

THE PLUS SITE: AN IROQUOIAN REMOTE CAMP IN UPLAND TOMPKINS COUNTY, NY*

TIMOTHY J. ABEL

Public Archaeology Facility, Binghamton University

ABSTRACT

Between 1997 and 1998, the Public Archaeology Facility, at Binghamton University, was contracted by the New York State Education Department on behalf of the Department of Transportation to conduct investigations of the Plus site (SUBi-1736; NYSM #10494), located in the Town of Dryden, Tompkins County, New York. The site occupies an inland setting in the Virgil/Fall Creek watershed, lying on a glacial gravel hill adjacent to Willow Glen Cemetery along NY Route 13. Site examination and data recovery excavations in threatened areas of the site revealed a cluster of Late Woodland cultural features including hearths, a storage/refuse pit, and postmolds. The artifactual materials from these cultural features suggest the Plus site functioned as an Iroquois remote camp occupied during the late 14th century. The Plus site represents the first Iroquois remote campsite in central New York to receive intensive subsurface investigation.

INTRODUCTION

Iroquoian archaeologists have traditionally given research priority to village sites, in an attempt to trace the developmental history of the various historically-contacted nations (e.g., Niemczycki, 1984; Ritchie, 1980; Tuck, 1971; Wray and

*Funding for the Plus site investigation was provided by the State Department of Transportation under the 1999-2000 Highway Program.

Schoff, 1953). This has been predictable given the more certain abundance of chronological and contextual data (i.e., ceramics, houses) to be found in areas with long habitation periods such as villages. Historical accounts suggest that Iroquoians spent much of their time dispersed into local and remote camps, however, focused on procurement and processing activities supporting the village (cf. Heidenreich, 1971:216-218; Thwaites, 1896-1901 15:157; Tooker, 1964: 71-72). According to Tooker's ethnography of the historic Huron (1964:71-72), village men, primarily, remained highly mobile throughout the year securing resources at remote locations through hunting, fishing, trading, and raiding, while the women and their families were seasonally mobile to remote fields and hamlets. In fact, the only regular full community aggregations seem to have taken place during the winter and sponsored events such as feasts. There is little reason to assume that this situation was any different in Late Woodland times (Montag, 1998).

Seasonal and periodic extra-village activities such as fishing, nut harvesting, and hunting played an important role in supplementing the Iroquoian diet which relied heavily on maize-bean-squash horticulture. Small sites have generally eluded detection, however, due to their extremely low densities of artifacts (Kenyon and Lennox, 1997) or have alternatively been written-off as redundant and uninformative about central research issues (Lennox, 1997). Our understanding of the small-site archaeological record is thus weakly developed, particularly for central New York, and this poses problems in attempting to interpret small-site seasonality and function. The 1997-1998 investigation of the Plus site (SUBi-1736; NYSM#10494), however, provided an opportunity to examine the role that the remote camp played in Iroquoian subsistence and settlement.

The Plus site, located in the upland of the Fall/Virgil creek drainage of Tompkins County, appears to represent a remote camp dating to the Early Iroquois time period (A.D. 1350-1400) (Niemczycki, 1984). This corresponds roughly to the late Oak Hill/early Chance phase time period in the Ritchie/Lenig chronology (Lenig, 1965; Ritchie, 1952, 1980). Excavations at the Plus site by the Public Archaeology Facility of Binghamton University (PAF) focused on the recovery of material, spatial, and chronological data to address one central research theme: the purpose and temporal placement of a small remote Iroquoian occupation in the Virgil/Fall Creek drainage of the southeastern Finger Lakes region. The features excavated contained ceramics, lithics, and botanical remains of tree bark, wood, nuts, and annual seeds. Faunal remains were present in sealed features, and the analysis of species, portion, and treatment of the bone informed us about the techniques employed in acquisition, butchering, and meat preparation. These combined data allowed us to infer behavioral and consumptive patterns which in turn identified the probable function and seasonality of the site.

SITE LOCATION AND SETTING

The Plus site is located on the north side of NY 13 approximately 275 m (900 ft.) east of Johnson Road in an agricultural field adjacent to Willow Glen Cemetery (Figure 1). The site lies at an elevation of 357 m (1170 ft.) above mean sea level on a small rise on the western margin of a large glacial deposit which is part of a distinct area of small rolling hills and depressions. Virgil Creek lies 1.3 km (0.7 mi.) to the northwest of the site and flows into Fall Creek 2.5 km (1.6 mi.) to the northwest. Virgil Creek originates to the west of Dryden in Cortland County and drains much of the land to the south and east of the site. Fall Creek originates north of the site in Cayuga County and drains all of the land to the north and west of the site, passing through the campus of Cornell University before entering the head of Cayuga Lake 15 km (9 mi.) west of the site.

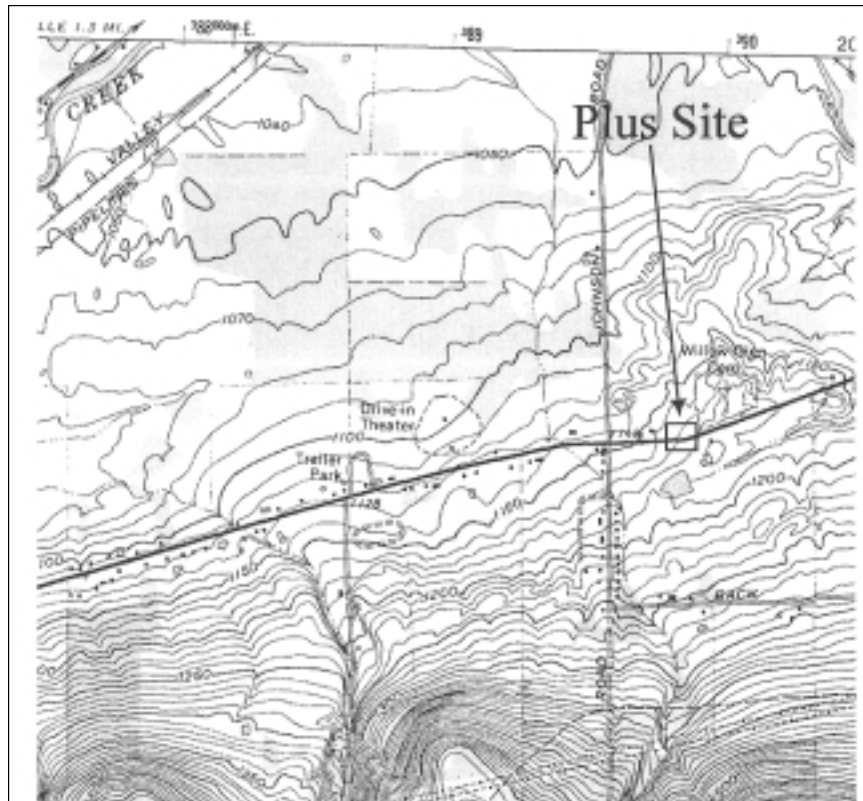


Figure 1. Topographic map of the project area (taken from U.S.G.S. 7.5" Dryden, NY Quad).

The Plus site is generally located in the eastern part of Tompkins County, west of the Village of Dryden. The area lies within the Allegheny Plateau, a segment of the Appalachian Uplands physiographic province in central New York State. The site is situated between the high hills of the Portage Escarpment and a broad east-west valley through which flows Virgil and Fall creeks. The topography is composed of low rolling hills formed primarily of glacial till and outwash which are underlain by Ithaca shales and sandstones. The entire region was heavily glaciated and the terminal Valley Heads moraine field, with outwash plains, filled kettle holes, and eskers, is located in the valley just south of the Village of Dryden but these landforms are not present in the project area. Small streams flow around these large but low hills through swales or narrow cuts and carry surface and spring water to Virgil Creek which lies 1 km (.6 mi.) or more to the north. Virgil Creek merges with Fall Creek which flows into Cayuga Lake. The elevation of the area ranges from approximately 341 to 448 m (1120 to 1180 ft.) above mean sea level. To the north, Virgil Creek and Fall Creek are only about 20 to 40 (70 to 130 ft.) lower than the Plus site area while the hills to the south rise over 200 m (650 ft.) higher than the Plus site area. The Plus site landform can thus be described as a glacial terrace bench overlooking an outwash valley which flowed to the west.

The original vegetation of the region was similar to that which is found in forested lands today, although most if not all of the old forests have been logged at least once. Maple, beech, oak, and hickory are the predominant trees in the mature forests of the region and groves of hemlock, white pine, and cedar are found, especially along streams, ravines, and swamps.

The soil at the Plus site is identified as Halsey silt loam (Ha) (USDA, 1965) and this equates with the large glacial gravel deposit which comprises the site and Willow Glen Cemetery to the immediate east. The soils in the vicinity of the Plus site are primarily Phelps gravelly loam (Ph), Howard gravelly loam (Hd), Eric channery silt loam (Eb), Chenango gravelly loam (Cn), and Lansing gravelly silt loam (La). Reconnaissance and site examination excavations found the soils at the site to consist of an Ap horizon of medium brown silt loam with rocks and gravel that had a general depth of 20 to 25 cm (8 to 10 in.) and a gravelly reddish or yellowish brown sandy silt B horizon.

HISTORY OF INVESTIGATION

Archaeologists from PAF, under contract with the New York State Department of Transportation and the New York State Museum, identified the Plus site in 1997 during a cultural resource reconnaissance survey sponsored by the New York State Highway Program (Weiskotten and Ravage, 1997). During the April 1997 reconnaissance, archaeologists excavated 285 shovel test pits (STPs) along the State Route 13 corridor between Dryden and Willow Glen. Though no cultural material was found, a fragment of incised pottery was found on the surface of a glacial hill that initiated a more intensive reconnaissance survey of the Plus site.

During this survey, two chert flakes were subsequently found. An STP excavated at the location of the pottery find encountered a deep stratified prehistoric feature with chert flakes and calcined bone (Weiskotten and Ravage, 1997).

