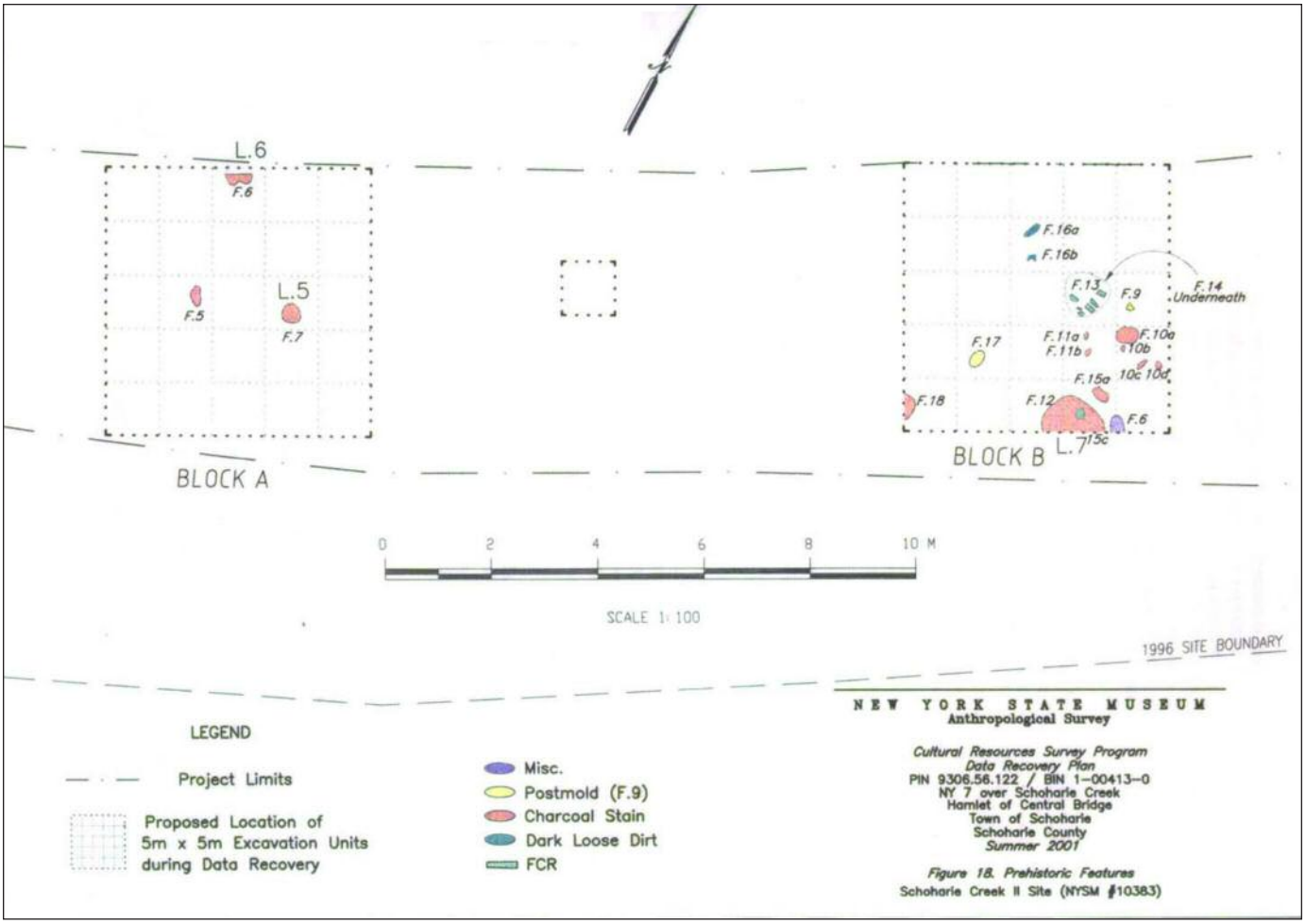

Figure 18. Spatial Distribution of Prehistoric Features at the Schoharie Creek II Site.

ground surface (Figures 18 and 19, Table 9). This feature was identified within the buried BE-horizon at a similar depth as Feature 9. The feature measured 15 cm (5.91 in) in diameter and was approximately 25 cm (9.85 in) deep. This feature produced a dark yellow brown (10YR4/4) silt clay soil. Intermixed throughout the soil were small flecks of wood charcoal. Although the charcoal was submitted for ethnobotanical analysis, the small size of the remains precluded identification by species. No other artifacts were recovered from this feature.

Both of these features were identified within the buried BE-horizon in Block B. The spatial arrangement of these features in this portion of the site suggest that they may have been constructed during the same occupation. However, due to the limited number of posts identified within the current project limits, it is currently difficult to determine whether these posts form a small structure or other architectural feature. Given the spatial distribution of these features along the southern boundary of the project area, it is possible that if such a building exists, it is located beyond the current project limits. Alternately, these features may represent a small ancillary structure that encircled the small hearth (Feature 12 and 15c) identified in Units 47 and 56. Although no diagnostic artifacts and/or AMS dates were produced for these two features, the location of the features in the same stratigraphic layer as Feature 12 suggests that these features may date to the Early Woodland Period.

Three hearths were identified at the Schoharie Creek II site. Two of these features are characterized by a relatively shallow depth and a wide horizontal circumference. The third feature is basin shaped and is "capped" with a layer of fire-cracked rock. Features designated as hearths were also characterized by a charred or reddened surface indicative of burning under high temperatures. At the Schoharie Creek II site, all of the hearths contained concentrations of fire-cracked rock.

Feature 7b was identified in Unit 29 at a depth of 31 cm (12 in) below ground surface (Figures 18 and 19).

Table 9. Summary of Features Identified at the Schoharie Creek II Site.

Feature No.	Unit/Soil Horizon**	Feature Type	Dimensions	Artifacts	Occupation	Status/Comments
1*	Unit 3/A-horizon	Builder's Trench	50 cm deep	Prehistoric-historic mix including flakes, domestic and architectural remains, and misc. debris	19th Century	Feature remains intact along Structure G
2*	Unit 9/A-horizon	Historic Trench	60 cm wide; 135 cm deep	Prehistoric-historic mix including flakes, domestic and architectural remains, and misc. debris	19th Century	Feature impacted by construction
3*	—-	Stone Wall	76 cm diameter; 3 m deep	—-	—-	Not excavated-Feature remains intact
4*	—-	Well	—-	—-	Modern	Feature impacted by construction
5	Unit 19/A-horizon	Animal burrow	—-	—-	Modern	Feature impacted by construction
6	Unit 22/A-horizon	Unidentified intrusion	15 cm diameter; 70 cm deep	Modern bottle glass and plastic	Modern	Feature impacted by construction
7a	Unit 28/A-horizon	Tree Root	—-	Uncharred *Vitus* sp. Seed	Modern	Feature impacted by construction
7b	Unit 29/B-horizon	Hearth	55 cm diameter; 10 cm deep	Wood charcoal including Ostya *virginiana, Quercus* sp., and unidentified coniferous species	Early Woodland?	Feature impacted by construction
8	Unit 57/A-horizon	Flagstone walkway	50 cm long; 75 cm wide	Prehistoric-historic mix including flakes, domestic and architectural remains, and misc. debris	19th Century	Feature impacted by construction
9	Unit 59/B-horizon	Postmold	20 cm diameter; 16 cm deep	Wood charcoal including *Quercus* sp. and bifacial thinning flakes	Early Woodland?	Feature impacted by construction
10a	Unit 58/B-horizon	Charcoal stain	40 cm diameter	Wood charcoal	Early Woodland?	Feature impacted by construction
10b	Unit 58/B-horizon	Charcoal stain	10 cm diameter	Wood charcoal	Early Woodland?	Feature impacted by construction
10c	Unit 58/B-horizon	Charcoal stain	10 cm diameter	Wood charcoal	Early Woodland?	Feature impacted by construction
10d	Unit 58/B-horizon	Charcoal stain	10 cm diameter	Wood charcoal	Early Woodland?	Feature impacted by construction
11a	Unit 55/Buried B-horizon	Charcoal stain	4 cm diameter	Wood charcoal, chert flakes	Early Woodland?	Feature impacted by construction
11b	Unit 55/Buried B-horizon	Charcoal stain	5 cm diameter	Wood charcoal	Early Woodland?	Feature impacted by construction
12	Unit 47/Buried B-horizon	Hearth	90 cm diameter; 8–12 cm thick	Wood charcoal including *Carya* sp., *Fagus grandifolia, Ostrya virginiana*, *Picea* spp., *Prunus* spp., *Pinus* spp. *Quercus* spp., charred seed including *Chenopodium* and *Junglans* sp., 1 calcined bone, 10 bifacial thinning flakes, 8 tertiary flakes, 2 primary/ secondary flakes and fire-cracked rock	Early Woodland	Feature impacted by construction; Two AMS dates derived from this feature

continues

Table 9. Summary of Features Identified at the Schoharie Creek II Site, continued

Feature No.	Unit/Soil Horizon**	Feature Type	Dimensions	Artifacts	Occupation	Status/Comments
13	Unit 54/Buried A-B Interface	Hearth	70 cm diameter; 15 cm thick	Wood charcoal including *Acer* spp., *Carya* spp., *Fraxinus* spp., *Ostrya virginiana, Picea* spp., and *Quercus* spp., bifacial thinning flakes, and fire cracked rock	Middle Woodland	Feature impacted by construction. One AMS date derived from this feature
14	Unit 54/Buried A-B Horizon	See Feature 13	See Feature 13	See Feature 13	See Feature 13	Feature 14 is part of Feature 13. See Feature 13 for more detailed description.
15a	Unit 56/Buried A-horizon	Charcoal stain	25 cm diameter	Wood charcoal including *Acer saccharium, Carpunes caraliniana*, *Carya* spp., *Ostrya virginiana, Pinus* spp., *Quercus* spp., *Ulmus* spp., small chert flakes, broken biface	Middle Woodland?	Feature impacted during construction.
15b	Unit 56/Buried A-horizon	Charcoal stain	28 cm diameter	Wood charcoal including *Fagus grandifalia*, *Ostrya virginiana*, *Pinus* spp., seeds including *Rubus* sp., 1 biface, utilized and non-utilized flakes	Middle Woodland	Feature impacted during construction. One AMS date recovered from this feature.
15c	Unit 56/Buried B-horizon	See Feature 12	See Feature 12	See Feature 12	See Feature 12	Feature 15c is part of Feature 12. See Feature 12 for more detailed description.
16a	Unit 50/Buried B-horizon	Charcoal stain	10 cm diameter; 5 cm thick	Wood charcoal	Early Woodland?	Feature impacted during construction.
16b	Unit 50/Buried B-horizon	Charcoal stain	10 cm diameter; 5 cm thick	Wood charcoal	Early Woodland?	Feature impacted during construction.
17	Unit 45/B-horizon	Postmold	15 cm in diameter; 25 cm deep	Wood charcoal	Early Woodland?	Feature impacted during construction.
18	Unit 37/Buried A-horizon	Charcoal stain	40 cm diameter; 3–5 cm deep	Wood charcoal, bifacial thinning flakes	Middle Woodland .	Feature impacted during construction

*-Feature identified during the 1998 site examination (see Rieth 1998), **-Indicates the Unit/Horizon at which the feature was first identified.

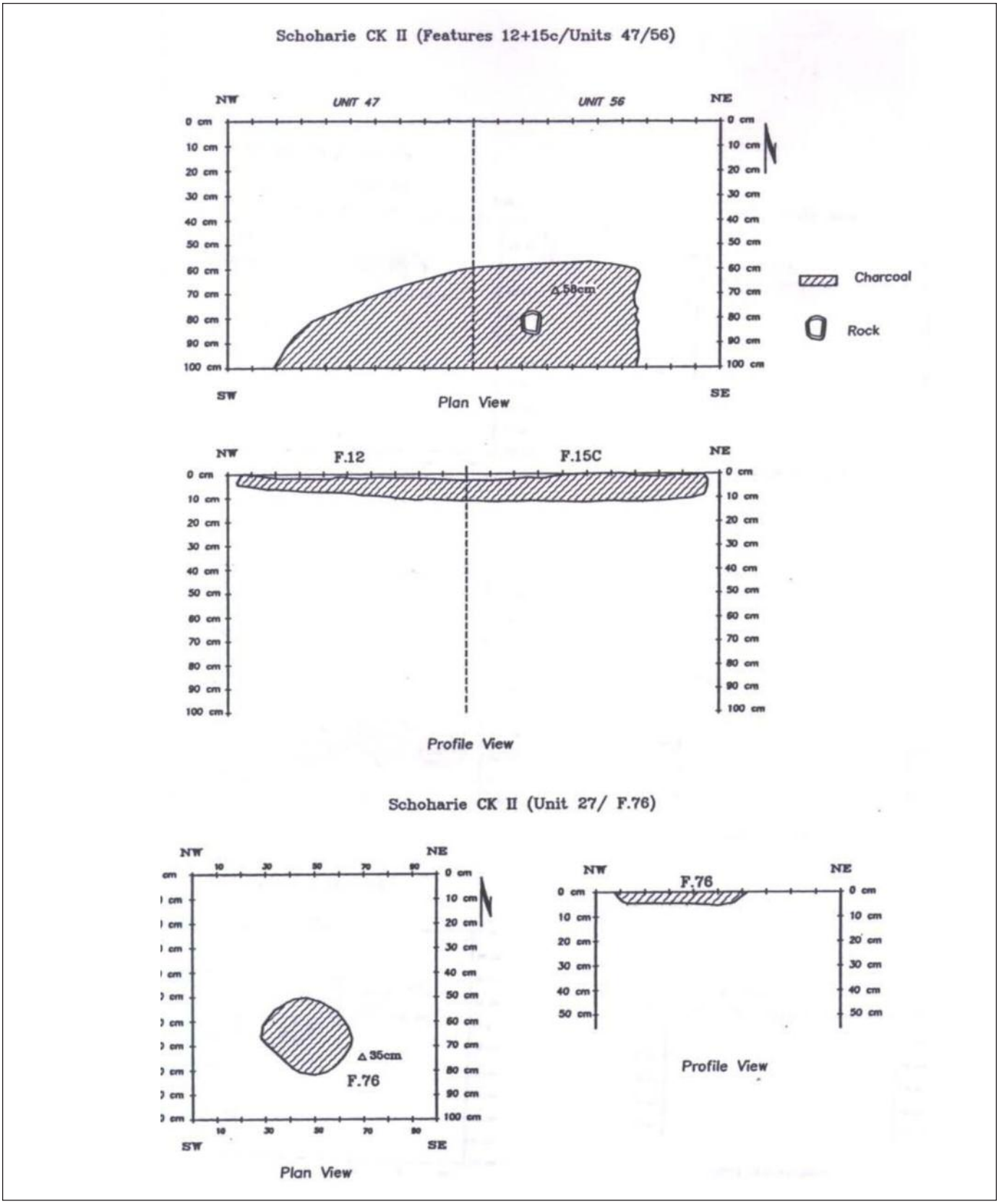

Figure 19. Plan and Profile views of features identified at the Schoharie Creek II site.

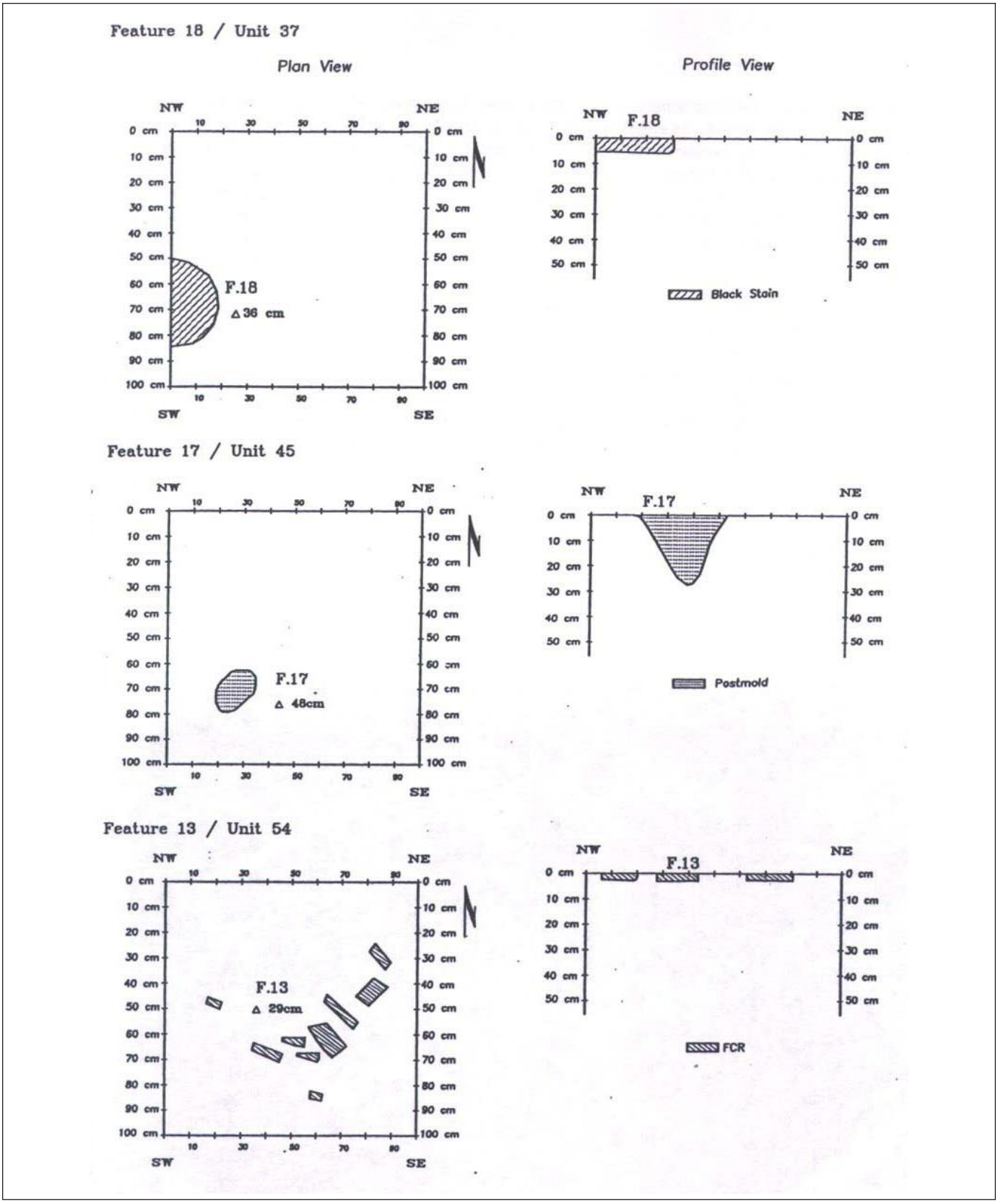

Figure 19. Plan and Profile views of features identified at the Schoharie Creek II site (Continued).

This feature was encountered in the BE-horizon soils of Block A. The circular shaped feature measured approximately 55 cm (27.7 in) in diameter and was approximately 10 cm (4 in) deep. The feature contained a yellow brown silt clay soil with large quantities of wood charcoal scattered throughout. Processing of the feature contents revealed several small flakes and 2 pieces of fire-cracked rock. No diagnostic artifacts were recovered from this feature. Pieces of *Ostya virginiana* (hop hornbeam), *Quercus* spp. (red oak), and an unidentified coniferous species were also identified. Although no diagnostic artifacts were recovered, the vertical position of the feature in the BE-horizon soils suggests that this feature may also date to the Early Woodland Period.

Features 12 and 15c were encountered in Units 47 and 56 and represent the eastern and western portions of a large circular hearth (Figures 18 and 19, Photographs 12 and 13, Table 9). This feature was identified at an approximate depth of 58–62 cm (22.8–24.4 in) below ground surface and was tapered at the edges to form a basin shape. The feature was encountered in the Buried BE-horizon and produced a black silt clay soil (2.5Y1/1) with charcoal. The feature measured approximately 90 cm (35 in) in diameter. Charred soils ranged from 8–12 cm (3.1–4.7 in) in thickness. Identification of wood charcoal from the feature included *Carya* spp. (hickory), *Fagus grandifolia* (beech), *Ostrya virginiana* (hop hornbeam), *Picea* spp. (spruce), *Prunus* spp. (cherry), *Pinus* spp. (pine), and *Quercus* spp. (oak). Two charred chenopodium (*Chenopodium* spp.) seeds and one piece of nut shell (*Junglans* spp.) were also recovered from this feature. Artifacts recovered from this feature included 1 piece of mammal bone, 1 piece of calcined bone, 10 bifacial thinning flakes, 8 tertiary, and 2 primary/secondary flakes. One fish scale was recovered from Feature 15c. No diagnostic artifacts were recovered from this feature.

Photograph 12. Looking southwest across the eastern half of Feature 12.

In addition to these artifacts, several small pieces of fire-cracked rock were recovered from the eastern half of the feature in Unit 56 (Photograph 13).

Two wood charcoal samples were submitted for accelerator mass spectrometry (AMS) dating. One sample was extracted from the eastern half of the hearth in Unit 56 while the other sample was extracted from the western half in Unit 47. The sample recovered from Unit 47 produced an uncalibrated date of 2500±40 BP (Beta 153579) (cal 2 σ BP 2740 to 2370) while the wood charcoal sample from Unit 56 produced an uncalibrated date of 2070±40 B.P. (Beta 153577) (cal 2 σ BP 2140 to 1940). Although these dates are approximately 500 years apart, both dates cluster in the Meadowwood/Middlesex Phase of the Early Woodland Period. As discussed previously in this report, discrepancies in these dates may either relate to the use of older wood or may indicate the repeated use of the site by several different bands of hunter-gatherers during the Early Woodland Period.

Features 13 and 14 are believed to represent different levels of the same Middle Woodland hearthencountered in Unit 54 (Figures 18 and 19). The hearth was initially identified by a 70 cm (28 in) wide crescent

Photograph 13. Looking west across the western half of Feature 15c.

shaped cluster of fire-cracked rock (Feature 13) at the interface of the buried A and BE-horizons at a depth of 29 cms (11.4 in) below the ground surface (Photograph 14). Underneath Feature 13 was Feature 14, a charcoal stain measuring approximately 15 cm (5.91 in) thick (Photograph 15). Once the layer of fire-cracked rock was removed, the charcoal stain appeared to be basin shaped and continued into the buried BE horizon to a depth of approximately 49 cm (19in). Intermixed throughout the feature was a dark yellow brown silt clay loam (10YR4/4) soil. Wood charcoal was also recovered from the feature and was identified to the following species: *Acer* spp. (maple), *Carya* spp. (hickory), *Fraxinus* spp. (ash), *Ostrya virginiana* (hop hornbeam), *Picea* spp. (spruce), and *Quercus* spp. (oak).

