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PHASE IAB CULTURAL RESOURCES INVESTIGATION FOR THE PROPOSED HONEOYE FALLS QUARRY EXPANSION PROJECT, TOWN OF RUSH, MONROE COUNTY, AND TOWN OF AVON, LIVINGSTON COUNTY, NEW YORK

Prepared for:

HANSON AGGREGATES NEW YORK LLC
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Jamesville, New York 13078

Prepared by:

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July 2011

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FOR THE PROPOSED

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TOWN OF RUSH, MONROE COUNTY, AND

TOWN OF AVON, LIVINGSTON COUNTY, NEW YORK

Prepared for:
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July 2011

Management Summary

SHPO Project Review Number (if available): #10PR02660

Involved State and Federal Agencies (NYSDEC, US Army Corps of Engineers, FHWA):
NYDEC

Phase of Survey: Phase IAB

Location Information:
Location: Oak Openings Road (south of its intersection with County Road 63)
Civil Division, County: Town of Rush, Monroe County, and Town of Avon, Livingston County

Survey Area (Metric & English): 63.6 acres (25.7 hectares)

USGS 7.5 Minute Quadrangle Map: Rush, NY 1976

Archaeological Survey Overview
Number & Interval of Shovel Tests: 364 shovel tests total including: 337 tests at the standard 50-ft (15-m) interval; 21 at close interval 25-ft (7.5-m) or less; 6 discretionary tests placed across surface inspected fields.

Results of Archaeological Survey
Number & name of prehistoric sites identified: (1) PCI/Hanson Honeoye Falls-1
Number and name of sites recommended for Phase II/Avoidance: one

Results of Architectural Survey
Number of structures within project area: none
Number of buildings/structures/cemeteries adjacent to project area: (1) modern residence, (1) residence and barn older than 50 years, and (1) open-pit limestone mine – all within 250 ft (76 m) of the project area
Number of identified eligible buildings/structures/cemeteries/districts: none

Report Author(s): R. Hanley, R. Emans, M. Steinback, E. Button, M. Cinquino

Date of Report: July 2011

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1.0 Introduction

1.1 PROJECT DESCRIPTION

Panamerican Consultants, Inc. was contracted by Hanson Aggregates New York LLC (Hanson), to conduct a Phase I cultural resources investigation for the proposed Honeoye Falls Quarry Expansion in the Town of Rush, Monroe County, and the Town of Avon, Livingston County, New York (Figure 1). The Phase I cultural resources investigation was requested by the State Historic Preservation Office (SHPO) of the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) (May 07, 2010) in support of Hanson's application to modify their NYSDEC mining permit. The Area of Potential Effect (APE) of the expansion area is approximately 63.6 acres (25.7 hectares).

Due to the sensitivity of the project area for historic period Seneca sites, SHPO requested that Phase IA background research and a Phase IB testing strategy be available for Native American Consultation and SHPO review prior to field investigation. The Phase IA report was accepted by SHPO (email from Dr. Nancy Herter, April 20, 2011) and has been incorporated into this document which now presents the full Phase IAB cultural resources investigation.

The cultural resource investigation was conducted in compliance with the National Environmental Policy Act, the National Historic Preservation Act, the State Historic Preservation Act, the New York State Environmental Quality Review Act, and all relevant state and federal legislation. The investigation was also conducted according to the New York Archaeological Council's Standards for Archaeological Investigations and New York State Historic Preservation Guidelines.

The field investigation was conducted during April 2011. Mr. Robert J. Hanley, M.A., RPA, served as principal investigator, Mr. Mark Steinback, M.A., was project historian, Mr. Edwin W. Button, M.A., served as field director, and Dr. Rebecca J. Emans, RPA, was project archaeologist. Dr. Michael A. Cinquino, RPA, served as project manager.

1.2 ENVIRONMENTAL SETTING

Topography. The project area is situated within the Great Lakes Lowland (Ritchie 1980; Cressey 1966). The project area is within a subdivision of this province which is characterized by end moraines, till plains, and drumlins between the beach ridge of the lake plain proper and the Finger Lakes Hills (Cressey 1966:26). The Genesee River forms the western boundary of the Town of Rush and is approximately 4 miles (6.4 kilometers) west of the project area (Heffner and Goodman 1973:168). The slightly rolling APE has elevations ranging from approximately 700 feet (213 meters) above mean sea level (AMSL) at its western edge along Works Road to 720 ft (219 m) AMSL in the center of the APE (see Figure 1).

Geology. Bedrock underlying the project area formed in bands oriented east-west during the early stages of the Devonian period (400 to 360 million years ago) (Heffner and Goodman 1973:169-170; Cressey 1966). Bedrock beneath the APE consists of Onondaga limestone (Van Diver 1985:188). It is a dense, hard limestone which is dark when freshly broken and weathers to a bluish gray. Black and bluish layers of chert are included in the upper layers and beds of the limestone may be separated by carbonaceous shale (Cressey 1966:24).

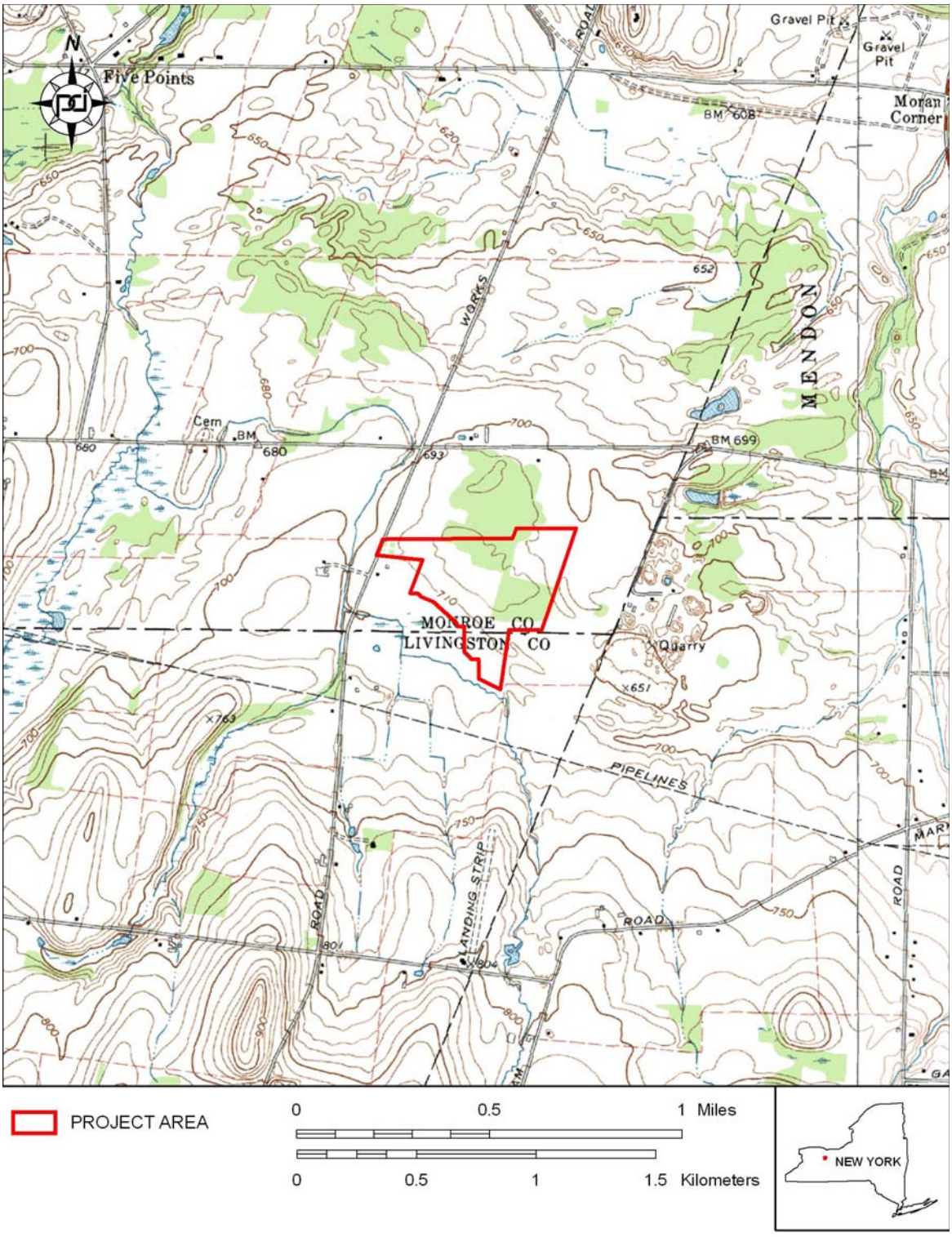

Figure 1. Location of the Honeoye Falls Quarry Expansion project area, Town of Rush, Monroe County, and the Town of Avon, Livingston County, New York *(USGS Rush, NY 1976).*

Soils. Soils in the project area are characterized by the Lima-Honeoye-Ontario soil association (Heffner and Goodman 1973:General Soil Map). Located just south of the limestone escarpment on slightly dissected till plains, soils of this association were formed in very firm, calcareous glacial till. These soils are deep, dominantly level, medium textured to moderately fine textured, well drained to moderately well-drained. Limestone bedrock is approximately 3.5-to-6 feet (1-to-1.8 meters) below the surface (Heffner and Goodman 1973:3-4). Predominant soils within the APE are summarized in Table 1 and presented in Figure 2.

Table 1. Soils within and adjacent to the project area.

Name	Soil Horizon Depth in (cm)	Color	Texture	Slope	Drainage	Landform
LIvingston County *(Pearson et al. 1956)*						
Colwood silt loam	0-12 (0-30)	BL	mucky SI or SI LO	0-2%	poorly	shallow depressions with high lime
	12-20 (30-51)	LT GR	SI LO			
	20-30 (51-76)	LT GR	SI LO or LO			
	30+ (76+)		SI or SA			
Farmington loam, ledgy gently sloping	0-8 (0-20)	DK GR BR	LO or SA LO	0-8%	excessively well	rock outcrops
	8-36 (20-91)	BR	SI LO			
Honeoye loam, gently sloping	0-8 (0-20)	DK GR BR	LO	0-8%	well	glacial till and limestone, on gentle slopes of till plains
	8-14 (20-36)	LT BR	LO			
	14-24 (36-61)	BR	SI LO			
	24+ (61+)	GR BR	glacial till			
Lyons silt loam	0-12 (0-30)	BL	SI LO	0-3%	very poorly	glacial till on flats, depressions, drainageways
	12-24 (30-61)	GR	SI LO			
	24+ (61+)	GR	glacial till			
Monroe County *(Hefner and Goodman 1973)*						
Benson channery loam (also pertinent for Rock land)	0-8 (0-20)	DK GR	CH LO	0-8%	somewhat excessively to excessively	till plains with shallow depth to bedrock
	8-16 (20-41)	DK BR	CH LO			
	16-18 (41-46)	BR to DK BR	CH LO			
	18+ (46+)	GR to LT GR	limestone			
Canandaigua silt loam	0-8 (0-20)	BL	SI LO	0-3%	poorly	shallow glacial lake bed
	8-13 (20-33)	OL GR	SI CL LO			
	13-30 (33-76)	GR BR	SI LO			
	30-50 (76-127)	RD BR	SI SA			
Honeoye silt loam, limestone substratum	0-9 (0-23)	V DK GR BR	SI LO	0-3%, 3-8%	well	on gentle slopes of till plains
	9-26 (23-66)	DK YL BR	LO			
	26-52 (66-132)	BR to DK BR	LO			
Lima and Cazenovia silt loams, limestone substratum	0-10 (0-25)	V DK GR BR	SI LO	0-6%	moderately well	till plains
	10-14 (25-36)	BR	SI LO			
	14-25 (36-64)	DK BR	LO			
	25-33 (64-84)	DK GR BR	LO			
	33-51 (84-130)	RD GR	LO			

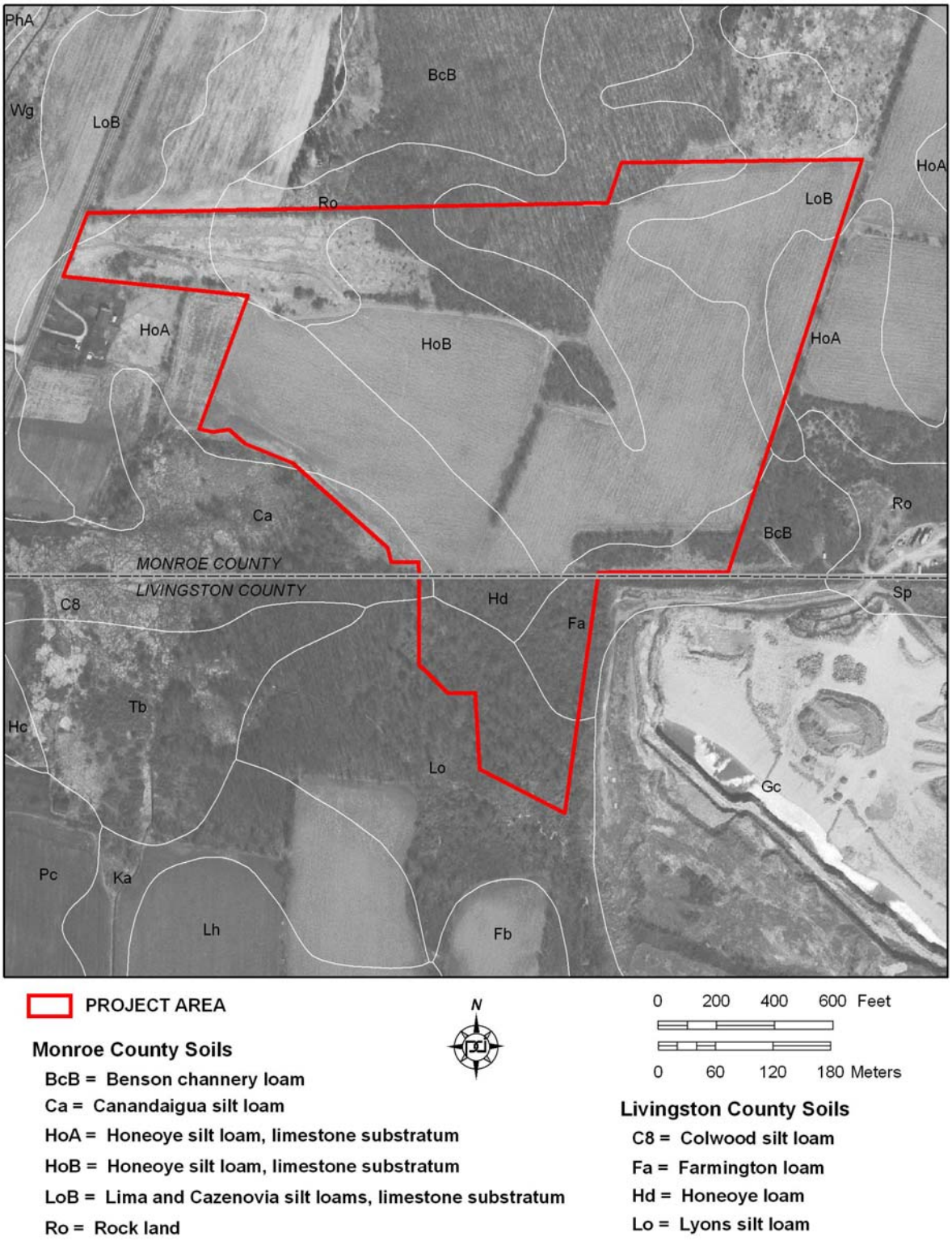

Figure 2. USDA designated soils in and around the project area *(composite of Hefner and Goodman 1973 [top]; Pearson et al. 1956 [bottom]).*

Drainage. Two ponds are located on lower elevated terrain approximately 1,500 ft (457 m) and 2,100 ft (640 m) northeast of the project area. A northwestward flowing unnamed tributary of Honeoye Creek is located adjacent to the project's southwest boundary (see Figure 1).

Forest Zone and Vegetation. The project area lies within the Oak-Northern Hardwood zone (de Laubenfels 1977:92). This zone is characterized by the intermingling of oaks and northern hardwoods at low and intermediate elevations in the Finger Lakes region. The direction of the slope affects the type of trees predominant within a certain area; south-facing slopes support more oaks or an oak-hickory mix (due to more sunlight) while north-facing slopes support more northerly-predominant trees, such as elm, red cedar, and hawthorn (de Laubenfels 1977:95).

Manmade Features and Alterations. The project area is mainly located within active agricultural land. No structures are located within or immediately adjacent to the APE. Existing potential land-use impacts include deforestation activities, agricultural plowing and planting, and buried field drains.

2.0 Historical and Archival Review

2.1 PREHISTORIC PERIOD

The three major cultural traditions manifested in New York State during the prehistoric era are the Paleo-Indian, the Eastern Archaic, and Woodland traditions. The evolution of prehistoric culture can be summarized as a gradual increase in social complexity, punctuated by several important cultural or technological innovations.

Paleo-Indian Period (ca. 10,000-8000 BC). Hunter-gatherer bands of the Paleo-Indian culture were the first humans in New York State after the last glacial retreat approximately 11,500 years ago. At this time, Lake Ontario and the St. Lawrence River were locked in ice, and the project area would have been along the edge of an ice sheet (Fitting 1975:27). It is possible that the environmental fluctuations that occurred during this early period were conducive to periodic forays by the Paleo-Indian groups into the region when conditions were suitable. As the climate gradually became more temperate, these forays likely became more extended.

The archaeological record suggests that Paleo-Indian subsistence strategies emphasized hunting big game species, many of which are extinct. These included mastodon, mammoth, great beaver, caribou and moose-elk, along with a variety of smaller game. Few tool associations have been made with aquatic resources, although this food source was probably utilized as the climate moderated (Funk 1972:11; Ritchie 1980; Salwen 1975). The remains of mastodons and mammoths have been found in Monroe and Livingston counties. Two mastodon sites are located in southeastern Monroe County, in the general area of the towns of Pittsford and Perinton. Three mastodon sites, one also including Pleistocene peccary, have been identified in the western portion of the City of Rochester. A mammoth site is located near the Genesee River west of the project area, and west of this are mastodon and Pleistocene deer sites (Ritchie 1980:10-11).

Adapted to the tundra, Paleo-Indians utilized a nomadic settlement system in which their movements followed that of game. During the seasonal resource peaks, larger populations occupied strategically located base camps; and during periods of scarce resources, the population dispersed, occupying small camp sites and rockshelters on a temporary basis. A band-level social organization is attributed to Paleo-Indian groups, with each band consisting of 25 or 30 people (Snow 1980:150, after Beardsley et al. 1956; Fitting 1968; Funk 1978). As climatic conditions allowed more permanent occupation of an area, this wandering became more restrictive and bands settled into loose territories.