In June 1997 PAF conducted a site examination of the Plus site to assess its eligibility to the National Register of Historic Places (Weiskotten, 1997a). These investigations included the excavation of four STPs, 15-1 by 1 m (3.3 by 3.3 ft.) units, and five 2 by 5 m (6.5 by 16 ft.) trenches. The site examination documented six prehistoric features, five post molds, thirteen possible post molds, several other soil stains, as well as pottery, animal bone, botanical remains, a polished stone adze, a chipped shale/sandstone tool blank, and fire-cracked rock. One feature in particular, Feature 1 was interpreted as a large refuse-filled storage pit measuring 2 m (6.6 ft.) wide, 3 m (10 ft.) long, and 1 m (3.3 ft.) deep. This feature first appeared at the Ap/B horizon interface as an oval mottled brown/black/red soil anomaly measuring 230 by 80 cm (90 by 31 in.) (Figure 2). Upon excavation it was found to be much larger than indicated by the extent of the surface stain. The pit had been used for storage, filled with several distinct layers of refuse and was last used as a hearth/roasting platform. Three of the remaining investigated features (Features 2, 4, and 5) are interpreted as hearths, while the other two (Features 3 and 6) may also be hearths although they produced no cultural material. Five definite post molds and thirteen possible post molds were found, but no structural outlines seemed apparent in the small area investigated.

The intensive reconnaissance and site examination found very few artifacts in the Ap horizon at the site. Archaeologists found 321 artifacts in Feature 1, the large refuse-filled storage pit, while pottery sherds and lithic debitage were also found in two of the other hearth features. A polished stone adze and quartzite biface core were found in the western part of the site in a situation suggesting that they had been lost or cached on the margin of the occupation area. The bulk of the artifacts recovered during the reconnaissance and site examination at the Plus site were potsherds from Late Woodland pottery vessels ($n = 234$ sherds). Second in quantity were faunal remains ($n = 116$), followed by chert flakes ($n = 23$). Other materials included a polished stone adze, a quartzite core, a flaked shale/sandstone tool blank, fire-cracked-rock, and botanical samples. Preliminary assessment of the pottery indicated that the assemblage included three Richmond Incised vessels and two Dutch Hollow Notched vessels (cf. MacNeish, 1952). These vessels are commonly found on Early Iroquois (A.D. 1350-1400) sites (Niemczycki, 1984). Cord-marked sherds found in association with these incised sherds may represent body sherds of any of the vessels and are not unusual for the time period.

At the end of the site examination, several hypotheses concerning the site's function were forwarded suggesting the Plus site functioned as a small camp used while tending remote fields; a seasonal camp where resource procurement such as maple sugar production, food gathering, or raw material collection and processing took place; or possibly a component of a previously unidentified

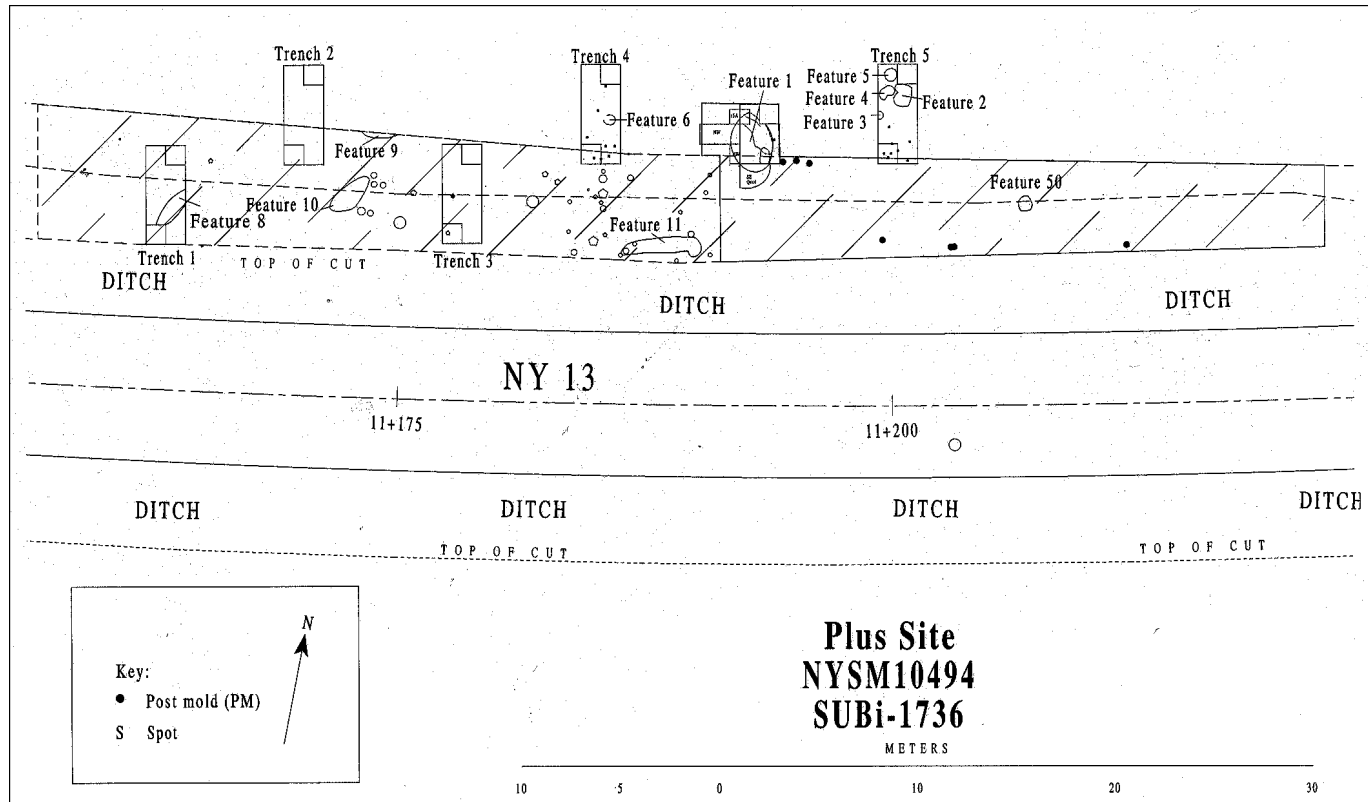


Figure 2. Plus site NYSM10494 SUBi-1736.

cluster of Iroquois villages similar to those known to the north and west (Weiskotten, 1997a).

With the conclusion of the data recovery, we were able to rule out two one of the three possible functions proposed for the site. It was clear from the lack of cultural material and cultural material variety that the Plus site did not represent a village, and it was clear from recovered botanical remains that the site did not represent a hamlet for the tending of remote fields. The Plus site is located no closer than 17 km (11 mi.) from the nearest similar Iroquois village clusters, which belong to the Cayuga tribe of the Iroquois or Haudenosaune Confederacy (Figure 3). This remote location, in addition to the recovered archaeological record of the site, indicated that it probably represented a remote camp.

It was determined that part of the Plus site was threatened by the proposed reconstruction of NY 13, and in late 1997 and continuing into 1998, PAF conducted data recovery excavations to investigate the endangered area. During this data recovery, archaeologists excavated two roughly 5 m × 30 m (16 ft. × 98 ft.) units and one 3 m × 4 m (10 ft. × 13 ft.) unit, with a total excavated area of 310 m². The excavations resulted in the examination of an additional hearth feature, fifty-three possible postmolds, or “spots” and several historic and natural features. Upon investigation, twenty-three possible postmolds were upgraded to probable postmolds, although no structure patterns could be concretely documented. Artifactual yield during the data recovery phase was surprisingly low and limited to the completed recovery of Feature 1, the large storage pit partially investigated during the site examination phase.

FIELD METHODS

The methods used in the Plus site investigations included systematic shovel-testing, machine-assisted test trenching and horizontal excavation, radiocarbon and thermoluminescence dating, faunal and floral analyses, flotation, lithic micro-wear analysis, and ceramic analysis. Generally, each unit was excavated, either by hand or mechanically, to within 15 cm (6 in.) of the plow zone/subsoil interface. During the reconnaissance and site examination stages, plow zone horizon soils were screened through 1/4 inch mesh to document artifact density. Due to the extreme scarcity of artifacts found during this process, plow zone screening was not pursued during the data recovery phase. The remaining 15 cm (6 in.) of plow zone horizon was stripped from each unit using flat shovels to expose the surface of the sterile subsoil. The subsoil surface was then visually scanned for features which appeared anomalously dark against the lighter color of the sterile gravelly silt.

Each soil anomaly was uniquely designated with a feature number and then located relative to other features using a laser range-finding total station. Each feature was then bisected along its greatest length and half the feature excavated by trowel in 5 cm (2 in.) arbitrary levels within cultural strata to reveal the feature's