No diagnostic artifacts were recovered from this feature, however, several small bifacial thinning flakes and a piece of bone were recovered from feature fill. A wood charcoal sample from Feature 14 was submitted to Beta Analytic for analysis. This sample produced an uncalibrated radiocarbon date of 1420 ± 40 B.P. (cal 2 σ BP 1350 to 1270) placing the feature within the Kipp Island Phase of the Middle Woodland. As discussed below, a second feature also produced a similar AMS date.

The recovery of the large concentration of fire-cracked rock on top of the feature is curious and raisesinteresting questions about their function. While these artifacts may have been used to support a larger cooking vessel, it also seems possible that they may also represent discarded potboilers (or heated rocks) placed in containers to warm liquids. Use of potboilers was important among Native populations since it eliminated the need to subject perishable containers to direct fire.

Eleven features were identified as charcoal stains. Charcoal stains are here defined as small concentrations of wood charcoal found in the underlying soil layers. Charcoal stains were distinguished from hearths due to the absence of fire-cracked rock and a well-defined shape. The presence of charcoal (and sometimes other charred botanicals) suggests that these features may represent the remnants of hearths whose contents have leached out over time. Most of these charcoal stains were identified near the east and southern wall of Block B (Figure 18). As discussed below, the concentration of features in this area suggests that this portion of the site may have once served as a prehistoric cooking or food preparation area.

Features 10a, 10b, 10c, and 10d consist of a series of small circular charcoal stains identified in the buried BE-horizon of Unit 58 at a depth of 38 cm (15 in) below ground surface (Figure 18). Feature 10a consisted of a large circular concentration of wood charcoal measuring approximately 40 cm (16 in) in diameter. The feature

Photograph 14. Looking north toward Feature 13, a crescent shaped concentration of fire-cracked rock identified in Unit 54.

Photograph 15. Looking north across Feature 14, a small charcoal stain identified in Unit 54.

produced a yellow brown (10YR5/6) silt loam soil that was mottled with small pieces of wood charcoal. The small size of the charcoal fragments prevented identification of species. Intermixed throughout the charcoal stain were two small bifacial thinning flakes. Feature 10b was located on the south side of Feature 10a and consists of a small concentration of wood charcoal measuring approximately 10 cm (0.3 in) in diameter. Like Feature 10a, this feature contained a yellow brown silt loam soil mottled with small pieces of wood charcoal. No artifacts were encountered throughout the feature. Features 10c and 10d were identified along the southern wall of Unit 58. Feature 10c was identified along the southwest corner of Unit 58 at an approximate depth of 35 cm (13 in) below ground surface. The feature measured approximately 10 cm (3.75 in) in diameter and produced a yellow brown (10YR5/6) silt loam soil. Several small

tertiary flakes were found scattered throughout the feature. Feature 10d was identified along the southeast corner of Unit 58 on the east side of Feature 10c. This feature measured approximately 10 cm (3.94 ins.) in diameter and produced a yellow brown (10YR5/6) silt loam soil with charcoal. No artifacts were recovered from the feature.

The horizontal and vertical location of these features to each other suggests that they may have once been part of the same feature. Although smaller chert flakes were recovered throughout the charcoal stain, no diagnostic artifacts were found in association with this feature. The location of this feature at the same depth as Features 13 and 14 suggest that these features may also date to the Kipp Island Phase of the Middle Woodland.

Features 11a and 11b were identified in Unit 55 in the buried BE- horizon at a depth of 48 cm (19 in) below the ground surface (Figure 18). Feature 11a consists of a small circular smear of wood charcoal that was encountered in the central part of the unit. The feature produced a yellow brown silt loam soil (10YR5/6) intermixed with small pieces of wood charcoal. A few chert flakes were found scattered throughout the feature. This charcoal scatter measured approximately 4 cm (2 in) in diameter and averaged 2 cm (1 in) thick. Feature 11b was found on the south side of Feature 11a at a depth of 47 cm (19 in) below ground surface. This feature measured 5 cm (2 in) in diameter and was less than 2 cm (1 in) thick. This feature produced a yellow brown (10YR5/6) silt loam subsoil. Neither Feature 11a or 11b produced diagnostic artifacts.

Feature 15a was identified in Unit 56 at a depth of 38 cm (15 in) below the ground surface (Figures 18 and 19). This feature was identified in the buried A-horizon and measured approximately 25 cm (7.5 in) in diameter. The feature produced a black (7.5YR2.5/1) silt loam soil. Wood charcoal associated with the following species were identified in the feature fill: *Acer saccharum* (sugar maple), *Carpinus caroliniana* (hornbeam), *Carya* spp. (hickory), *Ostrya virginiana* (hop hornbeam), *Pinus* spp. (pine), *Quercus* spp. (oak), and *Ulmus* spp. (elm). Intermixed throughout the feature were small chert flakes and a broken biface. No samples from this feature were submitted for AMS dating, however, the arrangement of features in the same vertical provenience as feature 15b suggests that this feature may date to the Middle Woodland Period.

Feature 15b was located in the southwest corner of Unit 56 and extended eastward into Unit 57 (Figures 18 and 19). The feature consists of a small charcoal stain identified at a depth of 40 cm (15.6 in) below the ground surface and produced a brown (10YR4/3) silt loam soil. Like feature 15a, this feature was identified in the buried A-horizon. Analysis of the wood charcoal from this feature produced the following species: *Fagus grandifolia* (beech), *Ostrya virginiana* (hop hornbeam), and *Pinus* spp. (pine). Two charred *Rubus* spp. (raspberry/blackberry/dewberry) were also recovered. One biface and several utilized and non-utilized flakes were also recovered. One wood charcoal sample was submitted for AMS analysis. This sample produced an uncalibrated AMS date of 1370 ± 40 B.P. (cal 2σ BP 1340 to 1260). This date is identical to the date obtained from wood charcoal in Feature 14, indicating the use of the feature during the Kipp Island Phase of the Middle Woodland.

Feature 16a was encountered in Unit 50 at a depth of 65 cm (25.6 in) below the ground surface in the buried BE-horizon (Figure 18). The feature was located on the north side of Feature 16b and contained a brown silt clay loam (7.5YR4/4) soil. This feature measured 10 cm (3.94 in) in diameter and a concentration of charcoal measuring approximately 5 cm (1.97 in) thick was recovered throughout the feature. Feature 16b was identified in Unit 50 near the south wall and produced a brown silt clay loam soil (7.5YR4/4). This feature measured approximately 10 cm (3.9 in) long and 5 cm (1.97 in) wide. Neither feature 16a nor 16b produced pieces of fire-cracked rock or diagnostic artifacts. Several small pieces of wood charcoal were recovered from both features. These artifacts, however, were too small to be identified by species.

Feature 18 was identified in Unit 37 at a depth of 40 cm (15.8 in) below the ground surface (Figure 18). The feature was encountered in the buried A-horizon and produced a yellowish brown (10YR4/4) clay loam soil. One chert flake was encountered within the feature. Like other charcoal scatters encountered at the Schoharie Creek II site, this feature was shallow, with an average depth of 3–5 cm (1.1–2 in). This feature measured approximately 40 cm (16 in) in diameter (Figure 19). No identifiable floral remains or pieces of fire-cracked rock were recovered from the feature. Two small bifacial thinning flakes were recovered from the feature.

The largest concentration of prehistoric features was identified along the eastern portion of the site in Block B (Figure 18). A mixture of prehistoric hearths, postmolds, and charcoal smears were recovered from Block B. Analysis of the vertical distribution of these features across the landscape suggests that these features were largely recovered from the buried A and BE-horizons. Features 13, 14, 15a, 15b, and 18 were found in the buried A-horizon. Two of these features (14 and 15b) produced AMS dates dating to the seventh century A.D. and are believed to be associated with the occupation of the site during the Kipp Island Phase of the Middle

Woodland. All of these features consist of small hearths and charcoal smears, suggesting that the Middle Woodland occupants may have used this portion of the site for tasks associated with cooking and/or food preparation.

Features 7b, 9, 10a, 10b, 10c, 10d, 11a, 11b, 12, 15c, 16a, 16b, and 17 were identified in the buried BE-horizon and are more varied with postmolds, hearths, and charcoal smears represented. AMS dates were obtained from wood charcoal in Features 12 and 15c. Both of these samples produced dates clustering in the Meadowwood/ Middlesex Phase of the Early Woodland. Like the features identified in the buried A-horizon, many of the features identified in the BE-horizon soils consist of small hearths and charcoal smears suggesting that tasks associated with food preparation and/or processing may have been completed at the site. The presence of two postmolds in the BE-horizon soils also suggests that during the Early Woodland occupation of the site, a short term residential or ancillary structure may have been constructed on the property. In addition to these features in Block B, one prehistoric hearth feature was also identified in the BE-horizon of Block A. This feature is found in a different part of the site suggesting that the site may have been repeatedly occupied during the Early Woodland Period or that different tasks were completed across the site.

Historic Features

Four historic features were identified at the Schoharie Creek II site (Figure 20). These features are associated with the mid to late nineteenth century occupation of the property as a small rural farmstead. Feature 1 consists of a builder's trench that was located along the western wall of Structure G (no address #) in Unit 3 during the 1998 site examination. This feature was first identified at the top of the A-horizon at a depth of 5 cm (2 in) below the ground surface. The feature contained a mixture of prehistoric and nineteenth century artifacts and was excavated to a depth of approximately 50 cm (20 in) below the ground surface. In addition to small chert flakes, a diverse array of nineteenth century artifacts were also recovered including a decorated pipe stem, undecorated and transfer-printed ceramics, mortar, clam shell, machine cut nails, green window glass, and charred wood fragments. Given the presence of transfer-printed whiteware and machine cut nails within the feature, the feature is believed to date the mid-nineteenth century occupation of the property.

Feature 2 consists of a small trench located on the eastern lawn of Structure F (no address #) (Figure 20). The trench is arranged perpendicular to Route 7 and was initially identified at the top of the A-horizon in Unit 9 extending to an approximate depth of 135 cms (53 ins.) below the ground surface. This feature contains a brown loam silt soil (7.5YR4/4). When the feature was initially identified, the feature measured approximately 60 cm (23.6 in) wide. A variety of mid to late nineteenth century artifacts were recovered from Feature 2 including white clay pipe fragments, undecorated pearlware, undecorated, sponge-decorated, and transfer-printed ceramics, lamp glass, brick, wrought L-head, machine cut and square nails, aqua window glass, coal, clear and colored bottle glass, cut and modified bone, oyster shell, cinder, slag, and a slate pencil (see Rieth 1998). Feature 2 is not presently associated with any specific activity. Although several potential uses seem plausible (including its use as a builder's trench for a summer kitchen reportedly constructed by Abram Stever on the property), additional work is needed before any conclusions can be reached.

Feature 3 consists of a stone well located along the eastern wall of Structure G (no address #). The feature was identified during the 1998 site examination (see Rieth 1998) and is visible from the ground surface. This feature measures approximately 76 cm (2.5 ft) in diameter and extends at least 3 m (9.6 ft) below the ground surface. Although the feature does not appear on nineteenth century historic maps, it is possible that this well is the same well that is described in Jacob and Bryon Dietz's nineteenth century property deeds (Schoharie County Clerk Land Deeds 1875, 1890).

Feature 8 consists of the remains of a large flagstone identified in the second soil layer of Unit 57 at an approximate depth of 20 cm (8 in) below ground surface (Photograph 16). This feature measures approximately 50 cm (19.7 in) in length and is approximately 75 cm (30 in) wide. The feature is believed to be part of a stone walkway that extended from the front wall of Structure

Photograph 16. Portion of flagstone walkway (Feature 8) leading from the front wall of Structure F (no address #) north to Route 7.

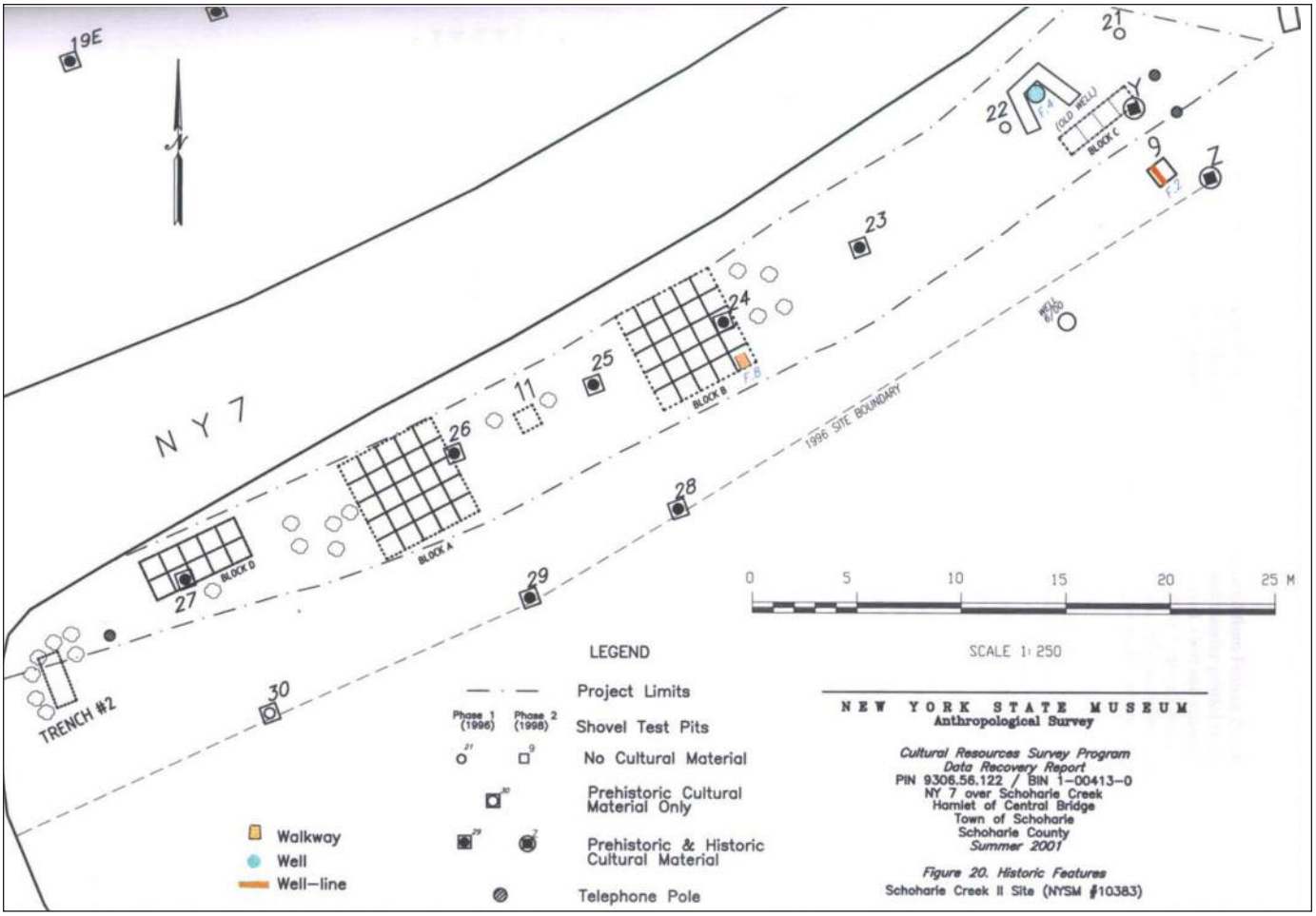

Figure 20. Map showing the spatial distribution of historic features at the Schoharie Creek II site.

F (no address #) north to the southern shoulder of Route 7. Surrounding the feature was a layer of yellow brown (10 YR 5/6) silt that produced a mixture of prehistoric and historic artifacts including chert flakes, window glass, nails, brick fragments, mortar, and pieces of glazed redware. The nails that were recovered from the feature consist of machine cut and wire nails and point to the use of the feature during the mid-late nineteenth century by the W. Stuarach and Abram Stever families.

Modern Features

Features 4, 5, 6, and 7a represent modern intrusions. Feature 4 is located along the underside of the existing bridge abutment and consists of a modern (post-1927) well for Structure F (no address #). As seen in Photograph 17, the well is capped and is currently located along the underside of BIN 1-00413-0. Although the well does not appear on twentieth century maps, this feature probably dates to the first half of the twentieth century. Feature 5 was identified in Unit 19 and consists of the remains of a small animal burrow. The feature was

Photograph 17. Looking north toward well (Feature 4) located under the abutment of BIN 1-00413-0. This feature is currently encased in the new bridge abutment and is not functional.

identified at the top of the BE-horizon at an approximate depth of 26 cm (10.2 in) below ground surface. The feature was sterile and contained a dark yellowish brown silt clay loam soil (10YR4/4). Feature 6 was unidentified along the northern wall of Unit 22 and consists of an unidentified modern intrusion. This feature measures approximately 15 cm (6 in) in diameter and was excavated to a final depth of 115 cm (45 in) below ground surface. Two pieces of modern bottle glass and one piece of plastic were recovered from this feature. Feature 7a was identified in Unit 29 and is believed to be part of a decaying tree root. The feature was initially encountered at a depth of 22 cm (9 in) below ground surface. One uncharred *Vitis* spp. (grape) seed was encountered in the flotation sample and is believed to be intrusive from a later soil layer. This feature contained a dark brown (7.5YR3/3) silt loam soil.

ARTIFACTS

Forty-one thousand nine hundred and sixty-five artifacts have currently been recovered from the Schoharie Creek II site. Three thousand seven hundred and thirty-seven (8.9%) artifacts were recovered during the previous reconnaissance survey and site examination (Rieth and LoRusso 1996; Rieth 1998). Thirty-eight thousand two hundred and twenty-eight (91.1%) artifacts were recovered during the current data recovery project. Thirty-five thousand nine hundred and fifty-four (85.6%) artifacts were associated with the prehistoric occupation of the site during the Early and Middle Woodland Periods. Five thousand eight hundred and forty-six (13.9%) artifacts date to the nineteenth century and are associated with the occupation of the property by the W. Stuarach and Abram Stever families. Six hundred seventy-three (1.6%) artifacts are miscellaneous artifacts that could not be associated with either the prehistoric or historic occupation of the site. Finally, 28 (0.06%) modern artifacts were also recovered within the project limits.

Prehistoric Artifacts

Thirty-five thousand nine hundred and fifty-four prehistoric artifacts were recovered from the Schoharie Creek II site. Thirty-four thousand two hundred and thirteen artifacts were recovered during the current data recovery project, 1,624 (4.5%) artifacts were recovered from the 1998 site examination, and 117 (0.3%) artifacts were recovered during the 1996 reconnaissance survey. Four thousand one hundred and sixty-two (11.6%) prehistoric artifacts were recovered from fill and/or re-deposited layers. Thirteen thousand nine hundred thirty-eight (38.8%) artifacts were recovered from A-horizon soils. The presence of grit-tempered ceramics as well as AMS dates from features in this soil layer suggests that this soil horizon may be associated with the occupation of the site during the Kipp Island Phase of the Middle Woodland. Seventeen thousand eight hundred and fifty-four (49.7%) artifacts were recovered from BE or buried BE-horizon soils. The recovery of an Orient Fishtail, Meadowwood, and one other unidentified projectile point suggest that this soil layer dates to the Meadowwood/Middlesex Phase of the Early Woodland. AMS dates from features in this soil layer support this assertion.

A diverse array of prehistoric artifacts were recovered from the Schoharie Creek II site (Table 10). The artifacts that were recovered from this site include the following artifact classes: chipped stone tools (99.7%), ground stone tools (0.04%), ceramics (0.03%), botanical (0.04%), faunal (0.01%), shell (0.04%), and fire-cracked rock (0.15%). Each of these artifact classes is discussed below.

Table 10. Summary of Prehistoric Artifact Classes Recovered from the Schoharie Creek II Site (NYSM # 10383).

Artifact	No. from Reconnaissance Survey (1996)	No. from Site Examination (1998)	No. from data Recovery (2000)	Total
Chipped Stone Tools*	116 (0.32%)	1618 (4.5%)	34,103 (94.9%)	35,837 (99.7%)
Ground Stone Tools	1 (0.003%)	6 (0.003%)	12 (0.03%)	14 (0.04%)
Ceramics	—	—	9 (0.03%)	9 (0.03%)
Fire cracked Rock (#)	—	—	55 (0.15%)	55 (0.15%)
Botanical*	—	—	14 (0.04%)	14 (0.04%)
Faunal*	—	—	5 (0.01%)	5 (0.01%)
Shell*	—	—	15 (0.04%)	15 (0.04%)
Total	117 (0.33%)	1,624 (4.5%)	34,213 (95%)	35,949 (100%)

* Includes artifacts recovered from flotation samples.

TABLE 11. Summary of Chipped and Ground Stone Tools from the Schoharie Creek II Site (NYSM # 10383).

Artifact	No. from Reconnaissance Survey (Rieth 1996)	No. from Site Examination (1998)	No. from data Recovery (2000)	Total
Chipped Stone Tools				
Debitage (non-utilized)	115 (0.32%)	1,575 (4.4%)	33,617 (93.8%)	35,307 (94.5%)
Debitage (utilized)	—-	35 (0.1%)	348 (0.97%)	383 (1.01%)
Biface (whole)	—-	—-	23 (0.06%)	23 (0.06%)
Biface (broken)	—-	4 (0.01%)	84 (0.23%)	88 (0.24%)
Projectile Points	1 (0.003%)	2 (0.006%)	6 (0.02%)	9 (0.03%)
Perforator	—-	—-	1 (0.003%)	1 (0.003%)
Scraper	—-	2 (0.006%)	19 (0.05%)	21 (0.06%)
Drills	—-	—-	1 (0.003%)	1 (0.003%)
Uniface	—-	—-	4 (0.01%)	4 (0.01%)
Total	116 (0.32%)	1,618 (4.5%)	34,103 (95.1%)	35,837 (99.9%)
Ground Stone Tools				
Hammerstone	—-	—-	4 (0.008%)	4 (0.008%)
Pitted Stone	—-	1 (0.003%)	2 (0.01%)	3 (0.008%)
Netsinker	—-	—-	7 (0.02%)	7 (0.02%)
Total	—-	1 (0.003%)	12 (0.03%)	14 (0.1%)
Total	**116 (0.32%)**	**1,619 (4.5%)**	**34,116 (95.2%)**	**35,851**

Ground Stone Tools

Fourteen ground stone tools comprising 0.04% of the entire prehistoric artifact assemblage were recovered from the Schoharie Creek II site (Tables 10 and 11). For the purpose of this project, ground stone tools were grouped into four cobble based implements: hammerstones, pitted stones, and netsinkers. The distribution of these artifacts across the site is provided in Figure 21. Hammerstones are here identified as fist-sized cobbles, which show evidence of battering caused by repeated impacts. Hammerstones would have been used during the reduction of larger lithic cores as well as other types of (food and material) processing activities. The artifacts recovered from the Schoharie Creek II site are manufactured from quartz and sandstone cobbles. These types of cobbles are regularly found within and along the banks of the Schoharie Creek.