Technologically, the Paleo-Indian period has been associated with the fluted Clovis point industry. These points are generally large (2.5 to 10 cm [1 to 4 inches] in length), with a flute on each face that facilitated hafting (Funk and Schambach 1964). Paleo-Indian sites have not been excavated in the vicinity of the project area (Ritchie 1980). Four fluted points have been recovered in Monroe County and the northern portion of Livingston County, including at the confluence of the Genesee River and the Honeoye River, and along the Genesee River, approximately four miles west of the project area.

Archaic Period (ca. 8000-1500 BC). The Archaic period is differentiated from the Paleo-Indian period by a functional shift in lithic technology, an apparent increase in population, changes in the subsistence strategy, and a less nomadic settlement system (Funk 1978; Tuck 1978). These changes reflect an adaptation to an improved climate and a more diversified

biome (Funk 1972:10). Three subdivisions are generally recognized for the Archaic: Early, Middle, and Late.

The Early Archaic tool kit consisted of Hardaway, Dalton, Palmer corner-notched, Kirk corner-notched, and bifurcate base points which frequently had serrated edges (Funk 1993). People of the Early Archaic also used end scrapers, side scrapers, spokeshaves, drills, gravers, choppers, hammers, and anvil stones. Moreover, bifurcate base points were found incidentally during Ritchie's (1945) excavation of the Late Archaic site, Frontenac Island. Despite evidence that Early and Middle Archaic cultures occupied the Finger Lakes, excavations have not been carried out on sites primarily related to these periods. Although archaeological sites from these periods are rare and poorly understood for the Finger Lakes region, important sites from the Early and Middle Archaic have been found in eastern New York, in Ulster County and near Sylvan Lake, as well as western Connecticut, the upper Delaware valley and the Susquehanna valley (Dent 1991; Funk 1991, 1993; Nicholas 1988).

In addition to an improved climate and more diversified biome, a few technological changes, such as the production of ground and polished stone tools, serve to identify the Middle Archaic period (6000-4000 BC) (Funk 1991; Kraft 1986). The bannerstone, probably used as an atlatl weight, and the bell pestle were Middle Archaic innovations (Griffin 1967). People began to develop woodworking tools during this period, using coarse-grained stones and river cobbles as their raw materials. The Middle Archaic tool kit included anvil stones, choppers, netsinkers, an array of projectile points, axes, adzes, gouges, choppers and other woodworking implements (Braun and Braun 1994; Funk 1991; Kraft 1986). The territorial "settling in" process begun during the Early Archaic continued into the Middle Archaic, stimulating a process of group isolation. Sites from these periods cluster along major rivers and marshy, swampy land as well as lowlands.

Associated with the shift in subsistence strategies was the increase in population densities, and as population increased, camps became larger and more numerous. Bands moved seasonally or when resources dwindled. Most sites of the Late Archaic period were seasonal, special purpose habitation sites such as hunting camps, spring fishing stations, fall nut-gathering and processing stations, and shellfish processing, while some settlements located near major rivers or lakes were multi-activity spring and summer villages (Ritchie and Funk 1973). Groups probably congregated cyclically for exchange and socialization. Houses of this period may have been rectangular, 14 to 16 ft long and 7 to 13 ft wide. Several such house patterns were found at the Lamoka Lake site in Schuyler County (Ritchie and Funk 1973). The vicinity of the Genesee River, west of the project area, has been extensively studied by William A. Ritchie (1980). Numerous Lamoka phase beveled adzes have been found along the Genesee River and creeks and rivers which flow into the Genesee, including the Honeoye. Ritchie's interpretations of the Lamoka phase are based largely on his excavations of four sites: Lamoka, in Schuyler County, Geneva, in Seneca County, Scottsville (Woodchuck Hill), in Monroe County, and Frontenac Island, in Cayuga County (Ritchie 1980:36). The Scottsville/ Woodchuck Hill site is located in the Town of Wheatland, northwest of the project area. In the Town of Avon is another site dating to this time period, known as the North Avon site.

Evidence from Frontenac Island shows participation in the widespread Late Archaic exchange of copper and marine shell artifacts (Funk 1976, 1993). Artifacts characteristic of the Late Archaic Lamoka Phase include hammerstones, anvils, beveled adzes, and Lamoka points which are small, narrow-bladed, thick-stemmed or side-notched points. Ritchie and Funk (1973) argue that several of the Finger Lakes Lamoka-type sites are unique in being permanent,

sedentary, or semi-sedentary villages supported by food storage in addition to an optimum mix of a broad range of food resources.

The Terminal Archaic, sometimes called the Transitional period (ca. 1500-1000 BC), features a continuation of Late Archaic cultural and economic patterns, with a few innovative traits. Among these are a developing burial/ceremonial complex and, toward the end of the period, the introduction of ceramics. The shift to pottery appears to have been preceded by the adoption of steatite or soapstone pots which made cooking and food preparation easier (Ritchie and Funk 1973:87; Funk 1993:198). The earliest pottery in New York State (Vinette 1 type) has been radiocarbon dated to about 1250 BC at the Frost Island component of the O'Neil site on the Seneca River.

Woodland Period (1000 BC-AD 1500). The Early Woodland period (1000-100 BC) is marked by several cultural phases in New York State, including the Orient, Meadowood, Middlesex, and Bushkill phases. Some of these phases, such as Meadowood, are better understood than others, while some arguably may not be important in some local sequences. Located near West Rush, approximately four miles northwest of the project area, the Wray site was the first Meadowood site excavated. Consisting of a small cemetery, it was found in 1930 by Charles F. Wray, on an estate named Meadowood belonging to Delos Wray (Ritchie 1980:180).

The Middle Woodland period (100 BC-AD 1000) shows continued long distance exchange, although perhaps with varying strength at different times. In western New York, a sequence of occupation sites shows evidence of a long, Middle Woodland cultural tradition referred to as Point Peninsula (Ritchie 1969).

Expressed primarily by ceramic traits, Point Peninsula development during the Middle Woodland is characterized by four Phases: Canoe Point (AD 2-150), Squawkie Hill (AD 100-300), Kipp Island (AD 300-650), and Hunter's Home (early Late Woodland). The Canoe Point Phase is vaguely understood and known from only a few sites and shows little change from the Early Woodland (Snow 1980). No house structure patterns have been found in New York, but analogous Canadian sites had rectangular structures measuring 10 to 16 ft by 16 to 23 ft, and containing single hearths. The single hearth and the house size would suggest a basic household social unit no larger than an extended family.

In New York State, the two primary Late Woodland Traditions are Owasco (beginning AD 1000) and the prehistoric Iroquois (AD 1300). Like most cultures in the northeast at this time, Owasco subsistence was based on hunting, gathering, fishing and horticulture. The Owasco were the first in this area to rely on a significant cultivation of maize. By the fifteenth century, a variety of Northern Flint corn proliferated after the introduction of beans and squash. The development of bean and squash horticulture is roughly correlated to a growth in population and village size. As time passed, Owasco peoples grew dependent on these cultigens, until they finally became the primary source of subsistence (Winter 1971).

At present, Owasco is more notable as a ceramic style than as an ethnic unit or even a ceramic manufacturing technology, since modern ceramic technological studies are geographically limited and have not yet appeared in the Northeastern literature (Ritchie and MacNeish 1949). The Golah site, located at the confluence of the Genesee River and the Honeoye River, west of the project area, dates to the Owasco Tradition (Ritchie 1980:xxxi, 40).

The horticultural complex of corn, beans and squash, a common occurrence in North and Central America, are found together in some of the earliest Late Woodland sites in this region (Ritchie and Funk 1973; Funk 1976), indicating the importance of these plants for at least some early garden systems and subsistence strategies (Fritz 1990; Smith 1992). It is generally accepted that a heavy reliance on corn horticulture was supplemented by growing beans and squash, with declining roles for hunting, fishing and gathering. Many local cultures with a lower reliance on agriculture may have included wild foods in the subsistence mix to a greater extent, particularly where animal protein could be substituted for the amino acid complement provided elsewhere by beans. Primary animal prey most likely included one or more of deer, fish, and shellfish, based on faunal evidence, site locations, and the prevalence of netsinkers and other fishing technology at some sites (Cleland 1982; Funk 1976; Ritchie 1980; Ritchie and Funk 1973).

Cultural changes within the Late Woodland Period lay the groundwork for the development of the Five Nations of the Iroquois during the historic period (see Section 2.2). In both prehistoric and historic times, the Iroquois moved their villages at intervals that may have been related to the exhaustion of local resources such as soil and wood (Niemczycki 1984). Iroquois villages tend to be located on hilly sites, often defensible elevations near springs or small creeks.

Contact Period (AD 1500–1650). During the late Prehistoric and Contact periods, tribal clusters of Iroquoian-speaking peoples were distributed throughout New York State and lower Ontario. Comprising several thousand people in at least one, and usually several, villages in proximity to one another, each tribal cluster was separated from the others by extensive and widespread hunting and fishing areas (Trigger 1978:344; Engelbrecht 2003). Native American groups in western New York were profoundly affected by the introduction of the fur trade, long before the arrival of a permanent European-American population in the area. This period dates the beginning of the end of traditional Native American cultural patterns due to ever-increasing political, military, religious and economic interactions with Europeans.

The traditional homeland of the Seneca was the area between the Genesee River and Cayuga Lake (Engelbrecht 2003; White 1961, 1978a:407-409). The fur trade was central to the Seneca economy (Abler and Tooker 1978:505-507; White 1978b:414-416; Trigger 1978:354-356). After 1600 AD, the supply of animal skins diminished within Haudenosaunee territory. Because of this shift in resources, the Seneca began to expand the range of their hunting and trading efforts into the traditional areas of other Iroquoian nations. Between 1638 and 1655, large-scale, concerted attacks by the Seneca against their rivals in western New York secured the resources of the Niagara Frontier. The Haudenosaunee “dispersed” the Wenro (by 1638), the Huron Confederacy (1649), the Petun (1650), the Neutral Confederacy (1651) and, finally, the Erie Confederacy (1655). By the mid-seventeenth century, the Haudenosaunee of New York emerged as a politically, militarily, and economically united confederacy with sole access to both the land and resources surrounding the lower Great Lakes.

2.2 HISTORIC PERIOD

The French were the first Europeans to penetrate the interior of central New York. As early as the 1620s, Jesuit missionaries and French traders were establishing contacts with native groups. However, these visits to the region were infrequent until the 1660s. In 1669, as part of general reconnoitering and trade expeditions by the French along Lake Ontario, René-Robert Cavelier de La Salle entered Irondequoit Bay and was escorted to the Seneca village of

Gannagaro. For almost all of the seventeenth and eighteenth centuries European activities involved limited religious, commercial, and military endeavors (DeVoy 1895:12-14; Trigger 1978:349-352; Abler and Tooker 1978: 505-506; Halsey 1999). During this period when the French and English were at peace with each other and the Iroquois, the Seneca expanded their areas of settlement. Villages were located near Irondequoit Bay and along the Genesee River (Tooker 1978:432-434; Turner 1976 [1851]; DeVoy 1895:13).

As the fur trade became an imperial concern for the European powers during the eighteenth century, competition among these kingdoms resulted in the erection of fortified trading posts along the frontier. During a later period of armed conflict, Jacques René de Brisay, Marquis de Denonville, governor of New France (Canada), landed at Irondequoit Bay and led an attack against the Seneca in July 1687, after which the French retreated to reconstruct the fort at Niagara (Fort Denonville). After a severe winter, the French abandoned the fort and the region reverted to Seneca control (Abler and Tooker 1978:506-7; Tooker 1978:431-432). The rivalry between the British and the French intensified during the course of the eighteenth century, reaching a crescendo during the 1750s, when the two countries went to war. Despite gaining total control over Lake Ontario during the early stages of the conflict, the French ultimately lost the French and Indian War and all of their North American colonies with the signing of the Treaty of Paris in 1763 (Turner 1974 [1850]:228-233; Aldenderfer 1982:III-30).

During the American Revolution, both the British and Americans enlisted the aid of individual Haudenosaunee nations in their battles in the frontier. Although the Confederacy itself maintained an official policy of neutrality, several of the nations allied with Great Britain and several with the Americans. Major General John Sullivan led a punitive assault into the heart of Haudenosaunee country in an effort to halt incursions against the settlers in the Mohawk and Cherry valleys in 1779. After defeating a combined force of British Rangers and Native Americans at Newtown (the future city of Elmira), Sullivan's army moved through the valley of Catherine Creek and up the east side of Seneca Lake. Sullivan's "scorched earth" tactics destroyed everything in their path, including settlements, cornfields and orchards. The swath of destruction stretched from Newtown to Honeoye Lake all the way to the Genesee River. Seeking refuge in the Niagara River valley, many Haudenosaunee suffered through a difficult winter of hardship and hunger. They remained in this area until after the completion of the Treaty of Paris (Abler and Tooker 1978:507-508; Ellis et al. 1967:115-117; Tooker 1978a:435). Provisioned and armed by the British, groups of Haudenosaunee periodically attacked colonial settlements until the end of the war, although the Seneca were no longer a major military threat.

The British and their Loyalist allies were expelled from the new United States after the Treaty of Paris (1783) ended the Revolutionary War, although the British did not vacate forts along Lake Ontario or farther west until 1796. The Haudenosaunee, abandoned in the United States by their British allies after the Treaty of Paris, were forced to make peace as separate nations with the Americans, who aspired to usurp their lands. During these negotiations the individual nations as well as individuals themselves had to decide whether to live in the United States or relocate to Canada. "Some Senecas determined that they would continue to live in the Genesee Valley where they had lived before the war, but others decided to move to or remain in the more westerly parts of New York State" (Tooker 1978a:435).

As a result of the Second Fort Stanwix Treaty (1784), the Haudenosaunee relinquished all their land west of the Niagara River. This treaty was disputed by groups of Haudenosaunee until 1794, when a treaty was signed at Canandaigua between the United States government and the Six Nations which defined the boundaries of Seneca lands and the reservations to the other

Haudenosaunee nations (e.g., the Pickering or Canandaigua Treaty) (Abler and Tooker 1978: 508). Native American title to the land in the Genesee Valley was largely extinguished with the Treaty of Big Tree in 1797, although several areas were reserved for the Native Americans to use and live on (Abler and Tooker 1978:509, 512).

With the 1797 Treaty of Big Tree, the Senecas sold most of their remaining lands to Robert Morris for $100,000 and individual cash payments to specific Seneca leaders. Under this treaty tracts of land along the Genesee River as well as along major waterways in western New York were reserved for the Haudenosaunee. These reservations were enumerated by Joseph Ellicott at the time, and included:

1 at Kannawaugus [Canawaugus], Jeneseo [Genesee] River, 2 square miles
2 at Big Tree, Jeneseo River, 2 square miles
3 at Little Beard's town, Jeneseo River, 2 square miles
4 at Squawkie Hill, Jeneseo River, 2 square miles
5 at Gardeaw [Gardeau], Jeneseo River, 2 square miles
6 at Ka-oun-de-ou [Caneadea], Jeneseo River, 16 square miles
7 at Allegenny [Allegheny] River, 42 square miles
8 at Kattaraugus [Cattaraugus Creek], about 42 square miles
9 at Buffalo and Tannawanta [Tonawanda] Creeks, 200 square miles [Doty 1876:234n].

The population of Seneca in New York State at about the time of the Big Tree treaty was between 1,700 and 1,800, with one-third living along the Genesee River, one-third at the Buffalo Creek reservation and the remainder spread among the remaining reservations (Abler and Tooker 1978:509).

European-American settlement of western New York dates from the end of the American Revolution in 1783. During the next decade large grants of land in western New York would be sold to private investors who would attempt to open the land to settlement (Ellis et al. 1967:152-156; Schein 1993:5-8).

The rights of western New York (more than 6 million acres) were sold to a syndicate of land speculators headed by Oliver Phelps and Nathaniel Gorham. This land, called the Phelps & Gorham purchase, became Ontario County in January 1789 (Figure 3). Financial troubles soon led to the group's forfeiture of the western two-thirds of the tract in 1790 in exchange for retention of title to the eastern third. Massachusetts sold the remaining unsurveyed portion of the area to Robert Morris in 1791. Morris sold a portion of this land to Sir William Pulteney, William Hornby and Patrick Colquhoun of London, England. Reserving another portion of the land for his own purposes (the so-called "Morris Reserve"), Morris then sold the remainder to a consortium of Dutch investors called the Holland Land Company in 1792-1793. All of what is now Monroe County, except for the three western townships—Hamlin, Clarkson, and Sweden—were included within the Phelps & Gorham Purchase. The three western towns were part of Morris's purchase. Named for James Monroe, fifth President of the United States (1817-1825), Monroe County was created from Genesee and Ontario counties in February 1821 (Turner 1974 [1850]: 396-403; Ellis et al. 1967:154-156; DeVoy 1895: 15-16; Halsey 1999).

Settlement of what is now Monroe County began in 1788, when Ebenezer Allen, British sympathizer, erected a log cabin on 470 acres along the east bank of the Genesee River, near the present site of Rochester. Despite erecting a sawmill and later a grist mill along the river in the future city, he eventually relocated to Canada. Other early settlers of the county included

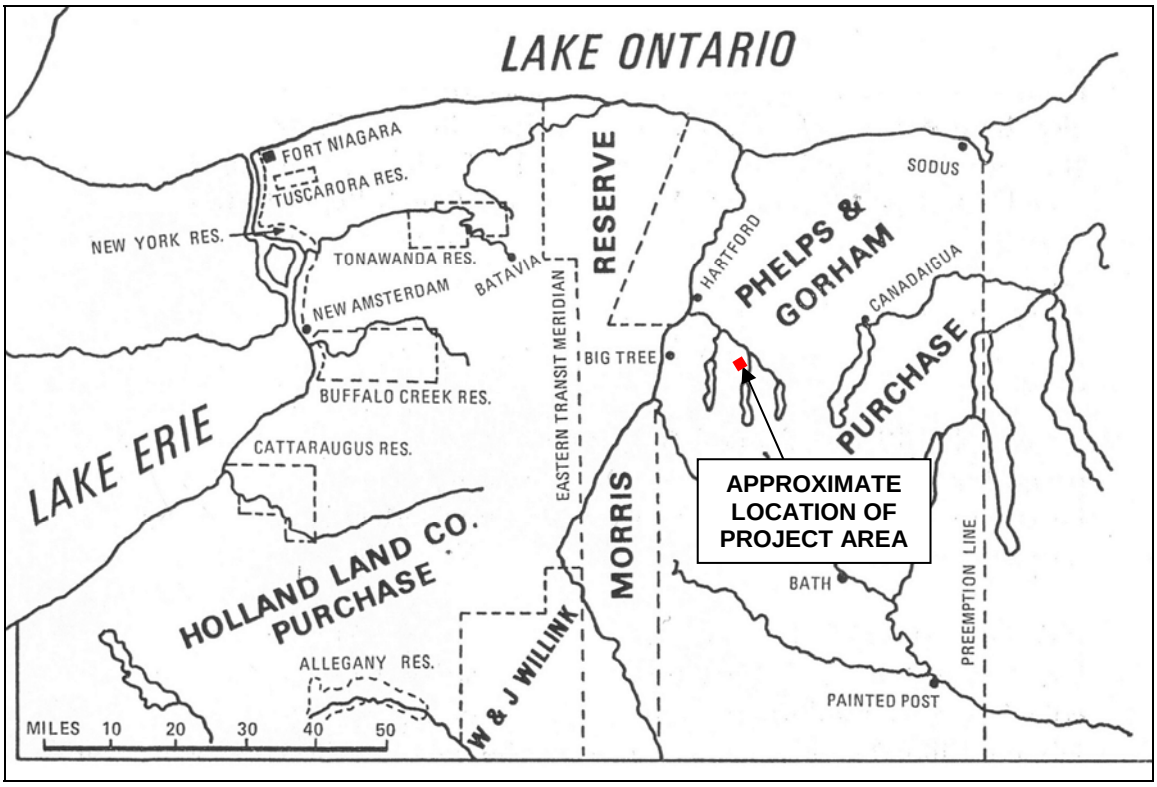

Figure 3. Landholdings in Western New York, ca. 1800 *(Chazanof 1970:23).*

Christopher Dugan, Col. Josiah Fish, and Jeremiah Olmstead in Rochester, Simon and Israel Stone near Pittsford, Glover Perrin at Perinton, Peter Shaeffer near Scottsville, Orange Stone in Brighton, and William Hencher at the mouth of the Genesee along the lake. During the years before the War of 1812, settlements originated in various parts of the county, although general growth was inhibited by poor transportation and the dense forests (McIntosh 1877; Halsey 1999; DeVoy 1895:16). The Town of Avon, originally named Hartford, was formed in 1789, when Ontario County was formed. Its named was changed in 1808. The Town of Rush was formed from Avon in 1818, and was one of the fourteen original townships comprising Monroe County when it was formed three years later (Monroe County 2001:2).