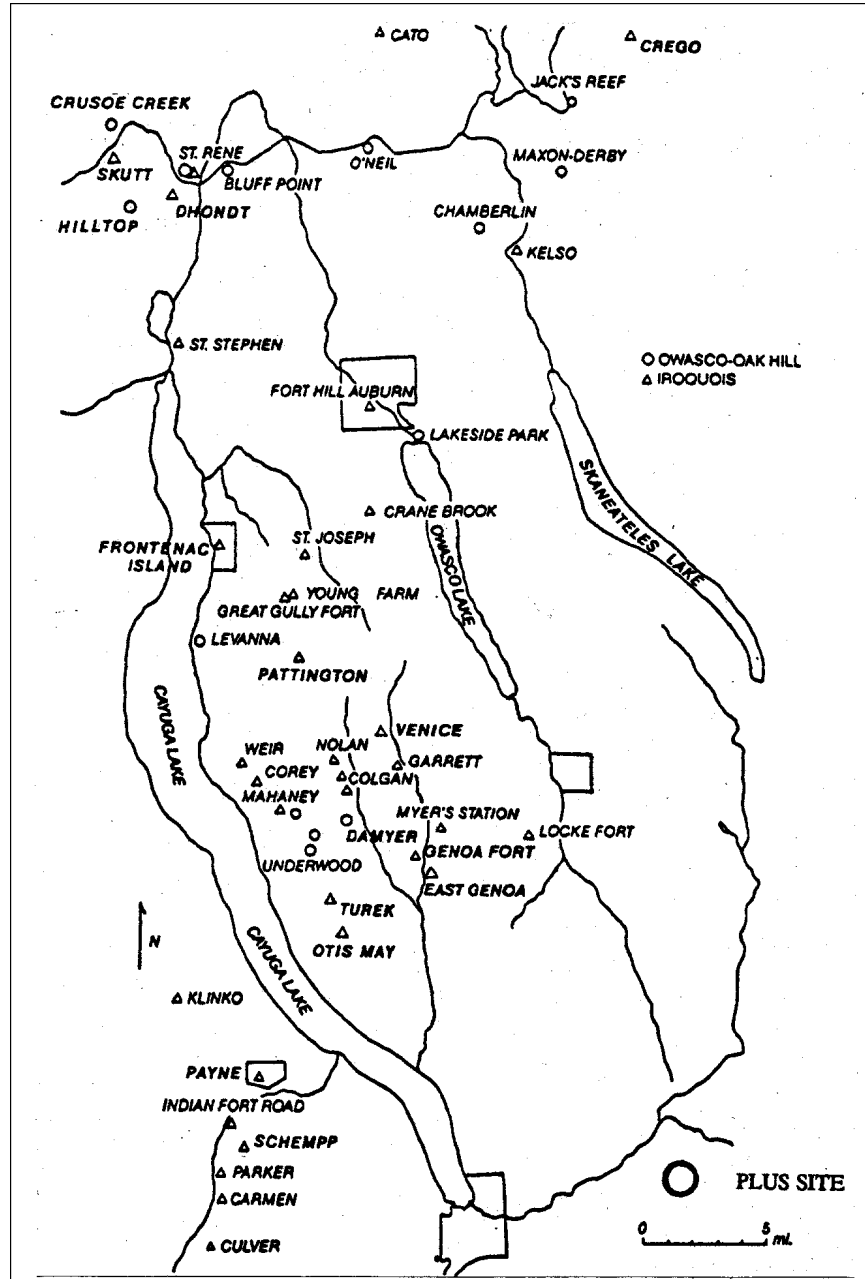


Figure 3. Location of the Plus site relative to Cayuga village clusters (adapted from DeOrio, 1980).

vertical profile. Features larger than 1.5 m (4.92 ft.) in diameter were quarter-sectioned, with opposing sections excavated in the same manner to reveal length and width profiles. One liter (~ 1 qt.) soil samples were collected from each level and given unique sample designations. The remaining soil from each level was kept distinct and passed through 1/4-inch hardware mesh screen to recover any cultural artifacts. The profiles were drawn to scale and then photographed in color print, color slide, and B & W formats. The remaining half of the feature, if it was determined to be cultural, was excavated in 5 cm (2 in.) levels within cultural strata if present. Upon completion, each unit was mechanically backfilled and the area returned to its natural elevation.

All of the artifacts, notes and other documentation of the reconnaissance testing are curated according to federal (36 CFR Part 79) and state guidelines (NYAC 1994) in the facilities of the Department of Anthropology at Binghamton University.

FEATURES AND SETTLEMENT PATTERNS

The Plus site cultural features can be generally described as postmolds, pits, storage/refuse pits, and hearths. *Postmolds* were identified as stains having a diameter no greater than 30 cm (12 in.). Their depths are generally greater than their diameters, but due to plow-truncation, their depths could have ranged from one to several centimeters below the Ap/B interface. *Pits* were identified as being greater than 30 cm (12 in.) in diameter, having a basin shaped cross-section with a depth no greater than the diameter. These features were further qualified whenever possible based on feature contents and structure. *Storage/refuse pits* were characterized as generally deep pit features containing an abundance of cultural refuse, often layered according to distinct depositional episodes. *Hearths* were characterized as generally shallow pit features containing an abundance of ash and charcoal, with evidence of intense heat in the soils surrounding the feature (cf. Hatch and Stevenson, 1980; Moeller, 1992; Ritchie and Funk, 1973; Stewart, 1977; Wright, 1993).

The PAF excavations at the Plus site resulted in the investigation of twelve possible pit features (Table 1) and fifty-three possible postmold stains. Of the possible pit features, six were determined to be cultural. Feature 1 was ovoid in shape, oriented roughly north to south, with a length of 290 cm (114 in.) and a width of 190 cm (75 in.). Much of the southwestern portion of the feature was destroyed by rodent disturbance. The northern section appeared undisturbed. Based on a reconstruction from numerous section profiles, the pit had a barrel-shaped cross-section with a maximum depth of 120 cm (47 in.) (Figure 4).

The pit base was lined with sterile clay and gravel which is believed to have been an intentional part of the pit's construction. Within a few centimeters of the pit's base, and sloping upward onto the eastern side of the pit was a thick layer of refuse containing pottery, chert flakes, and faunal material. The ceramics were

Table 1. Summary of Plus Site Features

Feature	Coordinates	Shape	Length	Width	Depth	Profile	Interpretation
S1	Trench 2S	irregular	125 cm	125 cm	10 cm	basin	root burn
S2	Trench 3S	irregular	100 cm	—	18 cm	irregular	root burn
S3	Trench 4S	circular	80 cm	70 cm	10 cm	basin	root burn
S4	Trench 10S	ovoid	130 cm	—	>60 cm	—	unknown
1	N103E154	ovoid	290 cm	190 cm	45 cm	basin	storage pit
2	N105.5E161.5	ovoid	110 cm	90 cm	10 cm	basin	possible hearth
3	N104.5E160	circular	50 cm	50 cm	30 cm	cylinder	STP
4	N105-5E160.5	ovoid	80 cm	50 cm	shallow	irregular	rodent disturbance
5	N106.5E160.5	circular	50 cm	50 cm	15 cm	basin	possible hearth
6	N104E146.5	circular	50 cm	50 cm	10 cm	basin	possible hearth
7	N102E154	ovoid	—	—	—	—	rodent disturbance
8		—	—	—	—	—	natural deposit
9	N104E134.5	circular	35 cm	35 cm	—	cylinder	STP
10	N100E133	ovoid	210 cm	119 cm	18 cm	basin	root scar
11	N98E150	oblong	300 cm	80 cm	6 cm	basin	rodent disturbance
50	N99E167	circular	80 cm	80 cm	13 cm	basin	possible hearth

clustered in such a way as to suggest a large vessel segment which had been crushed by the weight of the feature fill. Animal bones and charcoal were arranged both above and around this pottery deposit suggesting it was “heaped in” on top of the vessel section. The sterile base and overlying refuse layer were designated as Layers 5 and 6.

Layer 4 consisted of a well-sorted pea-gravel which may have been washed into the pit from the sides following abandonment. This layer slopes downward from the west, suggesting that it may have been the result of pit wall collapse during a heavy rain or rodent burrowing. This deposit was generally sterile, although pockets of dark organic soil, possibly brought up by roots or rodents, did occur. Within Layer 4 were also several large and suspicious chunks of partially-burned wood. These were believed to have been prehistorically-deposited, but later radiocarbon dating removed all doubt that they were of recent origin (see below).

Along the eastern side of the pit, between Layers 4 and 5 was a thin layer of carbonized tree bark which sloped almost straight into the pit from the eastern side, like a funnel. The species of the bark is white pine (*Pinus strobus*), which has many documented uses in Iroquois domestic and ritual life. The placement of the bark does not suggest a pit lining as widely documented for Iroquoian storage pits (Lafitau, 1724; 2:80; Morgan, 1954(1851):319; Parker, 1910:35).

Layer 3 consisted of a brown clay loam with pockets of many different soil colors. It was also broken by sheet lenses of bright red-orange, heat-oxidized soils. Above these sheet lenses was Layer 2, a continuation of the mottled brown clay loam. Layer 2 was characterized by a heavy charcoal and ash deposit interspersed with several large, blackened, and fire-cracked rocks. Though originally interpreted as evidence of a roasting platform, the mottled soils and their apparent continuity from clear rodent burrows leading into the western edge of the feature suggest that Layers 2 and 3 represent rodent disturbance. Charcoal from Layer 3 was radiocarbon dated to the modern era (see below), suggesting that the burning episode was relatively recent, perhaps an attempt by someone to drive the rodent out by “smoking.” The burning of logs in the burrow would have resulted in the heat discoloration of the surrounding soils, which after collapse would appear as sheet lenses. Layer 1 represents the plow zone.

Feature 2 was a broad shallow hearth with a length of 110 cm (3.6 ft.) and a width of 90 cm (3.0 ft.). The profile was basinated with a depth of 10 cm (4 in.). The feature contained a chert flake and thirteen grit-tempered pottery sherds. The soil was dark brown with gravel and charcoal throughout.

Feature 3 was a small feature of unknown function with a diameter of 50 cm (1.6 ft.) extending into the west wall of the test unit. The profile was basinated with a depth of 30 cm (12 in.). The feature contained one rimsherd of the Dutch Hollow Notched ceramic type.

Feature 5 was a shallow circular hearth with a diameter of 50 cm (1.6 ft.). The profile was irregular with a depth of 15 cm (9 in.). The feature contained ten grit-tempered pottery sherds, most of which were undecorated smoothed cord-marked.

Feature 6 was a roughly circular, shallow hearth with a diameter of 50 cm (1.6 ft.). The profile was basinated with a depth of 10 cm (4 in.). The feature had been disturbed by a shovel test and rodent burrowing. No artifacts were found.

Feature 50 (Figure 5) had a diameter of 80 cm (31 in.). The profile was basinated with a basinated subfeature of dark grey-brown silt/charcoal above a dark grey loam feature fill. It had an overall depth of 13 cm (5 in.). There were no cultural materials in the feature.

PAF archaeologists investigated fifty-three “spots” or small circular stains that had the potential to be postmolds (Figure 2). Of these, twenty-three had characteristics which warranted calling them “probable postmolds,” and of these, ten could be labeled “postmolds.” The remainder were clearly root stains or rodent burrows. The postmolds had diameters between 10-15 cm (4-6 in.) and depths between 15-20 cm (6-8 in.). They were pointed or conical in profile. Their fill consisted of dark grey-brown silty sand with occasional flecks of charcoal and rocks possibly used for chinking. The postmolds revealed no clear structure patterns.