Spatially, the hammerstones recovered from the Schoharie Creek II site were found in Units 33, 45, and 47 (Figure 21, Photograph 18). All of these ground stone tools were recovered from the A-horizon and were found in the same soil horizon as features AMS dated to the seventh century A.D. The size of these ground stone tools is variable and may indicate that the Woodland occupants of this site used these tools for different processing activities. The hammerstone recovered from Unit 33, Level 2 is the smallest measuring approximately 32.6x56.8x23 mm. Larger hammerstones measuring respectively 40.1x63.9x19.56 mm and 33.05x50.57x5.89 mm were also recovered from A-horizon soils in Units 45 and 47.

Overall, the number of hammerstones recovered from the Schoharie Creek II site is low. Although we may hypothesize that many of these objects may have been removed by the site's occupants, the limited number of hammerstones may also reflect the preferred use of soft hammer percussion over hard hammer percussion during tool manufacture. Soft hammer percussion techniques are usually applied during the final stages of lithic reduction to shape and sharpen worked tools (Andrefsky 1998; Callahan 1979). Some support for this idea is also visible in the classes of debitage recovered from the site. As discussed below, much of the debitage recovered from the Schoharie Creek II site consists of non-cortical flakes, which suggest that partially worked cores may have been brought to the site for further reduction and/or completion.

Pitted stones comprise the second type of ground and pecked stone tools recovered from the Schoharie Creek II Site (Photograph 18, Figure 21, Table 11). Pitted stones are characterized as rounded cobbles exhibiting battered

Photograph 18. Ground and Pecked Stone Tools Recovered from the Schoharie Creek II Site.

or ground depressions on one or more surfaces. Three pit shapes are generally recognized on pitted cobbles: U-shaped, V-shaped, and irregular (see Collins 1979:336). Variation in size and shape of the depressions is linked to the function and whether the tool represents grinding or battering activities. Pitted cobbles were used as plant processing "nutting stones" and anvils. Pitted cobbles representing anvils were a necessary component of some aspect of lithic reduction, such as bipolar flaking (Andrefsky 1998).

Three pitted stones were recovered from the Schoharie Creek II site. One of these pitted stones was recovered from Unit 11 during the 1998 site examination. The remaining two artifacts were recovered during the current data recovery project from Units 18 and 36. All of these artifacts were recovered from A-horizon soils at a depth of approximately 10–25 cm (3.94–9.85 in) below ground surface. All of the cobbles were manufactured from quartz and sandstone cobbles and ranged in

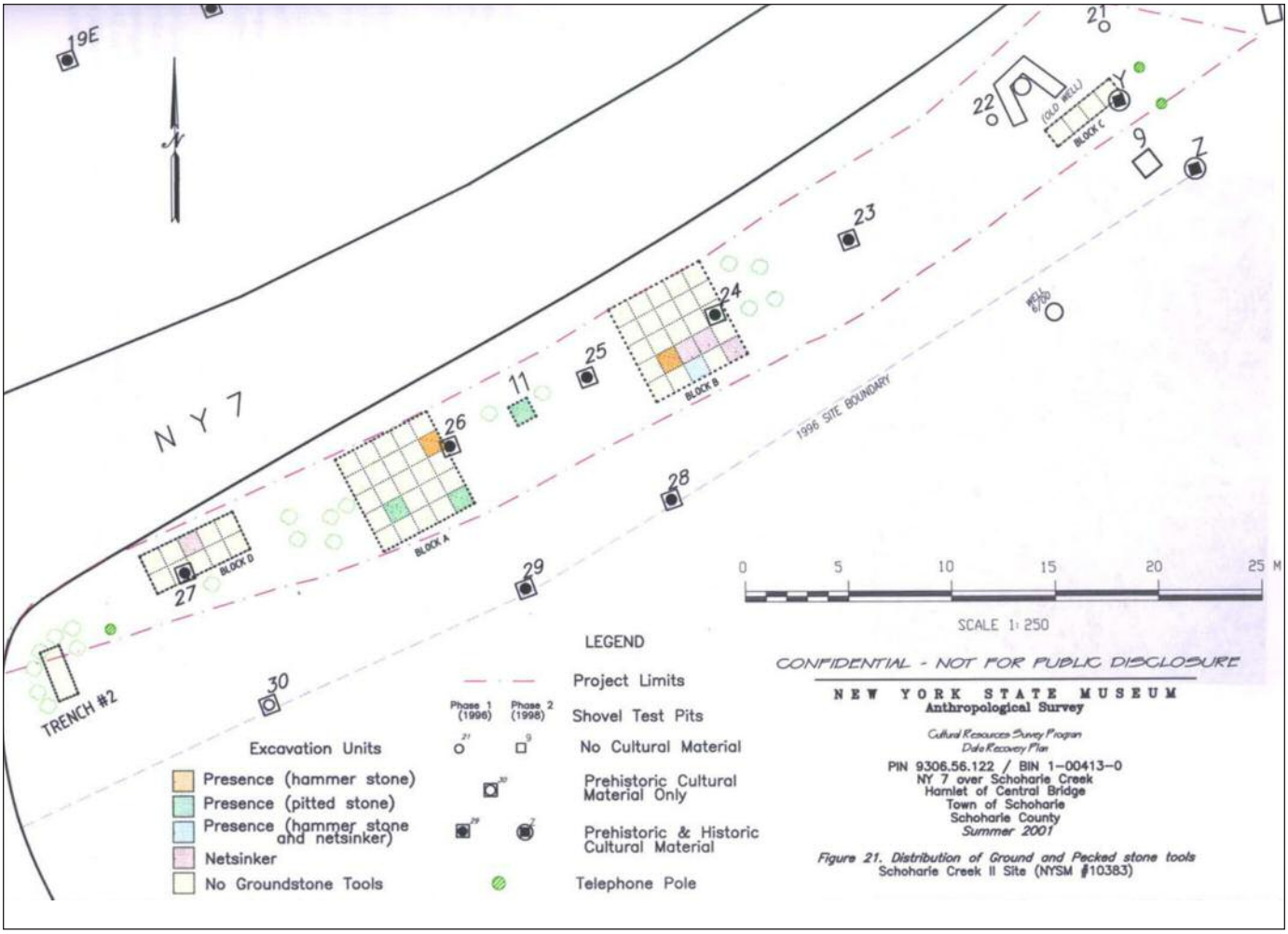

Figure 21. Distribution of Ground and Pecked Stone Tools at the Schoharie Creek II Site.

weight from 147.8 to 272.2 grams. Pitting size averaged approximately 18 mm (0.7 in) in diameter. The depth of the pit ranged from 2 to 4 mm (0.08 to 0.15 in). Two of the examples exhibited rounded pits while the third example exhibited an irregular pit. The absence of pitted stones in the BE-horizon soils may suggest either that the Early Woodland occupants of this site were not processing materials at the site or that the processing techniques that were employed were different from those employed by the Middle Woodland occupants of the site.

Seven netsinkers were also recovered from the Schoharie Creek II site in Units 47, 48, 55, 57, and 70 (Photograph 18, Figure 21, Table 11). Netsinkers are generally made from flat or rounded cobbles and exhibit notching on opposite sides of the stone. Netsinkers were probably used to weigh nets during fishing. The seven netsinkers recovered during the mitigation of the Schoharie Creek II site were manufactured from small quartz and sandstone cobbles measuring between 7 and 12 cm (2.75 and 4.7 in) in length. The netsinkers that were recovered ranged from 64.6 grams to 90.3 grams in weight. One of these cobbles was heavily battered on one edge and may represent another ground tool (possibly a hammerstone) that was reworked into a netsinker.

Four netsinkers were recovered from A-horizon soils and may be associated with the Middle Woodland occupation of the Schoharie Creek II site. Three netsinkers were recovered from BE and buried BE-horizon soils and may be associated with the Early Woodland occupation of the site. The recovery of these artifacts in both the A- and BE-horizon soils suggests that fishing was an important activity practiced by both the Early and Middle Woodland occupants of this site.

Other ground or pecked stone tools may have also been used by the occupants of this site but were recycled in features as fire-cracked rock after their use life was completed. Evidence of this can be seen in several pieces of fire-cracked rock recovered from Features 12 and 15b. Two pieces of fire-cracked rock were refitted and show evidence of battering along the edges of the artifact suggesting that these artifacts may have initially formed part of a hammerstone.

Chipped Stone Tools

Five hundred and thirty chipped stone tools, including projectile points, complete and broken bifaces, scrapers, drills, unifaces, and utilized flakes were recovered from the Schoharie Creek II site. One artifact was recovered during the 1996 reconnaissance survey (Rieth and LoRusso 1996), 43 (8.1%) artifacts were recovered during the 1998 site examination (Rieth 1998), and 486 (91.7%) artifacts were recovered during the current data recovery project (Table 11). Two hundred and ninety-five (55.7%) chipped stone tools were recovered from A and buried A-horizon soils and 235 (44.3%) chipped stone tools were recovered from BE and buried BE-horizon soils. The largest number of chipped stone tools were recovered from Blocks A and B. No chipped stone tools were recovered from Blocks C and D (Figure 22).

The chipped stone tool assemblage from this site includes the following items: 383 (72.6%) utilized flakes, 23 (4.3%) whole bifaces, 88 (16.6%) broken bifaces, 9 (1.7%) broken or complete projectile points, 1 (0.19%) perforator, 21 (3.9%) scrapers, 1 (0.19%) drill and 4 (0.8%) unifaces. Each of these artifact classes are discussed separately in the following pages.

Nine complete and broken projectile points have been recovered from the Schoharie Creek II site (Photograph 19). As discussed in the cultural stratigraphy section of this report, a broken Meadowwood projectile point was recovered from BE-horizon soils in Unit 25. Meadowwood points are the characteristic point type of the Meadowwood phase and are often found on sites dating between 2,448 and 563 B.C. (Granger 1978). Although these types of artifacts are commonly found in western and central New York, their distribution in eastern and southern New York is limited (Ritchie 1971:37). This artifact measures 34 mm (1.33 in) long and has a maximum width of 18 mm (0.71 in) at the base. This artifact measures 2.89 mm (0.11 ins.) thick and is manufactured from dark gray Onondaga chert. The tip of the point is missing suggesting that the artifact may have been discarded due to breakage.

One complete Orient Fishtail projectile point was recovered from Unit 18 (Photograph 19). Orient points have been found on sites dating to the Late Archaic and Early Woodland Periods in New York. In eastern and southern New York, these points represent diagnostic artifacts of the Orient Tradition and date between

Photograph 19. Projectile Points recovered from the Schoharie Creek II site.

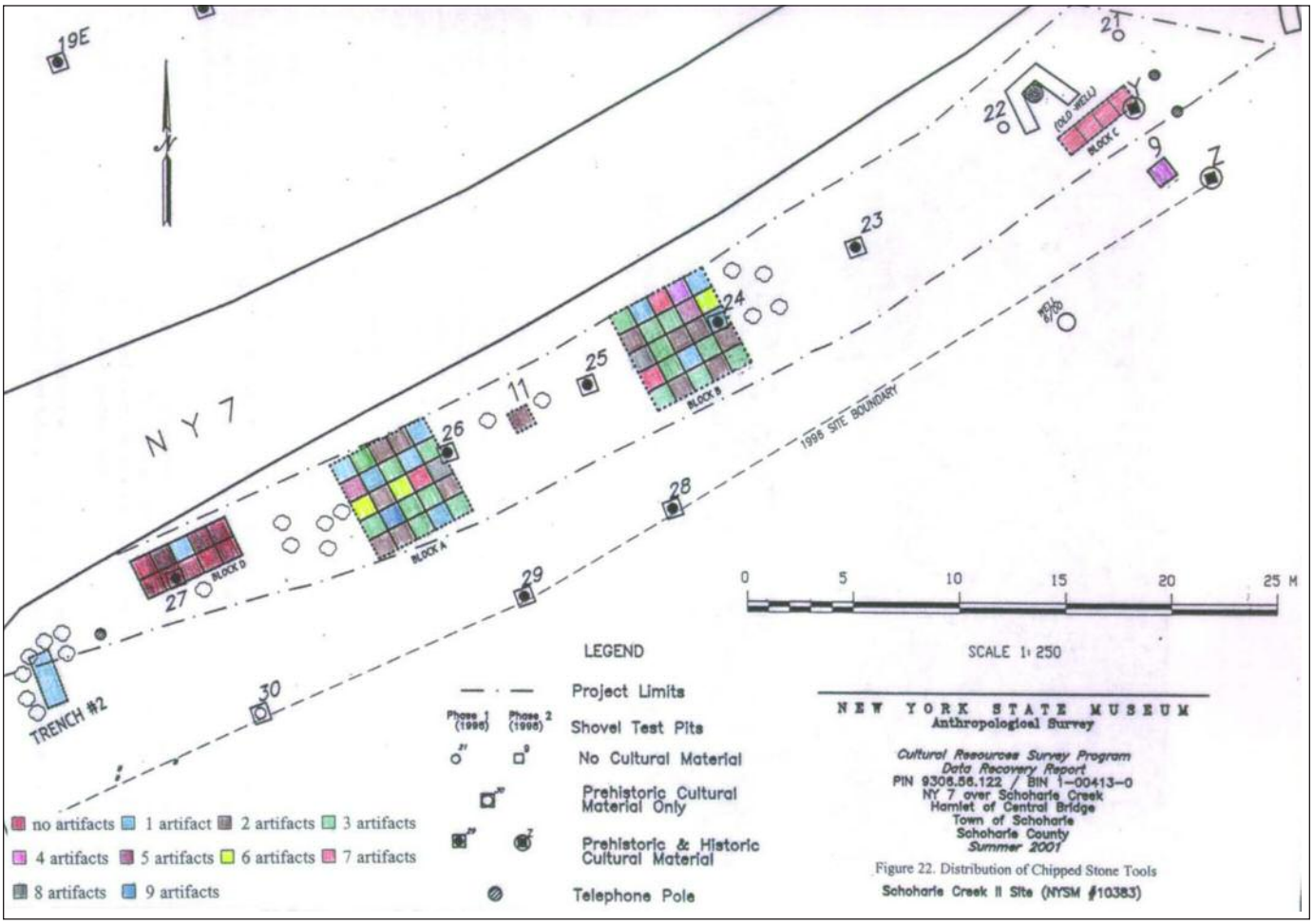

Figure 22. Distribution of Chipped Stone Tools at the Schoharie Creek II Site.

1044+/–300 B.C. (M-586) (Crane and Griffen 1958:1101) and 763 +/–220 B.C. (W-543) (Ritchie 1959). Cassedy (1998) and Sopko and Feister (1994) have recently suggested that these points may have been manufactured as late as A.D. 220 as suggested by radiocarbon and AMS dates from associated features in eastern New York.

The Orient point recovered from the Schoharie Creek II site was found in the BE-horizon soils of Unit 18. This artifact is manufactured from gray Onondaga chert and measures approximately 6 cm (2.34 in) long and has a maximum width of 1.87 cm (0.56 in). This artifact measures approximately 3 mm (0.11 in) thick and was recovered in two separate pieces from Unit 18. The point tip and base were cross-mended to reveal a whole projectile point. This artifact was probably discarded due to breakage.

An unidentified projectile point midsection and base were also recovered from Unit 15 (Photograph 19). This artifact has been reworked into a drill or other utilitarian artifact and can not currently be assigned to a particular point type. Despite these modifications, the point exhibits some similarities with the Orient Fishtail point type described above (Photograph 19). This artifact is manufactured from gray Onondaga chert and measures 3.4 cm (1.3 in) long from the tip of the base to the artifact's midsection. The artifact measures 1.8 cm (0.7 in) wide and is 3 mm (0.11 in) thick. Like other projectile points recovered from the site, this artifact may have been discarded due to breakage.

The base of a small Fox Creek Projectile Point was recovered from the north side of Route 7 during the 1998 site examination (Rieth 1998). Although Fox Creek or Steubenville Points are commonly found on sites dating to the earlier Fox Creek Phase (Ritchie 1971; Ritchie and Funk 1973:120), the recovery of this artifact at the Schoharie Creek II site suggests either that the point type had a more extensive uselife, was curated, or that the deposits on the north side of Route 7 may be slightly earlier than those identified along the south side of the roadway. This artifact measures 28.4 cm (1.12 in) wide

and is 25.4 mm (1 in) long. This artifact has an average thickness of 6.4 mm (0.25 in). This artifact contains a width to thickness ratio of 4.48 and according to Callahan's bifacial reduction scheme (Callahan 1979) represents a Stage 5 biface. This artifact was manufactured from dark gray Onondaga chert and was probably manufactured through a combination of hard and soft hammer percussion. This artifact contains a large fracture along the midsection of the object (above the area of the "tangs") and was probably discarded prior to hafting.

Finally, a small broken projectile point was recovered from the subsoil of STP N on the north side of Route 7 during the 1998 site examination (see Rieth 1998). The point was finely crafted and was also manufactured from Onondaga chert. The remaining portion of the projectile point measures 23.6 mm (0.93 in) wide, 33.2 mm (1.31 in) long, and 6.3 mm (0.25 in) thick. This artifact exhibits a width to thickness ratio of 3.72 and is characterized as a Stage 3 biface using Callahan's (1979) bifacial reduction scheme. This artifact lacked the tip and the base and could not be assigned to a particular time period or cultural tradition.

The largest number of projectile points was recovered from the southwest corner of Block A. Four of the projectile points were recovered from Units 15, 18, and 25. The remaining two projectile points were recovered from the north side of Route 7 during the 1998 site examination (Rieth 1998). No projectile points were recovered from any of the units in Block B suggesting that different activity areas may have existed across the site.

Twenty-three whole and 88 broken bifaces were recovered from the Schoharie Creek II site (Table 11). Seventy-eight (60.3%) bifaces were recovered from A-horizon soils and are probably associated with the Middle Woodland occupation. Thirty-three (29.7%) bifaces were recovered from BE-horizon soils and are probably associated with the Early Woodland occupation of the site. Most of these bifaces were manufactured from gray Onondaga chert, which is known to outcrop south of the project area along Terrace Mountain (Ritchie and Funk 1973). Most of the bifaces that were recovered from the site contain a coarse-grained texture and contain some impurities. While these impurities may merely be a factor of the formation of a single quarry, they may also be representative "fingerprints" of different local quarries (Rieth 2008).

These bifacially worked tools come in a range of sizes and, as discussed below, represent a variety of manufacturing stages. The average length of the bifaces that were recovered from the Schoharie Creek II site is 38 mm (1.49 in) while the average width is somewhat smaller at 29 mm (1.13 in). The average thickness of these artifacts is 6.99 mm (0.27 in). Callahan (1979) and others (e.g. O'Dell 1996) indicate that prehistoric groups may have utilized several different techniques while manufacturing chipped stone tools. Given the absence of evidence of heat treatment (e.g. reddened surface of artifact, potlidding, etc.), it seems likely that most of the bifaces recovered from the Schoharie Creek II site were primarily manufactured using a combination of hard and soft hammer percussion thereby allowing more control and more refined shaping of the object.

Preliminary analysis of the artifacts from the site does not indicate that any of the biface fragments could be refitted with each other. Although macroscopic analysis of the bifaces did not reveal evidence of blood, or plant residues, additional microscopic analysis is needed to assess usewear of artifacts. Examination of several of the bifaces at a magnification of 10x revealed an edge that contained a pattern of "multiple overlapping chipping" along the dorsal and ventral faces of the artifacts. This pattern is consistent with what Pagoulatos (1992:92) describes as "crushing use wear" and may be indicative of the prehistoric function of the object.

Seventy-nine percent of the bifacially worked artifacts that were recovered from the Schoharie Creek II site were broken and do not represent complete artifacts. As discussed below, the high incidence of broken bifaces at the site may be due to a number of factors including (1) the use of poor quality materials, (2) the inexperience of the knapper, (3) use of poor quality "hammers", or (4) a combination of these two factors.

Twenty-three complete and 44 nearly complete bifaces were analyzed according to Callahan's Biface Reduction Sequence (Callahan 1979:1-180). Only the 23 complete or nearly complete bifacially worked tools were considered in this analysis since irregularities in the breakage and size of the remaining incomplete biface fragments could bias the results of this analysis. Callahan's bifacial reduction sequence is simply defined as a set of criteria for analyzing the rate of completeness or the "finishedness" of bifacially worked tools at the site. Over the past two decades, archaeologists (e.g. Andrefsky 1994; Cesarski 1996; Cobb and Webb 1994; Henry 1989; Magne 1985) have attempted to correlate the degree or amount of "finishedness" of bifaces (along with information relating to the types of flakes that are present at a site) so that information relating to the socio-cultural standing, economic status, and settlement patterns can be discerned.

Specific site types were inferred based upon the types of bifaces that were recovered and the percentage of bifacial thinning flakes that were recovered from the site. Sites that contained large quantities of Stage I and II bifaces (Callahan 1979: Table 5) were assumed to be primarily manufacturing (e.g. quarry, workshop sites).

Sites that contained only Stage 4 bifaces were commonly identified as situational emergency camps. Sites that contained all stages of bifaces were often grouped as residential sites and/or repeated logistical camps. As discussed below, the bifacially worked tools that were recovered from the Schoharie Creek II site represent a wide range of reduction stages with the majority of the artifacts grouped into Reduction Stages II through V.

The first bifacial reduction stage that is identified by Callahan is Stage I Biface Reduction. This reduction stage is classified as the stage in which chipped stone blanks or preforms (Crabtree 1972) are obtained. Obtaining a "blank" can involve a variety of processes ranging from spalling of larger cores for larger flakes to selection of a pre-quarried cobble (Callahan 1979:36).