Jeremiah Wadsworth purchased 5,000 acres of land in what would become the Town of Rush from the Phelps and Gorman Company (McIntosh 1877). The first American settler there was Captain John Ganson who had served under General Sullivan during the American Revolution. He and his sons James and John settled in the town during the winter of 1788 to 1789 operated taverns at Le Roy and Stafford. Colonel William Markham settled in Rush after 1788, and established a farm in Bloomfield, where he had one of the first distilleries in the town. Markham later purchased a farm on Lot 71 in the Town of Rush. He was one of the surveyors of the road from the Canandaigua to the Genesee River, and was a representative in the state assembly for what was then Ontario County. In 1810, he constructed a mill in District Number 9, and soon after built two other mills. Two of his sons lived on his farm until their late seventies. John Barnes settled near Markham, and around 1797, Thomas Dailey settled in Lot 27. Christle Thomas built the first sawmill in the town, in 1805, and the first bridge across the Honeoye. Several families moved to the Town of Rush from Frederick County, Maryland. John Stull constructed the first block-house north of the Honeoye in 1802. The next year Philip Price, Sr., built another which was still standing in 1877 (McIntosh 1877).

Early settlement in Livingston County began around 1790. These earliest settlers mostly came from New England. They centered around Geneseo, as well as near the old Seneca towns. What would become the towns of Avon, York, and Caledonia were settled by people from Scotland. Around the same time, the future Village of Dansville was settled by Cornelius McCoy and his family. The village was named after an early settler, Captain Daniel Faulkner, who was a storekeeper and leader of the militia (Doty 1876). The earliest settlers in the Town of Avon arrived around 1789, and included Gilbert R. Berry, Timothy Hosmer, Captain Thompson and a Mr. Rice. That year, Gilbert Berry started the first ferry across the Genesee River, and established the first inn in the town. Soon after, Timothy Hosmer ran the first sawmill at Littleville, and, two years later, the Wadsworth family established the first gristmill (French 1860). Rush was first settled by Major William Markham and Ransom Smith in 1799. John Webster established the first gristmill and kept the first inn, while the first store was run by Benjamin Campbell.

In April 1806, Allegany County was formed, and included parts of Steuben, Wyoming and Livingston counties (Figure 4). By an Act of the New York State Legislature on April 11, 1808, Allegany County consisted of five large towns: Ossian, Angelica, Nunda, Alfred and Caneadea. Livingston County was formed from parts of Ontario and Genesee Counties in February 1821 (Turner 1974 [1850]:396-403; Ellis et al. 1967:154-156; Doty 1876).

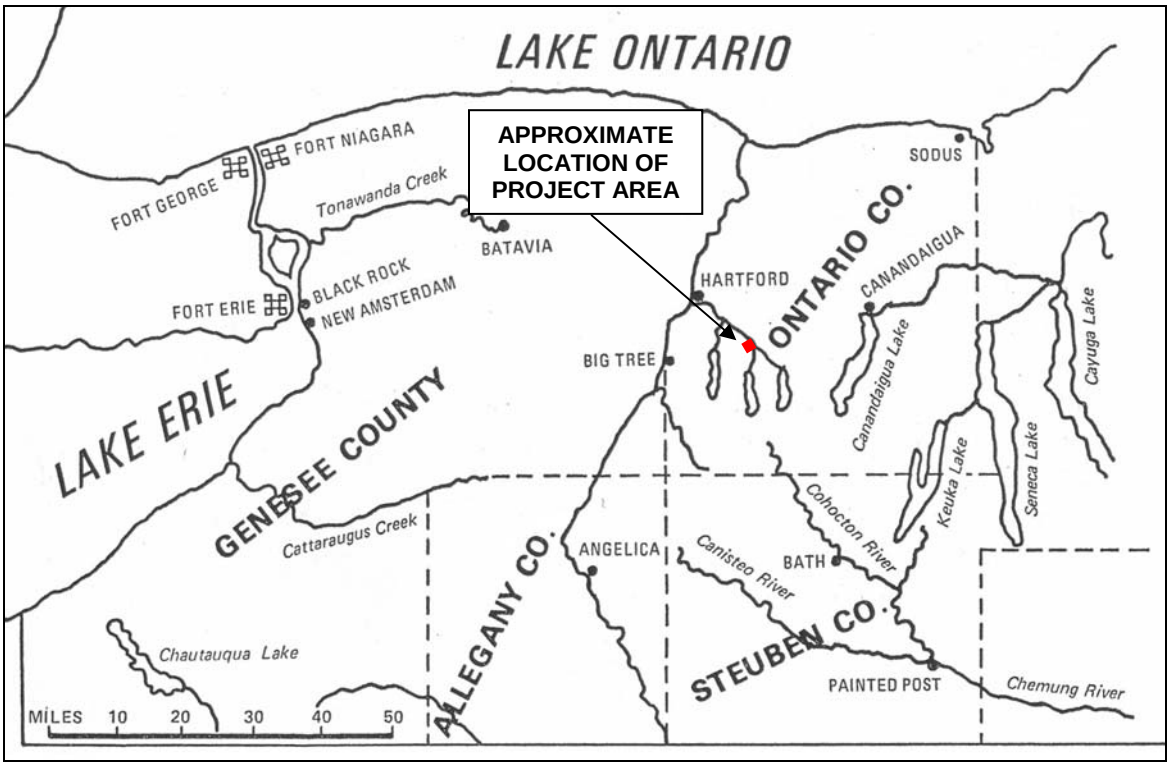

Figure 4. Early counties in Western New York, ca. 1806 *(Chazanof 1970:107).*

Although small and not particularly swift, the streams and creeks of the region powered early industrial endeavors and included sawmills, creameries, and potasheries. The forests provided lumber for log and frame houses, taverns, and hotels (Monroe County 2001; McIntosh 1877:27-31). The area received a tremendous economic boost after the Erie Canal was located through the village of Rochesterville (present-day City of Rochester). Begun in 1817, the canal

between Rochester and Albany opened in 1823. Two years later, Erie Canal linked Buffalo and Lake Erie with New York City when it opened October 26, 1825 (Shaw 1990:5-6, 181-187; Monroe County 2001). The canal attracted settlers to the area so that between 1820 and 1830 the population of the county jumped from 26,855 to 49,862; by 1840 there were over 60,000. The City of Rochester was incorporated in April 1834 (Monroe County 2001; Halsey 1999).

Another waterway was developed to connect the fertile farmland along the Genesee River to the Erie Canal (French 1860). With construction starting in 1837, the Genesee Valley Canal was dug along the west bank of the Genesee River between Rochester and Olean, although construction wasn't completed for nearly twenty years (1856). Generally unsuccessful, the canal was abandoned and sold in 1880 to the Genesee Valley Canal Railroad company (later the Western New York & Pennsylvania).

By 1852 the Genesee Valley Railroad ran for approximately 18 miles along the east side of Genesee River and connected outlying townships to Rochester. The line was subsequently operated by Conrail and more recently by CSX. The Erie Railroad operated this line in 1902. A branch of the New York Central Railroad ran east-west through the Town of Rush, while another branch ran through the Town of Pittsford (Halsey 1999; McIntosh 1877:45; Lathrop 1902). In 1853, the village of Avon was incorporated, and by the end of that decade, had 879 residents, five hotels, and three churches (French 1860). Other hamlets in Avon included East Avon, with about 35 houses, Littleville with 23 houses, a furnace, gristmill, and church, and South Avon, with nine houses and a church. In Rush, the largest hamlet in 1860 was East Rush, with 250 residents, a carriage factory, a saw and gristmill, and a church. West Rush, located on a branch of the New York Central Railroad, had 30 houses and a saw and gristmill. There were 16 houses and a church at North Rush.

Agriculture formed the predominant economic activity of the project area until well into the twentieth century. During the nineteenth century, wheat was the great staple, but after the Civil War and the opening of the great Midwest wheat fields, barley, corn, and oats were the staples. Many farms also grew fruit, especially apples, pears, peaches, and occasionally grapes. In the twentieth century, dairying and livestock are predominant (McIntosh 1877; Halsey 1999). Located about twelve miles south of the City of Rochester, the project area has remained largely rural. Completed in 1955, the New York State Thruway (Interstate 90) was built east-to-west across the southern portion of Monroe County, about seven miles north of the project area.

French Missions Among the Seneca. French missionary work within the Seneca territory probably began with the French mission on Lake Onondaga, but a formal mission was not established among the Seneca until after Father Jacques Frémin arrived at the Iroquois missions in 1667. According to the *Jesuit Relations* (Thwaites 1896-1901), Jacques Frémin established a mission called St. Michel, initially centered at the Seneca village Tsonnontouan (Appendix A: Seneca Missions excerpts from the *Jesuit Relations*). A small bark chapel was completed there in November of 1669. Julien Garnier, a priest who had been working at the Onondaga mission, joined Frémin to study the Seneca language and to aid in their work. The mission included at least four villages in the area, with a total population of more than 12,000, greater than the other Iroquois at Onondaga, Oneida, or Cayuga (Thwaites 1896-1901; Donohoe 1894; Marshall 1874; Wakely 1976).

Although Frémin had established the first chapel at Tsonnontouan, the seat of the mission was at Gandougarae, called St. Michel. Tsonnontouan had the mission La Conception, while St. Jacques was either at Gandagaro or Gandachirogou. The fourth mission is unnamed in the

Jesuit Relations, although Beauchamp, in 1912, identifies it as St. Jean (Appendix A; Thwaites 1896-1901; Follett 1959; Houghton 1912; Parker 1922; Mooney 1912). Note that these four missions were all concurrent, established between 1668 and 1671, and thus do not reflect classic Iroquois village movement (discussed below).

Missions, including chapels, were established at each village. The process of establishing the missions in the villages was probably similar to that at St. Jean Baptiste among the Onondaga, described by Julien Garnier in the *Jesuit Relations*:

> And, as [Garnier] had told them that he could not remain all alone and without a Chapel, Garakontié, that Famous Captain of whom so much has been said in the preceding *Relations*, undertook to satisfy both of these wants. In fact, in a few days he erected a Chapel. Immediately after, he undertook the journey to Quebec, in order to visit Monsieur the Governor, -- who had desired to see this man who was so obliging to the French, -- and to bring back with him some of our Fathers whom he went to ask for, and whose Escort to his own country he wished to be.
>
> In order to make his Embassy more successful, [Garnier] associated himself with the four chief men of the Village, who represented the principal families of which it is composed. (Thwaites 1896-1901; see Appendix A).

The process of establishing a mission included the construction of a chapel as well as the creation of alliances with the leaders of each family within a village. Richter (1992:116) identifies three sets of personal connections utilized by the priests for converts, including the headmen and their clan members, the kin of those who were baptized, and adopted captives.

The *Relations* describe how the Seneca had three principle villages for themselves, and a fourth, Gandougaraé, consisting of captured people. Frémin describes Gandougaraé:

> This Village is composed of the remnants of three different Nations which were formerly overthrown by the Iroquois, obliged to surrender at the discretion of the conqueror, and to come and settle in his country. The first Nation is called Onnontioga, the second the Neutrals, and the third the Hurons. The first two have seen scarcely any Europeans, nor have they ever heard of the true God. As for the third, it is a sort of conglomerate of several Villages of the Hurons, all of whom were instructed in the Faith, and a number baptized by our Fathers, before that flourishing Nation was overthrown by the arms of the Iroquois. (Thwaites 1896-1901; see Appendix A.)

The priests focused first on those who were already converts—and those connected to the Christian Indians—because they would already have some understanding of the basic concepts of Christianity (Richter 1992:117). It makes sense, then, that once Frémin visited Gandougaraé, he made that village, rather than the first Seneca village, the seat of the St. Michel mission chain.

Another consideration for putting St. Michel at Gandougaraé may have also been safety, for the priests were often in danger. Attempts on Garnier's life, in particular, were recorded in the *Jesuit Relations*.

> While we were calling at Gandagaro, a drunken man seized Father Garnier with one hand, and raised the other two different times to stab him with a knife; but, by good luck, a woman who chanced to be not very far from this Barbarian, took the knife out of his hand and prevented him from carrying his brutality farther. I admired on this occasion the firmness and

> resoluteness of the Father, who did not even change color. (Thwaites 1896-1901; see Appendix A.)

The impact of Contact and the diseases it brought created tremendous stressors on the native population. The priests were primary targets not just because of their proximity, but also because the Indians interpreted the priests as powerful sorcerers, who caused the diseases, and then appeared to refuse to heal the sick.

The conversion of the Indians to Christianity involved a "massive reorientation of behavior and beliefs" (Richter 1992:115). In the *Jesuit Relations*, the priests described the difficulties in this. The Iroquois in particular saw significance in their dreams, which played an important role in their rituals. These beliefs in dreams made the job of the Jesuits more difficult, and, at times, put their lives in greater danger.

> Frémin finds the Senecas even more superstitious than other tribes regarding the importance of dreams, which they obey with the utmost exactness and promptitude. This places the missionaries in constant danger of death at the hands of some savage who may have dreamed of killing them. This excessive credulity and superstition is a great source of profit to the medicine-men. (Thwaites 1896-1901; see Appendix A.)

In part due to concerns for safety, the number of priests assigned to St. Michel changed. Initially, Fathers Jacques Frémin was alone, and then joined by Julien Garnier. After Frémin left, Garnier was put in charge of St. Michel's four villages, and was assisted by, at various times, Pierre Millet (sometimes Milet), Pierre Raffaix (sometimes Rafaix), and Jean Pierron.

While the *Jesuit Relations* generally describe the difficulties of their work, and those they convert, there is little information about the villages themselves or their locations (Appendix A; Thwaites 1896-1901). The reader is not provided with landmarks to relocate the villages, such as rivers or creeks. Archaeologists have tried to relocate the villages, resulting in conflicting interpretations. Furthermore, relocation of the mission villages typically have not involved settlement pattern analysis or site catchment studies. Jones (2010) identified three main factors in village placement: transportation routes, conditions suitable for agricultural production, and dense hardwood growth. But archaeologists have relied more on historical documents than settlement patterns to relocated and study the mission sites. Perhaps contributing to this is the tremendous impact Contact had on the Indians, resulting in large scale migrations of peoples (often as captives), as warfare and the fur trade expanded. As stated above, the population of the Seneca villages was much greater than the Iroquois groups to the east (Cayuga, Onondaga, and Oneida), probably in part due to the movements of outlying Seneca villages to the eastern parts of their territory along Honeoye and Mud Creeks (Richter 1992). This impacted resource utilization and site catchment (Jones 2010; Engelbrecht 2003:145-170).

The Jesuit Relations includes a map of the Iroquois cantons by William M. Beauchamp, but this map was not made until 1912 (Figure 5). For the Seneca mission, Beauchamp places Sonnontouan (La Conception) within a bend of a river, north of Honeoye Falls (see the unnumbered X at left). Gandagora, which he identifies as St. Jacques, is located south of Victor, and Gandagarae (St. Michel), is south of Gandagora. Gandachiragou, where Julien Garnier first worked and wrote the Seneca dictionary, is placed by Beauchamp near Lima. He provides St. Jean as the name for the mission at Gandachiragou; however, St. Jean is never mentioned in the *Jesuit Relations* (Thwaites 1896-1901; see also Appendix A). In the *Jesuit Relations*, at times, St. Jacques appears to be Gandachiragou, while at other times Gandagora is.