The Plus site cultural features covered an area of approximately 531 m² (5712 ft.²), or 0.05 ha (0.1 ac). The majority of the features appear to be hearths clustered in what appears to be a discrete activity or habitation area. They do not appear to be lineally oriented, diminishing the possibility that they belong to a truncated longhouse. Feature 1 is a unique storage/refuse feature which is offset to the southwest of the primary hearth cluster. Feature 50 is somewhat removed from the primary feature cluster, and may represent an outlying activity area, although no indication of cultural activity was documented in or around this feature. None of the features overlaps one another, suggesting a single component occupation. This does not rule out the possibility that the Plus site may have been returned to within the temporal bracket suggested by the late Oak Hill/early Chance Phase ceramic assemblage. Additional activity areas may lie to the north in uninvestigated areas, while a large portion of the site appears to have been destroyed by highway construction.

The location of the Plus site is intriguing for it seems to lie adjacent to a documented historical aboriginal trail (Norris, 1969), now forming the modern-day route of NY 13. Ramsden (1978) has argued that late prehistoric and early historic settlement location was guided more by commerce than by resource access or concerns for defense. Routes of travel wound along streams and hill-tops, following paths of easy walking. They were likely to have been used over generations and some likely have great antiquity. Many ancient trails were improved by Europeans because of their utility, and some like State Route 13 have even survived today as state highways. Regular access to remote procurement sites

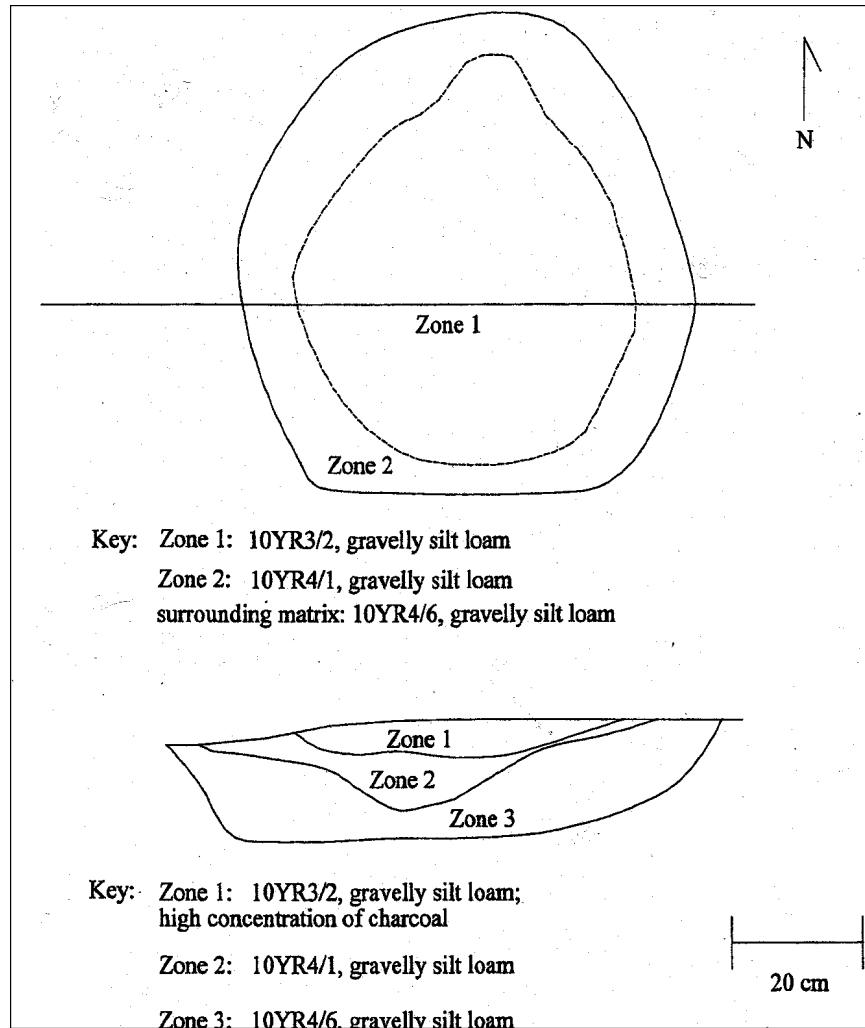


Figure 5. Feature 50 plan and profile showing typical hearth profile.

such as Plus was probably facilitated by these trails as well. If this is the case, Plus site is undoubtedly only one example, and similar remote sites might be common on this and/or other historically-documented aboriginal trails. Since many of the early historic interstate routes followed these aboriginal trails, highway corridor surveys may play a prominent role in locating more sites like Plus, filling a documentary void in seasonal and remote site data for Iroquoian settlement patterns.

MATERIAL CULTURE

Lithics

Late Woodland lithic assemblages have often been described as being dominated by flake debitage, while the absence of formal tools commonly receives special attention (e.g., Braun, 1988). With the widening use of microwear analysis, formal flake tools are being increasingly identified in Midwestern Woodland and Mississippian lithic assemblages (Keeley, 1980; Odell, 1982, 1985, 1996). These techniques have been slowly introduced in the Northeast, showing similar results (Montag, 1998; Versaggi, 1996).

Lithic analyses were performed for the Public Archaeology Facility by Melody Pope of Binghamton University, New York and Wilbur Smith and Associates, Kentucky. Twenty-four lithic artifacts were recovered from the Plus site investigations, most of which were derived from Feature 1, the large storage/refuse pit. These included a sandstone chopper or abrader, a granite celt, and twenty-two pieces of chert (Figure 6). All the chert specimens were subjected to lithic microwear analysis to augment functional identification. The microwear analysis followed the methods and approach outlined by Keeley (1980), Vaughan (1985), and Juel Jensen (1994). The specimens were first cleaned with mild detergent and warm water prior to microscopic examination. Alcohol was used to remove finger grease. Wear identifications were made using a Hund Wetzlar H600 metallurgical microscope with a magnification range of 50-400x (Abel et al., 2000).

Surprisingly, nearly all the flakes showed traces of use-wear, suggesting their use as formal tools rather than simply being the byproducts of tool manufacture (Tables 2 and 3). Of the twenty-two analyzed specimens, the overwhelming majority were identified as non-cortical flakes, while cortical flakes, bipolar flakes, non-cortical chunks, and shatter made up the remaining functional categories. Only two specimens, both pieces of chert shatter, showed no traces of use-wear. These, in addition to a non-cortical chunk, are the only specimens positively identified as tool manufacture byproducts. The remaining specimens, all flakes, made up a tool kit consisting of five possible flake projectile point tips (Figure 6), processing tools, and edge tools. Flake projectile point tips have heretofore only been identified in Late Archaic assemblages in the Midwest (Odell, 1988, 1996). They have not been previously identified for Late Woodland lithic assemblages anywhere, and thus more microwear analysis of Late Woodland stone tool assemblages is required before their existence at the Plus site can be supported. The bulk of the tools ($n = 11$) appear to be processing tools used on a variety of resources characterized generally as hard ($n = 6$) and soft ($n = 5$).

All the chert specimens are derived from the Onondaga chert source. The likely origin of the chert is to be found in the soils of the Plus site, which contain small to medium-sized nodules and cobbles of Onondaga chert. Evidence for bipolar



Figure 6. Some lithic artifacts from the Plus site.

reduction in the Plus site lithic assemblage (Abel et al., 2000) suggests an expedient lithic technology in which chert was procured, reduced, used, and discarded on site. Such a technology has been shown in ethnographic and ethnoarchaeological studies to be typical of semi-sedentary societies (Binford and Binford, 1969; Binford, 1979; Odell, 1996).

Pottery

The largest artifact assemblage derived from the Plus site is the ceramic assemblage, and it is derived almost entirely from feature contexts. The assemblage consists of 248 sherds representing a minimum of five vessels (Abel et al., 2000; Tables 4 and 5). Of these sherds, seventy-two or 29 percent are unanalyzable, being too small or having damaged surfaces. The largest portion of the sherds (42%; $n = 104$) are body sherds, all of which are grit-tempered, and most of which

Table 2. Frequency Distribution of Morphology for Used Flakes

Morphology	<i>n</i>	%
Noncortical flake	14	70
Cortical flake	2	10
Bipolar flake	1	2
Noncortical chunk	1	5
Shatter	2	10
TOTAL	20	100

Table 3. Frequency Distribution of Flakes by Activity Category

Activity Category	<i>n</i>	%
Projectile tip	5	23
Processing tool		
Hard	6	27
Soft	5	23
Tool edge fragment/ Sharpening flake	4	18
Not used	2	9
TOTAL	22	100

(83%; $n = 86$) are smoothed cord-roughened with smooth interiors. The next largest category is smooth undecorated body sherds with smoothed interiors, which account for 12 percent ($n = 13$) of the body sherds. Four body sherds are cord-marked, and one is punctated over smooth surface treatment. Cord-marked body treatment is indicative of the Owasco period in Iroquois development, and begins to decline during the Early Iroquois time period, which Niemczycki (1984) dates between A.D. 1300 and 1400 in the Seneca-Cayuga ceramic tradition. Cord-marked body treatment is gradually replaced by smoothed body treatment during the Middle Iroquois period, which Niemczycki (1984) equates with the Chance phase (ca. A.D. 1400-1500). Given the high percentage of cord-marked and cord-roughened sherds, a date in the Early Iroquois time period (A.D. 1300-1400) is suggested. Only one shoulder sherd was found. It displays a smoothed cord-roughened exterior and a smoothed interior.