At the Schoharie Creek II site, 11 small core fragments (presumably anticipated Stage I bifaces) were identified in Units 13, 14, 17, 26, 28, 31, 41, 51, and 53 (Photograph 20). Nine bifaces were recovered from the A-horizon soils and 2 bifaces were recovered from BE-horizon soils. Most of these core fragments are small (less than 4 cm in diameter) and may have either been used to manufacture smaller tools (e.g. scrapers) or represent unused remnants of larger core debris. Three artifacts were manufactured from medium gray Onondaga chert while the remaining artifacts were manufactured from medium gray chert. The limited number of larger core fragments suggests that raw materials were procured elsewhere and were brought to the site as partially worked bifaces. As discussed below, this idea is supported by the relatively low number of cortical flakes (primary/secondary flakes) that were recovered during the data recovery project.

Stage II bifaces (or initial edging bifaces) are described as objects in which initial edging and/or refinement of edges takes place using a hard hammer (Callahan 1979:26). This process usually results from creating a bifacially worked preform, which is circumferal. Stage II bifaces are roughly centered and contain edge-angles of between 55 and 75 degrees resulting in an average width/thickness ratio of 2.00. In some instances flake scars may cover less than half of the width of the biface producing an irregular or lenticular cross-section.

At the Schoharie Creek II site, 19 Stage II bifaces were identified in Units 13, 14, 15, 18, 20, 23, 24, 30, 33, 34, 36, 37, 44, 45, 49, 53, 56, 58, and 60 (Photograph 20). Twelve bifaces were recovered from the A-horizon soils and 7 were recovered from the BE and buried BE-horizon soils. These artifacts range from 22–63 mm (0.86–2.54 in) in length, 22–34.4 mm (0.86–1.34 in) in width, and 6–21 mm (0.23–0.81 in) in thickness. These artifacts contain a width to thickness ratio of 2.1 to 2.94. Most of the bifaces that were identified at the site contained an edge-angle greater than 60 degrees. As discussed below, several of these objects are broken and probably represent either the poor quality of the material and/or the inexperience of the artisan. Many of the artifacts have been manufactured from marginal quality Onondaga chert and show signs of heavy patination. The heavy patina that is found on these objects was probably a result of one of two factors: (1) long-term exposure on the ground surface, or (2) the properties of the overall chert formation.

Photograph 20. Stage I and II Bifaces recovered from the Schoharie Creek II Site.

Stage III bifaces result from primary thinning of the object and removal of major humps, ridges, and hinge- or step-fractures associated with Stage I and II Reduction. If completed correctly, a small biface will be produced, which is lenticular in cross-section and contains a width to thickness ratio of 3.00 to 4.00. The biface is usually aligned or centered with edge-angles measuring between 40 and 60 degrees. Stage III bifaces are easily transportable and are the types of bifaces that are the most break resistant due to their relative strength. Given the artifact's strength, Callahan (1979) and others (Rick 1978) argue that if heat treatment is required, it usually occurs during or after the completion of this stage of reduction.

Seventeen Stage III bifaces were recovered from the Schoharie Creek II site in Units 14, 15, 16, 17, 18, 19, 33, 34, 35, 39, 40, 50, 51, 52, 53, and 60 (Photograph 21). Fourteen of these bifaces were recovered from A-horizon soils and 3 were recovered from B-horizon soils. These artifacts averaged 29–34 mm (1.1–1.3 in) long, 18–24 mm (0.7–0.9 in) wide, and 4–6 mm (0.15–0.23 in) thick. These artifacts contain a width to thickness ratio ranging between 3.0 and 3.9 and most of the angles of the biface measure less than 60 degrees. All of these artifacts were manufactured from medium gray Onondaga chert. None of these artifacts exhibit any evidence of cortex and none of these artifacts appear to have been

Photograph 21. Stage III and IV Bifaces recovered from the Schoharie Creek II Site.

Photograph 22. Photograph showing Stage V bifaces recovered from the Schoharie Creek II site.

heat-treated. Unlike the Stage I and II bifaces at the site, 54% of these artifacts contain shallow scars along the dorsal surface of the artifact.

Stage IV bifaces are those bifaces that have been refined through secondary thinning. These bifaces can be distinguished from Stage III bifaces by the presence of a flat cross-section that is obtained by striking flakes from opposite margins of the blade (Callahan 1979:37). Removal of these flakes will result in a width to thickness ratio of 4.00 to 5.00+ and will create edge angles of 25-45 degrees. Creation of a small thin blade is the ultimate goal of this stage and will aide in the hafting or utilization of tools in later stages. Unlike Stage I and Stage II bifaces, Stage III and IV bifaces are often completed using a soft hammer (e.g. antler, bone, etc.) thereby allowing for more precision, refinement, and control during flake removal.

Fourteen Stage IV bifaces were recovered from the Schoharie Creek II site in Units 16, 13, 17, 23, 24, 27, 34, 39, 40, 46, 47, 50, 51, 52, 54, 55, and 56 (Photograph 21). Eight bifaces were recovered from the A and buried A-horizon soils and 6 were recovered from the BE and buried BE-horizon soils. Thirteen artifacts were manufactured from medium gray Onondaga chert and one biface was manufactured from Normanskill chert. These artifacts range in width from 15–26 mm (0.58–1.01 in) and length from 21–29 mm (0.82–1.1 in). These artifacts contain a width to thickness ratio ranging from 4.18 to 4.9. Each of these bifaces contains edge angles measuring less than 60 degrees. One object contains a small amount of cortex along the base. The presence of cortex (or specifically the knapper's failure to remove the cortex) may explain why this object was discarded prior to completion. None of the artifacts recovered from the Schoharie Creek II site appear to have been heat treated and were probably finished using a soft hammer (e.g. antler).

Finally, six Stage V bifaces were recovered in Units 18, 26, 44, and 53 (Photograph 22). At the Schoharie Creek II site, these artifacts consist of nearly completed bifaces that may have been intended for use as projectile points. Callahan (1979:37) describes Stage V as the shaping stage or that stage in which the shape or outline of the biface is "specified so as to prepare the biface for subsequent hafting". While in most cases, this would involve edge alignment or retouching to prepare the biface for use, in some instances more extensive shaping may need to occur so that the object conforms to culturally defined techno-functional criteria.

Figure 23 summarizes the above information. As shown in this figure, the largest number of bifaces recovered from the Schoharie Creek II site consists of Stage II (28.3%), III (25.4%), and IV (20.9%) bifaces. Limited numbers of Stage I (16.4%) and Stage V (8.9%) bifaces were recovered suggesting that the prehistoric occupants of this site were not bringing large numbers of unworked cores to the site for further processing. Instead, the artifacts that are present at the site largely consist of artifacts that have been partially reduced elsewhere. Additional evidence of this is provided in the following discussion of debitage recovered from the site. When the types of bifaces are viewed in terms of the specific stratigraphic layer in which they were recovered, there appear to be some differences in the types of bifaces that were recovered. As shown in Figure 23, larger numbers of Stage II (25.9%) and III (27.3%) bifaces were recovered from the A and buried A-horizon soils at the site. If these artifacts are indeed associated with the Middle Woodland occupation of the site as suggested by features and AMS dates in this soil horizon, we can speculate that these prehistoric populations were primarily engaged in tasks associated with

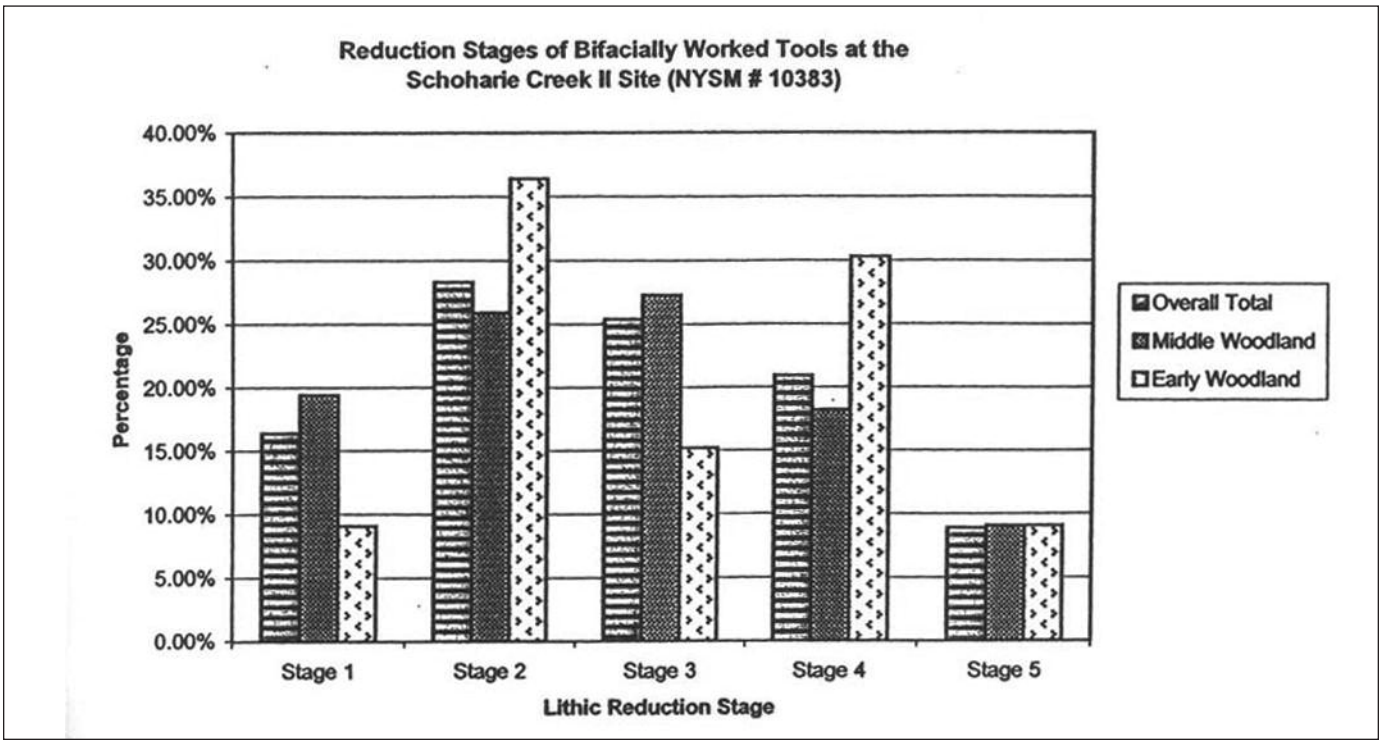

Figure 23. Summary of Lithic Reduction Stages Identified in Bifaces from the Schoharie Creek II site.

the initial and primary thinning of bifacial tools. The limited number of Stage IV (18.2%) and V (9.10%) bifaces suggest that tasks associated with the shaping and completion of tools would not have been completed by the occupants of this site. Instead, these tools may have been curated for finishing at a later time. When compared with the percentage of tools recovered from the BE and buried BE-horizon (presumed Early Woodland occupation) different patterns emerge. The largest number of bifaces recovered from this soil layer were identified as Stage II (36.4%) and IV (30.3%) bifaces. Smaller percentages of Stage III (15.2%), I (9.10%), and V (9.10%) bifaces were recovered from this soil layer. The predominance of Stage II and Stage IV bifaces at the site suggests that tasks associated with initial edging and advanced refinement of the tools were important. The limited number of Stage I bifaces, in comparison to that of the overall site and the A-horizon soils, suggests that very few unworked cores were brought to the site.

Currently, some information is available regarding the use of discarded bifaces at the Schoharie Creek II site. A survey of the bifaces from this site indicates that 17% of the total number of broken bifaces contain hinge fractures indicative of damage by impact or force applied to the tip of the tool. Common causes for these types of fractures often result from the use of these objects as hand held puncturing or prying tools. Analysis of several of the bifaces from the A and BE-horizons of Units 14, 18, and 56 under a magnification of 10-20x revealed an edge that contained patterns of "multiple overlapping chipping" along the dorsal and ventral faces of the artifacts. This pattern is consistent with what Pagoulatos (1992:92) describes as "crushing usewear" and may be indicative of the use of the tool for processing both hard (e.g. wood) and soft (e.g. plant) materials.

An analysis of the remaining 44 broken or rejected bifaces was also completed. Callahan (1979) indicates that the rejection or discarding of bifaces is not uncommon at prehistoric sites and is probably related to one or more characteristics associated with the (1) poor construction (examples include presence of unintentional fractures and overshot, unusually thick edges, presence of hinge fractures, failure to reduce unusually "thick" areas, etc.) (2) poor quality materials used (e.g. difficulty in flaking due to impurities and presence of geological fractures, etc.), or (3) inexperience of the knapper. Brumbach and Weinstein's (1999) study of the biface fragments at Flint Mine Hill, Lain's (n.d.) study of biface fragments from the Victoria Site at the Greene Haven Correctional facility, and Rieth's (1998) study of biface fragments at the Vroman I site in the Town of Schoharie produced similar results suggesting that a large percentage of the bifaces were discarded due to one or more processing failures.

Several of the bifaces that were recovered from the Schoharie Creek II site possess evidence of these traits. One biface from Unit 56 contains a fracture that resulted in the breakage medially across the center of the object. Twelve bifaces from Units 13, 17, 46, 47, and 56 contained similar fractures. Three bifaces contained fractures across the midsection while the remaining two contained fractures across the upper half of the biface. Four of the bifaces from Units 17, 51, and 53 were unusually large and may have been discarded due to impurities in the material. Finally, three bifaces contained hinge-fractures that may have ultimately been caused by impurities in the material or failure to remove flakes along the dorsal surface of the artifact (Callahan 1979).

Several other types of chipped stone tools were also recovered from the Schoharie Creek II site (Table 11, Photograph 23). Included among these artifacts were 1 (0.003%) perforator, 21 (0.06%) scrapers, 1 (0.003%) drill, and 4 (0.01%) unifacially worked tools. All of these artifacts, with the exception of two of the scrapers, were recovered during the current data recovery project. The largest number of miscellaneous chipped stone tools consists of small end and side scrapers that were probably used to scrape and prepare hides (Siegel 1984). End, side, and thumbnail scrapers were recovered from the Schoharie Creek II site. In total, 6 (28.6%) scrapers were identified as end scrapers, 12 (57.1%) were side scrapers, and the remaining 3 (14.3%) were thumbnail scrapers. Ten (47.6%) of these scrapers were recovered from A and buried A-horizon soils and 11 (52.4%) scrapers were recovered from BE and buried BE-horizon soils. All of these tools are manufactured from medium gray Onondaga chert. Most of these artifacts are manufactured from generally thick, broad flakes or spalls, with a few crude flake scars which serve to flatten the upper surface.

Eighteen (85.7%) scrapers exhibited obtuse edges and show signs of use. Examination of 6 (33%) of these 18 scrapers under low magnification of 10-20x revealed use wear damage (Photograph 24) similar to the "scraping" and "crushing" types defined by Pagoulatos (1992) and O'dell and O'dell-Vereecken (1980). O'dell and O'dell-Vereecken (1980) and Hayden (1979) suggest that these types of use-wear are often caused during the scraping of both hard and soft materials such as bone, hide, and wood. Evidence of these types of use-wear was identified in scrapers from both the A- and BE-horizon soils and currently there is no evidence to suggest that these scrapers were used differently by the Early and Middle Woodland occupants of the site.

The remaining 6 chipped stone tools include 1 drill, 1 perforator, and 4 unifacially worked tools. Four of these artifacts were recovered from the A-horizon soils while the remaining two artifacts were recovered from the BE-horizon soils. The presence of these artifacts at the Schoharie Creek II site suggest that other woodworking and/or general purpose tasks were also being completed at the site. Like the bifacially worked tools recovered from the site, the majority of these artifacts were manufactured from gray Onondaga chert that may have been procured from local deposits at Terrace Mountain.

In addition to formal chipped stone tools, the lithic tool kits of the prehistoric occupants of the Schoharie Creek II site also included expedient tools as evidenced by the recovery of 383 utilized flakes from the site. Utilized flakes are here defined as flakes that have been modified or reworked into smaller expedient tools. For the purpose of this project, once a flake was identified as being utilized, the artifacts were further classified

Photograph 23. Scrapers, Drill, and Unifacially Worked Tools Recovered from the Schoharie Creek II Site.

Photograph 24. Photograph showing the location of use-wear damage found on scraper recovered from Unit 34.

into one of the original 8 flake categories. The primary goal of this dual classification system was to determine whether a particular flake type was being selected for utilization or whether the manufacture of these expedient tools was more random. In addition, measurements of the length of these artifacts was also recorded to determine what, if any, role size played in the selection of these artifacts.

Preliminary micro- and macroscopic analysis of utilized flakes indicates that 383 flakes were retouched and/or contained evidence of use-wear along the dorsal surface of the flake. Tertiary flakes appeared to be the most frequently retouched artifact at the site and comprised approximately 40% of the utilized flakes at the site. There are two possible explanations why this occurs. First tertiary flakes comprise one of the largest flake categories at the site, making it logical that this flake category would have generated the largest number of flakes. Second, tertiary flakes represent an appropriate and manageable medium for expedient tool use due to their technological/functional characteristics. As discussed below, tertiary flakes generally lack large quantities of cortex, which would be conducive to retouching and/or creating a sharp cutting edge. Tertiary flakes are also often produced from the best parts of the nodule especially in instances were cortex, patination, and impuritities in the material have been removed by the knapper. Furthermore, tertiary flakes are usually "just the right size" for use when scraping tubers or cutting fibrous materials especially when compared with the larger primary/secondary flakes, which may be too big, and the smaller bifacial thinning and pressure flakes, which may be too small for use and/or modification.

One of these utilized flakes was of particular interest. This artifact resembled a small blade and was manufactured from light gray Onondaga chert. This "blade-like" or "elongated" tool measures approximately 2 cm (0.78 in) wide and about 4 cm (1.6 in) long. Both sides of the artifact have been retouched to create a semi-sharp cutting edge. Preliminary analysis of the artifact does not show any visible traces of residue on the dorsal surface. The analysis of similar artifacts from Hopewell (Genheimer 1996) and other Eastern Woodland sites (Odell 1994) suggest that prehistoric populations may have used these artifacts for cutting and food processing tasks (Genheimer 1996). Larger numbers of similar artifacts were recovered from the Vroman I site in the village of Schoharie where they may have been used during fish and other material processing activities (Rieth 1999:45, Photograph 8).

Broken flakes (27%) and pieces of general shatter (15%) were also commonly retouched and/or utilized at the site. Unlike the technological/functional characteristics of tertiary flakes, the number of artifacts being retouched or utilized may partially relate more to their sheer volume at the site. Smaller quantities of primary/secondary (10%), bifacial thinning (6%), and block shatter (2%) appear to also have been retouched and/or utilized at the site.

Although evidence of retouch was visible under normal conditions, analysis of specific wear patterns and retouch forms was further enhanced using a binocular microscope at a magnification of 10-20x. Classification of use-wear/retouch categories followed the terminology employed by Pagoulatos (1992:92) and included such general wear categories as polishing, smoothing, feathering, stepped chipping, and crushing.

Preliminary analysis of the use-wear patterns on a 10% sample (n=38) of these flakes under low power magnification suggests that these flakes may have been used for a variety of tasks. Twelve flakes exhibited evidence of "crushing" along the edge of the flake. Crushing is generally characterized by multiple overlapping of stepped chipping use wear and is often associated with the working of bone, wood, or plant materials (Pagoulatos 1992:92, Table 1). Six flakes from units in Block A contained exterior oblique (/) striations along the dorsal surface which are considered to be synonymous with Pagoulatos (1992:92) feathering category. Feathering is generally represented by a shallow, crescent shaped chipping pattern, which is often produced when processing wood or hide (Pagoulatos' 1992:92, Table 1). Eight flakes contained wear patterns that resemble Pagoulatos' (1992:92, Table 1) stepped chipping pattern. Stepped chipping is characterized by deep square or rectangular patterns and often occur when processing bone. Finally, evidence of polishing is represented by 12 flakes. Pagoulatos (1992: Table 1) and others (O'dell and O'dell Vereecken 1980) indicate that polishing is often identified by a highly reflective luster on the surface of the artifact. Although evidence of polishing can occur from use by most materials, Pagoulatos (1992) indicates that on chert, polishing was most visible when tools were used to process plant materials.

Finally, 44% of these utilized flakes were recovered from A and buried A-horizon soils while the remaining 56% were recovered from the BE and buried BE-horizon soils. When compared with the number of formal tools recovered from the A- and BE-horizon soils, the large number of utilized flakes in the BE-horizon soils suggests that the Early and Middle Woodland occupants of the site maintained different lithic reduction technologies.

Debitage

The largest number of artifacts (35,307 or 94.5%) that were recovered from the Schoharie Creek II site consist of small chert flakes (Table 11). For the purpose of this project, these artifacts were sorted into one of nine distinct flake categories (e.g. primary, secondary, tertiary, bifacial thinning, pressure, shatter, block shatter, and broken flakes) based upon their size and presence/absence of various morphological characteristics (e.g. striking platform, bulb of percussion, number of dorsal scars, cortex, etc.). Other non-morphological characteristics were also recorded for each flake including presence/absence of heat treatment, utilization, hinge and step fractures, etc.). As discussed below, utilized flakes were treated both as worked tools and as flakes with specific characteristics being identified for this flake class.

Nine hundred and eighty-two (2.8%) primary and secondary flakes were recovered from the Schoharie Creek II site (Table 12). Primary and secondary flakes, also known as cortical flakes, are generally associated with the initial reduction of cores to smaller (Stage I and II) bifaces (Andrefsky 1998). These flakes are often characterized by large quantities of cortex along the dorsal surface of the flake, a few dorsal ridges, and a general lack of platform preparation. In general, primary flakes are often larger than secondary flakes and can be further reworked into smaller tools including scrapers, gravers, drills, etc.

Analysis of these flakes indicates that the majority of these artifacts measure more than 2 cm (1.1 in) in diameter. When a formal striking platform is present, the platform generally contains a width of more than 1 cm (0.39 in). At the Schoharie Creek II site, these flakes contain a relatively small number of dorsal scars. Several of these flakes also exhibit heavy patination along the dorsal surface. Most the flakes were manufactured from medium gray Onondaga chert that was probably procured from one or more local quarries. As discussed below, the low number of identified primary/secondary flakes is consistent with the limited number of Stage I and II bifaces that were recovered from the site.