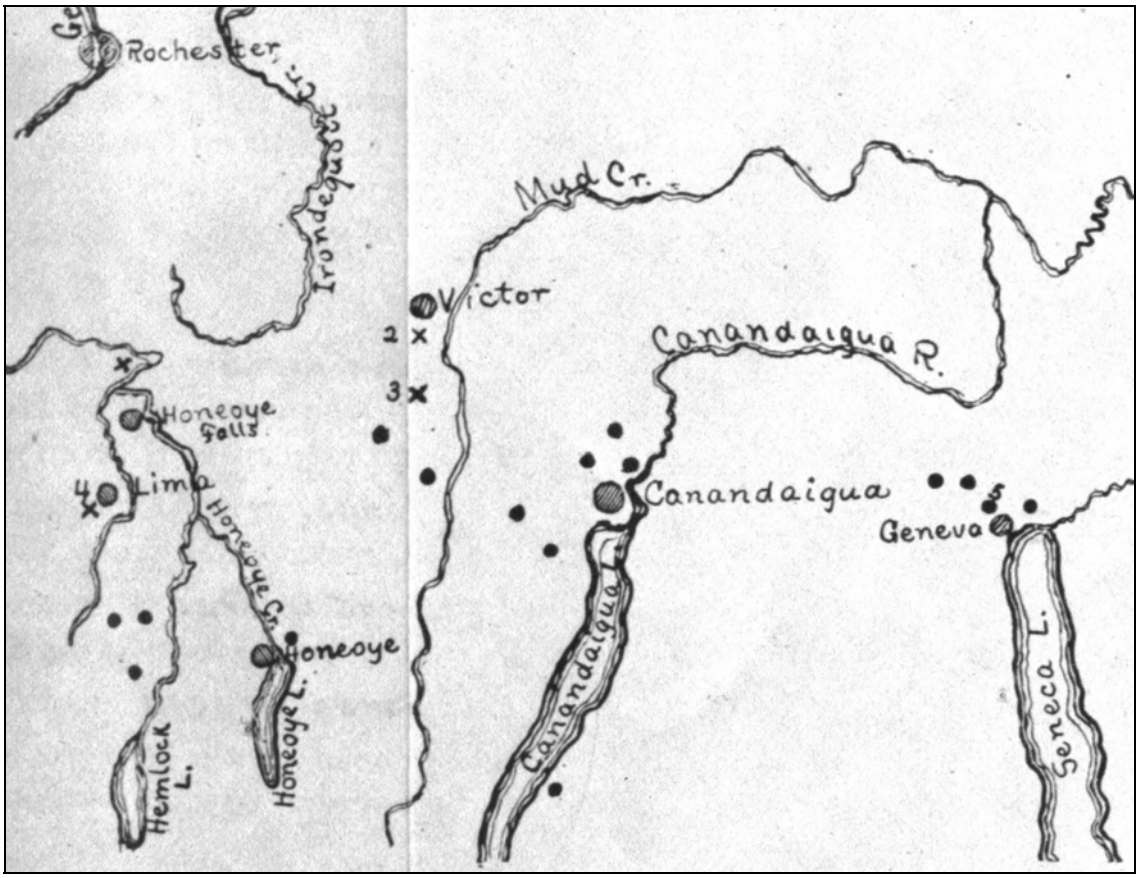

Figure 5. Iroquois Cantons in New York *(Beauchamp 1912).*

Beauchamp (1912) interprets Boughton Hill, a known archaeological site, as Gandagora (St. Jacques). This site is located about a mile south of the Village of Victor in Ontario County. Gandongarae (St. Michel) is described by Beauchamp as 3½ miles south of Boughton Hill, which is in the northern portion of the Town of East Bloomfield in Ontario County. Both of these villages are shown along Mud Creek. The other two villages are about twelve miles to the west, along Honeoye Creek. Sonnontouan (a.k.a. La Conception, Totiakton; Figure 6) is shown by Beauchamp as within a bend of the creek, about two miles north of Honeoye Falls, and in the Town of Mendon, Monroe County. It is clearly described as within the bend of Honeoye Creek.

> 27 Greenhalgh said that Tiotehatton was 30 miles west of Canagorah and had about 120 houses mostly large. Harris says 'Totiakton was distant from Gannagora just 11 miles in a north-west direction. Its former site was located by O. H. Marshall in 1847.' Its name alludes to the bend in Honeoye creek, on the west bank of which it stood. Part of Mr. Harris' general plan of the site is given in fig. 61. 'It is in the town of Mendon on the northeasternmost bend of the Honeoye outlet two miles north of Honeoye Falls exactly 12½ miles in an air line due south of the center of Rochester. The ground has been under cultivation 75 years, yielding an annual harvest of antiquities… Three cemeteries have been discovered… all skeletons unearthed have been found in a sitting posture facing the east.' Mr. Sheldon found a square stockade of half an acre on the edge of the bluff and near the creek. It was 'built of logs 12 feet long, set closely together in the earth to the depth of four feet.' This is a very modern style, though Mr. Harris thought it was made just after de Nonville's invasion. – *Harris*, p. 58, 59. This was La Conception of the Jesuits which was burned in 1687. According to George S. Conover it was removed to the vicinity of Canandaigua and called the second Seneca castle. It was visited by La Salle, and may have been abandoned soon after." (Beauchamp 1900:98.)

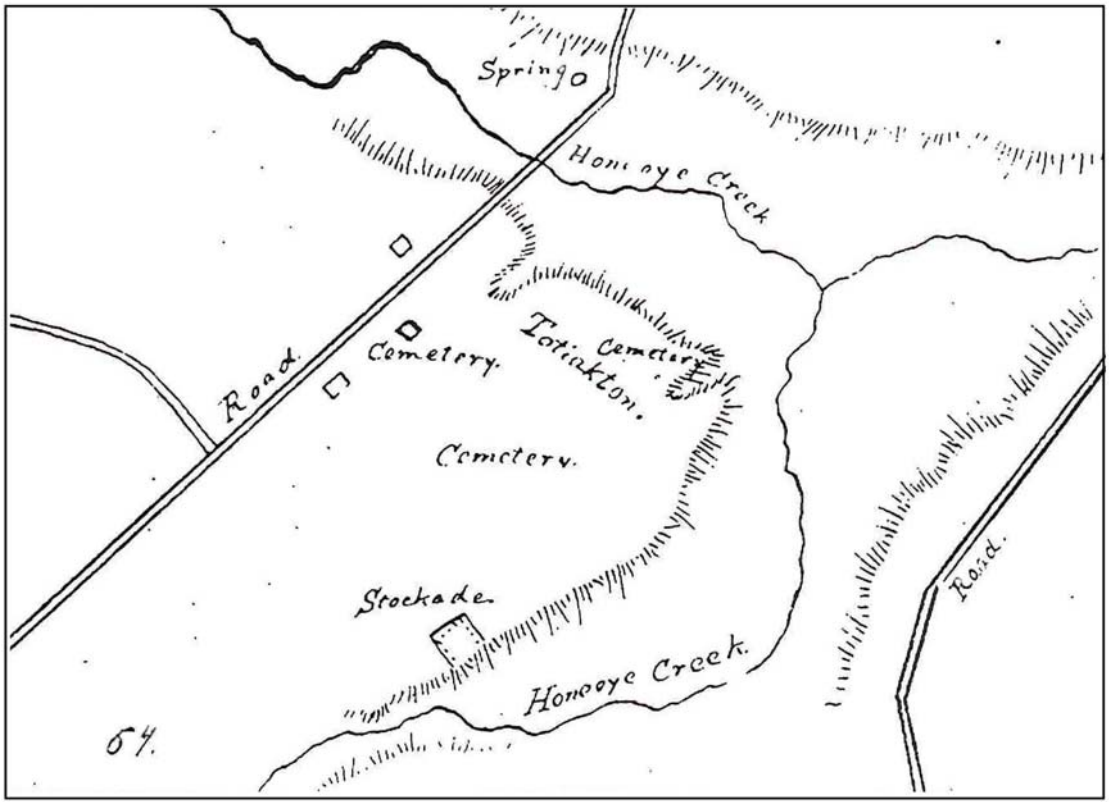

Figure 6. Totiakton located within the bend of Honeoye Creek *(Beauchamp 1900: Figure 62).*

The Beauchamp map of the Iroquois cantons (see Figure 5) shows Gandachirogou about six miles south of Sonnontouan, southwest of the Village of Lima in Livingston County. However, in the text of his monograph, Beauchamp describes other possible locations for Gandachirogou, which is also interpreted as the same village as Keinthe, described by Greenhalgh:

> 5 W. L. Hildburgh reports a cemetery two and one half miles north of Lima with European articles. This or one nearer Honeoye seems the Keinghe of Greenhalgh or the Gandachirogou of the Jesuits.
>
> 6 Sgahisgaaah, a recent Seneca village, was at Lima. European articles are found. “There were traces of an old fortification on the ridge where the Indian village had been located, the west end of the ditch crossing the present highway on the ridge, a short distance west of the center of the modern village, and remained visible for several years after 1798.”-Doty, p. 100-2. A separate site, but perhaps belonging to this, is a cemetery a mile north of Lima village where hatchets and knives occur with skeletons. Some skeletons were found here in 1822, with earthen pots in their laps filled with squirrel bones and corn. Reported by Mr. Reynolds who took his account from Doty. Of the first site, the latter says that the pipes had human faces, deer and other heads. This is supposed by some to be Greenhalgh’s Keinthe of 1677. Squier says that the cemetery was large and partly covered by the present village. Raymond Dann describes a village on the electric road, half way between Honeoye Falls and Lima. The cemetery was a knoll rising from a swamp. The relics are modern, but include an unusual number of discoidal beads. A place west of this is called Fort Hill, and has modern relics in small numbers. (Beauchamp 1900:81.)

Beauchamp also describes the Dann site, 5,400 feet (1,646 m) east of the APE, as a possible location for either Sonnontouan (also known as Totiakton or Totiacton) or Gandachirogou (Keinthe) southwest of Honeoye Falls:

> 30 The age of this site is somewhat confused. G. S. Conover thought it the early Keinthe, and placed it a mile southwest of Honeoye Falls. Gen. J. S. Clark gives it nearly the same location, but more to the north, and calls it the Totiacton of 1687. He identifies Sonnontouan and Totiacton, of missionary days, with a site in Mendon, and a one half miles north northwest of Honeoye Falls. He adds, 'A second location, and probably the one occupied in 1687 when destroyed by fire, was on the Ball farm, a mile west of Honeoye Falls village. Here, on a space of about 20 acres, a great abundance of relics have been found, of copper, glass and iron, brass crosses, medals and rings, and hundreds of iron axes bearing evidence of having passed through the fire." Raymond Dann, on whose father's farm the site is, says it is on a little stream flowing into the Honeoye creek near Sibleyville. The site is of about 20 acres, and he had explored about four acres of the cemetery. A local story was that this was a Totiacton built after 1687. The writer has carefully examined Mr. Dann's very fine collection of relics and feels certain the village could not have been built after De Nonville's invation. This is the view of both Conover and Clark, though they differ in identifying the village. Many of the articles found passed out of use among the Mohawks and Onondagas before 1650, but others are of a later type. On the whole it seems reasonable to suppose it one of the villages destroyed by the French. A later examination by the writer showed two cemeteries and also some neighboring early camps. (Beauchamp 1900:99.)

Morton (2009) identifies Gandouchigaron as housing the mission La Conception, and located it at the Dann site, 5,400 (1646) east of the APE.

Other archaeologists have also placed Gandachirogou considerably closer to Sonnontouan then Lima. Harrison C. Follett (1959) identified the Kirkwood site (a.k.a. Crouse Farm) as Gandouchigarou. Located about three and one-third miles west of Honeoye Falls, and immediately southwest of the project area, Follett (1959) describes the Kirkwood site:

> Is a modern site located on the top of a prominent hill on the Crouse farm east of Gilberts Mills in the north east corner of the town of Avon.
>
> It covers about five acres, A number of the [F]rench [sic] clay pipe stems are to be found on the surface, I do not know of any excavating having been done here other than a few test holes having been sunk in a effort to locate the grave site. No refuse has been located other than a few black spots which are evidently lodge sites.
>
> This may possibly have been the site mentioned in the Jesuit relations as the one to which Father Julian Gariner [sic], was statined [sic] and called Gandouchigaron, Extensive reading however does not bring to light anything further regarding this village and it is probable that the name applied may belong to one of other Mission sites having been pronounced in a different form (as such seems to have been common) [Typographical errors in the original].

Both sites may have been Garnier's mission site. The mission chain centered at St. Michel continued from around 1668 to 1683 (about 15 years). The missions were abandoned for about nineteen years due to hostilities, and were only reestablished between 1702 and 1709, at which point Schulyer attacked the Seneca villages, and the Jesuits pulled out permanently from the region. As stated above, Denonville destroyed the Seneca villages, apparently including the villages that had housed missions, in 1687. The destruction of these villages, and the Iroquois village movement system, may mean that, when Garnier reestablished the missions among the

Seneca around 1702, the villages may have been in different locations than in 1683, when Garnier left. However, St. Michel had been consumed by fire in 1671:

> The same Father informs us that he never had a more favorable hearing than after the burning of the Village of Saint Michel, which occurred last spring, when all the cabins and the Chapel were reduced to ashes, and nothing could be saved — neither furnishings, nor corn, nor any of the necessities of life. Those poor people did not seem disturbed over it, but on the contrary assured the Father that they recognized that they were being justly punished by God for their infidelity, and for the resistance they had hitherto offered to the spread of the Gospel. They besought him earnestly not to forsake them, promising that, as soon as they had rebuilt their cabins and palisade, so as to be somewhat protected against their enemies, they would build a much finer Chapel than their former one, and would attend prayers there more constantly than in the past. (Thwaites 1896-1901; see also Appendix A).

Yet, the *Jesuit Relations* do not describe the village in a different location when Garnier cursorily mentions his return in 1672:

> WE have Never performed our duties in greater quiet and with more Freedom than this year. Father Rafeix arrived at La Conception at The end of the month of July; and, a month afterward, I returned to St. Michel whence I had gone forth a year before, — Both because The village had been entirely consumed by fire, and because I alone remained at Tsonnontouan. (Thwaites 1896-1901; see also Appendix A).

While archaeologists frequently mention the movement of Iroquoian villages due to destruction during the various wars and battles being wages among Indian populations and with the French and English, the *Jesuit Relations* do not describe the Seneca villages of the St. Michel mission chain as being relocated or moved. Rather, they described returning to the various missions and villages. Another point is that the priests describe the large population and presence of multiple villages in the area, without any implication that there were only two or three villages along each creek (Honeoye and Mud creeks). Instead, the priests mention Indians coming from various villages in the area to hear the priests' stories or to ask them to heal the sick:

> Father Garnier took charge of the Village named Gandachiragou. There, in a short time, he built a Chapel, which is very convenient, and to which people come from all directions for instruction. (Thwaites 1896-1901; see also Appendix A).

Based on the *Jesuit Relations* (Thwaites 1896-1901; see also Appendix A). and Beauchamp's monograph, it is likely that there were several villages in the vicinity of what is now Honeoye Falls, with missions and their associated chapels only located at Sonnontouan and Gandachiragou. Therefore, several sites could potentially contain artifacts relevant to the time period. The *Jesuit Relations* describe the missionaries among the Seneca making little headway in converting and baptizing the Seneca, but report successes among the captives at Gandougarae (located along Mud Creek), in particular with the Hurons, many of whom had already been baptized. Non-religious trade items, such as copper pots, might be found at any of the Seneca villages. However, it remains to be seen if large amounts of religious artifacts (e.g., crosses) would be found at villages other than Gandougarae (St. Michel), where the Christian Hurons lived.

Methods to identify Catholic Mission sites have been debated within the archaeological literature (Latta 1985; Walthall 1991; Huey 1997; Jones and Shapiro 1990; Slade 2006). It is difficult to distinguish these sites from other Contact Period sites, since native structures and mission chapels would all have been wood structures, and only post molds would remain. Most

archaeological research in the United States concerning Catholic missions have involved Spanish Fransciscan missions in Florida, Texas and California. There are distinct differences between these missions and the French Jesuit missions which limit the utility of comparative archaeological research for the northeast. The differences are both related to ethnicity (Spanish versus French) as well as the orders running the missions (Franciscan versus Jesuits). Nonetheless, it is informative to review some of the criteria used, for example, by those studying Florida missions, for identifying a mission site. Florida missions typically had two buildings: the church, and the convento. Sometimes, there was also a third building, the kitchen (cocina). Jones and Shapiro (1990; cited in Slade 2006) used eight criteria to identify mission sites. Five of these criteria pertain to archaeological features: evidence of a church or cemetery, extended burials that are aligned with each other, structures with rectangular floor plans, wattle and daub construction, and prepared clay floors. The remaining three criteria relate to the artifact assemblage: iron spikes or nails, Mission period aboriginal artifacts, and imported Spanish artifacts.

As with Spanish missions in Florida, the best evidence for a site to be designated one of the mission sites (such as La Conception) would be remains of the chapel. The chapels are not described in detail, but, based on the little description in the *Jesuit Relations*, typically took two to three days to build (Appendix A; Thwaites 1896-1901). The typical chapel at the Iroquois missions were small and built like longhouses, made of bark. Sometimes the chapels were expanded or replaced, and could house a large number of Indians. The second chapel at Cayuga Castle was substantial, taking two months to build, and resembling a French house except for the bark roof. However, that chapel was built by a French assistant to the priest, not by the Indians.

The Dann site, proposed by Morton (2009, 2010) to be Gandouchigaron, has presented clear evidence of seventeenth Century European grave goods with about 416 burials, including Christian influence (Sempowski 1987). For example, about 78 percent of the burials were in a flexed position, which is much higher than earlier sites (Morton 2009:34). About 89 percent of the graves had grave goods, with only 14 percent containing traditional “prehistoric” pottery, and only eight percent with flint artifacts (some gun flints). Most containers were brass kettles, which were found in over half of the graves. Other brass grave goods include beads, rings, hawk’s bells, Jew’s harps, thimbles, bracelets, and chains. Other items included European items such as tin boxes, pewter dishes, spoons, tankards, as well as silver-plated spoons and a button. Iron objects were considerably varied, including rings, buttons, bracelets, and mirror boxes, as well as iron implements and tools found in 57 percent of the graves, including knives, axes, scissors, a bullet mold, and gun parts. Also found were antler combs or other bone items (15 percent), and shell beads including recognizable wampum belts were in about nine percent of the graves. Smoking pipes, occurring in 19 percent of the graves, were atypically varied, including native pottery, European ceramic, pewter, wood, steatite, sandstone, and limestone. Dog remains were found with two human burials, and a sole dog burial with *marginella* beads and a block of hematite were also found. Other items include woven baskets.

Only a few artifacts found at the site can be interpreted as related to the missions, including rings, and a wooden crucifix with a brass image on it. Datable items include two 1643 coins, a snuff box dating to 1634, and a piece of a possible baptismal certificate, with “J. Garnier” (presumably Father Julian Garnier, the missionary priest at Gandachigarou) were also found. No clear evidence of a chapel was found. Most likely, it would be very difficult to distinguish a mission village from other villages in the area if no chapel is found.

In the *Jesuit Relations* and archaeological literature pertaining to the Dann site, there was no discussion of wattle-and-daub, the preparation of clay floors, or iron spikes and nails (Thwaites 1896-1901; see also Appendix A). Morton (2009) discusses the artifacts found at the Dann site, but does not mention iron spikes and nails. She describes flexed burials, and does not state if the burials were aligned. No church was identified, which would be comparatively difficult since Iroquois houses were rectangular. If iron spikes and nails were used, a spatial distribution of them in relation to post molds might help to identify the former location of a church.

2.3 DOCUMENTARY RESEARCH

2.3.1. Historic Map Analysis. Two historic period maps (Beers 1872a and b; USGS 1904) were reviewed for the project area. No map documented structures (MDSs) are shown within the APE on either of these maps. In 1872 (Figure 7, top), a structure labeled H. Leavensworth is shown to the immediate south of the west end of the APE, but is not shown on the 1904 topographic map (Figure 8). Neither map shows the quarrying east of the APE illustrated in Figure 1 (and located in the Town of Lima). In general, the project area has remained within a remote, rural farmland, beyond the outskirts of the small villages of the area, with few developments or improvements.

2.3.2. Site File and Archival Review. A review of archaeological site files was conducted. No sites were found within the area of potential effect. No previously identified sites are within the APE. Eight sites are within 1½ miles, including four possible locations for Gandouchigarou (Table 2). Most of these have already been described above.