Forty-one necksherds were identified, comprising 17 percent of the ceramic assemblage. Approximately half ($n = 22$) of the necksherds display a smoothed plain exterior with smooth interior, while the other half ($n = 19$) display incising

Table 4. Summary of Sherd Recovery

Sherds	Number	Frequency
Body	103	42%
Shoulder	1	0%
Neck	41	17%
Collar	24	10%
Rim	7	3%
Unanalyzable	72	29%
TOTAL	248	101%

Table 5. Summary of Body Surface Treatments

Surface Treatment	Number	Frequency
Smooth	30	12%
Smoothed corded	196	79%
Corded	4	2%
Punctate-smooth	1	0%
Unanalyzable	17	7%
TOTAL	248	100%

over a smooth exterior with smooth interiors. These are consistent with the Early Iroquois (A.D. 1300-1400) ceramic series (Niemczycki, 1984).

Twenty-four collar sherds comprised 10 percent of the overall assemblage. All collars are grit-tempered, with twenty (79%) displaying incised motifs. The remaining sherds display a smooth undecorated exterior. The interiors are all smooth. Incised motifs begin to appear in the Early Iroquois series (A.D. 1300-1400), but are more indicative of the Middle Iroquois ceramic series, which can be equated with the Chance phase (A.D. 1400-1500) (Niemczycki, 1984).

Six rimsherds comprise only 3 percent of the ceramic assemblage. The overwhelming majority of them (88%) are characterized by incised motifs, while the remaining rim is undecorated. The collars are characteristically low, which may simply be a function of vessel size. On the other hand, there is a low-collar horizon in the Seneca-Cayuga ceramic tradition which dates to the Early Iroquois time period (A.D. 1300-1400) (Niemczycki, 1984). The low collars, combined with the high frequency of cord-marked and cord-roughened bodysherds, seems to support a temporal placement in the Early Iroquois time period (A.D. 1300-1400).

The typeable vessels ($n = 5$) were classified according to definitions established by MacNeish (1952) and refined by DeOrio (1980) and Niemczycki (1984). The

classifications were made based on Niemczycki's suggestion that there is no significance to the differentiation of the Richmond Incised type as defined by MacNeish from the Cayuga Horizontal type. Therefore, all horizontal and oblique-incised sherds were typed as Richmond Incised. The typological analysis resulted in the identification of three Richmond Incised vessels and two Dutch Hollow Notched vessels (Figure 7). Both the Richmond Incised and Dutch Hollow Notched types are present in the later Early Iroquois (A.D. 1350-1400) series of the Seneca-Cayuga ceramic tradition, although they are more popular during the subsequent Middle Iroquois period (A.D. 1400-1500) (Niemczycki, 1984).

Based on the seriation of ceramic attributes exhibited by the assemblage, the Plus site is estimated to date to the latter half of the Early Iroquois time period, as defined by Niemczycki (1984), or ca. A.D. 1350-1400. This corresponds roughly to the late Oak Hill phase in the Ritchie-Lenig chronology (cf. Lenig, 1965; Ritchie, 1980).

A comparison of the Plus site ceramics was made with the assistance of Mr. Bob DeOrio, an avocational archaeologist and member of the New York State Archaeological Association, who has done extensive research on the Cayuga sites east of Cayuga Lake (DeOrio, 1977; 1980). Ceramic collections from late fourteenth/early fifteenth century sites including Mahaney, Weir, Cato, Great



Figure 7. Richmond Incised and Dutch Hollow Notched sherds.

Gully Fort, and Klinko were specifically examined for their content of Oak Hill Horizon corded wares and Iroquois Series ceramics displaying corded body treatment. The Plus site had no Oak Hill Horizon wares, but does contain a large percentage of cord-roughened body sherds. Of the collections examined, the Klinko and Weir sites appeared to have the lowest percentages of Oak Hill wares, suggesting that the Plus site ceramic series might better represent the mid-late fifteenth century. In contrast, however, these sites appeared to have the lowest percentages of corded-body wares in contrast to mid-late fourteenth century sites like Underwood and Mahaney. In this case, the body treatment appears to be more of a temporal marker than does the rim attributes, again making it probable that the Plus site dates to the late fourteenth century, and not later as suggested by the vessel type assemblage.

SITE SUBSISTENCE

Site subsistence was determined early in the project to be a critical factor in determining the function of the Plus site, given its paucity of artifactual material and its remoteness from known Cayuga population clusters (Weiskotten, 1997b). Special care was taken during the data recovery excavation to preserve faunal specimens and collect adequate soil samples for the flotation of floral assemblages. Generally, these assemblages were well preserved in the glacial till soils of the site.

Faunal Analysis

All of the faunal material was derived from Feature 1 (Abel et al., 2000; Table 6). Of the 163 faunal specimens analyzed, 81 (50%) could be reliably assigned to the taxon *Odocoileus virginianus*, or white-tailed deer. Forty-six (28%) could be identified to the taxon *Mammalia*. Seventeen (10%) could be identified only as artiodactyl, or browsing animals (probably deer), and the remainder (12%) could not be identified. The deer remains represented a minimum of two individuals. A portion analysis of the deer specimens (including those identified as deer and artiodactyls) reveals that nearly all segments of the deer are represented. Cut marks were observed on three specimens, while burning was observed on nine of the specimens.

Botanical Analysis

In the PAF laboratory, soil samples were separated by water flotation. Botanical remains recovered by flotation from ten Plus site features were submitted to Nancy Asch Sidell for analysis. In the archaeobotanical laboratory, the botanical samples were sieved through graduated screens of 4, 2, 1, and 0.5 mm. Contaminants were removed from each sample under magnification. The samples were then

Table 6. Summary of Plus Site
Faunal Assemblage

Taxon	NISP	Frequency
<i>Odocoileus virginianus</i>	81	50
<i>Mammalia</i>	46	28
Artiodactyls	17	10
Unidentified	19	12
TOTAL	163	100

subdivided to minimize sampling bias while conserving time and money (Tables 7 through 9).

Charcoal from the site was analyzed by size. Fragments larger than 2 mm were sorted and quantified by counting. Charcoal smaller than 2 mm was scanned for the presence of rare or underrepresented categories, and all seeds were removed. Large samples were subsampled to reduce bulk. One sample was selected from each level of Feature 1, and from each of the nine remaining features. For wood charcoal, the objective was to identify twenty fragments larger than 2 mm per sample or thirty fragments per sample with a great variety of types.

The preferred wood at the Plus site was pine (*Pinus* spp.), representing over 40 percent of the identified specimens. Pine was followed in frequency by maple (*Acer* spp.), primarily sugar maple (*Acer saccharum*), and beech (*Fagus grandifolia*). Minor frequencies of ironwood (*Ostrya virginiana*), ash (*Fraxinus* spp.), birch (*Betula* spp.), elm (*Ulmus* spp.), and hawthorn were also identified. These trees are all common to the area. The presence of hawthorn may suggest a forest clearing on or in proximity to the Plus site. The bark lense within Feature 1 was identified as pine (*Pinus* spp.).

The assemblage of nuts at the Plus site was extremely impoverished. As a percentage of the total botanical assemblage, nutshell and nutmeat represented only a trace. The samples are derived predominantly from Feature 1, which produced two specimens of butternut. Feature 10 produced one specimen of hickory nut.

Domesticated species at the Plus site included maize (*Zea mays*), sunflower (*Helianthus annuus*), and wheat (*Triticum aestivum*). The latter, which was derived predominantly from Feature 7, the rodent burrow in the side of Feature 1, is considered to be a modern intrusion. The maize was found in minor quantities in six of the ten features analyzed, and consisted of six kernels and two cupules. The majority of the maize was found in Feature 1. The single specimen of sunflower was found in Feature 7, but is considered to have possibly been redeposited from Feature 1.

The carbonized non-domesticated seeds are dominated by the intrusive species dock (*Rumex* spp.), which was derived primarily from Feature 7. The second most

Table 7. Plus Site: Carbonized Seeds

	1	2	3	4	5	6	7(=1)	10	11	50	Total
SEED IDENTIFICATIONS											
<i>Acer</i> spp., maple	1	—	—	—	—	—	—	—	—	—	1
<i>Amaranthus</i> spp., amaranth	—	—	—	—	—	—	1	—	—	—	1
Asteraceae, composite family	1	—	—	—	—	—	—	—	—	—	1
<i>Helianthus annuus</i> , sunflower	—	—	—	—	—	—	1	—	—	—	1
<i>Phytolacca americana</i> , pokeweed	—	—	—	—	—	—	1	—	—	—	1
Poaceae, grass family	6	—	—	—	—	—	1	—	—	—	7
<i>Pinus</i> spp., pine	1	—	—	—	—	—	—	—	—	—	1
<i>Rubus</i> spp., raspberry, dewberry	3	—	2	—	—	16	10	8	3	2	44
<i>Rubus</i> spp., dock	8	—	—	—	—	—	86	—	—	—	94
<i>Triticum aestivum</i> , wheat	1	—	—	—	—	—	1	—	—	—	2
Type NS-3	1	—	—	—	—	—	—	—	—	—	1
Unidentifiable	4	—	—	—	—	3	—	3	2	—	12
Total	26	—	2	—	—	19	101	11	5	2	166
SUMMARY STATISTICS											
Estimated total seeds	29	—	2	—	—	19	362	11	5	2	427
Total charcoal (g)	1336	46.3	15.6	11.6	47.3	5.6	438.7	39.6	267.4	3.3	2212
Seed index	0.02	—	0.13	—	—	3.39	0.83	0.26	0.02	0.61	0.19

Note: Index = number seeds >0.5 mm/g total charcoal.

Table 8. Plus Site: Selected Carbonized Seeds

	1	2	3	4	5	6	10	11	50	Total
SEED IDENTIFICATIONS										
<i>Acer</i> spp., maple	1	—	—	—	—	—	—	—	—	1
Asteraceae, composite family	1	—	—	—	—	—	—	—	—	1
<i>Pinus</i> spp., pine	1	—	—	—	—	—	—	—	—	1
<i>Rubus</i> spp., raspberry, dewberry	2	—	2	—	—	16	8	3	2	33
Type NS-3	1	—	—	—	—	—	—	—	—	1
Unidentifiable	3	—	—	—	—	3	3	2	—	11
Total	9	—	2	—	—	19	11	5	2	48
SUMMARY STATISTICS										
Estimated total seeds	12	—	2	—	—	19	11	5	2	51
Total charcoal examined (g)	1263.9	46.3	15.6	11.6	47.3	5.6	39.6	267.4	3.3	1701
Seed index	0.01	—	0.13	—	—	3.39	0.26	0.02	0.61	0.03

Note: Index = number seeds >0.5 mm/g total charcoal.