Two thousand five hundred and forty-two tertiary flakes (7.2%) were recovered from the site. One thousand eight hundred and thirty-one flakes (72%) were recovered from the A-horizon soils. Seven hundred and eighteen (28%) flakes were recovered from the BE-horizon soils. Tertiary flakes were generally associated with early-mid stage biface reduction (Stage II and III bifaces) and are characterized by the relative absence of cortex along the dorsal surface, the presence of one or more flake scars, and a well-defined striking platform and bulb of percussion. Typically, these types of flakes are smaller and thinner than primary/secondary core reduction flakes and contain a more extensive amount of platform preparation. Most of the tertiary flakes measured 2–5 cm (0.78–1.95 in) in diameter and contained a thickness of less than 1 cm (0.39 in). Most of the flakes contain one or more flake scars along the dorsal side and have well defined striking platforms that measure between 1 and 2 cm (0.39–0.78 in) in diameter. None of the artifacts contained cortex along the surface and less than 3% of the total number of tertiary flakes showed signs of heat treatment. Although the majority of the artifacts from the site appear to have been manufactured from local Onondaga chert, other types of materials (e.g. yellow Jasper, quartzite, and Kalkberg chert) were also identified in the assemblage. The large number of tertiary flakes recovered from the Schoharie Creek II site corresponds with the large number of Stage II and III bifaces that were recovered from the site.

Bifacial thinning flakes are produced during the reduction of cores and tool production/maintenance. Bifacial thinning flakes are generally smaller and thinner than primary/secondary core reduction flakes and often possess a curved lenticular structure when viewed in cross-section. Quite often converging negative dorsal flake scars are present and lipped platform remnants can occur across the surface of the flake in a variety of shapes (e.g. concave, dihedral, or polyhedral). These types of flakes are generally associated with mid-late stage biface reduction.

Five thousand seven hundred and one bifacial thin-

Table 12. Summary of Flakes Recovered from the Schoharie Creek II Site (NYSM # 10383).*

Block	Primary/ Secondary	Tertiary Flakes	Bifacial Thinning (%)	Pressure Flakes (%)	Shatter/Broken Flakes (%)	Utilized Flakes (%)	Total (%)
A	502 (1.42%)	1101 (3.1%)	1438 (4.1%)	1333 (3.8%)	8080 (22.9%)	148 (0.4%)	12,602 (35.7%)
B	457 (1.29%)	1424 (4%)	4150 (11.8%)	1627 (4.6%)	14,568 (41.3%)	197 (0.6%)	22,423 (63.5%)
C	2 (0.006%)	9 (0.03%)	15 (0.04%)	—-	48 (0.13%)	2 (0.006%)	76 (0.2%)
D	21 (0.06%)	8 (0.02%)	98 (0.3%)	2 (0.006%)	76 (0.2%)	1 (0.003%)	206 (0.6%)
Total	982 (2.8%)	2542 (7.2%)	5701 (16.1%)	2962 (8.4%)	22,772 (64.5%)	348 (0.98%)	35,307 (—-)

* Percentage determined based upon total number of flakes recovered from the site (n=35,307).

ning flakes (16.1%) were recovered from the Schoharie Creek II site. Three thousand four hundred and seventy-eight (61%) flakes were recovered from A and buried A-horizon soils and 2,223 (39%) bifacial thinning flakes were recovered from BE and buried BE-horizon soils. These flakes are primarily manufactured from gray Onondaga chert and measure between 0.5 and 2 cm (0.195–0.78 in) in size. Forty-three flakes exhibit evidence of heat treatment. The majority of the flakes contain an edge angle of less than 60 degrees and when present, the flake scars that are present on the dorsal surface of the artifacts are relatively shallow. Unlike the tertiary flakes, most of the bifacial thinning flakes appear to have been manufactured from locally available light and medium gray Onondaga chert. Only one piece of non-local jasper was identified in the assemblage and may represent the curation of high quality materials by the site's prehistoric occupants.

Two thousand nine hundred and sixty-two (8.4%) pressure flakes were recovered from the Schoharie Creek II site. One thousand eight hundred and sixty-seven (63%) artifacts were recovered from the A and buried A-horizon soils. One thousand ninety-five (37%) artifacts were recovered from the BE and buried BE-horizon soils. Nearly all of these artifacts measure less than 1 cm (0.39 in) in diameter and do not contain scars along the dorsal face of the artifact. Likewise, the platform and bulb of percussion is very shallow and almost non-existent. None of these flakes contain evidence of heat treatment and/or cortex along the dorsal surface suggesting that they were probably removed using a soft hammer (e.g. antler, etc.).

Broken flakes are flakes that can't be assigned to a specific category due to the absence of one or more flake characteristics (Andrefsky 1998). This flake category is commonly used to describe distal and medial flake fragments that could not be assigned to a particular flake category. In addition, this flake category consists of amorphous pieces of debris that lack typical flake characteristics. In addition to broken flakes, large quantities of shatter were also recovered from the Schoharie Creek II site. As previously discussed in the methodology section of this report, the general shatter category consists of amorphous pieces of debris that lack typical flake characteristics including no obvious striking platforms or termination areas. Unlike broken flakes, shatter is often not oriented in the direction of force in which they were removed from a larger core. Block shatter is distinguished from general shatter by its rigid shape and its ability to fracture the units at nearly right angles causing the artifact to have a "blocky shape". Like the general shatter category, pieces of block shatter lack a striking platform and well defined bulb of percussion. In both types of shatter, the size of the flakes can be quite variable and is dependent in part upon the object that is being produced.

Twenty-two thousand seven hundred and seventy-two broken flakes and pieces of shatter were recovered from the Schoharie Creek II site. Seventeen thousand seven hundred and sixty-two (78%) artifacts were recovered from the A and buried A-horizon soils while the remaining 5,010 (22%) artifacts were recovered from the BE and buried BE-horizon soils. The majority of these artifacts (98%) were classified as general shatter and broken flakes. The remaining 2% of the artifacts were classified as pieces of block shatter. There does not appear to be any difference in the size and types of raw materials that were used in the manufacture of these artifacts.

Spatially, the largest concentration of chert flakes was recovered from the eastern half of the site in Units 37 to 61 (Block B). Overall, 22,423 (63.5%) chert flakes were recovered from these excavation units. Within this block, the largest number of chert flakes were recovered from Units 39, 40, 42, 43, 51, 52, 53, 56, 60, and 61. Each of these units produced greater than one thousand flakes per unit. Twelve thousand six hundred and two (35.7%) artifacts were recovered from Units 12 to 36 (Block A). The largest numbers of flakes were recovered from Units 13, 14, 19, and 22. Each of these units produced more than 500 flakes per unit. Seventy-six artifacts (0.2%) were recovered from Block C in Units 62 to 65. The remaining 206 (0.6%) artifacts were recovered from Units 66 to 75 in Block D. When viewed across the entire site, there appears to be a general east to west decrease in the number of flakes encountered at the site. The highest distribution of flakes appears to correspond with the densest concentration of features and as discussed below may indicate the use of the site in different ways.

A detailed analysis of the chipped stone artifacts recovered from the Schoharie Creek II site provides insights into the lithic reduction strategies utilized by these prehistoric populations. Following a scheme used by Cesarski (1996) and others (Magne 1985), the diversity and distribution of types of bifaces recovered from the site provides important information about the type and function of the site. Under this scheme, sites exhibiting concentrations of Stage 1 bifaces and a low diversity of late stage debitage can be characterized as manufacturing sites. Sites exhibiting large quantities of late stage debitage and large quantities of fragmentary Stage III bifaces can be grouped as situation "emergency" camps. Residential sites are expected to produce a range of worked bifaces with many of these bifaces grouped as Stage III bifaces. These types of sites are also expected to produce a limited amount of late stage debitage. Finally, repeated logistical camps are expected to

produce a high percentage of late stage debitage and a diverse array of bifacially worked tools.

When compared with the types of bifaces that were recovered from the Schoharie Creek II site, the lithic assemblage from the Schoharie Creek II site seems to indicate that the site was probably occupied as a small repeated logistical camp. Overall, the site exhibits a diverse array of bifacially worked tools with complete and fragmentary bifaces from each of the five stages identified in the collection. As shown in Table 12, late stage bifacial thinning and pressure flakes outnumber early reduction primary/secondary and tertiary flakes across each of the site's large excavation units.

Figure 24 compares the lithic assemblage from this site and other camp sites in the Schoharie Valley and adjacent upland areas. Comparison of the lithic assemblages from these three sites provides a background against which lithic resource use can be evaluated. The Vroman I site is a small camp situated on a small alluvial terrace along the valley wall overlooking the Fox Creek, a major tributary of the Schoharie Creek (Rieth 1999a). Winnie IV (Sopko 1999) is a small upland site overlooking Onesquethaw Creek, a tributary of the Fox Creek. The Winnie IV site has been identified as a small seasonal camp (Sopko 1999). Each of these sites has produced components dating to the Woodland Period.

Differences in the types of debitage recovered from these sites are shown in Figure 24. As shown in this figure, the Schoharie Creek II site produced larger concentrations of late stage (bifacial thinning and pressure flakes) debitage than early stage debitage (primary/secondary and tertiary flakes). At the Vroman I site, we see a shift from an assemblage primarily based in late stage debitage to one composed of early stage debitage. The assemblage from the Vroman I site also shows an increase in the number of utilized flakes recovered. Missing from this assemblage are pressure flakes, which are usually associated with sharpening and finishing tools. This shift is more pronounced when the assemblages are compared with the Winnie IV site. At the upland Winnie site, a large amount of early stage reduction debris was recovered. There is also an increase in the number of bifacial thinning flakes and a decrease in the percentage of broken flakes and shatter. At both of

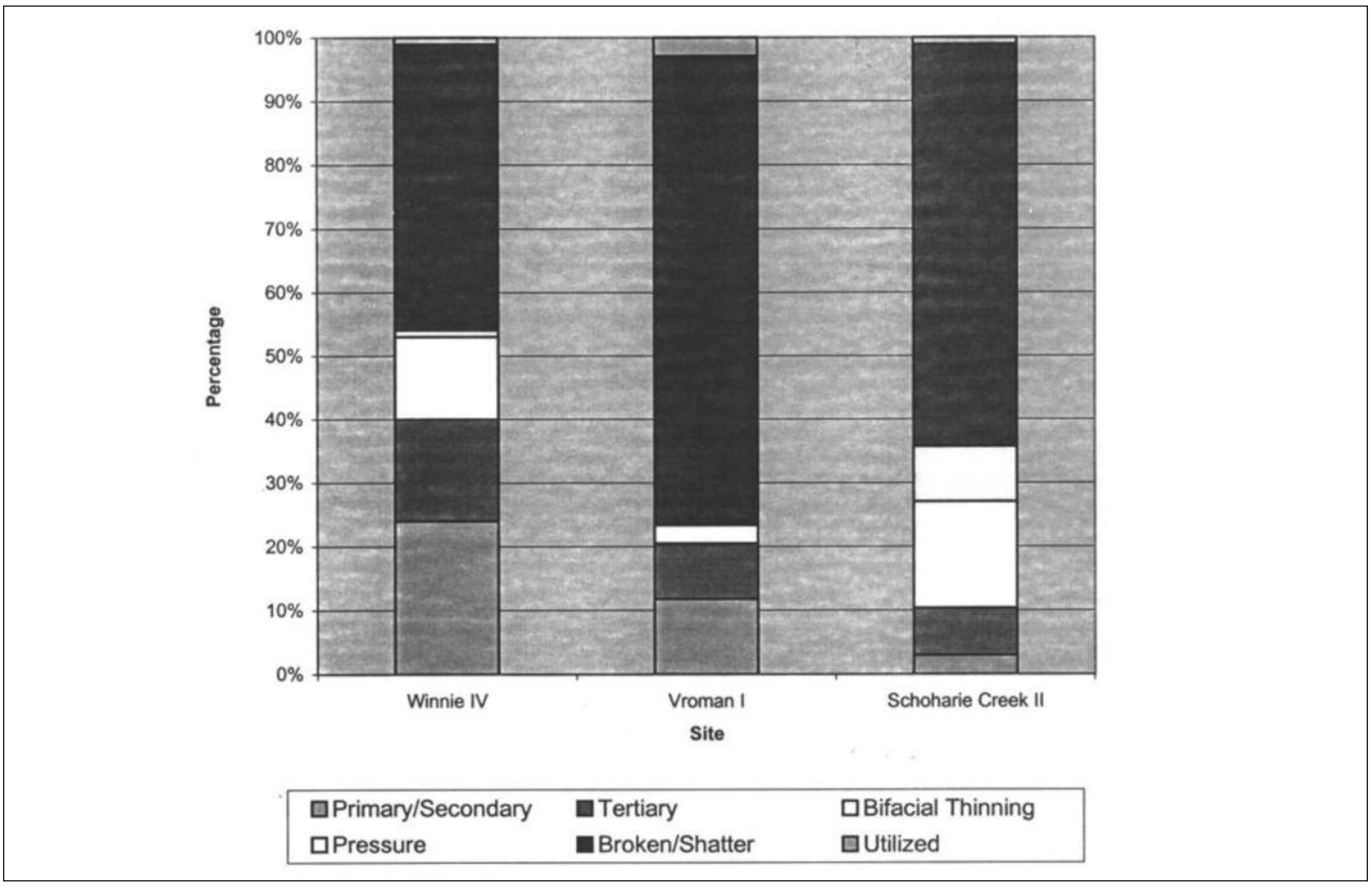

Figure 24. Comparison of Lithic Debitage between the Schoharie Creek II Site and other sites in the Schoharie Valley and surrounding area.

these sites, the lithic assemblages suggest that unfinished cores were collected and brought to the site for processing. The location of the Vroman I site and the Winnie site in non-valley floor locations is consistent with current models of resource procurement among Northeast hunter-gatherer populations. In these models, upland and non-valley floor habitats are often exploited for high quality cherts and other needed resources (Funk 1993). At small camps situated away from major base camps, lithic cores are often reduced to make them more transportable. The large number of primary/secondary and tertiary flakes at these sites suggests that tasks associated with the initial reduction of lithic cores were being completed at these sites.

Ceramics

Six ceramic sherds were recovered from A-horizon soils at the Schoharie Creek II site (Photograph 25). All of these sherds are small measuring less than 25.4 mm (1 in) in diameter. Analysis of the decorative and functional attributes of these sherds suggests that two different vessels are represented in the assemblage.

Vessel 1 is composed of two small body sherds that have been refitted from the A-horizon soils of Unit 44. Both sherds are plain and are undecorated on the exterior surface. Examination of the paste of these sherds reveals the presence of a moderately well sorted grit temper. Several open cavities are visible and suggest that inclusions either disintegrated during firing or leached out after the destruction of the pot.

The remaining four body sherds exhibit similarities in construction and are here designated as Vessel 2. All of these sherds were recovered from A and buried A-horizon soils encountered in Units 38, 52, 53, and 59. Three of these sherds are plain while the fourth sherd exhibits a series of incised parallel lines along the surface. Due to the sherd's limited size, it can not be assigned to a particular ceramic type. Examination of these four sherds reveals a moderately well sorted paste with small subangular particles. Like the other vessel, this vessel exhibits a medium to coarse grit temper whose primary constituent is quartz.

Photograph 25. Ceramic sherds recovered from the Schoharie Creek II Site.

The ceramics recovered from the Schoharie Creek II site show similar technological attributes as other Woodland Period ceramics found in the Schoharie Valley and adjacent upland areas. Comparison of the ceramics from the Middle Woodland Winnie IV (Sopko 1999) and Westheimer (Ritchie and Funk 1973) sites, show similarities in manufacturing techniques and use of raw materials. Ceramics from the Middle Woodland Winnie IV site exhibit a grit temper with inclusions consisting of mica and quartz (Sopko 1999). At the Westheimer site, Ritchie (1973:130) reports that the tempering materials found in the ceramics from this site are largely composed of medium to coarse grit.

Fire-cracked Rock

Fifty-five pieces of fire-cracked rock were recovered from the Schoharie Creek II site. These artifacts were recovered from both Blocks A and B in Units 22, 24, 30, 45, 46, 47, 48, 54, 56, and 59. The largest quantity of fire cracked rock was recovered from the southeast corner of Block B in Units 54, 56, and 59. Most of the fire-cracked rock recovered from the site appears to have been made from broken sandstone cobbles.

As discussed earlier in this report, a limited number of hammerstones and other ground/pecked stone tools were recovered from the Schoharie Creek II site. One possible explanation for the absence of these artifacts at the site centers around the fact that these artifacts are present at the site, but instead of appearing in their regular form (e.g. as river cobbles, etc.) only remain as remnants of their original form due to modification into fire-cracked rock. Conceivably, several piles of spent "potboilers" could be produced from one original load of stones. These original concentrations would then represent a single set of the same repeated activity.

Floral and Faunal Remains

The high acidity and porosity of the soils encountered at the Schoharie Creek II site were not conducive to the preservation of organic matter. When compared with other artifact classes, relatively few floral and faunal remains were recovered either through manual excavation or flotation. All non-carbonized material is here viewed with suspicion and are considered to be of recent origin. Carbonized organic remains could also have been included in the prehistoric deposits through various disturbances.

For the purpose of the following discussion, the prehistoric faunal and floral remains from the site are discussed separately. A total of 54 bone and shell fragments were recovered from prehistoric features during the current data recovery project. In only two cases were the bone fragments large enough to be identified. One of these was recovered from Feature 12 and appears to be from a larger mammal (*Mammalia*). The artifact is heavily charred and can not be further identified by species. The second artifact was recovered from Feature 14 and is also believed to derive from a larger mammal, possibly a deer (*Odocoileus virginianus*).

The remaining artifacts represent smaller unidentifiable remains. The size and shape of the artifacts suggest that they may derive from smaller Woodland animals. Noticeably absent from the site were small fish bones. Given the location of the site along a primary waterway, fish (and other aquatic species) were suspected to be a major food item of the Early and Middle Woodland occupants of the site. The absence of these artifacts suggests that one of three situations may have occurred: (1) fishing was not among the tasks at this site, (2) fishing and fish processing tasks were completed by the Early and Middle Woodland occupants of this site but the acidic soils identified within the project limits may have destroyed most of these fragile artifacts, or (3) these task areas may lie beyond the current project limits. Given the recovery of netsinkers from the site, the last two ideas seem most plausible. Ten shell fragments were recovered with the bulk (8 pieces or 80%) of the shell being clam shell. The remaining two (20%) artifacts are snail shell and may be associated with a trash area at the site.

Carbonized floral remains from flotation samples were sent to Nancy Asch Sidell, a professional ethnobotanist, for analysis. The discussion here summarizes the results of this work. Floral remains recovered by manual excavation fall into three categories: nuts, seeds, and wood charcoal. Of the six seeds recovered, three seeds are uncharred (all *Vitus* sp.) and can not be associated with the prehistoric occupation of the site. Carbonized seeds recovered from Middle Woodland features include goosefoot (*Chenopodium* spp.) and raspberry/blackberry/dewberry (*Rubus* spp.). These floral remains are commonly found in prehistoric assemblages in eastern New York and New England (Ritchie and Funk 1973; Snow 1980, 1995).

Wood charcoal dominates the artifact assemblage with 151 pieces identified by species. As discussed by Asch Sidell, the data suggest that a mosaic of plant communities surrounded the project area. Most of the wood charcoal recovered is consistent with Braun's (1950) white pine-northern hardwoods forest. The largest number of specimens were identified as belonging to the beech-sugar maple-white pine plant communities. The limited number of wood charcoal identified as oak-hickory is surprising and may suggest that limited nut resources were available. This is consistent with the limited amount of nut shell recovered in the flotation samples from the site. As shown in Table 13, a comparison of the floral remains recovered from the four dated features show overall exploitation of similar types of wood during the Early and Middle Woodland Periods. Differences are reflected in the presence of cherry-oak and maple-ash in these features.

Table 13. Summary of Wood Charcoal Recovered from Early and Middle Woodland Features.

Wood Charcoal	Early Woodland Features	Middle Woodland Features
Prunus spp. (cherry)	X	
Quercus spp. (oak)	X	
Acer spp. (maple)		X
Fraxinus spp. (ash)		X
Carya spp. (hickory)	X	X
Fagus grandifolia (beech)	X	X
Ostrya virginiana (hop hornbeam)	X	X
Picea spp. (spruce)	X	X
Pinus spp. (pine)	X	X

One piece of charred hazelnut was recovered from an arbitrary sample in Unit 36. This soil sample was taken from the interface of the second and third soil layers and can not conclusively be associated with the Early or Middle Woodland occupation of the site.

Historic Artifacts

A total of 5,846 historic artifacts were recovered from the Schoharie Creek II site during the reconnaissance survey, site examination, and data recovery excavations (Rieth 1998; Rieth and LoRusso 1996). All of these artifacts are believed to be associated with the c. 1865 to 1895 occupation of the property by the families of W. Stuarach and Abram Stever. Of the total number of artifacts recovered, 1,411 (24.1%) artifacts were architectural remains, 430 (7.3%) domestic remains, 15 (0.26%) personal remains, and 3,990 (68%) miscellaneous remains.

One thousand four hundred and eleven architectural remains were recovered from the Schoharie Creek II site (Table 14, Photograph 26). These artifacts include handmade (2.8%) and unidentified (58.7%) brick fragments, wrought-iron (0.42%), square (2.4%), machine cut (7.6%), and wire (1.44%) nails, clear and colored (5.4%) window glass, pieces of mortar (15.5%) and plaster

Photograph 26. Architectural Remains Recovered from the Schoharie Creek II Site. These artifacts include (from upper left to right) handmade and unidentified brick, wrought-iron, machine cut, and wire nails, window glass, iron/steel fragments, and other building materials.

Table 14. Summary of Building Materials Recovered from the Schoharie Creek II Site.

Building Material	Count (%)
Brick, handmade	40 (2.8%)
Brick, unidentified	828 (58.7%)
Flat Glass, Aqua	69 (4.9%)
Flat Glass, Clear	6 (0.43%)
Flat Glass, Green	1 (0.07%)
Iron/steel, unidentified	25 (1.8%)
Metal, Architectural	1 (0.07%)
Mortar	219 (15.5%)
Nail, Common Wire	18 (1.3%)
Nail, Large Common Wire	2 (0.14%)
Nail, Machine Cut	105 (7.4%)
Nail, Machine Made	2 (0.14%)
Nail, Other	2 (0.14%)
Nail, Unidentified	2 (0.14%)
Nail, Unidentified Cut	29 (2.1%)
Nail, Unidentified Square	34 (2.4%)
Nail, Wrought 'T'-head	1 (0.07%)
Nail, Wrought Unidentified	5 (0.35%)
Other Hardware	1 (0.07%)
Plaster	11 (0.8%)
Roofing Fragment, Slate	1 (0.07%)
Screw	3 (0.21%)
Staple	1 (0.07%)
Tack	1 (0.07%)
Washer	2 (0.14%)

(0.8%), unidentified steel and iron (1.8%), slate roofing fragments (0.07%), screws (0.21%), staples (0.07%), tacks (0.07%), washers (0.14%), architectural metal (0.07%), and other miscellaneous pieces of architectural hardware (0.07%).