To the southwest are the Kirkwood (NYSM 1020) and Oak Opening Road (NYS OPRHP 5107.000039) sites, both of which are encompassed by the boundaries of NYSM 3747. Because of their proximity, these three sites may all be part of one village or different components of a large site. The Kirkwood site (a.k.a. Crouse Farm) has been described by Harrison C. Follett as the location of Gandachigarou (or Gandouchiragon), the French Catholic mission, although Beauchamp (1900) proposes at least five, possibly six, different locations for this mission site (described above). One of these alternative locations is the Dann site, located about 5,400 ft (1,646 m) east of the project area and described above (Morton 2009, 2010). Other possible locations for Gandachigarou are Fort Hill, located about 4,425 ft (1,349 m) southeast of the APE, and the Power House site, about 7,500 ft (2286 m) southeast.

Two other sites within one mile of the project area include the William Lockwood Farm, located just west of the Dann site, containing both an unidentified prehistoric component and a historic farmstead component (ca. 1900). NYSM 8788 is a prehistoric site described as “traces of occupation,” located 3,464 ft (1,056 m) northeast of the project area, generally near the Dann site. Both of these prehistoric sites may be extensions of the Dann site around Spring Brook.

Early archaeological surveys such as Squier (1851), Beauchamp (1900), Houghton (1909), and Parker (1922) do not indicate the presence of any prehistoric sites in the vicinity of the project area. Later archaeological work by Ritchie (1980) and Ritchie and Funk (1973) do not denote the presence of archaeological sites within the project area. No state or National Register of Historic Places eligible or listed properties have been reported in the APE.

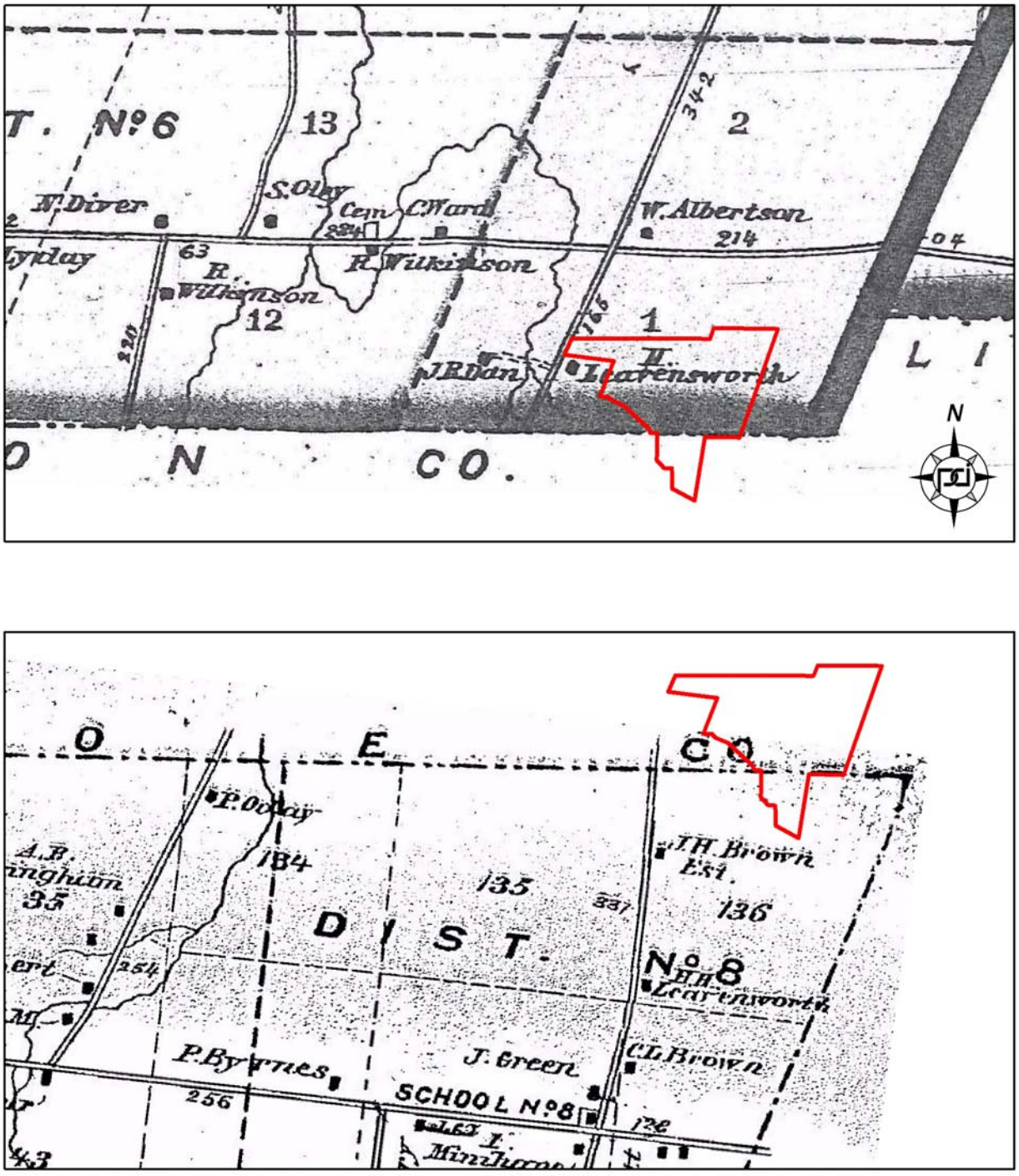

Figure 7. The project area in the Town of Rush, Monroe County (top) and the Town of Avon, Livingston County (bottom) in 1872 *(composite of two adjacent maps from Beers 1872a and b).*

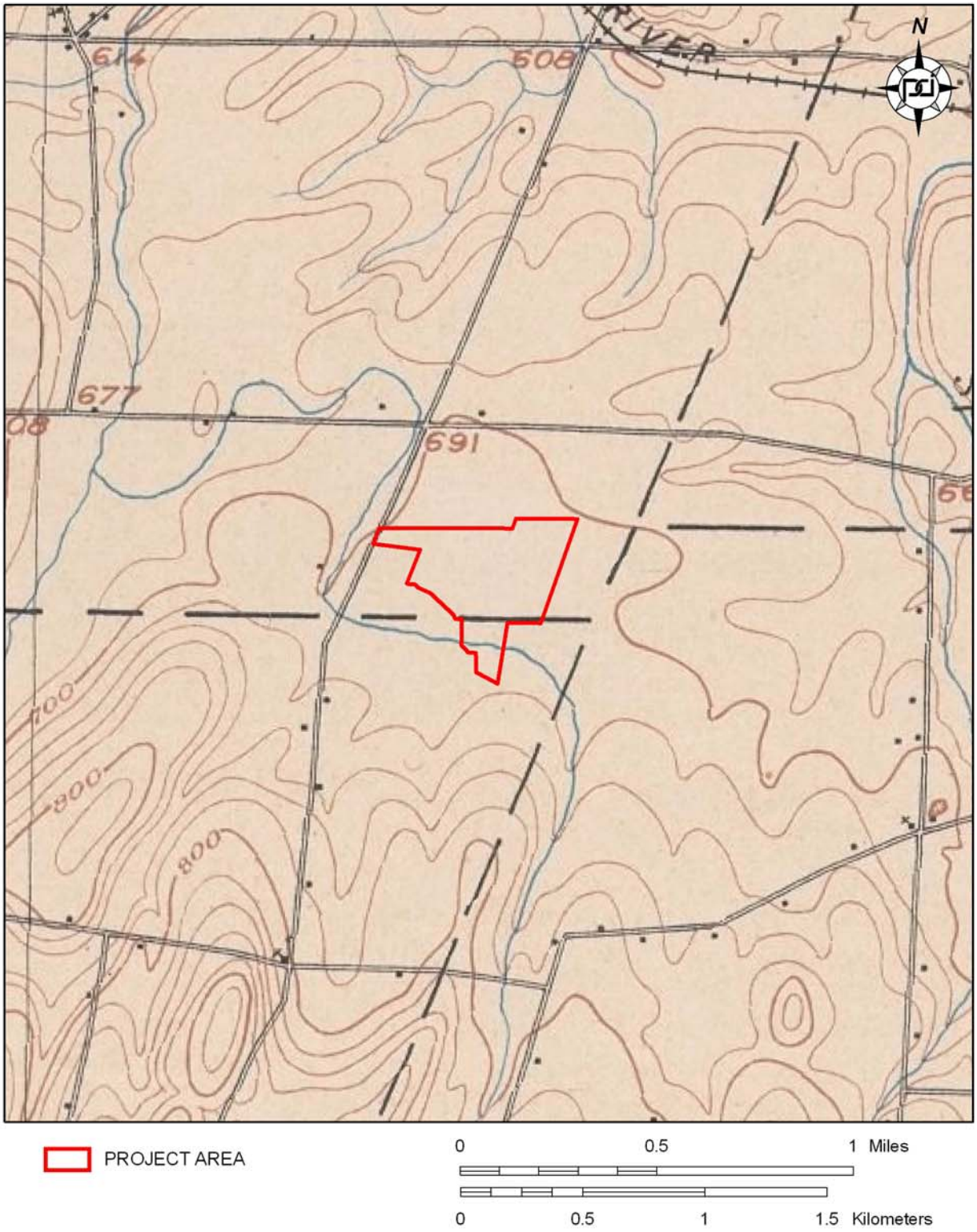

Figure 8. The project area in 1904 *(USGS Honeoye, NY 1904).*

Table 2. Archaeological sites within one mile of the project area.

NYSOPRHP Site #	Additional Site #	Distance to APE ft (m)	Time Period	Site Type
Southwest Village Cluster				
	NYSM 3747, ACP LSTN No #	866 (264) SW		described as "village"
	NYSM 1020, HNE 31-1 RMSC, Follett Livingston #12; Kirkwood, Crouse	3,641 (1,110) SW	Historic Seneca	village, possible French Catholic mission Gandouchigarou
5107.000039	Follett Livingston County #4, Oak Opening Road	3,654 (1,114) SW	unidentified prehistoric	
East Sites, Near Spring Brook				
5509.000057	William Lockwood Farm building	5,137 (1,566) E	prehistoric/ historic (ca. 1900)	Prehistoric: debitage, FCR, bone disc bead; possible extension of Dann site along Spring Brook; Historic: stone foundation, concrete floor
5509.000003	NYSM 1022, Dann Site	5,400 (1,646) E	Seneca, ca. 1655-1675	attributed as Gandachiragou by Morton
	NYSM 8788, ACP MNRO No #	3,464 (1,056) NE	prehistoric	traces of occupation; possible extension of Dann site along Spring Brook
Other Sites				
	NYSM 3662, ACP LSTN 46, Fort Hill	4,425 (1,349)SE		village, possible location of Gandouchigarou
	NYSM 1021, HNE2-2 RMSC Power House/ Keinthe	7,500 (2,286)SE	Seneca, ca. 1635-1655	village, possible location of Gandouchigarou

2.4 PHASE IA ARCHAEOLOGICAL SENSITIVITY ASSESSMENT

As discussed, the project area is within a region that was favored for settlement by the Iroquois during the Contact Period. Multiple Contact Period village sites are known to be in the vicinity of the APE. Table 3 presents the setting characteristics of village sites in the vicinity of the project area for comparison with the project area. The project area and neighboring village sites share similar features. They are each on or near well to very well drained till plains and most have similar soils (e.g., Lima silt loam, Honeoye silty loam). These soils are present in the central and eastern portions of the APE which are essentially delineated by active agricultural fields.

Each of the neighboring village sites are at, or adjacent to (presumably), potable water sources. The south side of the project area is also adjacent to an unnamed tributary but this area is low and poorly drained thus lowering archaeological sensitivity for that location.

The range of topographic elevations within the project area is within the range of elevations for neighboring village sites. The project area is between 700 ft (213 m) AMSL and to 720 ft (219 m) AMSL. Neighboring villages are between 650 and 900 ft (198 and 274 m) AMSL. All but the Dann Site are at higher elevations than the project area in that range. Later Iroquoian village sites were more commonly located on high ground (e.g., hilltops) rather than river valleys presumably for defensive purposes (Engelbrecht 2003:89). The closest reported village site NYSM 1020 is less than a half-mile southwest of, and overlooking the project area from a high terrace on a hillside. Unlike that location, the lower and relatively level terrain of the project area would have poorly been situated for defensibility.

The setting has multiple geographic features and characteristics that would have been attractive for utilization as part of the catchment area for any or all of the Iroquoian village sites previously discussed in Section 2. The setting would also have been favorable for Pre-Contact Native American camps throughout the Holocene Epoch. With the exception of a small area in the south part the APE, the soils are well to excessively-well drained. The central portion of the project area would have been well suited for agricultural use as it is currently used and fallow open fields would have been attractive for browsing animals that could be hunted. The low, seasonally wet southern part of the APE could also have been utilized for the procurement of resources characteristically found in that setting (e.g., migratory water fowl, plants/herbs) rather than used for settlement. An unnamed tributary of Honeoye Creek located just south of the project area could have been a source of presumably potable water. The Onondaga limestone bedrock shallow or at the ground surface in the northwestern and southeastern parts of the APE but the presence of chert bearing layers is not known and quarry sites have not been reported in the vicinity.

Background research results indicate that the project area would be considered sensitive for Native American burials due to the relative proximity of reported village sites. This sensitivity does not equate to a consideration that their presence is likely. At the Dann Site located just over one mile to the east, several cemetery groupings of numerous burials were found just outside of the former palisade location. Even though cemeteries were placed closer if not adjacent to villages during the Contact Period, burial locations have also been reported to be some distance from villages in an effort to separate the spirits from the living and avoid negative spiritual influences (Engelbrecht 2003:61). Although the project area could have been situated at a preferred distance for any of the neighboring reported village sites, the project area would likely been more valued for agriculture.

Other than bone, concentrations of artifacts characteristic of grave goods (e.g., pipes, effigies, glass or shell beads, metal trade goods or native copper, etc.) could be indicative of the presence of burials in the APE. In addition, attention should be paid to soil color as changes (e.g., patches of dark organically rich soil in an otherwise lighter colored soil matrix) could indicate a possible burial location.

Table 3. Setting characteristics of village sites in the vicinity of the project area.

Site Name(s)	Distance to APE ft (m)	Site Description	Time Period	Landform	Distance to water	Elevation ft (m)	USDA Soil Information		
							Soil Type	Drainage	Slope
NYSM 3747, ACP LSTN No # [note: this broadly defined site might be NYSM 1020 below]	866 (264) SW	Village	No information	Broadly defined hillside	Adjacent	710-830 (216-253)	Multiple soil types due to broadly defined area. Predominant soils: Ontario loam and Lima loam Palmyra gravelly loam	Somewhat poorly to well drained	0-6%
NYSM 1020, HNE 31-1 RMSC, Follett Livingston #12; Kirkwood, Crouse	3,641 (1,110) SW	Village, possible French Catholic mission Gandouchigaron	Historic Seneca	Drumlins, till plains, on summit/crest	Adjacent (<300 ft)	780 (238)	Ontario Loam	Well	1-8%
NYSM 3662, ACP LSTN 46, Fort Hill	4,425 (1,349) SE	Village	Historic	Broadly defined area including Drumlins, till plains, on summit/crest, and toe slope	Adjacent	760-900 (232-274)	Multiple soil types due to broadly defined area. Predominant soils: Ontario loam and Lima silt loam	Moderately well to well	1-6%
Power House/Keinthe?	6,560 (2,000)	Village	Seneca, ca. 1635-1655	Drumlins, till plains, on summit/crest	Adjacent	730 (223)	Lima Silt Loam, Wayland Silt Loam	Moderately well	1-6%
OPRHP 5509.000003 Dann Site	5,400 (1,646) E	Village	Seneca, ca. 1655-1675	Drumlins, till plains, on summit/crest	Adjacent (at confluence)	650 (198)	Honeoye Silty Loam, Wayland Silty Loam, Appleton Loam	Well	3-8%

3.0 Phase IB Investigation

3.1 METHODOLOGY

The Phase IB field investigation is designed to provide a complete examination of the APE in order to identify and assess any known or unknown cultural resources. These resources include prehistoric and historic archaeological sites as well as standing structures or other aboveground features. The Phase I field investigation included an intensive surface and subsurface examination (e.g., shovel testing) of the proposed impact areas and photographic reconnaissance of the project site and vicinity.

A walkover survey was conducted across the project area to identify testable locations, cultural features, surface visibility, soil disturbance, wet or poorly drained areas, as well as well drained, sensitive areas that would require testing. Approximately 50 percent (30 acres) of the APE is active agricultural land that was freshly plowed and disked to facilitate surface inspection. The surface visibility was at or near 100 percent which made the technique of surface inspection very effective for the identification of cultural materials that could remain from sites ranging from very small to large. The ability to surface inspect this area was advantageous because it is the most archaeologically sensitive part of the APE due to good drainage and other factors discussed in Section 2. In addition, this technique was effective because the project area is not sensitive for deeply buried cultural deposits. The soils that are present were deposited before the Holocene and the location is not subjected to alluvial, colluvial or significant aeolian soil deposition. Therefore, surface inspection successfully samples the most archaeologically sensitive soils.

Subsurface testing was conducted across all non-agricultural areas as well as in agricultural areas where vegetation obscures surface visibility. Typically, shovel test pits (STPs) are excavated at a standard 50-foot (15-m) interval throughout the project area. Subsurface shovel testing was the primary method used to investigate the remaining 30-acres of the APE that could not be plowed/tilled. These locations cannot be, or have not been used for modern agriculture because they are either poorly drained or the bedrock is at or near the surface. These locations are characteristically less sensitive for Pre-Contact, Contact and Historic period sites. Therefore, the standard 15-m (50-ft) interval was used between shovel tests unless precluded by standing water or the presence of bedrock. All locations were visually inspected.

Shovel tests average a minimum of 40 cm (16 in) in diameter and are excavated to at least 10 cm (4 in) below potentially artifact-bearing soils. Areas of severe disturbance, standing water, and slope greater than 15 percent were documented but not shovel tested. All soils were matched to Munsell® color charts and sieved through ¼-inch hardware screens. All shovel tests were backfilled to natural contour upon completion. Additional shovel tests were excavated around positive shovel tests, as required, to define site boundaries, artifact concentrations, and sample potential archaeological sites.

Artifacts found during the survey were collected and placed in plastic or paper bags, and labeled with pertinent provenience information. Modern materials, such as plastic and container glass, were noted on field forms but not collected. Materials, such as coal, red brick fragments, and miscellaneous nail fragments were noted but not collected unless they can be clearly identified as historic or found in association with historic period artifacts. All field information collected from shovel tests was recorded on shovel test forms, including the location, pertinent stratigraphic data, soil types, natural or man-made disturbances in the area, and the presence

or absence of cultural materials. The field director maintained a daily log, and took photographs of pertinent manmade disturbances and environmental conditions. All shovel tests were recorded on a project map and included in the report (Section 3.3).