Table 9. Plus Site: Economic Categories of Seeds

	Percentage
Fleshy fruits (blackberry/raspberry/dewberry)	68.75
Other (composite family, maple, pine, Type NS-3, unknown/unidentifiable)	31.25
Total	100.00

predominant taxon is the genus *Rubus*, comprised of raspberry, dewberry, and blackberry. While these may be partially intrusive, their inclusion in undisturbed contexts as well as Features 1 and 7, argues that at least some are associated with the Late Woodland component. Unidentifiable seeds made up the third largest component, followed by presences of maple (*Acer* spp.), amaranth (*Amaranthus* spp.), composite family (Asteraceae), pokeweed (*Phytolacca americana*), grass family (Poaceae), pine (*Pinus* spp.), and seed type NS-3 (Abel et al., 2000). Of these, maple, composites, pine, and Type NS-3 are probably associated with the Late Woodland component. The fleshy fruit seeds (*Rubus* spp.) make up the only likely food-related remains, while the others may have satisfied non-subsistence economic functions.

Subsistence Pattern

At the time of the Plus site occupation, Iroquois populations were fully dependent on a maize/squash/bean agriculturally-based economy. Agriculture was supplemented primarily by fishing during the spring and fall spawns, deer drives, and nut collecting during the fall, and opportunistic foraging during all other seasons (Fenton, 1978). According to historic analogs, farming may have accounted for three-quarters of the total dietary intake, although there was undoubtedly a heavy bias among Europeans to document farming practices (Trigger, 1990). Stable carbon isotope ratios obtained from prehistoric Iroquoians suggest a moderate intake of maize in the diet (Vogel and Merwe, 1977). The Plus site floral remains reflect a small subset of this subsistence strategy, with examples of maize recovered from several features.

The identifiable faunal remains from the Plus site consisted exclusively of deer, which suggests that the Plus site was a remote camp used primarily for deer hunting. This interpretation is further supported by the presence of several cut and burned faunal specimens. In such a remote situation the carcasses were likely processed into meat portions to reduce the weight that had to be carried back to the

village. The meat had to be dried or at least smoked to retard spoilage and infestation during the return trip (Tooker, 1964:70). The Plus site was located 17 km (11 mi.), one to three days walk from the nearest Cayuga villages.

The woods selected for use at the Plus site are predictable. White pine was among the trees most important to Iroquois society, being venerated in both myth and song (Fenton, 1978). The variety of hardwoods found in Layer 6 of Feature 1 and in the hearths was likely collected from the surrounding forest.

The seed remains reflect a selected diet atypical of that which would be expected from a village site. Berries made up the bulk of the food plants recovered, followed by maize, sunflower, butternut, and hickory nut. Berries may have been derived from fresh fruit picked near the site in the late spring, or from pemmican, a dried fruit, meat, and nut trail mix. Hunters always carried with them a supply of maize (Fenton, 1978:298; Parker, 1910). Sunflower was grown primarily for its oil, but was also used in place of nuts for a high energy supplement food. Nuts, while they may have been dried from the year previous, are also a fall food, and may have been collected from the Plus site vicinity during the occupation. Hunters traveling to remote hunting sites may be expected to have brought provisions with them, perhaps in ceramic pottery vessels. To retard spoilage and keep predators out of the food provisions, the Iroquois cached their food in the rafters of their houses, or in large bark-lined pits, like the one documented at the Plus site.

The relative paucity of food remains suggests that the Plus site was a temporary occupation. The lack of beans and squash suggests that it was not occupied for the primary purpose of tending remote agricultural fields. The lack of permanent structures also supports this conclusion. The brambles, if they were eaten in season, with the hawthorn remains, suggest that there were openings in the forest which in addition to providing fruits and nuts would have made the area especially appealing to deer, making the Plus site environment ideal for hunting.

DATING

Three efforts were made to obtain chronometric estimates of the Plus site's age. The first of these was done using the thermoluminescence (TL) technique on ceramic pottery (Feathers, 1997), while the remaining two attempts were done using standard radiocarbon dating. The TL dating was performed by the University of Washington's Luminescence Dating Laboratory in Seattle. The radiocarbon assays were run by Beta Analytic, Inc. of Coral Gables, Florida.

Two mendable ceramic sherds from a single Richmond Incised vessel were submitted to the University of Washington's Luminescence Dating Laboratory. Sherds from the same vessel were selected to ensure accuracy. They were both derived from the basal layer of Feature 1, and dated as a whole, rather than separately. The two sherds taken together did not provide enough material for analysis. Therefore, two methods, the slide and SARA (single aliquot regeneration analysis) methods, were used to determine an average age for the sample. Using

the slide/SARA averaging method, the sample returned an age of A.D. 1270 ± 104 years at 1 sigma. Using the SARA method alone, which requires a smaller sample, but is less precise, the sample produced an age of A.D. 1333 ± 60 at 1 sigma. The lower 1 sigma deviation of the SARA-derived age is due to the small sample size. Regardless, this age is much more congruent with the ceramic seriation estimate than is the slide/SARA average date.

Two carbonized wood samples were sent to Beta Analytic, Inc of Coral Gables, Florida, standard radiocarbon dating. The first sample was of charred logs from Layer 3 of Feature 1. The second sample was derived from a charred log that was excavated from Layer 5 of that same feature. Both samples were dried but not pre-cleaned of rootlets or other contaminants. The latter procedure was, however, undertaken at Beta Analytic. The first sample, Feature 1 Layer 3, returned an assay of 100 ± 50 BP (Beta-130631). When calibrated using INTCAL98 (Stuiver and Plicht, 1998), the resultant calendrical date was A.D. 1665 (1705, 1715, 1885, 1910, 1950) 1955 at 2 sigma. The second sample, Feature 1 Layer 5, produced an assay of 60 ± 50 BP (Beta 130632), which calibrates to A.D. 1680 (1955) 1955.

The thermoluminescence date from the Plus site of A.D. 1333 ± 60 is consistent with ceramic seriation estimates, the latter of which suggested a date in the late part of the fourteenth century. The two radiocarbon attempts appear to have failed, presumably due to an erroneous association. Both of the radiocarbon assays, which are far too recent, appear to suggest that the wood charcoal submitted for dating was derived from a modern burned log, possibly thrown down a burrow in an effort to drive a rodent from its den. It was known that Feature 1 had been disturbed by a rodent burrow that introduced foreign material into a portion of that feature. It was believed, however, that these samples were from undisturbed contexts representing a roasting platform. Based on a corroboration of the ceramic seriation and TL data, a late fourteenth-early fifteenth century temporal placement for the Plus site seems justified.

INTERPRETATION

Iroquois settlement has been a primary research topic since the 1950s (Ritchie, 1956; Ritchie and Funk, 1973). The emphasis of this research, however, has been on the archaeological delineation of the Five Nations, their village sequences, and their external relationships (Whallon, 1968; Engelbrecht, 1985; Niemczycki, 1984; Tuck, 1971). There has been surprisingly little research done to document extra-village site types, though as noted above, they were an integral part of village life. Though Ritchie and Funk (1973:359) proposed several Iroquois site types including villages, hamlets, recurrent camps, temporary camps, ceremonial camps, cemeteries, and workshops, it appears that only the first three of these have been represented by archaeological examples. By far the best documented of these are the villages (Ritchie and Funk, 1973; Tuck, 1971; Bradley, 1987; Snow, 1995; Niemczycki, 1984; Wray and Schoff, 1953; Wray et al., 1987; Wray et al.,

1991; Pratt, 1976; Funk, 1973), followed by hamlets (*ibid.*), and far behind by recurrent (mostly fishing) camps (Weinman, 1982; Bradley, 1987). The remainder, it seems, have fallen through the screen, so to speak, and are at best theoretical.

Stemming from the overwhelming focus of archaeological research on Iroquois villages and hamlets, their role in the overall economy has been over emphasized (Williamson, 1990:312). While it may be true that agricultural pursuits were the most labor intensive, they were only part of a seasonal round which took Iroquois people away from villages for much of the year. The Huron spent much of their time away from the villages hunting, farming, trading, gathering, and warring (Heidenreich, 1971; Tooker, 1964; Trigger, 1990). The Iroquois, too, seem to have spent a great deal of time away from their villages (Morgan, 1954(1851):347). It is thus surprising that extra-village sites have received such little attention from the archaeological community.

The data derived from the PAF investigation of the Plus site seem to suggest that it represents a temporary camp (Ritchie and Funk, 1973). It appears to have specifically functioned as a remote hunting camp at which deer were taken and processed for transport back to the village. Upon their arrival the Plus site occupants may have cleared thicket and perhaps cut firewood with the celt found at the periphery of the occupied area. The remains of at least two deer were found in Feature 1, along with pottery and an assemblage of flake tools used to process both hard and soft materials. The use-wear is entirely consistent with cutting meat, separating joints, and perhaps scraping bone.

There are few examples of intensively-investigated special-purpose, remote Iroquoian campsites published in the archaeological literature of the Northeast to which we can compare the Plus site. An exception is the Finch site (AeHg-58), located on West Catfish Creek in south-central peninsular Ontario (Pihl and Thomas, 1997). This site was investigated in 1989 by Archaeological Services, Inc. for Ontario Hydro. The archaeological remains consisted of a thin sheet midden, a few scattered postmolds, and several small pit-like depressions. The midden was the primary context of the over 6,000 artifacts, including ceramic, lithic, faunal, and floral assemblages. The unmodified faunal assemblage consisted predominantly of fish and mammals, with a notably lower frequency of birds and invertebrates. The majority of the identified fish remains belonged to the sauger family, which spawn in the creek annually. The majority of the identified mammals were deer, muskrat, and squirrel. The distribution of the faunal remains suggested multiple discrete activity areas. The floral assemblage consisted of maize, beans, sunflower, tobacco, pincherry, plum, and acorn nutshell. The Finch site is believed on the basis of ceramic seriation to date between ca. A.D. 1400-1450. It is located approximately 10 km (6 mi.) from the nearest population cluster in the lower Catfish Creek drainage.