Brick fragments represent the largest class of architectural remains recovered from this site (Table 14, Photograph 26). In total, 868 (61.5%) pieces of brick were recovered from the Schoharie Creek II site including 40 (2.8%) pieces of handmade brick, and 828 (58.7%) pieces of unidentified brick. Although a large number of artifacts remain unidentified, the presence of handmade bricks at the site may indicate changes in the production and purchasing of architectural materials during this time period.

Seventy-six (5.4%) pieces of window glass were recovered from the Schoharie Creek II site (Table 14, Photograph 26). Most of these artifacts (69 or 4.9%) are pieces of aqua window glass. Clear (0.4%) and green (0.07%) window glass were also recovered in limited quantities. The predominance of aqua window glass at the Schoharie Creek II site is consistent with that found at other mid to late nineteenth century households in Schoharie County (Rieth 1998, 1999) and may signify the types of materials that were available to the early occupants of this rural community as well as the preferences of the occupants of the site. Since window glass was not locally manufactured, its presence provides evidence of the household's participation in a larger regional economy.

The shift from aqua to clear glass in the nineteenth century is important and may indicate the nineteenth century preferences of the site's occupants. As argued below, these preferences may be associated with the changing social status of the household's residents and may represent an attempt on the part of the W. Stuarach and Abram Stever families to adopt the changing values of the growing middle class within this rural community.

Two hundred nails were recovered from the Schoharie Creek II site (Table 14) including 1 (0.07%) wrought iron 'T'-head, 5 (0.35%) unidentified wrought iron, 34 (2.4%) square, 105 (7.5%) machine cut, 20 (1.44%) wire, and 35 (2.5%) other unidentified nails. According to Nelson (1968) and others (Wells 1998), during and immediately after the American Revolution, 'T'-head and 'rose'-head nails were produced locally by the Colonial occupants of the Northeast. Following the introduction of machine-made nails at the end of the eighteenth century, 'T'-head and 'rose'-head nails were replaced by machine-cut nails, which gradually increased in use throughout the nineteenth century.

Square nails contain a much longer use-life and are commonly found on sites dating to the late eighteenth and nineteenth centuries.

In addition to these architectural remains, other building materials including slate roofing fragments (0.07%), screws (0.21%), staples (0.07%), washers (0.14%), tacks (0.07%), and other unidentified iron/steel fragments (1.8%) were also recovered from the Schoharie Creek II site (Table 14, Photograph 26). The presence of these artifacts at the Schoharie Creek II site suggests that repairs were made to the buildings during the mid to late nineteenth century. This information is consistent with similar information provided by the current property owner indicating that modifications relating to the orientation of the doors and windows occurred during the mid to late nineteenth century (George Morris, Personal Communication, 2000).

Spatially, the largest concentration of architectural remains was recovered from Block B in front of and adjacent to Structure F (no address #). Within this larger unit, large concentrations of artifacts were recovered from Units 42 and 46. Each of these units produced more than 150 architectural remains each. In both of these units, handmade and unidentified brick, mortar, and nails were recovered in large quantities. Smaller concentrations of artifacts were recovered from the surrounding units with Units 41 and 45 also producing many architectural artifacts.

Four hundred and thirty (7.3%) domestic artifacts were recovered from the Schoharie Creek II site including medicine and food storage bottles, ceramic serving and food preparation containers (e.g. tea cups, milk pan fragments, bowls, etc.). Ceramic sherds represent the largest class of domestic artifacts recovered from the site (Photograph 27). In total, 412 ceramic sherds representing 35 distinct vessels have been identified during the reconnaissance survey, site examination, and data recovery excavation of the Schoharie Creek II site. Table 15 provides a summary of the types of ceramic vessels recovered.

Thirty-five ceramic vessels were recovered from the mid to late nineteenth century occupation of the property by the W. Stuarach and Abram Stever families (Photograph 27). Included among these vessels were 20 (57%) refined earthenware, 14 (40%) utilitarian, and 1 (2.8%) porcelain containers (Table 16). Of these vessels,

Photograph 27. Domestic and architectural remains recovered from the Schoharie Creek II site. Included among these artifacts are pieces of machine made brick, nails, window glass, mortar fragments, decorated and undecorated whiteware, redware and stoneware fragments.

Table 15. Minimum Number of Ceramic Vessels Recovered from the Schoharie Creek II Site (NYSM # 10383).

Ceramic Type	Decoration	Vessel Form	No. of Vessels	Date Range (Mean Ceramic Date)
China	Undecorated	Unidentified	1	1660–1890(1775)
Ironstone	Undecorated	Rim	1	1813–1885(1849)
Ironstone	Molded	Hollowware	1	1813–1885(1849)
Ironstone	Undecorated	Hollowware	1	1813–1885(1849)
Ironstone	Undecorated	Base	1	1813–1885(1849)
Pearlware	Blue Transfer-printed	Hollowware	1	1795–1840(1818)
Pearlware	Undecorated	Hollowware	1	1780–1830(1805)
Pearlware	Underglaze Blue-hand-painted	Unidentified	1	1780–1830(1805)
Porcelain	Undecorated	Teacup	1	—
Redware	Black-glazed	Hollowware	1	—
Redware	Black-glazed	Teapot	1	—
Redware	Brown-glazed	Rim/base	1	—
Redware	Brown-glazed	Hollowware	1	—
Redware	Brown-slipped	Hollowware	1	—
Redware	Mottled or spotted Brown-glazed	Unidentified	1	—
Redware	Other	Unidentified	1	—
Redware	Unglazed	Unidentified	1	—
Stoneware	Buff Salt-glazed	Hollowware	2	1820–1900(1860)
Stoneware	Grey Salt-glazed	Hollowware	1	—
Stoneware	Undecorated	Unidentified	1	—
White Earthenware	Undecorated	Unidentified	1	—
Whiteware	Annular	Unidentified	1	—
Whiteware	Blue Transfer-printed	Rim	1	1830–1865(1848)
Whiteware	Blue Transfer-printed	Flatware	1	1830–1865(1848)
Whiteware	Decalcomania	Hollowware	1	1900+
Whiteware	Flow Blue	Flatware	1	1835–1870(1852)
Whiteware	Molded	Unidentified	1	1845–1885(1860)
Whiteware	Purple Transfer-printed	Plate	1	1825–1875(1850)
Whiteware	Sponge-decorated	Flatware	1	1830–1865(1848)
Whiteware	Sponge-decorated	Rim	1	1830–1865(1848)
Whiteware	Undecorated	Hollowware	1	1820–1900(1860)
Whiteware	Underglaze Polychrome hand-painted	Flatware	1	1830–1860(1845)
Yellowware	Rockingham/Bennington	Hollowware	1	1812–1900(1856)
Yellowware	Undecorated	Unidentified	1	1830–1940(1885)
Total			**35**	

the following forms were identified: 1 (2.9%) teacup, 1 (2.9%) teapot, 11 (31.4%) hollowware, 1 (2.9%) plate, 4 (11.4%) flatware, 12 (34.2%) hollowware, 5 (14.3%) unidentified container rims/bases, and 10 (28.6%) unidentified. When looked at individually, the types of ceramics recovered provide an insight into the socio-economic status of this rural family. The large number of whiteware, ironstone, and redware containers recovered from this occupation layer may reflect the middle class status of the Stuarach and Stever families.

One porcelain teacup fragment was recovered and may have been part of a nineteenth century teaset (Table 15). This cup may have been part of a teaset owned by the site's occupants. Due to the expensive nature of these types of containers, they were probably not used for everyday consumption, but were rather used for entertaining or in social situations in which it was important for individuals to reflect their class standing within the community (Wall 1987).

Twenty (or 57%) vessels were identified as refined earthenwares. Among these are pearlware, whiteware, white earthenware, and ironstone containers. Pearlware

containers comprised 8.6% of the assemblage and are among the earliest historic artifacts recovered from the site. According to Majewski and O'Brien (1987), pearlware containers were manufactured for American markets between 1780 and 1830 and can be found in both hollowware and unidentified forms. Whiteware and ironstone containers comprise 42.9% of the entire number of vessels. These types of containers were found in both flatware and hollowware forms dating the occupation to the mid-late nineteenth century (Majewski and O'Brien 1987).

The recovery of whiteware and ironstone containers at the Schoharie Creek II site also reflects the changing preferences of the middle class away from creamware and pearlware toward undecorated whiteware and ironstone during the nineteenth century (Majewski and O'Brien 1987). By the end of the nineteenth century, the association of whiteware and ironstone with lower class households caused middle class households to abandon the use of such vessels in favor of lighter and more highly decorated semi-vitreous china and porcelain (Majewski and O'Brien 1987). At the Schoharie Creek II site, this trend is reflected in the recovery of an unidentified semi-vitreous china container in Unit 36.

Fourteen (40%) vessels were utilitarian wares. Among these vessels were 8 (22.9%) redware, 4 (11.4%) stoneware, and 2 (5.7%) yellowware containers. All of the vessels contained an interior glaze suggesting that they were used to hold or store liquids. One of these vessels was identified as a black-glazed redware teapot. The remaining redware vessels consisted of glazed hollowware and unidentified containers and were probably used for food storage or preparation activities.

A comparison of the ceramic containers recovered from the Stuarach and Stever households with other contemporaneous households in Schoharie County provides important insights into the socio-economic status of these two families. As shown in Table 16, a comparison of the table and teawares between four different nineteenth century households is possible. All of these households were part of a growing middle-class in Schoharie County. Domestic artifacts associated with the nineteenth century occupation of the Snyder/Fischer/Dietz and Cary households were recovered from the Vroman I site near the village of Schoharie, Schoharie County, New York in 1999 (Rieth 1999). Domestic artifacts associated with the Olmstead/Dietz and Struback/Weaver/Wagoner/Rowe households were recovered from the Schoharie Creek II site during the 1998 site examination (Rieth 1998; Rieth and LoRusso 1996). The Stuarach/Stever, Snyder/Fischer/Dietz/Cary and Olmstead/Dietz households were engaged in farming while the Struback/Weaver/Wagoner/Rowe households were occupied by self-employed merchants and businessmen.

There are several general trends shown by the ceramic assemblages from these four households. First, the occupants of these four households utilized a variety of ceramic containers to complete their daily household tasks. Some of these containers (especially the porcelain and refined earthenware containers) were probably of non-local manufacture and represent the household's participation in a larger regional economy. The recovery of redware containers may suggest that other locally manufactured containers were also used by the occupants of these households. Following Pendry (1985), redware containers unlike other ceramic classes were often manufactured locally due to the need for several different types of containers and the high rate of breakage associated with everyday use. Local manufacture of these containers not only allowed households to replace broken containers at low cost but also allowed household members to choose the types and sizes of containers that were needed to complete household tasks.

The ceramic assemblage of the farming oriented Stuarach/Stever households is more similar to that of the non-agricultural Strubach/Weaver/Wagoner/Rowe households. In both household assemblages, refined earthenware containers predominate over utilitarian wares and porcelain containers. The ceramic assemblages from both of these households include non-locally produced decorated and undecorated whiteware and ironstone containers. The types of vessels recovered from these assemblages exhibit similar

Table 16. Comparison of Table and Teawares between mid to late nineteenth Century Households in Schoharie County.

Type of Ware	Stuarach/Stever Household (%)	Snyder/Fischer/Dietz and Cary Households[2]	Olmstead/Dietz Households[1]	Struback/Weaver/Wagoner/ Rowe Households1
Utilitarian Wares	14 (40%)	36 (76.6%)	34 (80.9%)	2 (16.6%)
Refined Earthenware	20 (57%)	9 (19.1%)	7 (16.7%)	8 (66.6%)
Porcelain	1 (2.8%)	1 (4.3%)	1 (2.4%)	1 (8.3%)
Unidentified	—-	1 (4.3%)	—-	1 (8.3%)
Total	35 (100%)	47 (—-)	42 (—-)	12 (—-)

[1] Data derived during site examination of the Schoharie Creek II Site (Rieth 1998). [2] Data derived during site examination of the Vroman I site (Rieth 1999).

decorative motifs and may represent matched sets of table- and teawares. The presence of these types of table- and teawares is important and suggests that these households may have had surplus cash to spend on more expensive household goods used to host more elaborate teas and dinners. The hosting of such dinners and teas was not only important for maintaining the family's social standing but as self-employed businessmen and merchants, both households may have continuously hosted such events to attract and keep valued clients.

Forty-six glass fragments representing 10 different glass bottles and food serving containers were recovered from the Schoharie Creek II site. Among these are 3 (30%) green, 1 (10%) aqua, 2 (20%) clear, 1 (10%) amethyst, and 1 (10%) blue glass container. One (10%) piece of clear stemware and a modern brown bottle were also recovered from the site. Analysis of the size and shape of these containers suggests that several containers may have been used to hold patented medicines. During the mid-late nineteenth century, patent medicines were often sold to cure household illness. The presence of these types of artifacts at the Schoharie Creek II site suggests the site's occupants experimented with self-medication as a means of curing illness. The recovery of similar containers from the nearby Vroman I site (Rieth 1999) suggest that this practice was not only limited to the occupants of the Schoharie Creek II site but may represent more extensive practices by the nineteenth century occupants of Schoharie County and the larger Northeast region.

Prepackaged foods are represented by one clear and one aqua bottle. The clear bottle is a small round bottle measuring approximately 12.7 cm (5 in) in size. The size and the shape of the container suggest that the container may have been used to hold condiments. A second round aqua bottle, measuring approximately 22.8 cm (9 in) tall, was also recovered. The bottle resembles similar nineteenth century water bottles described in Toulouse (1971) and may indicate the purchase of bottled water by the site's occupants. Purchasing of prepackaged foods during the nineteenth century was expensive and further increases the likelihood that the occupants of the Schoharie Creek II site were part of a growing middle-class.

Ten personal artifacts were also recovered from the Schoharie Creek II site (Photograph 28). These artifacts included several decorated and undecorated white clay pipe fragments, a child's clay marble, glass and metal buttons, a watch casing, clothing buckles, and a mirror fragment. Pipe fragments represent the largest number of personal artifacts recovered from the Schoharie Creek II site. Four pipe stem fragments were recovered from this site. These artifacts contained a variable bore diameter ranging from 4/64th inch to 6/64th inch. None of these artifacts exhibit decorative motifs making it difficult to identify the manufacturer.

Photograph 28. Personal artifacts recovered from the Schoharie Creek II site. Included among these artifacts were a small watch case and shell and metal buttons.

Other personal artifacts were also recovered from the Schoharie Creek II site including a small watch case, mirror fragments, and finely crafted glass, shell, and metal buttons (Photograph 28). These artifacts probably represent items lost or discarded by the property owners. Although little is known about the manufacturer of these artifacts, their recovery from the Schoharie Creek II site suggests the W. Stuarach and Abram Stever families probably had excess cash to spend on more extravagant personal adornment and household items.

Three thousand nine-hundred and ninety miscellaneous artifacts were recovered from the Schoharie Creek

Photograph 29. Kitchen Bone Recovered from the Schoharie Creek II site.

II site. Many of these artifacts were recovered from units excavated from the eastern portion of the site during the 1996 reconnaissance survey (Rieth and LoRusso 1996) and 1998 site examination (Rieth 1998). The miscellaneous artifacts recovered from this site include, but are not limited to, clam and oyster shell, kitchen bone, tin cans, and pieces of coal, cinder, and slag.

Faunal remains comprise approximately 5% of the entire number of miscellaneous artifacts recovered from the site and include clam and oyster shell as well as cut and uncut animal bone (Photograph 29). Ninety-one pieces of bone were recovered from the Schoharie Creek II site (Table 17). The majority of these artifacts were identified as cows and pigs. The remains of several smaller species (possibly fowl) were also recovered but could not be identified as to species. Several of these artifacts exhibited cut marks (Photograph 29). According to Huelsbeck (1991:62-76), butchering techniques and selection of meat cuts can be related to the economic choices of individual households. Meat cuts purchased in individual portions are considered to be more expensive. Cuts that were purchased in bulk, and would have been used in communal soups and stews were generally less expensive. Nearly all of the cut marks were found on the larger bones of these animals suggesting that the Stuarach and Stever families may

Table 17. Summary of Faunal Remains Recovered from the Historic Occupation of the Schoharie Creek II Site (NYSM # 10383).

Species	Identified Animal	Type	Cutmarks	Count
Bos taurus	Cow	Cervical vertebrae-fused	No	2
Bos taurus	Cow	Cranium frag.	No	1
Bos taurus	Cow	Metapodial	No	2
Bos taurus	Cow	Metatarsal	No	2
Bos taurus	Cow	Molar (upper)	No	1
Bos taurus	Cow	Phalanx	Yes	1
Bos taurus	Cow	Phalanxes	No	2
Bos taurus	Cow	Proximal Ulna (left) frag.	No	1
Bos taurus	Cow	Rib	Yes	4
Bos taurus	Cow	Rib (mended)	No	1
Bos taurus	Cow/Domestic Cattle	Astralagus (left)	Yes	1
Lepus sp.	Rabbit	Calanium (fused-adult)	No	1
Lepus sp.	Rabbit	Rib	No	1
Mammal	Cow/pig sized	Scapula	No	1
Mammal	Rat-sized	Femur	No	1
Mammal	Sheep/deer sized	Scapula	No	1
Mammal	Sheep/goat sized	Longbone	No	1
Mammal	Sheep/goat sized	Rib frags. (sawn)	No	1
Mammal	Sheep/goat/deer sized	Distal humerus (juvenile)	No	1
Mammal	Sheep/goat/deer sized	Longbone	No	2
Mammal	Sheep/goat/pig sized	Left humerus	No	1
Mammal	Unidentified	Humerus-condyle epiphysis	No	1
Mammal	Unidentified	Longbone	No	1
Mammal	Unidentified	Metapodial condyle epiphysis	No	1
Mammal	Unidentified	Molar	No	1
Mammal	Unidentified	Unidentified	Yes	1
Mammal	Unidentified	Unidentified	No	21
Mammal	Unidentified	Unidentified	No	5
Mammal	Unidentified	Unidentified	No	26
Ovis aries	Sheep	Femur proximal epiphysis	No	1
Ovis aries	Sheep	Left distal shaft	No	1
Ovis aries	Sheep	Phalanxes	No	2
Ovis aries	Sheep	Right distal shaft	No	1

have purchased inexpensive meat cuts that could be used in stews and potages. The purchasing of inexpensive meat cuts is not consistent with the use of matched table and teawares by the site's occupants. This suggests either that the site's occupants preferred to spend excess cash to purchase household goods or that the types of meat cuts consumed by this rural household have little bearing on the socio-economic status of the household.

In addition to bone, 109 pieces of clam and oyster shell were recovered from the Schoharie Creek II Site (Photograph 30). Unlike the clam and oyster shell recovered from prehistoric features, clam shell associated with the historic occupation of the site is primarily found scattered as sheet refuse at the top of the A-horizon soils. Seventy-three percent (or 79) of these artifacts were identified as clam shell while the remaining 27% (or 30) were oyster shell. Neither of these types of shellfish are available locally and probably represent foods shipped to Schoharie County from coastal communities. The recovery of clam and oyster shell at the Schoharie Creek II site is important and provides further evidence of the Stuarach and Stever families participation in a larger regional economy. The limited amounts of oyster shell suggests (1) that the occupants of this site preferred foods that contained clams over oysters, (2) oysters continued to be expensive during the mid to late nineteenth century, or (3) that oyster beds were becoming depleted.

Three thousand seven hundred ninety (94.9%) pieces of coal and cinder were recovered from the Schoharie Creek II site. Most of these artifacts (79.1%) were recovered from Unit 9 during the 1998 site examination and addendum testing in Test Trench 1 (Rieth 1998). The large number of artifacts recovered from this area of the site suggests that the eastern side of the residence may have been a primary refuse disposal area for Structure F (no address #). The large amount of coal and cinder recovered from the site suggests that the occupants of the Schoharie Creek II site may have preferred to use coal over wood. Construction of the Albany and Susquehanna Railroads in the 1830's provided an efficient means of transporting coal to rural areas. This, combined with the economic prosperity of the middle-class household, allowed the occupants of the Schoharie Creek II site to make the transition from wood to coal for heating and cooking.

Photograph 30. Clam and Oyster Shell Recovered from the Schoharie Creek II site.

Miscellaneous Artifacts

In addition to prehistoric and historic artifacts, 673 miscellaneous artifacts were also recovered from the Schoharie Creek II site. These artifacts consist largely of unworked pieces of field chert that were recovered during the data recovery project. Currently, it is not known whether these artifacts represent remnants of unworked chert brought to the site by the site's prehistoric occupants or whether these artifacts represent naturally occurring nodules found along the western bank of the Schoharie Creek.

Modern Artifacts

Twenty-eight modern artifacts were also recovered from the Schoharie Creek II site. The majority of these artifacts were recovered from the fill layer encountered in the northern portions of Blocks A and B and consist largely of pieces of modern bottle glass, plastic fragments, and automobile window glass. These artifacts are from recent deposits and are not considered important to our understanding of the prehistoric and historic occupation of the site.

SITE STRUCTURE

The artifacts recovered from the Schoharie Creek II site represent two distinct occupation layers. The first occupation layer is associated with the prehistoric occupation of the site during the Early and Middle Woodland Periods. The second occupation layer dates between 1865 and c. 1895 and is associated with the mid to late nineteenth century occupation of the property by the families of W. Stuarch and Abram Stever.

Prehistoric Occupation

The deposits associated with the Early and Middle Woodland occupation of the property were identified

across the entire site with the largest number of prehistoric artifacts recovered from the base of the A and top of the BE-horizon soils at an average depth of 20–36 cm (7.9–14 in) below the ground surface. Of the total number of prehistoric artifacts recovered from the Schoharie Creek II site the following classes of artifacts were recovered: 35,837 (99.7%) chipped stone tools, 14 (0.04%) ground or pecked stone tools, 9 (0.03%) ceramics, 55 (0.15%) fire cracked rock, 14 (0.04%) botanical, 5 (0.01%) faunal, and 15 (0.04%) shell. Spatially, the largest number of artifacts was recovered from Blocks A and B (Figure 25).

Block A produced fewer artifacts than Block B (Figure 25). Overall, more than half of the units in Block A produced between 300 and 500 artifacts. Larger quantities of artifacts were recovered from Units 13-14, 22, 27, 28, 31, and 36. The fewest number of artifacts were recovered from the northeastern corner of Block A in Unit 32, which produced less than 300 prehistoric artifacts. Within these units, a diverse array of artifacts including chert flakes, bifacially worked tools, and ground stone tools were recovered. Fewer pieces of fire-cracked rock, botanical and faunal remains, and shell were recovered from this area than were recovered from Block B. As discussed below, this unit also produced fewer features than Block B, and may represent the use of this portion of the site for different tasks than that found in the area of Block B.