3.2 LABORATORY ANALYSIS

Recovered cultural materials are stored at Panamerican's Buffalo Office for processing and analysis. Processing of recovered artifacts follows guidelines elaborated in 36 CFR Part 79 (Curation of Federally-Owned and Administered Archaeological Collections) and in the New York Archaeological Council's Standards and Curation of Archaeological Collections document (NYAC 1994). Standard archaeological procedures of cleaning and storage are also followed, with provenience information kept with artifacts at all times. Permanent curation of artifacts is arranged with landowner consent.

Lithic Analysis. Prehistoric lithic artifacts are classified in terms of morphology and function. Tool types are described using standard terminology for lithic industries (such as projectile points and end-scrapers; e.g. Crabtree 1972: Part II: 31-98). Projectile point morphological descriptions conform to those outlined by Ritchie (1989). Pieces of debitage are classified using a system with six categories, including: primary, secondary, and tertiary reduction flakes, flake fragments, broken flakes, and shatter. Debitage is also examined for use-wear with the aid of a 10X jeweler's loupe. The central objective in debitage analysis is to distinguish tool manufacture from tool maintenance activities. Lithic analysis enables inferences to be made about prehistoric site use and settlement patterns.

- Primary reduction flake - These flakes are debitage produced during the creation of a biface preform from a blank (a usable piece of lithic material selected for making a tool [Crabtree 1972:42]). They may serve as a blank for less elaborate tools. These flakes often have cortex (the original bedrock matrix or a weathered patina) or other impurities (e.g., crystalline inclusions, fossils) that were intentionally removed from the preform. Percussion is the main method used at this stage of tool manufacture.

- Secondary reduction flake - These flakes are debitage resulting from thinning a preform. They rarely have cortex, often exhibit broad dorsal scarring, and typically have large striking platforms and bulbs of percussion.

- Tertiary reduction flake - Tertiary reduction flakes are produced during tool finishing. Typically, they are small and thin with small striking or pressure flaking platforms.

- Shatter - This is a fragment of debitage without a striking platform, bulb of percussion or uniform flake scars. Shatter is typically created during the early stages of reduction such as removing blanks from a core. The force of percussion may separate these irregular fragments along cracks, imperfections, or other points of weakness in the material. Shatter lithics are easily confused with natural lithics due to their fragmentary nature.

- Flake fragments and broken flakes - A flake fragment is a portion of a broken flake missing proximal features such as the striking platform. A broken flake still has a striking platform but is otherwise incomplete (missing medial and distal or distal portions). The differentiation between flake fragments and broken flakes can be useful in considering assemblage size in relation to post-depositional damage (i.e., plow damage causing higher artifact counts).

These types of debitage and reflected stages of bifacial stone tool manufacturing are comparable to those presented by Errett Callahan (1979:9) in the following ways: primary reduction flakes are created during Stage 2 and Stage 3 “initial edging and primary thinning” of lithic biface manufacture; secondary reduction flakes are the result of Stage 4 “secondary thinning”; and tertiary reduction flakes are made during Stage 5 “shaping”. It is also important to consider bifacial lithic tool manufacturing as a continuum divided into these somewhat arbitrary stages (Waldorf 1993:20). As a result, some artifacts exhibit characteristics of two stages. For example, the presence of cortex is a characteristic most often found on primary reduction flakes, but cortex can be found, although rarely, on finished tools. The purpose of this method of description is to distinguish tool manufacture and maintenance activities (i.e., determining if it is a camp or workshop) in an effort to characterize site use and settlement patterns.

Historic artifact analysis typically entails the categorization of artifacts by broad material class (e.g. ceramic, glass, metal), with further subdivision into artifact types based on manufacturing characteristics, form, and function. Published reference guides, such as Noël Hume (1969), South (1977), and Miller (2000) are used for detailed artifact identification. The data is recorded in an artifact catalog, which includes provenience, material class, artifact type, count, secondary type (e.g. color of decoration on the ceramics), description (e.g., portion of vessel if a fragment; description of maker’s mark), and the beginning and ending dates of manufacture. In some instances, artifacts are also classified by functional category, which typically include household/kitchen, structural/architectural, industrial, and personal.

3.3 FIELD INVESTIGATION RESULTS

The project area is on rural land located on the northwest side of the existing permitted Hanson Aggregates limestone mine (see Figure 1; Appendix A: Photographs 1 through 22). Approximately 38 acres of the project area included recently plowed and disked agricultural fields (Figure 9; see Appendix A: Photographs 1, 2 and 3). Woods and a former pasture totaling 15 acres are located along the north extent of the project area (see Appendix A: Photographs 4 and 5). There is a second wooded area totaling 11 acres in the south portion of the project area that is low-lying and poorly drained (see Appendix A: Photograph 6). A previously disturbed area 150-ft by 550-ft (46-m by 168-m), totaling under 2 acres, is located within the wooded south portion of the project area (see Figure 9; see Appendix A: Photograph 7). This disturbed area was stripped to bedrock (now partially obscured by vegetation, see Appendix A: Photograph 8) during the construction of the approximately 15-ft (5-m) high earthen berm adjacent to the edge of the project area (outside the APE, see Appendix A: Photograph 7) and the open–pit mine.

There are no extant buildings or indicated MDS locations (see Section 2.3) within the project area. There is a dry-stacked stone fence adjacent to the north boundary of the project area (outside the APE), extending westward from the centralized woods (see Figure 9; see Appendix A: Photograph 10). The presence of the stone fence suggests possible past land use including, but not limited to field-clearing activities, containment of domesticated animals, or indication of property limits. A recently constructed residence is located 100 ft (30 m) north of the stone fence (see Appendix A: Photograph 10). There is a farmhouse and barn older than 50 years at 916 Works Road, located within 250 ft (76 m) of the APE (see Appendix A: Photographs 11 and 12). The farmhouse may be that attributed to “Leavenworth” on the referenced 1872 historic map (Figure 7; see Section 2.3.1).

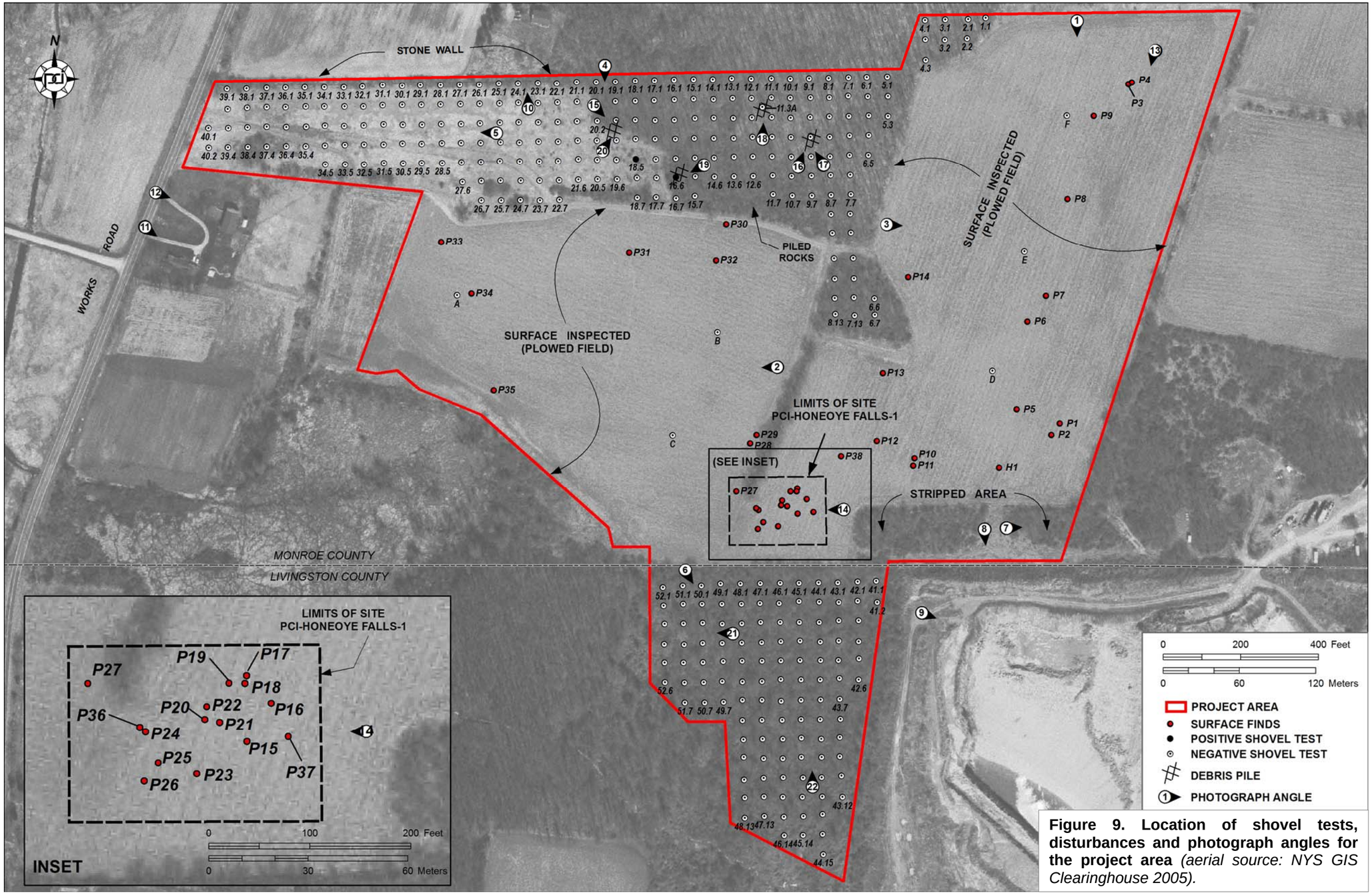

Figure 9. Location of shovel tests, disturbances and photograph angles for the project area *(aerial source: NYS GIS Clearinghouse 2005).*

The Phase I field investigation employed two survey methodologies: Systematic surface inspection of recently plowed and tilled fields and subsurface testing of vegetated areas at the standard 15-m (50-ft) interval. In total, 38 acres were surface inspected and 24 acres were shovel tested. A total 364 shovel tests were dug during the field investigation (see Appendix B: Shovel Test Log). For analytical purposes, a description of the results obtained during the systematic surface inspection and the shovel test survey are presented separately below.

3.3.1 Surface Inspection. As previously stated, the agricultural fields within the project area were recently plowed and disked, providing between 95 and 100 percent surface visibility (see Appendix A: Photograph 13). Therefore, the applied method of survey was systematic surface inspection at 3 to 5 meter (9.8 to 16.4 foot) intervals.

All artifact finds were field-designated a unique number (i.e., P1 for prehistoric find number 1; H1 for historic find number 1). The location of each artifact was recorded by the Field Director on an aerial map of the project area. The GPS location of each find was obtained employing a Garmin Rino 120 FRS/GMRS radio plus GPS navigator, with way points and positioning accuracy recorded in the field book along with a brief artifact description. Artifacts were individually collected and bagged, with exception of multiple finds within a 1-m (3.3-ft) radius which were collected together.

Six shovel tests (STPs A, B, C, D, E and F) were dug to document the soil stratigraphy within portions of the project area (i.e., plowed fields) subjected to a systematic surface inspection. The tests were placed equidistant to one another and exhibited similar results. Two soil horizons were identified. Stratum 1 was dark gray brown gravelly sandy loam averaging 33 cm (13 in) deep; Stratum 2 was typically yellowish brown or mottled pale brown and yellowish brown gravelly sandy clay. The average terminal depth of the tests was 46 cm (18.1 in) (see Appendix B: Shovel Test Log).

Two stray historic artifacts were found as a result of the intensive surface survey – an unidentified iron harness or machinery part consisting of a 3.5-in (6.4-cm) diameter ring with an attached open hook and a split-pin and a clear glass medicine bottle. The unidentified hardware was found in the southeast corner of the project area and assigned find number H1 (see Figure 9). Appearing in the field as potentially forged and therefore of an earlier period, examination in the lab suggests the assembly is of recent manufacture. No other historic (or potentially historic) artifacts were found during the surface inspection.

A total of 47 prehistoric lithic artifacts were found during the surface survey, 20 of which were clustered in the south-central portion of the project area, and the remaining 27 were widely distributed across the project area (see Figure 9; see Appendix C: Artifact Catalog). The artifact cluster is temporarily designated Site PCI/Honeoye Falls-1 until it is assigned an OPRHP site number. A New York State archaeological site form has been prepared for this site and is included as Appendix D.

PCI/Honeoye Falls-1. A total of 20 artifacts were initially found on the ground surface clustered within a one-acre area (175 by 250 ft (53 by 76 m) in the south-central portion of the project area (see Figure 9 inset; Appendix A: Photograph 14). The elevation of this site is approximately 715 ft (218 m) AMSL.

Using find-spot P20 as datum, 14 shovel tests were dug at close intervals of 7.5 m (24.6 ft) or less across the site in cardinal directions to assess soil stratigraphy (Figure 10). Two tests contained cultural materials. One biface was found in STP P20+7.5m W and one tertiary reduction flake was in the topsoil of STP P20+22.5m E. Soils were recorded as dark grayish

brown sandy loam and gravel over yellowish brown or mottled pale brown and brownish yellow sandy clay and gravel.

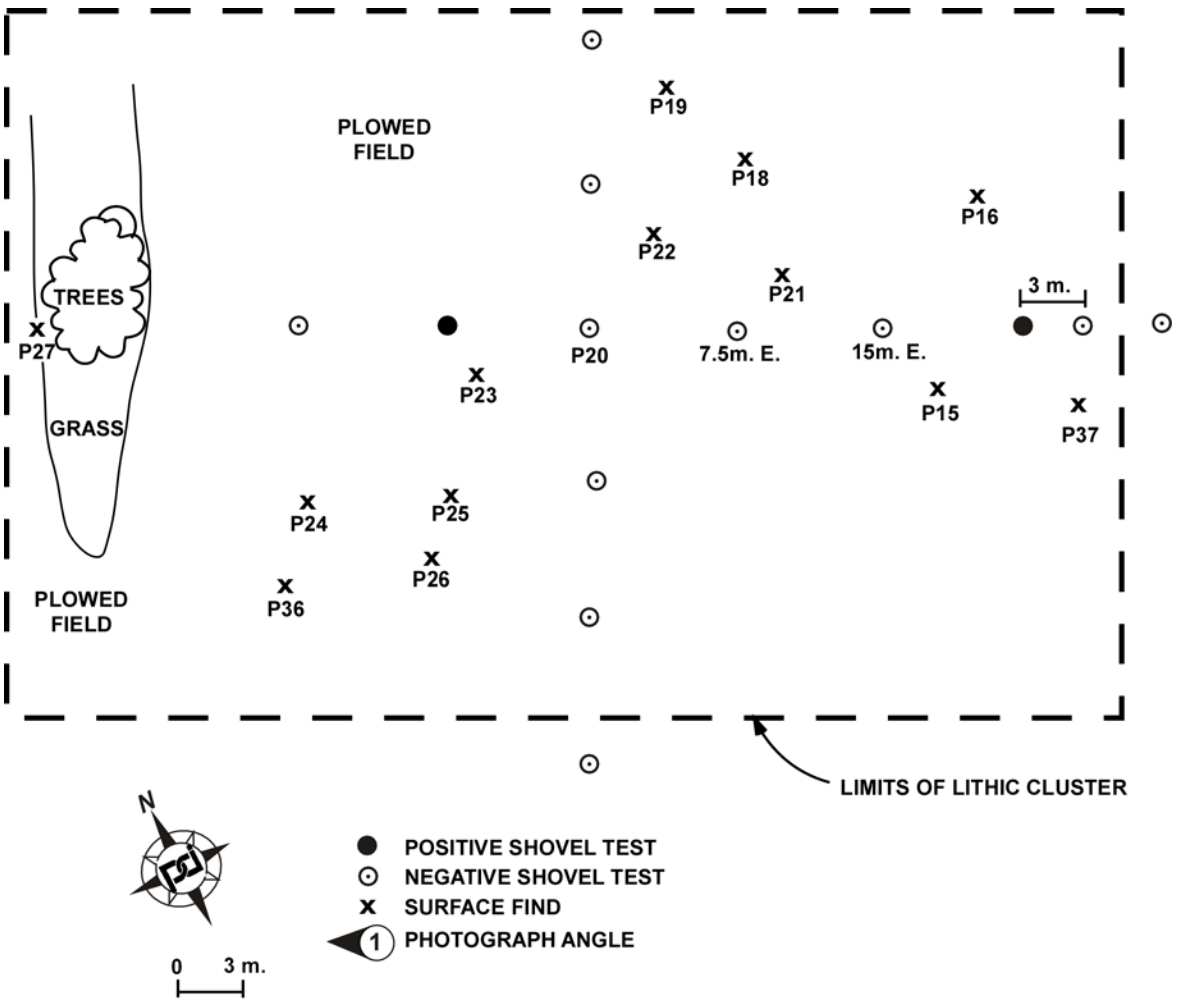

Figure 10. Shovel test and surface find locations at Site PCI/Honeoye Falls-1.

In all, 23 prehistoric artifacts were found at Site PCI/Honeoye Falls-1: 21 found during surface inspection and two artifacts found in shovel tests. Sixty-one percent (n=14) of the artifacts were lithic debitage representing all stages of tool manufacture (Table 4). The remaining 39 percent (n=9) of the artifacts are tools, including two utilized flakes, two projectile points, two scrapers, two knives and one multi-use biface. One of the projectile points is a Brewerton Corner-Notched representative of the Late Archaic Period and the other is a Madison point of the late Woodland Period. The tools have little to moderate usewear. Two artifacts have potlid flake scars from heat exposure but no fire-cracked rocks were found. All of the lithics appear to be made from locally available Onondaga chert. No inter-site activity areas can be inferred from the Phase I assemblage due to the effects of plowing in the small area.

Table 4. Site PCI/Honeoye Falls-1 artifact catalog.