The Plus site differs from Finch in many ways, further supporting its interpretation of a remote hunting camp. The first difference is in location. The Plus site,

unlike Finch, is located in the interior, somewhat removed from any stream that would have harbored fish. The Finch site's location proximate to a stream explains well its abundance of fish remains. The artifact density as well as settlement pattern at the Finch site suggest multiple reoccupations, while the paucity of artifacts and settlement patterns at the Plus site argue for a more limited occupation. The settlement pattern, low artifact density, and ceramic assemblage suggest the Plus site was occupied only for a short period.

Based on current knowledge, the Plus site is the only Iroquois component known in the Town of Dryden. This situation likely reflects sampling biases, but if it is typical of the Iroquois occupations in the Fall/Virgil Creek Valley, however, the nature of the Plus site, being a remote camp, suggests that the area functioned as a periphery to one or more of the Five Nations homelands. As a periphery, the area would have been used for resource procurement, especially when resources from more proximate locales had been exhausted. In such a remote situation, the location of the Plus site may have been influenced by accessibility. The transportation of distant resources back to the village was facilitated by well-worn trails, some of which may have had great antiquity. Norris (1969) documents that NY 13 is derived from one such trail, and it is conceivable that this trail may have been in existence at the time of the Plus site occupation. It is enticing to suggest that this trail may have facilitated the transport of remotely-procured and processed resources from the Plus site.

The Plus site lies closest to the homeland of the Cayuga tribe. There are two known village clusters, one of which is located at the heel of Cayuga Lake along Taughannock Creek, about 17 km (11 mi.) distant. The other is located on the east side of Cayuga Lake, about 20 km (13 mi.) distant (Figure 3). According to the chronology of Cayuga settlement established by DeOrio (1977, 1980) and Niemczycki (1984), all of the pre-1400 Cayuga settlements occurred east of Cayuga Lake. After A.D. 1400, there was a fission of the Cayuga tribe during which settlements began to appear west of Cayuga Lake. The Plus site appears to be temporally coeval with at least three late fourteenth century village components, of which the most proximate is the Mahaney site, located on the east side of Cayuga Lake and investigated by Marian White between 1969 and 1971 (cf. Niemczycki, 1984:19, 93). Ceramic comparisons between the Plus site and late fourteenth century sites including Mahaney, Weir, and Great Gully Fort confirm this placement, both having large percentages of corded-body wares.

The investigated area was occupied during the early Iroquois time period (ca. A.D. 1350-1400). The lack of overlapping features suggests that the site is single component, although it is conceivable that the site may have been revisited periodically, and the area investigated represents one of several discrete activity areas on the site. Evidence of other activity areas may lie to the north of the project boundary and may have also existed in the NY 13 right-of-way before grading began in the early part of this century. These areas were not investigated since they were in one case outside the project area limits, and in the other, likely obliterated

by road construction. Niemczycki (1984) characterizes the Early Iroquois time period as one of transition during which large two-acre villages, proto-longhouses, and associated cemeteries appear. Populations were consolidating from several smaller dispersed villages into larger centralized villages. Few camps are known from this time period, which is likely a product of research biases. The few that are known are predominantly fishing camps.

The transition to consolidated villages would have involved a number of logistical difficulties. Resources in the area immediately adjacent to the village would have been depleted rapidly, making forays to remote locations a more frequent necessity as the village occupation continued. A pattern of fortified villages, ringed by smaller villages and hamlets would have emerged along with a periphery or frontier that was a highly dangerous yet necessary part of the village catchment area. It was dangerous because it was very lightly, if at all defended. Ambushes were likely a constant threat in these remote situations, especially along well-established trails. Peripheries were necessary, however, to supply the population center with needed protein supplements, which were consumed at an exponentially increased rate following village consolidation.

The remote camp, then, was likely an integral part of the Iroquois economy and without them, villages could not have existed. The misery created by malnutrition, starvation, and lack of raw materials would have quickly dissolved the village again into dispersed autonomous communities. With such importance, it is curious why remote sites would be nearly ignored by researchers in favor of village sites. Given the aims of the archaeology of the last forty years, however, it is not surprising that such has occurred. The chronological and cultural data needed for tracing the development of the Five Nations tribes are more plentiful at major residential sites, and the fact that many villages are single component gives researchers the added benefit of being able to encapsulate discrete temporal periods. We have realized only in the last decade or so, that extra-village camps are an integral part of Iroquois settlement-subsistence and exploring them is necessary to fully understanding the prehistoric Iroquois.

CONCLUSIONS

The nature of Iroquois extra-village settlement is still a very neglected aspect of New York State archaeology. Though given a place in the Iroquois settlement-subsistence system surprisingly few sites have been investigated. The investigations of the Plus site have shown us a detailed picture of what one type of extra-village site, the remote temporary camp, might look like. Future investigations will undoubtedly result in the documentation of additional site types, culminating ultimately in a more rounded understanding of past Iroquois lifeways. The Plus site investigations have also provided a comparative database that will allow us to better interpret these site types in the future.

ACKNOWLEDGMENTS

A number of individuals and organizations are thanked for their contributions in bringing this investigation to successful conclusion. Professional guidance was provided by the New York State Museum and the State Historic Preservation Office, Office of Parks, Recreation, and Historic Preservation. The Plus site investigations were supervised by Nina Versaggi, Director of the Public Archaeology Facility, Binghamton University, Binghamton, New York. The administrative director for the project was Maria Pezzutti. The project directors were myself and Daniel H. Weiskotten, and the field supervisor was Brian Grills. The fieldwork was performed by Charles Arney, Jen Bonner, Julia Gaines, Warren Goodrich, Sara Hecht, Peter Killoran, Amy Mann, Laurie Miroff, Tyler O'Brien, Mike Rudler, Jimmy Shryver, and Robert Wurst, all of the Public Archaeology Facility. The laboratory processing was directed by Janna Rudler, and artifact analyses were performed by myself, Daniel Weiskotten, Tim Knapp, Melody Pope, Janna Rudler, and Nancy Asch Sidell. The figures that accompany this article were prepared by myself, Daniel Weiskotten, and Laurie Miroff. Finally, comments on earlier drafts of this article were provided by Nina Versaggi, Daniel Weiskotten, and the editor, however, any errors or omissions are solely the author's responsibility.

REFERENCES CITED

- ABEL, TIMOTHY J., DANIEL H. WEISKOTTEN, MELODY POPE,
and NANCY ASCH SIDEL
2000 *Cultural Resource Management Report, 1999-2000 Highway Program: Addendum Site Examination and Data Recovery, Plus Site (SUBi-1736, NYSM #10494), PIN 3057.36.121, Town of Dryden, Tompkins County, NY, MCD 10903*, unpublished report submitted to the State Education Department, New York State Museum on behalf of the New York State Department of Transportation, Public Archaeology Facility, Binghamton University, Binghamton, New York.
- BINFORD, LEWIS R.
1979 Organization and Formation Process: Looking at Curated Stone Technologies, *Journal of Anthropological Research*, 35, pp. 255-273.
- BINFORD, SALLY R. and LEWIS R. BINFORD
1969 Stone Tools and Human Behavior, *Scientific American*, 220:4, pp. 70-83.
- BRADLEY, JAMES W.
1987 *Evolution of the Onondaga Iroquois: Accommodating Change, 1500-1655*, Syracuse University Press, Syracuse.
- BRAUN, DAVID P.
1988 The Social and Technological Roots of "Late Woodland," in *Interpretations of Culture Change in the Eastern Woodlands During the Late Woodland Period*, W. Yerkes (ed.), Occasional Papers in Anthropology Number 3,

- Department of Anthropology, The Ohio State University, Columbus, pp. 17-38.
- DEORIO, ROBERT N.
 1977 *Perspectives on Early Iroquois Acculturation: The Cayuga*, paper presented at the Annual New York State Archaeological Association Meeting, Long Island, New York.
 1980 Perspectives on the Prehistoric Cayuga, Post Owasco Tradition, Through the Correlation of Ceramic Types with Area Development, *Proceedings of the 1979 Iroquois Pottery Conference*, C. F. Hayes III (ed.), Rochester Museum and Science Center, Research Records, 13, pp. 65-85.
- ENGELBRECHT, WILLIAM E.
 1985 New York Iroquois Political Development, in *Cultures in Contact: The European Impact on Native Cultural Institutions in Eastern North America, A.D. 1000-1800*, W. N. Fitzhugh (ed.), Smithsonian Institution Press, Washington, D.C., pp. 163-183.
- FEATHERS, JAMES
 1997 The Application of Luminescence Dating in American Archaeology, *Journal of Archaeological Method and Theory*, 4, pp. 1-67.
- FENTON, WILLIAM N.
 1978 Northern Iroquoian Culture Patterns, in *Handbook of North American Indians, Vol. 15: Northeast*, B. Trigger (ed.), Smithsonian Institution, Washington, D.C., pp. 296-321.
- FUNK, ROBERT E.
 1973 The Garoga Site (Las. 7), in *Aboriginal Settlement Patterns in the Northeast*, W. A. Ritchie and R. E. Funk (eds.), Memoir 20, New York State Museum and Science Service, Albany, pp. 313-332.
- HATCH, JAMES A. and CHRISTOPHER M. STEVENSON
 1980 A Functional Analysis of Fisher Farm Features, in *The Fisher Farm Site: A Late Woodland Hamlet in Context*, J. W. Hatch (ed.), Occasional Papers 12, The Pennsylvania State University, Department of Anthropology, University Park, Pennsylvania, pp. 140-170.
- HEIDENREICH, CONRAD E.
 1971 *Huron: A History and Geography of the Huron Indians 1600-1650*, McClelland and Stewart, Toronto.
- JUEL JENSEN, HELLE
 1994 *Flint Tools and Plant Working*, Aarhus University Press, Aarhus, Denmark.
- KEELEY, L. H.
 1980 *Experimental Determination of Stone Tool Uses: A Microwear Analysis*, University of Chicago Press, Chicago.
- KENYON, IAN T. and PAUL A. LENNOX
 1997 Missing the Point: A Consideration of Small Sites Archaeology, in *Home is Where the Hearth Is: The Contribution of Small Sites to Our Understanding of Ontario's Past*, J.-L. Pilon and R. Perkins (eds.), The Ottawa Chapter of the Ontario Archaeological Society, Ottawa, pp. 3-11.
- LAFITAU, J.
 1724 *Moeurs des Sauvages Amériquains Comparées aux Moeurs des Premiers Temps.*, Saugrain l'aîné, Paris.