Within Block B, the largest number of prehistoric artifacts were recovered from Units 39-44, 46-47, 50-56, and 60-61 (Figure 25). Each of these units produced more than 700 prehistoric artifacts with the remaining units in Block B producing between 300 and 700 artifacts. Like Block A, the majority of the artifacts recovered from this unit consist of utilized and non-utilized chert flakes, bifacially worked tools, pieces of prehistoric pottery, and fire-cracked rock. Wood charcoal, carbonized seeds and nut shell, clam shell, and bone fragments were also recovered from excavated features. Prehistoric features including hearths, charcoal scatters, and postmolds

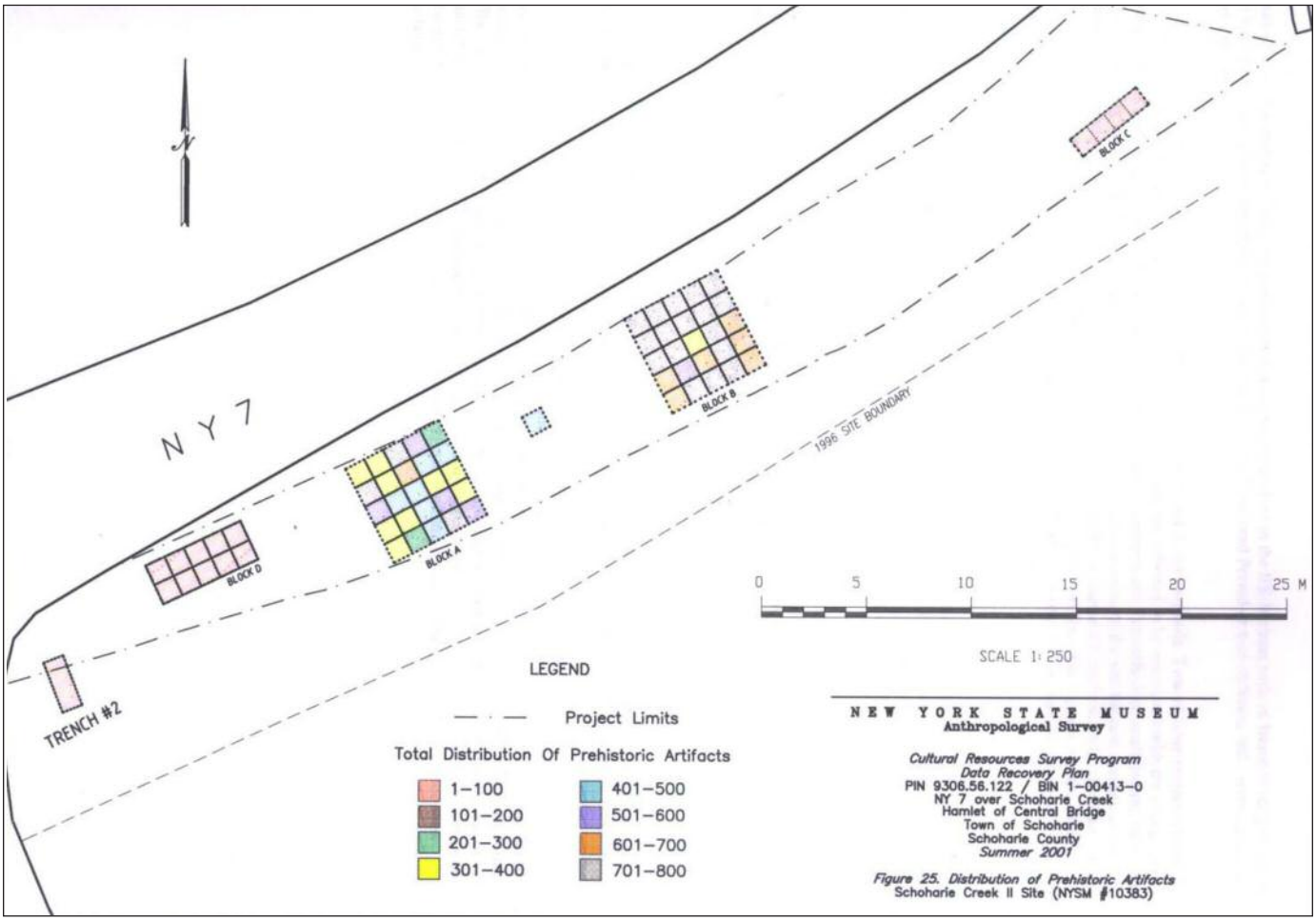

Figure 25. Distribution of Prehistoric Artifacts across the Schoharie Creek II Site (NYSM # 10383).

were also identified in Block B. The densest concentration of features was found in the southeastern corner of Block B in Units 49-57.

Blocks C and D each produced very low distributions of artifacts. As shown in Figure 25, the excavated units in each of these blocks each produced less than 100 artifacts. Placement of units on the east side of the driveway suggests that this area has been heavily impacted during the construction of the existing bridge and historic well found near Block C. The area around Block D remains largely intact but is located at the western edge of the site boundary in an area that produced fewer numbers of artifacts during the 1996 reconnaissance survey (Rieth and LoRusso 1996) and the 1998 site examination (Rieth 1998).

Although accelerator mass spectrometry dates and diagnostic artifacts provide evidence of the occupation of the site during the Early and Middle Woodland Periods, these two occupations have become combined along the interface of the A and B-horizons often making it difficult to separate artifacts associated with each of these two components (see Site Stratigraphy section). Instead, many of the analyses contained in this report can only be discussed in terms of the larger Early and Middle Woodland Periods.

Analysis of the features from this site does, however, provide some information about the spatial use of the site during the Early and Middle Woodland Periods. As discussed in the features section of this report, Features 7b, 9, 10a, 10b, 10c, 10d, 11a, 11b, 12, 15c, 16a, 16b, and 17 were identified in the buried BE and BE-horizons. Accelerator mass spectrometry dates from wood charcoal in Features 12 and 15c, suggest that most of these features were occupied during the Meadowwood/Middlesex Phase of the Early Woodland. Many of the features identified in this soil horizon consist of small hearths and charcoal smears suggesting that tasks associated with food preparation and/or processing may have been completed in this part of the site. The presence of two postmolds in the B-horizon soils also suggest that during the Early Woodland occupation of the site, a short term residential or ancillary structure may have been constructed on the property. Only one prehistoric feature was identified in the BE-horizon soils in Block B, suggesting either that the site may have been repeatedly occupied during the Early Woodland Period or that different tasks were completed across the site.

Features 13, 14, 15a, 15b, and 18 were found in the buried A and A-horizon soils. Two of these features (Features 15a and 15b) produced AMS dates dating to the seventh century A.D. and are believed to be associated with the occupation of the site during the Kipp Island Phase of the Middle Woodland. These five features were identified as small hearths and charcoal smears suggesting that the Middle Woodland occupants may have used this portion of the site for tasks associated with cooking and/or food preparation. Unlike the features encountered in the BE or buried BE-horizon soils, all of the features identified in the A-horizon soils were found in Block B. The recovery of features in this area suggest that the Middle Woodland occupation was not as widely distributed as the Early Woodland occupation or that the site was used in different ways during the Middle Woodland Period.

Historic Occupation

The second occupation is associated with the occupation of the site as a small domestic site between 1865 and 1895 by the W. Stuarach and Abram Stever families. The historic artifacts from the Schoharie Creek II site were primarily recovered from the first and second soil layers at a depth of approximately 0–20 cm (0–7.9 in) below ground surface. A limited number of historic artifacts were recovered from the base of the A-horizon and top of the BE-horizon soils.

Seventy-six percent of the total number of historic artifacts recovered from the site were recovered from Block B (Figure 26). The recovery of such a large number of artifacts in this area is not surprising but suggests that they were part of a larger sheet refuse midden that lined the front wall of Structure F (no address #). Within Block B, the largest number of historic artifacts were recovered from Units 37, 42, 46, and 56. Each of these units produced between 200 and 300 artifacts. Units 38, 41, 49, 52, 55, 57, 58, each produced between 100 and 200 artifacts. The remaining units in Block B each produced less than 100 artifacts. All of the units in Blocks A, C, and D produced less than 100 artifacts each and are considered to be part of a low density sheet refuse midden located along the northwestern and northeastern corners of Structure F (no address #).

Four historic features were also identified at the Schoharie Creek II site. Two of these features are located along the northern side of Route 7 and were identified during the 1998 site examination (Rieth 1998). Both features, a small builder's trench and a nineteenth century well, are associated with Structure G (no address #). Features 2 and 8 are located on the south side of Route 7 and are associated with the occupation of Structure F (no address #). Feature 2, a small trench, is located along the eastern wall of Structure F (no address #) and may represent the remains of a summer kitchen that was reportedly located along the eastern wall of the residence. Feature 8, a stone walkway leading from the eastern edge of Route 7 to the front entrance of Structure F (no

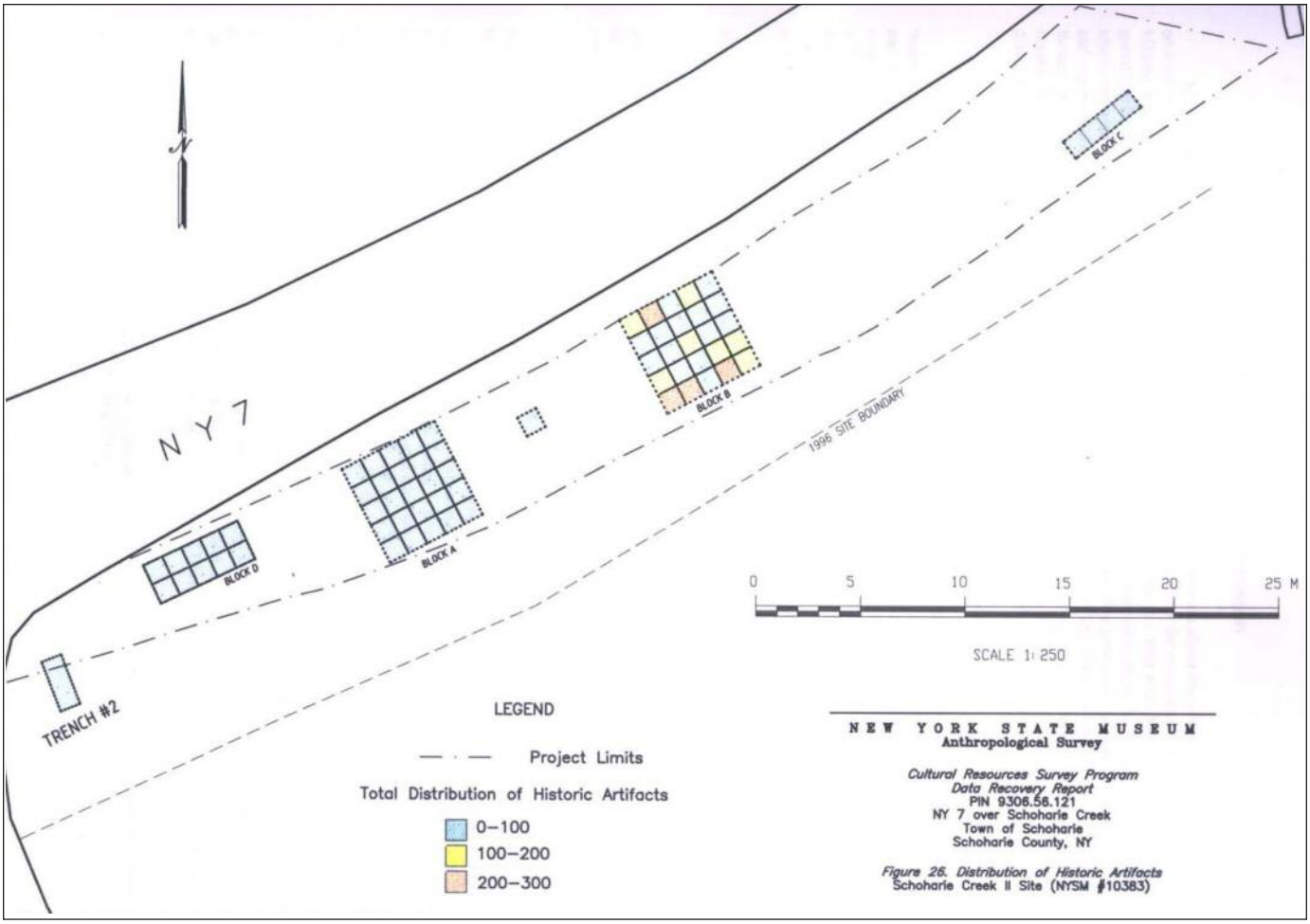

Figure 26. Distribution of Historic Artifacts across the Schoharie Creek II site (NYSM # 10383).

address #), is located immediately in front of the extant residence in Unit 57. The absence of more formal ancillary and support structures on the front lawn of the structure is important and not only provides information about the organization of the household during the nineteenth century but may also suggest that the W. Stuarach and Abram Stever families conformed to nineteenth century ideas concerning the location of private work areas and buildings away from public view (Handsmen 1981).

SYNTHESIS AND DISCUSSION

Mitigation of the Schoharie Creek II site provided important information about the prehistoric and historic occupation of this small site. Excavation of the site produced information about the occupation of the site during the Early-Middle Woodland Period and mid to late nineteenth century. The following section provides a brief synthesis of this work with specific reference to the project research design. The research design proposed addressing the following research themes associated with the prehistoric occupation of the site: chronology, site formation processes, settlement patterns, subsistence, and organization of lithic technology. Socio-economic status and internal/external relationships represent the primary research themes explored within the historic deposits. These research issues are not unique to this data recovery project but cross-cut similar themes addressed in other data recovery projects in eastern New York. Where possible, the research findings are discussed in relationship to other sites in the Schoharie Valley and eastern New York region.

PREHISTORIC OCCUPATION

The prehistoric occupation at the Schoharie Creek II site is a small prehistoric hunter-gatherer camp located along the western bank of the Schoharie Creek. These excavations have produced evidence that the site was occupied during the Early and Middle Woodland Periods. This study has employed the traditional divisions of the major cultural periods that are used across New York and much of New England (Ritchie 1994; Ritchie and Funk 1973; Snow 1980). In the traditional chronology of New York State, the Early Woodland Period generally dates between 1000 B.C. and A.D. 200 and is identified by diagnostic artifacts including Orient Fishtail and Meadowwood projectile points. The Middle Woodland Period follows the Early Woodland Period and is generally considered to date between A.D. 200 and A.D. 1000. As discussed below, diagnostic artifacts of the Middle Woodland Period include corner-notched projectile points and cordmarked ceramics.

The earliest occupation of the Schoharie Creek II site is associated with the Meadowwood/Middlesex Phase of the Early Woodland Period and is best represented by the presence of Orient Fishtail and Meadowwood projectile points at the site. These artifacts are generally associated with a concentration of artifacts and features identified in the BE and buried BE-horizons. AMS dates from features indicate that Meadowwood/Middlesex populations occupied the site between 2500 ± 40 B.P. (Beta 153579) (cal 2 σ BP 2740 to 2370) and 2070 ± 40 B.P. (Beta 153577) (cal 2 σ BP 2140 to 1940). Although these dates are approximately 500 years apart, both dates cluster within the Early Woodland Period and may derive from the use of old wood or may indicate the repeated use of the site by several different bands of hunter-gatherers during this period. These dates are generally consistent with similar dates from the Nahrwold and Westheimer sites (Figure 27) and help to refine the chronology of both the site and the larger Schoharie Valley.

Although initially described by Ritchie (1994), the Early Woodland Period and the corresponding Meadowwood/Middlesex phases remain poorly understood in New York. The concentration of Meadowwood sites in central and western New York has been described by Granger (1978) and others (Ritchie 1994; Ritchie and Funk 1973; Versaggi 2000). The limited number of Meadowwood sites in eastern and northern New York has led some archaeologists to suggest that the Meadowwood phase is not well established in other parts of the state. Diagnostic artifacts and AMS dates from the Schoharie Creek II site firmly place the site within this time period and suggest a presence of these groups in this part of the state. Orient and Meadowwood projectile points recovered from the nearby Nahrwold (Ritchie and Funk 1973), Smith-Hollowway (New York State Museum Site Files 1998) and Schoharie Creek I (Rieth 1998; Rieth and LoRusso 1996) sites provide further evidence for the occupation of the Schoharie Valley during the Meadowwood/Middlesex phases.

Occupation of the Schoharie Creek II site during the Middle Woodland Period is not only evident from a series of AMS dates but also from diagnostic projectile points and cordmarked ceramics. Features associated with the occupation of the site during this period were generally identified in the A and buried A-horizons at an approximate depth of 20–30 cm below ground surface. Two AMS dates obtained from this site fall within the Middle Woodland Period. One of these dates was obtained from Feature 14 and produced a date of 1420

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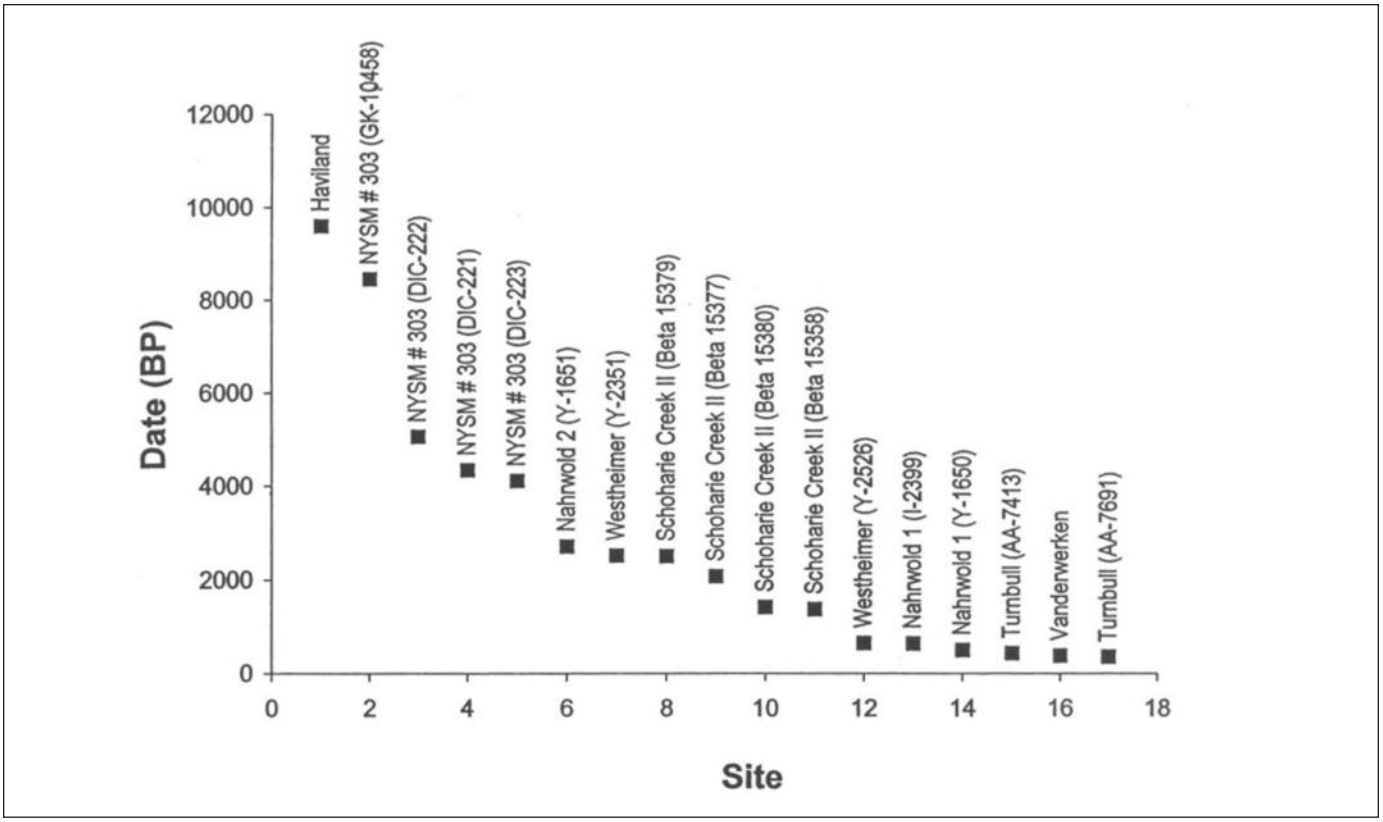

Figure 27. Comparison of Radiometric Dates from the Schoharie Creek II Site and Other Sites in the Schoharie Valley.

±40 B.P. (Beta 153580) (cal 2σ BP 1350 to 1270). The other date was obtained from feature 15b and produced an uncalibrated date of 1370 ± 40 (Beta 152578) (cal 2 σ BP 1340 to 1260). AMS dates and diagnostic artifacts are most indicative of occupation or use of the site during the Kipp Island Phase of the Middle Woodland. Artifacts indicative of the occupation of the site during this time period include grit- tempered and cordmarked ceramics. No diagnostic Kipp Island phase projectile points were recovered from within the current project limits. One Fox Creek projectile point was recovered from the north side of Route 7. Although Fox Creek or Steubenville Points are commonly found on sites dating to the earlier Fox Creek Phase (Ritchie 1971; Ritchie and Funk 1973:120), the recovery of this artifact at the Schoharie Creek II site suggests either that the point type had a more extensive uselife, was curated, or that the deposits on the north side of Route 7 may be slightly earlier than those identified along the south side of the roadway.

Based upon palynological and geomorphological data for the Middle Atlantic region, Custer and Bachman (1984) have described the period dating between c. 3000 BC to AD 1000 as a time of dramatic change in local climates and environment. During this period, the oak-hardwood forests of the Archaic were replaced by oak-hickory forests and more resilient grasslands. Changes in the cultural behaviors of prehistoric populations are expected as a result of these environmental changes with prehistoric groups showing signs of increased sedentism and more complex social behaviors. In eastern and central New York, floodplains and estuary habitats gradually become important resource zones (Ritchie and Funk 1973; Snow 1980). As has been demonstrated in the adjacent Susquehanna Valley (Funk 1993; Versaggi 1987), the locations of residential base camps were repeatedly occupied and became the locations of multi-seasonal or year-round habitations. In the Schoharie Valley, our understanding of the effects that environmental changes had on the settlement patterns of prehistoric populations continues to be poorly understood. Analysis of the Early and Middle Woodland occupation at the Schoharie Creek II site does not suggest drastic changes in the use of the site during these two time periods. Rather, similarities in the types of resources and the structure of the site suggest continuity in the behaviors of the site's Early and Middle Woodland occupants.