Artifact Type	Secondary Type	Location	Total
Debitage	Primary reduction flake	P21, P25, P26	**3**
	Secondary reduction flake	P15, P19, P20, P26	**4**
	Tertiary reduction flake	P17, STP P20 (22.5 E), P24, P27	**4**
	Flake fragment	P21, P23	**2**
	Shatter	P27	**1**
Debitage Total			**14**
Tool	Projectile point	P16, P37	**2**
	Scraper	P24, P25	**2**
	Utilized flake	P18, P22	**2**
	Knife	P26, P36	**2**
	Multiple-use Biface	STP P20 (7.5 W)	**1**
Tool Total			**9**
Total			**23**

Stray/Isolated Finds. A total of 24 artifacts considered to be isolated or stray finds were found scattered across the APE (see Figure 9). Twenty-four were found during surface inspection and one was in an isolated shovel test. Thirty-three percent (n=8) of the artifacts were lithic debitage representing all stages of tool manufacture (Table 5). Sixty-seven percent (n=16) of the artifacts are tools including six projectile points, four scrapers, five knives and one possible abrader. The diagnostic features of the projectile points indicate recurring human presence in the APE in the Late Archaic (Lamoka [P11], Brewerton Side-Notched [P2]), Transitional (Perkiomen [P6]), Transitional/Early Woodland (Orient Fishtail [P31]) and the Late Woodland (Levanna [P5]) Periods. The usewear on the tools ranges from none to heavy in degree, but most have moderate cutting or scraping usewear dependent on the tool type. All but two of the lithics appear to be made from locally available Onondaga chert. The two exceptions include a scraper (location P32) that appears to be made from Flint Ridge chert and a disk-shaped abrader (location P8) that is made from a coarse-grained lithic of undetermined type.

Table 5. Stray/isolated prehistoric artifact catalog.

Artifact Type	Secondary Type	Location	Total
Debitage	Primary reduction flake	P14, P30	**2**
	Secondary reduction flake	P3, P9	**2**
	Tertiary reduction flake	P29	**1**
	Flake fragment	P4, P10, STP 19.5	**3**
Debitage Total			**8**
Tool	Projectile point	P2, P5, P6, P11, P31, P34	**6**
	Scraper	P1, P7, P32, P33	**4**
	Knife	P12, P13, P28, P35, P38	**5**
	Abrader	P8	**1**
Tool Total			**16**
Total			**24**

3.3.2 Shovel Testing. The woods and a former pasture located along the north extent of the project area were shovel tested at the standard 50-ft (15-m) interval. A total of 235 shovel tests (including eight close-interval shovel tests and one exploratory test) were dug on Transects 1 through 40 over this area (see Figure 9; see Appendix B: Shovel Test Log). Large piles of field stones (see Appendix A: Photograph 15) were found along the length of the tree-line and the adjacent pasture/plowed fields, prohibiting the placement of an additional test at the end of Transects 9 through 14 (see Figure 9).

In comparison to soils recorded in the plowed portion of the project area, soils within the wooded/vegetated area avoided by the plow tended to exhibit increased rock content and be shallower in depth. Of the total, 94 tests (40 percent) exhibited shallow soils (one stratum) between Transects 21 and 36, as bedrock was reached at an average depth of 16 cm (6 in). In these, Stratum 1 consisted of dark to very-dark grayish brown gravelly sandy loam. This is consistent with the USDA classifications and assessments of shallow or exposed bedrock (see Section 2.4).

Two soil horizons were identified within the remaining 141 shovel tests dug along Transects 1 through 40. In these, Stratum 1 was typically dark to very dark grayish brown gravelly sandy loam, averaging 23 cm (9.1 in) deep; Stratum 2 (i.e., B-horizon) was characteristically a yellowish brown gravelly sandy loam or sandy clay. The average terminal depth of the tests was 35 cm (13.8 in) (see Appendix B: Shovel Test Log). Twelve tests terminated before the excavation of 10 cm (3.9 in) in Stratum 2 due to bedrock (see Appendix B: Shovel Test Log).

Four modern/recent historic surface scatters (refuse dumps) were observed on or near STPs 9.4, 11.3, 17.5 and 18.4 located within the woods in the north portion of the project area. STP 9.4 was located within the limits of an approximately 12-ft (4-m) diameter scatter of rusty cans and shoe leather (see Appendix A: Photographs 16 and 17). STP 11.3A was placed centrally within a low-density glass bottle scatter located 20 ft (6.1 m) northwest of STP 11.3. STP 17.5 was located centrally within a large-diameter surface scatter of dumped canning jars and rusty paint cans (see Appendix A: Photograph 18). The shovel tests revealed that the observed materials were largely limited to the surface; no buried or stratified deposits were identified.

The fourth surface scatter consisted of a pile of corroded beer cans located on exposed bedrock near STP 18.4. The scatter of beer cans included a limited amount of cone-types including an identified example of “Old Topper Snappy Ale” (bottled in Rochester, NY circa 1950); and later common flat-tops opened with bottle-opener/church-key. Collectively, the beer cans date between 1950 and 1970.

The quality of preservation of shoe leather found on the surface near STP 9.4 suggests that some of these materials may not have been there very long – possibly representing a more recent discard of old trash from another source. It was determined in the field that the observed materials were likely recent (within 50 years of manufacture) or possibly recent-historic, so the finds were photographed and noted, but not collected.

One flake fragment made from Onondaga chert was found in STP 19.5, Stratum 1 (see Figure 9; see Appendix B: Shovel Test Log; see Appendix C: Artifact Catalog). Eight radial STPs were then dug at close-intervals round the original find-spot (four at 1-m [3.3-ft] and four at 3-m [9.8-ft] intervals in cardinal directions (Figure 11). No additional cultural artifacts or features were identified in the radial tests.

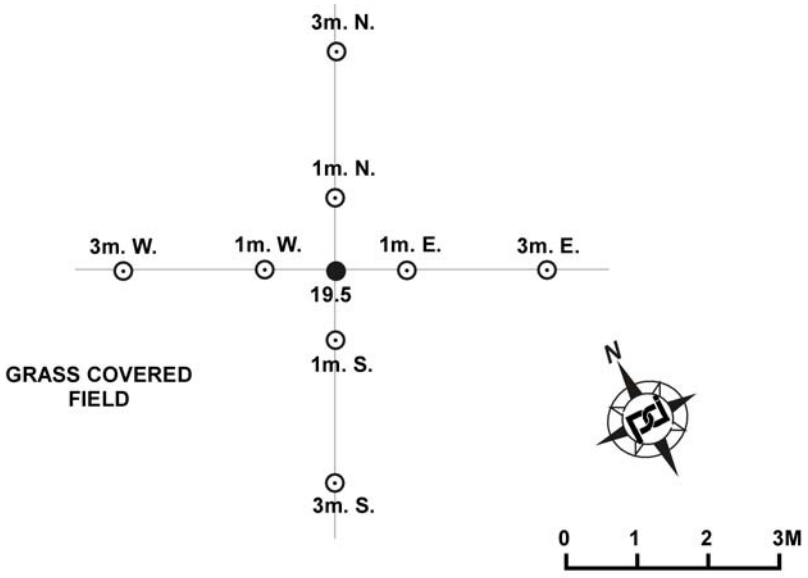

Figure 11. Close-interval radial shovel test locations around positive STP 19.5.

A total of 109 shovel tests were dug on Transects 41 through 52 located within the low-lying wooded area at the south extent of the project area (see Figure 9; see Appendix B: Shovel Test Log). This portion of the project area was fairly wet, with seepage or water filling a quarter of the tests dug (n=22) (see Appendix b: Shovel Test Log; see Appendix A: Photographs 21 and 22).

Two soil horizons were identified in tests dug along Transects 11 through 52 in the south area. Stratum 1 was typically dark gray to dark grayish brown silty loam or sandy loam, averaging 24 cm (9.5 in) deep; Stratum 2 varied, consisting frequently of yellowish brown sandy clay, or less frequently, mottled pale brown and brownish yellow sandy clay. The average terminal depth of the tests was 35 cm (13.8 in) (see Appendix B: Shovel Test Log). Six tests (STPs 45.7, 45.8, 45.9, 45.12, 48.8 and 48.9) terminated in Stratum 1 without reaching Stratum 2 due to water filling the pit at an average depth of 18 cm (7.1 in) depth. No cultural materials or features were found in the shovel tests of the south extent of the project area.

4.0 Conclusions and Recommendations

4.1 CONCLUSIONS

The background research results indicate the project area is sensitive for Pre-Contact Native American sites; the region, however, was heavily populated during the Contact Period thus raising the archaeological sensitivity for a Contact Period site. Background information did not show the APE to be highly sensitive for the presence of another Contact Period village site due to lack of defensibility, but the presence of hamlets and outlying burial locations was considered possible. The geographic setting of the APE makes it sensitive for sites associated with village catchment areas such as camps, small workshops, or stray finds that were lost or discarded during travel, agriculture, or foraging. The agricultural fields across the central and eastern parts of the APE were considered the most sensitive for archaeological cultural resources due to the presence of well-drained soils.

The Phase IB field investigation resulted in finding multiple stray finds and a concentration of prehistoric artifacts considered to be an archaeological site and designated PCI/Hanson Honeoye Falls-1. The site appears to be the remains of a small prehistoric camp where activities included stone tool production and resource processing. A total of 23 artifacts were found within a one- acre area with estimated dimensions of 175 by 250 ft (53 by 76 m). The presence of two diagnostic projectile points characteristic of two time periods (Late Archaic and Late Woodland Periods) indicate the site location was intermittently visited, but the association of either diagnostic tool with the remainder of the assemblage cannot be determined using the Phase I investigation results. No artifacts were found that are characteristic of a Contact Period site or cemetery location (e.g., exotic or elaborately crafted grave goods). As previously mentioned, no inter-site activity areas can be inferred from the Phase I assemblage due to the effects of plowing in the small area. A New York State Prehistoric Archaeological Site Inventory Form is presented as Appendix D.

The wide dispersal of isolated/stray artifacts in the APE is indicative that this area was repeatedly used for resource procurement (i.e., hunting and gathering) over thousands of years. The maximum artifact density of stray finds includes five artifacts within a one-acre area. The diagnostic characteristics on five of the projectile points indicate recurring human presence in the APE during the Late Archaic, Transitional, Early Woodland and the Late Woodland Periods. The tools were likely lost or discarded during transit between the multiple sites in this region or during hunting and foraging expeditions. The scattered debitage represents all stages of tool manufacture and maintenance but no concentrations were found to possibly indicate the presence of a workshop site.

4.2 RECOMMENDATIONS

The one prehistoric site found during this Phase I investigation, PCI/Honeoye Falls-1, is *potentially* eligible for inclusion in the National Register of Historic Places (NRHP) under Criteria D: An archaeological site that has yielded, or may be likely to yield, information important in prehistory or history" (U.S. Department of the Interior 1995:2). The results of this Phase I investigation are not sufficient to determine if Criteria D has been met. Further investigation could provide the information needed to assess NRHP eligibility or determine that the site does not meet NRHP criteria and would not require further investigation.

No further investigation is recommended for the isolated prehistoric find spots scattered throughout the agricultural fields, including those listed in Table 5. The low artifact density (less than five in a one-acre area) of the artifacts found outside Site PCI/Honeyoe Falls-1 does not merit additional investigation. The artifacts are broadly scattered and are not considered associated due to the great time span between cultural periods represented by diagnostic artifacts. Further investigations (e.g., Phase II) would likely produce similar results of widely scattered artifacts with no definitive association and low research potential due to the likely result of redundant data.

No further investigation is recommended for the four small modern/recent historic scatters found in the APE. These are light scatters of modern and historic materials and have no direct association with MDSs or other cultural features. These deposits have little to no research potential and are not potentially eligible for listing in the NRHP.

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Appendix A
PHOTOGRAPHS

Photograph 1. Systematic surface inspection of the plowed and disked field within the east portion of the project area, facing south *(Panamerican 2011).*

Photograph 2. Systematic surface inspection of the plowed and disked field within the west portion of the project area, facing west *(Panamerican 2011).*

Photograph 3. Plowed and disked portion of the project area, facing east. Hanson Aggregates Quarry is in the far distance *(Panamerican 2011).*

Photograph 4. Typical vegetation within north portion of the project area, facing south between Transects 19 and 20 over exposed bedrock (obscured by fallen leaves and snow) *(Panamerican 2011).*

Photograph 5. Grass-covered field tested at 50-ft (15-m) interval in northwest portion of the project area, facing westward from STP 26.4 *(Panamerican 2011).*

Photograph 6. Typical vegetation (woods and brush) covering wet area within south portion of the project area – tested at 50-ft (15-m) interval, facing southeast from edge of adjacent plowed field *(Panamerican 2011).*

Photograph 7. Disturbed area (100-ft wide) in south portion of APE where topsoil was stripped to bedrock in creating the 15-ft high berm at right (south), facing east *(Panamerican 2011).*

Photograph 8. Detail of exposed bedrock obscured by thin vegetation in 100-ft stripped area in south portion of APE, facing south *(Panamerican 2011).*

Photograph 9. The Hanson Aggregates Limestone Quarry, located outside the southeast corner of the project area, facing east *(Panamerican 2011).*

Photograph 10. A dry-stacked stone fence adjacent to the west portion of the project area's north boundary (outside the APE). The modern residence at rear is 150 feet north of STP 23.1 *(Panamerican 2011).*

Photograph 11. Northwest elevation of farmhouse at 916 Oak Openings Road, located 200 ft south (outside) of the project area where an MDS is indicated in 1872 *(Panamerican 2011).*

Photograph 12. Northwest elevation of barn associated with farmhouse at 916 Oak Openings Road *(Panamerican 2011).*

Photograph 13. Detail of typical surface visibility (95 to 100 percent) within plowed and disked portions of the project area during the field investigation. View is facing southwest within eastern field *(Panamerican 2011).*

Photograph 14. PCI/Hanson Honeoye Falls-1: conduct of exploratory tests at close intervals (7.5-m) over area of clustered prehistoric lithic finds (indicated by pin flags), facing westward from east limits *(Panamerican 2011).*

Photograph 15. Field stones piled along the edge of woods in the north portion of the project area (this example near Transect 20, facing southeast) *(Panamerican 2011).*

Photograph 16. A light surface scatter of mid-twentieth century glass bottles and paint/oil cans near STP 9.4, facing northeast *(Panamerican 2011).*

Photograph 17. Discarded shoe leather found on the north side of the light surface scatter near STP 9.4, facing northwest *(Panamerican 2011).*

Photograph 18. A light surface scatter of mid-twentieth century glass beverage and condiment bottles near STP 11.3, facing north *(Panamerican 2011).*

Photograph 19. A moderate surface deposit of mid-twentieth century canning jars and paint/oil cans near STP 16.6, facing southwest *(Panamerican 2011).*

Photograph 20. A light to moderate mid-twentieth century beverage/beer deposit found on top of exposed rocky outcrop near STP 18.4, facing northeast *(Panamerican 2011).*

Photograph 21. Example of standing water (near STP 48.3) covering a great extent of the south portion of the project area, facing west *(Panamerican 2011).*

Photograph 22. Another example of poorly drained soils (near STP 45.10) in the south portion of the project area, facing north *(Panamerican 2011).*

Appendix B
SHOVEL TEST LOG

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
1.1	1	0-21	10YR 4/2	DK GR BR	SA LO	NCM; rocky
1.1	2	21-31	10YR 5/4	YL BR	SA LO	NCM; rocky
2.1	1	0-29	10YR 3/2	V DK GR BR	SA LO	NCM
2.1	2	29-40	10YR 5/4	YL BR	SA LO	NCM
2.2	1	0-17	10YR 3/2	V DK GR BR	SA LO	NCM; bedrock impasse at 17cm
3.1	1	0-26	10YR 3/2	V DK GR BR	SA LO	NCM
3.1	2	26-38	10YR 5/4	YL BR	SA LO	NCM
3.2	1	0-30	10YR 3/2	V DK GR BR	SA LO	NCM; rock impasse at 30cm
4.1	1	0-20	10YR 3/2	V DK GR BR	SA LO	NCM; 40% gravel rock
4.1	2	20-30	10YR 4/3	BR	SA LO	NCM; 40% gravel rock
4.2	1	0-13	10YR 3/2	V DK GR BR	SA LO	NCM; 40% gravel rock
4.2	2	13-26	10YR 4/3	BR	SA LO	NCM; 40% gravel rock
4.3	1	0-16	10YR 3/2	V DK GR BR	SA LO	NCM; 40% gravel rock
4.3	2	1626	10YR 4/3	BR	SA LO	NCM; 40% gravel rock
5.1	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM; rocky
5.1	2	18-28	10YR 5/4	YL BR	SA LO	NCM; rocky
5.2	1	0-17	10YR 4/2	DK GR BR	SA LO	NCM; rocky
5.2	2	17-27	10YR 5/4	YL BR	SA LO	NCM; rocky
5.3	1	0-36	10YR 4/2	DK GR BR	SA LO	NCM; rocky
5.3	2	36-46	10YR 5/4	YL BR	SA LO	NCM; rocky
6.1	1	0-23	10YR 4/2	DK GR BR	SI LO	NCM
6.1	2	23-35	10YR 5/6	YL BR	SA CL	NCM
6.2	1	0-19	10YR 4/2	DK GR BR	SI LO	NCM; 10% gravel
6.2	2	19-31	10YR 5/6	YL BR	SA CL	NCM; 10% gravel
6.3	1	0-28	10YR 4/2	DK GR BR	SI LO	NCM
6.3	2	28-41	10YR 5/6	YL BR	SA CL	NCM
6.4	1	0-19	10YR 4/2	DK GR BR	SI LO	NCM; 30% gravel
6.4	2	19-32	10YR 5/6	YL BR	SA CL	NCM; 30% gravel
6.5	1	0-26	10YR 4/2	DK GR BR	SI LO	NCM; 20% gravel
6.5	2	26-38	10YR 5/6	YL BR	SA CL	NCM; 20% gravel
6.6	1	0-22	10YR 3/2	V DK GR BR	SA LO	NCM; 40% rock; rock impasse at 22cm
6.7	1	0-15	10YR 3/2	V DK GR BR	SA LO	NCM
6.7	2	15-25	10YR 5/6	YL BR	SA CL LO	NCM
7.1	1	0-25	10YR 4/2	DK GR BR	SA SI	NCM
7.1	2	25-37	10YR 5/4	YL BR	SA	NCM
7.2	1	0-27	10YR 4/2	DK GR BR	SA SI	NCM
7.2	2	27-39	10YR 5/4	YL BR	SA	NCM
7.3	1	0-19	10YR 4/2	DK GR BR	SA SI	NCM
7.3	2	19-31	10YR 5/4	YL BR	SA	NCM
7.4	1	0-23	10YR 4/2	DK GR BR	SA SI	NCM
7.4	2	23-36	10YR 5/6	YL BR	SA	NCM
7.5	1	0-31	10YR 4/2	DK GR BR	SA SI	NCM
7.5	2	31-42	10YR 5/6	YL BR	SA	NCM
7.6	1	0-27	10YR 4/2	DK GR BR	SA SI	NCM
7.6	2	27-37	10YR 5/6	YL BR	SA	NCM
7.7	1	0-23	10YR 4/2	DK GR BR	SA SI	NCM
7.7	2	23-34	10YR 5/6	YL BR	SA	NCM
7.8	1	0-25	10YR 4/2	DK GR BR	SA SI	NCM
7.8	2	25-35	10YR 5/6	YL BR	SA	NCM
7.9	1	0-20	10YR 3/2	V DK GR BR	SA LO	NCM; 20% rock
7.9	2	20-30	10YR 4/6	DK YL BR	SA CL LO	NCM
7.10	1	0-20	10YR 3/2	V DK GR BR	SA LO	NCM; 30% rock
Key	**Soil Color:** BR = brown, DK = dark, GR = gray, LT = light, V = very, YL = yellow					
	Soil Description: CL = clay, LO = loam, SA = sand, SI = silt					
	Comments: NCM = no cultural material					