LENIG, DONALD

- 1965 *The Oak Hill Horizon and Its Relation to the Development of Five Nations Iroquois Culture*, Researches and Transactions of the New York State Archeological Association 15, Albany.

LENNOX, PAUL A.

- 1997 Small Sites Archaeology: Bigger is Better? or Site Significance is Not Always a Function of Baseline Length, in *Home is Where the Hearth Is: The Contribution of Small Sites or Our Understanding of Ontario's Past*, J.-L. Pilon and R. Perkins (eds.), The Ottawa Chapter of the Ontario Archaeological Society, Ottawa, pp. 12-24.

MACNEISH, RICHARD S.

- 1952 *Iroquois Pottery Types: A Technique for the Study of Prehistory*, National Museum of Canada, Bulletin 124, Ottawa.

MOELLER, ROGER

- 1992 *Analyzing and Interpreting Late Woodland Features*, Occasional Papers in Northeastern Anthropology 12, Archaeological Services, Bethlehem, Connecticut.

MONTAG, MICHELLE

- 1998 *The Organization of Lithic Technology During the Owasco Period: An Analysis and Reassessment*, unpublished Master of Arts Thesis, Department of Anthropology, Binghamton University, Binghamton, New York.

MORGAN, LEWIS H.

- 1954 *League of the Ho-de-no-sau-nee or Iroquois*, Human Relations Area Files, (1851) New Haven.

NIEMCZYCKI, MARY ANN P.

- 1984 *The Origin and Development of the Seneca and Cayuga Tribes of New York State*, Rochester Museum and Science Center, Research Records 17, Rochester.

NORRIS, W. GLENN

- 1969 *Old Indian Trails in Tompkins County*, DeWitt Historical Society of Tompkins County, Inc., Ithaca, New York.

NYAC

- 1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*, The New York Archaeological Council, Albany.

ODELL, GEORGE H.

- 1982 *The Typological System Employed to Process Lithic Artifacts from Sites on the FAP 408 Corridor*, Reports of Investigations 129, Contract Archaeology Program, Center for American Archaeology, Kampsville, Illinois.
- 1985 Microwear Analysis of Middle Woodland Lithics, in *Smiling Dan: Structure and Function at a Middle Woodland Settlement in the Illinois Valley*, B. D. Stafford and M. B. Sant (eds.), Research Series 2, Center for American Archaeology, Kampsville Research Center, Kampsville, Illinois, pp. 298-326.
- 1988 Addressing Prehistoric Hunting Practices through Stone Tool Analysis, *American Anthropologist*, 90, pp. 335-356.
- 1996 *Stone Tools and Mobility in the Illinois Valley*, International Monographs in Prehistory, Archaeological Series 10, Museum of Anthropology, University of Michigan, Ann Arbor.

- PARKER, ARTHUR C.
 1910 Iroquois Uses of Maize and Other Food Plants, *New York State Museum Bulletin*, 144, pp. 5-119.
- PIHL, ROBERT H. and STEPHEN COX THOMAS
 1997 The Finch Site: A Late Iroquoian Special Purpose Site on West Catfish Creek, *Ontario Archaeology*, 63 pp. 37-84.
- PRATT, PETER P., ed
 1976 *Archaeology of the Oneida Iroquois, Vol. 1*, Department of Anthropology, Franklin Pierce College, Peterborough, Ontario.
- RAMSDEN, PETER G.
 1978 An Hypothesis Concerning the Effects of Early European Trade Among Some Ontario Iroquois, *Canadian Journal of Archaeology*, 2, pp. 101-106.
- RITCHIE, WILLIAM A.
 1952 *The Chance Horizon: An Early Stage of Mohawk Iroquois Cultural Development*, New York State Museum Circular 29, Albany.
 1956 Prehistoric Settlement Patterns in Northeastern North America, in *Prehistoric Settlement Patterns in the New World*, G. Willey (ed.), Viking Fund Publications in Anthropology, 23, New York, pp. 72-80.
 1980 *The Archaeology of New York State, Revised Edition*, Harbor Hill Books, Harrison, New York.
- RITCHIE, WILLIAM A. and ROBERT E. FUNK
 1973 *Aboriginal Settlement Patterns in the Northeast*, Memoir 20, New York State Museum and Science Service, Albany.
- SNOW, DEAN R.
 1995 *Mohawk Valley Archaeology: The Sites*, The Institute for Archaeological Studies, University at Albany, Albany.
- STEWART, MARILYN
 1977 Pits in the Northeast: A Typological Analysis, in *Current Perspectives in Northeastern Archaeology*, R. E. Funk and C. F. Hayes (eds.), Researches and Transactions 17(1), New York State Archaeological Association, Rochester, pp. 149-164.
- STUIVER, M. and H. VAN DER PLICHT
 1998 INTCAL98 Radiocarbon Age Calibration, *Radiocarbon*, 40:3, pp. 1041-1083.
- THWAITES, REUBEN G., ed.
 1896- *The Jesuit Relations and Allied Documents*, Burrows Brothers, Cleveland.
 1901
- TOOKER, ELIZABETH B.
 1964 *An Ethnography of the Huron Indians, 1615-1649*, Bureau of American Ethnology, Bulletin 190, Washington, D.C.
- TRIGGER, BRUCE G.
 1990 *The Huron: Farmers of the North*, Holt, Rinehart and Winston, New York.
- TUCKER, JAMES A.
 1971 *Onondaga Iroquois Prehistory: A Study in Settlement Archaeology*, Syracuse University Press, Syracuse.

USDA

- 1965 *Soil Survey of Tompkins County, New York*, United States Department of Agriculture, Washington, D.C.

VAUGHAN, PATRICK C.

- 1985 *Use-Wear Analysis of Flaked Stone Tools*, University of Arizona Press, Tucson.

VERSAGGI, NINA M.

- 1996 *Hunter-Gatherer Adaptations in the Upper Susquehanna: Are the Uplands Part of the Picture?* paper presented at the symposium: "Integrating Appalachian Highlands Archaeology," New York State Museum, Albany, New York.

VOGEL, J. C. and NIKOLAAS J. VAN DER MERWE

- 1977 Isotopic Evidence for Early Maize Cultivation in New York State, *American Antiquity*, 42:2, pp. 238-242.

WEINMAN, PAUL and THOMAS P. WEINMAN

- 1982 The Conway Site: On the Way to Onondaga, *The Bulletin of the New York State Archaeological Association*, 83, pp. 7-15.

WEISKOTTEN, DANIEL H.

- 1997a *Cultural Resource Management Survey, 1997-1998 Highway Program: Site Examination, Plus Site (SUBi-1736, NYSM #10494) and Mosso Shop Site (SUBi-1738, NYSM #10496), PIN 3057.36.121, New York State Route 13, Town of Dryden, Tompkins County, MCD 10903*, unpublished report submitted to the State Department of Education, New York State Museum on behalf of the New York State Department of Transportation, Public Archaeology Facility, Binghamton University, Binghamton.

- 1997b *Data Recovery Plan, Plus Site (SUBi-1736, NYSM #10494), PIN 3057.36.121, Town of Dryden, Tompkins County, New York, MCD 10903, 97PR1085*, unpublished report submitted to the State Department of Education, New York State Museum on behalf of the New York State Department of Transportation, Public Archaeology Facility, Binghamton University, Binghamton.

WEISKOTTEN, DANIEL H. and JESSIE A. RAVAGE

- 1997 *Cultural Resource Management Survey, 1997-1998 Highway Program: Addendum Reconnaissance Survey, PIN 3057.36.121, New York State Route 13, Town of Dryden, Tompkins County, MCD 10903*, unpublished report submitted to the State Department of Education, New York State Museum on behalf of the New York State Department of Transportation, Public Archaeology Facility, Binghamton University, Binghamton.

WHALLON, ROBERT

- 1968 Investigations of Late Prehistoric Social Organization in New York State, in *New Perspectives in Archaeology*, S. R. Binford and L. R. Binford (eds.), Aldine, Chicago, pp. 223-244.

WILLIAMSON, RONALD F.

- 1990 The Early Iroquoian Period of Southern Ontario, in *The Archaeology of Southern Ontario to A.D. 1650*, C. J. Ellis and N. Ferris (eds.), Occasional Publication of the London Chapter, Ontario Archaeological Society 5, pp. 291-320.

- WRAY, CHARLES F. and HARRY SCHOFF
1953 A Preliminary Report on the Seneca Sequence in Western New York—
1550-1687, *Pennsylvania Archaeologist*, 8:2, pp. 53-63.
- WRAY, CHARLES F., MARTHA L. SEMPOWSKI, LORRAINE P. SAUNDERS,
and GIAN CARLO CERVONE
1987 *The Adams and Culbertson Sites*, Rochester Museum and Science Center,
Research Record 19, Rochester.
1991 *Tram and Cameron: Two Early Contact Era Seneca Sites*, Rochester Museum
and Science Center, Research Record 21, Rochester.
- WRIGHT, JAMES V. and DAWN M. WRIGHT
1993 Iroquoian Archaeology: It's the Pits, in *Essays in St. Lawrence Iroquoian
Archaeology*, J. F. Pendergast and Claude Chapdelaine (eds.), Occasional
Papers in Northeastern Archaeology 8, Copetown Press, Dundas, Ontario,
pp. 1-8.

Direct reprint requests to:

Timothy J. Abel
33512 NYS Route 26
Carthage, NY 13619