Excavation of the Schoharie Creek II site has produced direct and indirect evidence of the subsistence

economies utilized by these hunter-gatherer groups. While direct evidence for subsistence is provided in charred seeds and nutshell, the limited number of floral remains emphasizes the difficulties that archeologists face when reconstructing prehistoric subsistence. The recovery of projectile points and netsinkers provide indirect evidence that tasks associated with hunting and fishing were carried out near the site. However, the preservation of bone within intact features is poor and prohibits a detailed study of the range of fauna that were exploited.

Analysis of the catchment area surrounding the Schoharie Creek II site indicates that it would have provided a unique suite of subsistence resources. Located along a small terrace overlooking the main branch of the Schoharie Creek, the site is sheltered on the west by Terrace Mountain, a major promontory in the valley. To the south is a large open floodplain. According to Asch Sidell, the location of the site along the northeast-facing slope of Terrace Mountain may suggest that there was not an extensive floodplain forest on the west bank of the creek at this location. Instead, the landscape may have been composed of smaller types of vegetation that would have served as ground cover for exploitable fauna. Location of the site adjacent to the Schoharie Creek suggests that riverine and estuary fauna such as waterfowl, shellfish, and anadromous fish may have been important to the subsistence economies of the site's Early and Middle Woodland occupants.

Small seasonally occupied sites in eastern New York often provide little direct evidence pertaining to subsistence. These sites typically lack large storage and food processing features. Consequently, models of prehistoric subsistence often derived from analyses of larger village sites. Mitigation of the Schoharie Creek II site fits the typical pattern of small lowland sites in eastern New York (Funk 1976; Ritchie 1994; Ritchie and Funk 1973). Overall, the assemblage provides limited direct evidence regarding subsistence. However, the recovery of several large mammal bones from features suggest that the site's occupants may have hunted deer. Identification of small pieces of bone in hearth features and charcoal smears suggests that processing of small and large fauna occurred at the site.

Use-wear analysis of utilized flakes and chipped stone tools provides further evidence of food processing activities at the Schoharie Creek II site. Evidence of multiple overlapping chipping synonymous with "crushing usewear" on several of the bifacially worked tools and utilized tools suggests that both hard (e.g. bone) and soft (e.g. plant) materials were being processed at the site. Striations on utilized flakes further suggest that expedient tools may have been used to scrape and process both soft and hard materials including animal hides and bone.

Carbonized plant remains, recovered primarily through flotation, are also represented in the assemblage. Carbonized chenopodium (*Chenopdium* sp.), raspberry/blackberry/dewberry (*Rubus* spp.) seeds and hazelnut shell (*Corylus americana*) suggest some of the wild plants collected by these prehistoric populations. Raspberry/ blackberry/dewberries and hazelnut ripen and provide fruit during the late summer and early Fall and suggest that the Schoharie Creek II site was minimally occupied during these seasons.

While all of these plants are edible, it is important to remember that these plants may have also been collected for their medicinal and decorative properties. As discussed by Herrick (1985), chenopodium, raspberries/blackberries, and hazelnut were often used by later Iroquoian groups to cure illness. Raspberries and blackberries were often boiled and consumed in teas to cure coughing and reduce fevers while hazelnuts were often consumed plain and processed with other plants to cure hay fever, coughs, and hemorrhaging (Herrick 1985:140-141).

In the Eastern Woodlands, there is evidence for occasional use of various seeds, berries, and nuts by small foraging groups prior to 7000 BP. Between c. 7000 and 4000 BP, hunter-gatherer settlements were concentrated in areas adjacent to abundant aquatic resources, which provided ample sources of animal protein. Through the continued reoccupation of seasonal camps, anthropogenic habits were undertaken through the clearing of occupation areas, building shelters, drying racks, cooking areas, and other necessary features. Construction of these features would have created areas of enriched soil that may have been quickly colonized by pioneer weed species. As a result of the creation of such settlements, prehistoric populations may have actively dispersed plants with recognized subsistence value or simply tolerated their growth at the margins of their occupation areas.

Sumpweed, sunflower, goosefoot, and certain squashes were brought under cultivation between 4000 and 3000 BP (Hart and Asch Sidell 1997). Human groups may have actively encouraged the development of these species by discouraging the development of other competing species and by the expansion of the anthropogenic habitat. While these plants, especially goosefoot, are regularly found at sites in New York and New England (e.g. Asch Sidell 1999; Bernstein 1999; Bodner 1999; George and Dewar 1999), there is limited evidence for the domestication of these plants in the region. In their study of goosefoot from sites in New England, George and Dewar (1999) indicate that there is little or no evidence for the domestication of this plant in the Northeast during the Archaic and Woodland Periods. Although an analysis of the seed characteristics of the *Chenopodium* sp. recovered from the Schoharie

Creek II site has not been completed, there is little evidence to suggest that this plant represents a domesticate. Instead, the seeds recovered from the Schoharie Creek II site are believed to represent the remains of wild plants.

Mitigation of the Schoharie Creek II site produced evidence of occupation and prehistoric land use during the Early and Middle Woodland Periods. This work can contribute to our understanding of the prehistoric use of the Town of Schoharie as well as the larger Schoharie Valley. East of the project area in the adjacent Hudson and Mohawk Valleys, Early and Middle Woodland settlement models are characterized by the occupation of a variety of site types including small resource processing stations, base camps, and short term logistical camps (Funk 1976; Ritchie and Funk 1973; Snow 1980:264-265). Although Ritchie and Funk (1973) characterize the settlement patterns of this period as being associated with a central-based wandering settlement system, some archaeologists (Snow 1980) have criticized this model suggesting that Early Woodland (as well as later Middle Woodland) groups were evolving in the direction of semi-permanent sedentary settlement.

Settlement data from Early Woodland camps in the adjacent Hudson Valley suggest that these sites are commonly found along major rivers with few sites identified in back-country locations (Funk 1976:278). Increasing reliance on plant processing and exploitation, as well as fishing and hunting is not only reflected in the tool kits found at these sites but is also seen in the location of sites. Finished tools and raw materials indicate that the Early Woodland populations of Eastern New York were participating in long-distance interaction networks which brought non-locally produced materials, including western Onondaga chert, Pennsylvania Jasper, quartz, and other shell artifacts into the Hudson and Mohawk Valleys (Funk 1976; Snow 1980).

Middle Woodland sites, although largely concentrated along major rivers, begin to be identified in more diverse locations including inland streams, back-country rockshelters, and along larger lakes during the Fox Creek and Kipp Island Phases (Funk 1976:292). Middle Woodland sites in the Mohawk and Hudson Valleys are often characterized by corner notched and pentangular projectile points and dentate-stamped and corded ceramics (Cassedy 1998; Ritchie and Funk 1973; Snow 1980). Elbow pipes are also diagnostic of the Middle Woodland Period and have been recovered from the Menands Bridge Site in the northern Hudson Valley (Ritchie 1994). Fishing implements are found in many Middle Woodland tool kits and highlight the predominant role that fishing may have played in the settlement and subsistence economies of these prehistoric populations.

Mitigation of the Schoharie Creek II site has contributed to our understanding of the settlement of the Schoharie Valley during these two periods. The Schoharie Creek II site is located on a small terrace overlooking the western bank of the Schoharie Creek. Although the entire site was not mitigated, features and artifacts recovered during this project suggest that the site was repeatedly occupied as a small logistical camp. The location of the site in an area that would have provided a diverse array of aquatic, mammalian, and floral resources was probably not haphazard but was crucial to the procurement of necessary food, medicinal, and material resources. The location of the site adjacent to the Schoharie Creek would have provided the site's occupants with anadromous and other fish for food while roots and tubers, which may have grown along the river, may have been collected for use in constructing baskets as well as for medicines. On the south side of the site is Terrace Mountain, a natural formation known to be the location of one or more large chert outcrops (Ritchie and Funk 1973). These outcrops probably played an important role in the procurement of chert for stone tool manufacture. The recovery of fishing equipment (netsinkers), plant processing tools (hammerstones, pitted stones, scrapers, utilized flakes), and biface manufacturing tools (hammerstones) from the site provide further evidence of the important role that the surrounding catchment area played in the settlement of the site.

Intra-site patterning at the Schoharie Creek II site suggests that specific activity areas may have been utilized by the site's occupants. A concentration of hearth and small charcoal scatters identified in the southeastern corner of Block B suggest that this area may indicate that a cooking or food preparation area may have been utilized here by the Early Woodland occupants of the site. Features 12 and 15c represent the eastern and western sections of a large hearth that may have been used for cooking or food preparation. Several small postmolds surround the feature and may represent the presence of a small ancillary structure around the hearth. Other charcoal stains were also identified in the BE and buried BE-soils of Block B and provide further evidence of the area as a prehistoric cooking or food preparation area. Few features were recovered in Block A which suggests that this portion of the site may have been used for a different set of activities than those identified in Block B.

Features identified at the base of the A-horizon soils date to the Middle Woodland period and consist of small hearths and charcoal stains. Features 13 and 14 represent portions of the same hearth feature identified in Unit 54. This feature is more complex than other features encountered at the site and measures approximately 70 cm in

diameter. The feature contains a basin shape with few fire-cracked rocks scattered throughout. Instead, a crescent shaped concentration of fire-cracked rock was identified on the ground surface. It is not known whether these pieces of fire-cracked rock was used to hold a ceramic pot in place during cooking or whether the rocks may represent potboilers that were discarded into the fire after use. The feature is larger than other features encountered at the site and suggests that the feature may have been used differently from those encountered in the BE-horizon soils.

The location and range of activities identified at the Schoharie Creek II site was not entirely unexpected and resembles similar settlement data recorded for the Mohawk and Hudson Valleys of eastern New York. Comparisons with smaller camps in the Schoharie Valley suggest that a diversity of prehistoric sites were employed by the region's occupants. Settlement data from the Early Woodland Nahrwold (Ritchie and Funk 1973), and Schoharie Creek I (Rieth 1998; Rieth and LoRusso 1996) resemble that recovered from the Schoharie Creek II site and show a preference for the location of sites on smaller knolls and terraces overlooking major valley waterways including the Schoharie Creek. Middle Woodland components identified at the Schoharie Creek II, Westheimer (Ritchie and Funk 1973), Vroman I (Rieth 1999a), Winnie IV (Sopko 1999), and Sebold sites (New York State Museum Site Files 1998) suggest that that over time the prehistoric occupants of the Schoharie Valley may have utilized a more diverse set of sites located along the valley floor, valley walls, and in upland areas.

Finally, a large number of chipped and ground stone tools were recovered from the Schoharie Creek II site and have provided much information about the organization of lithic technology (Henry 1989). The area surrounding the site falls within a lithic rich zone in which chert outcrops would have been readily available and accessible to the prehistoric occupants of the site. Among these outcrops are those located at Terrace Mountain, a natural geological formation that is described by Ritchie and Funk (1973) as being an important quarry site for lithic materials. In addition to the cherts that would have been available near the site, other non-local materials including Pennsylvania Jasper and quartz may have been acquired by the prehistoric occupants of the Schoharie Creek II site.

Bifacially worked tools were recovered from the site and are represented by complete and unfinished broken bifaces. Broken bifaces are believed to be hafted or hand held bifaces that were either not completed (1) due to breakage/rejection on the part of the manufacturer or (2) were intentionally not completed and were intended for future reduction. The number of rejected or broken bifaces at the site suggests that curation of broken bifaces was not a concern of the site's occupants. Few broken bifaces appear to be reworked suggesting that there was no shortage of lithic materials nearby.

The flake tool industry is also represented by utilized flakes, end and side scrapers, drills, perforators, unifaces, and projectile points. Most of these artifacts were manufactured from light and dark gray Onondaga chert. Use-wear analysis on the utilized flakes and scrapers suggests that these artifacts were used to process both soft (plant) and hard (bone) materials. Hinge-fractures on several artifacts suggest that several of these tools may have been broken while being utilized for tasks involving prying or puncturing.

Worked and unworked cores do not represent a large percentage of the overall prehistoric assemblage. Most of the cores recovered from the Schoharie Creek II site represent bipolar cores and are characterized as cobbles that have had flakes detached by direct hard-hammer percussion using an anvil (Andrefsky 1998). Bipolar cores account for 97% of the core fragments recovered from the site with all of these cores manufactured from gray Onondaga chert. The remaining 3% of the core fragments represent polymorphic cores that have had flakes detached in multiple directions (Callahan 1979). These cores are minimally represented at the site and account for the lowest mean weight of the two core types. Like the bipolar cores, all of these artifacts are manufactured from gray Onondaga chert.

Analysis of bifacially worked tools and lithic debitage suggest that the occupants of the Schoharie Creek II site were bringing worked cores to the site for further reduction and finishing. Evidence of this is visible in the predominance of bifacial thinning flakes and Stage II and III cores at the site. Although biface reduction may represent the primary activity at the site, the presence of pressure flakes and Stage V flakes suggests that tasks associated with tool sharpening and general maintenance were also completed.

Noticeably absent from the artifact assemblage were hammerstones and other ground stone tools that may have been used during stone tool production. Several possibilities can be presented to explain why these objects were not recovered from the site. First, it is possible that these objects are present at the site, but instead of appearing in their original form (e.g. as river cobbles, etc.) only remain as remnants of their original form. As seen in the artifact catalog, several unidentified or unmodified sandstone fragments, pieces of cortex, and (sandstone) fire-cracked rock fragments were identified at the site. Given the poor quality of some of the materials that appear to have been used at the site, it is possible that these objects have been destroyed to the point that they are not recognizable in the archaeological

record. Second, it is possible that the prehistoric tool kits that were utilized by the occupants of this site contained only a limited number of stone tools all of which were collected at the end of the site's occupation. Third, it is possible that some other object was used to manufacture the tools at the site and these objects have either deteriorated over time (e.g. bone, etc.) or are unrecognizable as such (e.g. use of other cores as hammerstones, etc.). Finally, it is possible that these artifacts are present beyond the current project limits and have yet to be discovered.

According to Ritchie (1994:196), "the Meadowwood culture is the earliest recognized culture in the Northeast to give evidence of fairly diversified trade relationships with distant regions, a process which continued here through much of the succeeding Middle Woodland Period…". Lithic debitage manufactured from jasper, quartz, and other non-local materials were recovered from the Schoharie Creek II site. Although there are only a handful of non-locally produced artifacts recovered from the site, the presence of these artifacts support Ritchie's assertion and suggest that the occupants of the Schoharie Creek II site were participating in larger regional trade and exchange networks. The recovery of similar non-locally manufactured artifacts from the nearby Schoharie Creek I (Rieth 1998; Rieth and LoRusso 1996) and Vroman I sites (Rieth 1999) provide further evidence that the Early and Middle Woodland populations of the Schoharie Valley maintained interaction networks with groups residing in eastern New York and the greater Middle Atlantic region.

The recovery of Orient and Meadowwood projectile points from the Schoharie Creek II site may also suggest regular interaction with groups living in eastern and western New York. As discussed in Ritchie (1971), Orient projectile points are predominantly found on sites located on Long Island and in the southern Hudson Valley. This point type appears sporadically along coastal New England and is often associated with groups residing in eastern New York. In contrast, Meadowwood points are often found on sites located in central and western New York (Ritchie 1994; Versaggi 1999) with the greatest number of sites located in the Niagara Frontier (Granger 1978). Limited numbers of Meadowwood points have been recovered from sites located in eastern New York. The recovery of two spatially distinct point types from the same site is interesting and suggests interaction with groups residing in different parts of the region. As I have argued elsewhere (Rieth 1998a), the Early Late Woodland occupants of the Schoharie Valley possessed material objects with mixed attributes suggesting the important role that region may have served as a "cross-road" between non-horticultural groups living to the east and horticultural groups living to the west. The recovery of divergent and non-locally manufactured objects at the Schoharie Creek II site suggests that the occupation of the region as a prehistoric "cross-road" is not unique to this period but rather may have its antecedents in the Early and Middle Woodland Period occupants of the region.

HISTORIC OCCUPATION

Deposits associated with the historic occupation of the Schoharie Creek II site were also recovered and provide important information about the mid to late nineteenth century occupation of Structure F (no address #). Historic deeds and census records indicate that between 1865 and 1895, the site was occupied by the families of W. Stuarach and Abram Stever. Chronological affiliation of the historic occupation was largely determined from domestic and architectural debris found at the site. Mean ceramic dates from table and teawares as well as the presence of machine-cut and wire nails suggest occupation during the second half of the nineteenth century.

The research themes addressed during this mitigation project relate to the socio-economic status and internal/external relations of the household. These research themes are not mutually exclusive but are directly associated with the rise of the middle class during the nineteenth century. In the Northeast, the second half of the nineteenth century is characterized by a local, regional, and national shift from a communal to a commercial farming economy. Corresponding changes in the organization of middle-class households, a shift from an extended to a nuclear family as the primary social and economic unit, increased mechanization of the farmstead, and increased participation in regional markets also characterize this period. The establishment of the railroad through Schoharie County during the 1830's greatly facilitated these changes since it allowed local surplus to be more effectively transported from local to regional markets. The sale of these farm products provided the owners of these farms with surplus cash that could be used to purchase household and personal goods from both local and regional markets. Evidence of participation in a regional economy is reflected in the use of a wide range of non-locally produced goods at the site including whiteware and ironstone dishes, semi-vitreous china, coal and cinder fragments, clam shell, and pipes. Many of these goods (e.g. pipes, semi-vitreous china, etc.) contain symbolic value and would have been used by members of the middle-class to distinguish themselves from the lower class occupants of the Town of Schoharie.

Analysis of artifacts, features, and historic records associated with the W. Stuarach and Abram Stever households suggest that these households considered themselves to be part of a growing middle class in Schoharie County. Evidence of this middle class standing is most readily reflected in the types of table and teawares recovered from the site. Refined earthenwares comprise the bulk of the collection. Whiteware and ironstone containers represent the largest numbers of vessels recovered and are also reflective of middle class preferences away from decorated pearlware and creamware during the nineteenth century. According to Wetherbee (1985:6), undecorated ironstone and whiteware containers, were specifically manufactured for American markets between 1840 and 1870. During this time period, English potters had perfected the construction of these containers so that they were highly durable, inexpensive, and could be mass produced for a growing clientele in the United States. Due to the cost efficient nature of these vessels, they could be purchased in matched sets as reflected in some matched whiteware and ironstone containers at the site. In her analysis of nineteenth century households, Wall (1987) argues that by the end of the nineteenth century, undecorated ironstone had become so widely distributed that is use transcended class boundaries in New York. By the end of the nineteenth century, the association of undecorated whiteware and ironstone with lower class households caused middle class households to abandon the use of such vessels in favor of lighter and more highly decorated semi-vitreous china and porcelain (Majewski and O'Brien 1987). At the Schoharie Creek II, this trend is reflected in the recovery of semi-vitreous china from Block B.

Given the diverse array of ceramic vessel fragments recovered, tasks associated with food preparation and processing can be documented at the site. The recovery of both utilitarian and refined earthenwares suggests that foods may have been prepared in one container and transferred to another for consumption. The recovery of some mismatched refined earthenwares also suggests that some household containers were purchased individually and not as complete sets.

The socio-economic status of the household is also reflected in the types of foods that were consumed (Huelsbeck 1991). Analysis of the faunal remains suggests that most of the consumed meats would have been locally available and could have been raised by the owners of this rural farmstead. Non-local fauna are minimally represented by clam and oyster shell and may have been expensive to purchase during the mid to late nineteenth century. Although the types of meat cuts selected suggest that the site's occupants consumed better quality meat cuts, the limited number of these remains suggests that they were not regularly consumed but may have been consumed only on special occasions. Similar consumption patterns are also suggested by the limited types and frequency of shell from this site. Since clams and oysters were not locally produced, these types of foods were probably expensive and could not be consumed on a regular basis.

Reorganization of nineteenth century households is a feature commonly associated with the rise of the middle-class in New York. Evidence of changes in the organization of households is a defining feature of the rise of middle-class. Changes in the organization of rural households are often reflected in modifications to the primary and secondary buildings. As discussed in the artifact analysis section of this report, the large quantity of architectural remains recovered from the site suggests that some modifications were being made to the Stuarach-Stever residence during the mid-late nineteenth century.

Artifacts recovered from the Schoharie Creek II site suggest that the W. Stuarach and Abram Stever households participated in a larger regional economy as evidenced by the recovery of non-locally produced bottles, tea and table wares, canned and prepared foods, clam shell, architectural remains, and other artifacts from the site. The use of these non-locally produced goods was largely facilitated by the construction of the railroad through the Town of Schoharie during the 1830's and not only allowed for non-locally produced goods to be transported to this rural community but also provided a mechanism by which agricultural products could be transported to markets in Albany and other regions of New York.

One porcelain vessel was recovered from the occupation of the site by the W. Stuarach and Abram Stever families. This vessel may represent a small teacup or other piece of hollowware. Due to the expensive nature of these objects during the nineteenth century, porcelain tablewares were probably not used for everyday consumption, but were rather used for entertaining or in social situations in which it was important for the household to reflect its middle class standing within the community (Wall 1987).

PUBLIC PROGRAMMING

An important aspect of this data recovery project involved the dissemination of project results to the general public. During the fieldwork stage of the project, public programming was completed through site tours to members of the public, NYS Museum staff, and NYSDOT. Following the completion of the fieldwork, museum staff completed public programming through talks at local and regional archaeology meetings. Additional information was distributed to the general public as part of an exhibit entitled "Front Yards, Back Yards, and Under the Street: The Archaeology of Us" at the New York State Museum during the Summer and Fall of 2000.

CONCLUSION AND FUTURE RECOMMENDATIONS

This data recovery project has produced artifacts associated with the occupation of this small multicomponent prehistoric and historic site. Given the large number of artifacts and features recovered, mitigation has confirmed the determination that the Schoharie Creek II site is eligible for the State and National Register of Historic Places under Criterion D as a location that has or could potentially yield information associated with the history or prehistory of the region.

The reconnaissance, site examination, and data recovery excavations at the Schoharie Creek II site produced important information relating to the chronology, settlement and subsistence patterns, use of lithic technology, and the formation of this prehistoric site. In addition, information about socio-economic status and household interaction were recovered from the site's historic deposits. Based upon the results of this project, no further work is recommended within the current project limits. Given the high likelihood that deposits located beyond the current limits could yield important information about the occupation of this site, additional work is recommended if these deposits are to be impacted in the future.

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