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
7.10	2	20-30	10YR 4/6	DK YL BR	SA CL LO	NCM; 30% rock
7.11	1	0-18	10YR 3/2	V DK GR BR	SA LO	NCM; 30% rock
7.11	2	18-28	10YR 4/6	DK YL BR	SA CL LO	NCM; 30% rock
7.12	1	0-24	10YR 3/2	V DK GR BR	SA LO	NCM; 30% rock
7.12	2	24-34	10YR 4/6	DK YL BR	SA CL LO	NCM; 30% rock
8.1	1	0-24	10YR 4/3	BR	SA LO	NCM
8.1	2	24-36	10YR 5/4	YL BR	SA LO	NCM
8.2	1	0-31	10YR 4/3	BR	SA LO	NCM
8.2	2	31-42	10YR 5/4	YL BR	SA LO	NCM
8.3	1	0-27	10YR 4/3	BR	SA LO	NCM
8.3	2	27-37	10YR 5/4	YL BR	SA LO	NCM
8.4	1	0-28	10YR 4/3	BR	SA LO	NCM
8.4	2	28-39	10YR 5/4	YL BR	SA LO	NCM
8.5	1	0-23	10YR 4/3	BR	SA LO	NCM
8.5	2	23-35	10YR 5/4	YL BR	SA LO	NCM
8.6	1	0-19	10YR 4/3	BR	SA LO	NCM
8.6	2	19-31	10YR 5/4	YL BR	SA LO	NCM
8.7	1	0-23	10YR 4/3	BR	SA LO	NCM
8.7	2	23-33	10YR 5/4	YL BR	SA LO	NCM
8.8	1	0-21	10YR 4/3	BR	SA LO	NCM; rock impasse at 21cm
8.9	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 12cm
8.10	1	0-20	10YR 4/2	DK GR BR	SI LO	NCM; rocky;
8.10	2	20-24	10YR 5/4	YL BR	SI LO	NCM; rocky; rock impasse at 24cm
8.11	1	0-21	10YR 4/2	DK GR BR	SI LO	NCM; rocky
8.11	2	21-25	10YR 5/4	YL BR	SI LO	NCM; rocky; rock impasse at 25cm
8.12	1	0-10	10YR 4/2	DK GR BR	SI LO	NCM; rocky; rock impasse at 10cm
9.1	1	0-21	10YR 4/2	DK GR BR	SA LO	NCM
9.1	2	21-33	10YR 5/4	YL BR	SA CL	NCM
9.2	1	0-17	10YR 4/2	DK GR BR	SA LO	NCM
9.2	2	17-31	10YR 5/4	YL BR	SA CL	NCM
9.3	1	0-16	10YR 4/2	DK GR BR	SA LO	NCM
9.3	2	16-30	10YR 5/4	YL BR	SA CL	NCM
9.4	1	0-17	10YR 4/2	DK GR BR	SA LO	NCM
9.4	2	17-32	10YR 5/4	YL BR	SA CL	NCM
9.5	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM
9.5	2	18-31	10YR 5/4	YL BR	SA CL	NCM
9.6	1	0-19	10YR 4/2	DK GR BR	SA LO	NCM
9.6	2	19-30	10YR 5/4	YL BR	SA CL	NCM
9.7	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM
9.7	2	20-33	10YR 5/4	YL BR	SA CL	NCM
10.1	1	0-21	10YR 4/2	DK GR BR	SA LO	NCM
10.1	2	21-31	10YR 5/4	YL BR	SA LO	NCM; rocky
10.2	1	0-14	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.2	2	14-25	10YR 5/4	YL BR	SA LO	NCM; rocky
10.3	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.3	2	12-25	10YR 5/4	YL BR	SA LO	NCM; rocky
10.4	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.4	2	10-25	10YR 5/4	YL BR	SA LO	NCM; rocky
10.5	1	0-11	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.5	2	11-25	10YR 5/4	YL BR	SA LO	NCM; rocky
10.6	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.6	2	10-15	10YR 5/4	YL BR	SA LO	NCM; rocky; rock impasse at 15cm
10.7	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; rocky
10.7	2	10-13	10YR 5/4	YL BR	SA LO	NCM; rocky; rock impasse at 13cm
11.1	1	0-23	10YR 4/2	DK GR BR	SI LO	NCM; 20% rock/gravel
11.1	2	23-35	10YR 5/6	YL BR	SA CL	NCM; 20% rock/gravel

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
11.2	1	0-19	10YR 4/2	DK GR BR	SA LO	NCM
11.2	2	19-32	10YR 5/6	YL BR	SA CL	NCM
11.3	1	0-19	10YR 4/2	DK GR BR	SA LO	NCM; 20% rock; stone on surface
11.3	2	19-35	10YR 5/6	YL BR	SA CL	NCM
11.3A	1	0-36	10YR 3/2	V DK GR BR	SA LO	old dump/trash heap; glass; ceramic, etc.
11.3A	2	36-46	10YR 5/4	YL BR	SA LO	old dump/trash heap; glass; ceramic, etc.
11.4	1	0-23	10YR 3/2	V DK GR BR	SA LO	NCM; 90% rock; rock impasse at 23cm
11.5	1	0-20	10YR 3/2	V DK GR BR	SA LO	NCM; 80% rock
11.5	2	20-22	10YR 5/6	YL BR	SA LO	NCM; 80% rock; rock impasse at 22cm
11.6	1	0-23	10YR 3/2	V DK GR BR	SA LO	NCM; 20% rock
11.6	2	23-33	10YR 5/6	YL BR	SA LO	NCM; 20% rock
11.7	1	0-21	10YR 3/2	V DK GR BR	SA LO	NCM; 90% rock
11.7	2	21-25cm	10YR 5/6	YL BR	SA LO	NCM; 90% rock; rock impasse at 25cm
12.1	1	0-22	10YR 4/2	DK GR BR	SA LO	NCM
12.1	2	22-34	10YR 5/4	YL BR	SA CL	NCM
12.2	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM
12.2	2	23-35	10YR 5/4	YL BR	SA CL	NCM
12.3	1	0-24	10YR 4/2	DK GR BR	SA LO	NCM
12.3	2	24-35	10YR 5/6	YL BR	SA CL	NCM
12.4	1	0-31	10YR 4/2	DK GR BR	SA LO	NCM
12.4	2	31-42	10YR 5/6	YL BR	SA CL	NCM
12.5	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
12.5	2	28-39	10YR 5/6	YL BR	SA LO	NCM
12.6	1	0-29	10YR 4/2	DK GR BR	SA LO	NCM
12.6	2	29-41	10YR 5/6	YL BR	SA LO	NCM
13.1	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM
13.1	2	12-25	10YR 5/4	YL BR	SA LO	NCM
13.2	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM
13.2	2	15-25	10YR 5/4	YL BR	SA LO	NCM
13.3	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM
13.3	2	18-28	10YR 5/4	YL BR	SA LO	NCM
13.4	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM
13.4	2	15-25	10YR 5/4	YL BR	SA LO	NCM
13.5	1	0-13	10YR 4/2	DK GR BR	SA LO	NCM
13.5	2	13-25	10YR 5/4	YL BR	SA LO	NCM
13.6	1	0-11	10YR 4/2	DK GR BR	SA LO	NCM
13.6	2	11-25	10YR 5/4	YL BR	SA LO	NCM
14.1	1	0-14	10YR 4/2	DK GR BR	SA LO	NCM; gravel
14.1	2	14-29	10YR 5/6	YL BR	SA CL	NCM; gravel
14.2	1	0-13	10YR 4/2	DK GR BR	SA LO	NCM; rocky
14.2	2	13-27	10YR 5/6	YL BR	SA CL	NCM; rocky
14.3	1	0-7	10YR 4/2	DK GR BR	SA LO	NCM
14.3	2	7-23	10YR 5/6	YL BR	SA CL	NCM; rock impasse at 23cm
14.4	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; rocky
14.4	2	12-25	10YR 5/6	YL BR	SA CL	NCM;rocky
14.5	1	0-14	10YR 4/2	DK GR BR	SA LO	NCM
14.5	2	14-28	10YR 5/6	YL BR	SA CL	NCM
14.6	1	0-11	10YR 4/2	DK GR BR	SA LO	NCM
14.6	2	11-23	10YR 5/6	YL BR	SA CL	NCM
15.1	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
15.1	2	28-40	10YR 5/6	YL BR	SA CL	NCM
15.2	1	0-20	10YR 3/3	DK BR	SA LO	NCM
15.2	2	20-31	10YR 4/6	DK YL BR	SA CL	NCM
15.3	1	0-22	10YR 3/3	DK BR	SA LO	NCM
15.3	2	22-34	10YR 4/6	DK YL BR	SA CL	NCM
15.4	1	0-25	10YR 3/3	DK BR	SA LO	NCM; 70% rock; rock impasse at 25cm

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
15.5	1	0-23	10YR 3/3	DK BR	SA LO	NCM
15.5	2	23-35	10YR 4/5	DK YL BR	SA CL	NCM
15.6	1	0-21	10YR 3/3	DK BR	SA LO	NCM
15.6	2	21-34	10YR 4/6	DK YL BR	SA CL	NCM
15.7	1	0-19	10YR 3/3	DK BR	SA LO	NCM
15.7	2	19-31	10YR 4/6	DK YL BR	SA CL	NCM
16.1	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
16.1	2	26-37	10YR 5/6	YL BR	SA CL	NCM
16.2	1	0-18	10YR 3/3	DK BR	SA LO	NCM
16.2	2	18-29	10YR 5/6	YL BR	SA CL	NCM
16.3	1	0-23	10YR 3/3	DK BR	SA LO	NCM
16.3	2	23-35	10YR 4/6	DK YL BR	SA CL	NCM
16.4	1	0-17	10YR 4/2	DK GR BR	SA LO	NCM
16.4	2	17-30	10YR 5/6	YL BR	SA CL	NCM
16.5	1	0-16	10YR 4/2	DK GR BR	SA LO	NCM; exposed rock; rock impasse at 16cm
16.6	1	0-12	10YR 4/2	DK GR BR	SA LO	metal; glass; rock impasse at 12 cm
17.1	1	0-29	10YR 3/3	DK BR	SA LO	NCM
17.1	2	29-40	10YR 5/4	YL BR	SA LO	NCM
17.2	1	0-24	10YR 3/3	DK BR	SA LO	NCM
17.2	2	24-34	10YR 5/4	YL BR	SA LO	NCM
17.3	1	0-32	10YR 3/3	DK BR	SA LO	NCM
17.3	2	32-44	10YR 5/4	YL BR	SA LO	NCM
17.4	1	0-19	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 19cm
17.5	1	0-22	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 22cm
17.6	1	0-6	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 6cm
17.7	1	0-29	10YR 4/2	DK GR BR	SA LO	NCM
17.7	2	29-40	10YR 6/3	PALE BR	SA LO	NCM
18.1	1	0-27	10YR 4/2	DK GR BR	SA LO	NCM
18.1	2	27-40	10YR 5/4	YL BR	LO SA	NCM
18.2	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
18.2	2	26-38	10YR 5/4	YL BR	LO SA	NCM
18.3	1	0-21	10YR 4/2	DK GR BR	SA LO	NCM
18.3	2	21-29	10YR 5/4	YL BR	SA LO	NCM; bedrock impasse at 29cm
18.4	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM
18.4	2	23-30	10YR 5/4	YL BR	SA LO	NCM; bedrock impasse at 30cm
18.5	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
18.5	2	28-34	10YR 5/4	YL BR	SA LO	NCM; bedrock impasse at 34cm
18.6	1	0-25	10YR 4/2	DK GR BR	SA LO	NCM
18.6	2	25-37	10YR 5/4	YL BR	SA LO	NCM
18.7	1	0-27	10YR 4/2	DK GR BR	SA LO	NCM
18.7	2	27-37	10YR 5/4	YL BR	SA LO	NCM
19.1	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; rocky
19.1	2	12-25	10YR 5/4	YL BR	SA LO	NCM; rocky
19.2	1	0-24	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 4cm
19.3	1	0-6	10YR 4/2	DK GR BR	SA LO	NCM; rock impasee at 6cm
19.4	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
19.4	2	26-40	10YR 5/4	YL BR	SI CL	NCM
19.5	1	0-29	10YR 4/2	DK GR BR	SA LO	1 flake
19.5	2	29-39	10YR 5/4	YL BR	SI CL	NCM
19.5+1mW	1	0-35	10YR 4/2	DK GR BR	SA LO	NCM
19.5+1mW	2	35-47	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
19.5+3mW	1	0-33	10YR 4/2	DK GR BR	SA LO	NCM
19.5+3mW	2	33-44	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
19.5+1mN	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM
19.5+1mN	2	30-40	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
19.5+1mE	1	0-33	10YR 4/2	DK GR BR	SA LO	NCM
19.5+1mE	2	33-45	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
19.5+3mE	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM
19.5+3mE	2	30-40	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
19.5+3mN	1	0-34	10YR 4/2	DK GR BR	SA LO	NCM
19.5+3mN	2	34-44	10YR 5/4	YL BR	SA CL	NCM
19.5+1mS	1	0-34	10YR 4/2	DK GR BR	SI LO	NCM
19.5+1mS	2	34-47	10YR 6/3	PALE BR	SA CL	NCM
19.5+3mS	1	0-35	10YR 4/2	DK GR BR	SI LO	NCM
19.5+3mS	2	35-47	10YR 6/3	PALE BR	SA CL	NCM
19.6	1	0-28	10YR 4/2	PALE BR	SA LO	NCM
19.6	2	28-38	10YR 5/4	PALE BR	SI CL	NCM
19.7	1	0-30	10YR 4/2	DK GR BR	SI LO	NCM
19.7	2	30-40	10YR 5/4	YL BR	SI LO	NCM
20.1	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 12cm
20.2	1	0-8	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 8cm
20.3	1	0-30	10YR 3/3	DK BR	SA LO	NCM
20.3	2	30-40	10YR 4/6	DK YL BR	SA CL	NCM
20.4	1	0-31	10YR 3/3	DK BR	SA LO	NCM
20.4	2	31-42	10YR 5/6	YL BR	SA CL	NCM
20.5	1	0-30	10YR 3/3	DK BR	SA LO	NCM
20.5	2	30-33	10YR 5/6	YL BR	SA CL	NCM; bedrock impasse at 33cm
20.6	1	0-27	10YR 3/3	DK BR	SA LO	NCM
20.6	2	27-37	10YR 5/6	YL BR	SA CL	NCM
21.1	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; rocky; bedrock impasse at 10cm
21.2	1	0-25	10YR 4/3	BR	SA LO	NCM
21.2	2	25-38	10YR 5/6	YL BR	SA CL	NCM
21.3	1	0-22	10YR 4/2	DK GR BR	SA LO	NCM; rocky
21.3	2	22-33	10YR 5/6	YL BR	SA CL	NCM; rocky
21.4	1	0-25	10YR 4/2	DK GR BR	SA LO	NCM
21.4	2	25-35	10YR 5/6	YL BR	SA CL	NCM
21.5	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM
21.5	2	23-33	10YR 5/6	YL BR	SA CL	NCM
22.1	1	0-15	10YR 3/2	V DK GR BR	SA LO	NCM; 80% rock content/limestone in topsoil; rock impasse at 15cm
22.2	1	0-12	10YR 3/2	V DK GR BR	SA LO	NCM; 80% rock content/limestone in topsoil; rock impasse at 12cm
22.3	1	0-14	10YR 3/2	V DK GR BR	SA LO	NCM; 80% rock content/limestone in topsoil; rock impasse at 14cm
22.4	1	0-9	10YR 3/3	DK BR	SA LO	NCM; 80+% limestone gravel in topsoil; rock impasse at 9cm
22.5	1	0-6	10YR 3/3	DK BR	SA LO	NCM; 80+% limestone gravel in topsoil; rock impasse at 6cm
22.6	1	0-27	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 27cm
23.1	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; 80% rock; rock impasse at 12cm
23.2	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM; 30% rock; rock impasse at 23cm
23.3	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM; 30% rock; rock impasse at 23cm
23.4	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM; 20-30% rock; rock impasse at 18cm
23.5	1	0-22	10YR 4/2	DK GR BR	SA LO	NCM; 20-30% rock; rock impasse at 22cm

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
23.6	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; 20-30% rock; rock impasse at 20cm
23.7	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 20cm
24.1	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 15cm
24.2	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM; 70% rock; bedrock impasse at 23cm
24.3	1	0-14	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 14cm
24.4	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 17cm
24.5	1	0-14	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 14cm
24.6	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 12cm
24.7	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 15cm
25.1	1	0-10	10YR 3/3	DK BR	SA LO	NCM; 80% gravel/rock content in topsoil; rock impase at 10cm
25.2	1	0-14	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 14cm
25.3	1	0-13	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 13cm
25.4	1	0-8	10YR 3/3	DK BR	SA LO	NCM; 80% rock/gravel content in topsoil; rock impasse at 8cm
25.5	1	0-2	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 2cm
25.6	1	0-4	10YR 3/3	DK BR	SA LO	NCM; 80% gravel/rock content in topsoil; rock impasse at 4cm
25.7	1	0-6	10YR 3/3	DK BR	SA LO	NCM; 85% gravel/topsoil; rock impasse at 6cm
26.1	1	0-18	10YR 3/3	DK BR	SA LO	NCM; bedrock impasse at 18cm
26.2	1	0-23	10YR 3/3	DK BR	SA LO	NCM
26.2	2	23-27	10YR 5/6	YL BR	SA CL	NCM; bedrock impasse at 27cm
26.3	1	0-24	10YR 3/3	DK BR	SA LO	NCM; bedrock impasse at 24cm
26.4	1	0-15	10YR 3/3	DK BR	SA LO	NCM; bedrock impasse at 15cm
26.5	1	0-10	10YR 3/3	DK BR	SA LO	NCM; bedrock impasse at 10cm
26.6	1	0-30	10YR 3/3	DK BR	SA LO	NCM; bedrock impasse at 30cm
26.7	1	0-22	10YR 3/2	V DK GR BR	SA LO	NCM; bedrock impasse at 22cm
27.1	1	0-23	10YR 3/2	V DK GR BR	SA LO	NCM; 20-30% rock; bedrock impasse at 23cm
27.2	1	0-24	10YR 3/2	V DK GR BR	SA LO	NCM; 20-30% rock; rock impasse at 24cm
27.3	1	0-31	10YR 3/2	V DK GR BR	SA LO	NCM; 20-30% rock; rock impasse at 31cm
27.4	1	0-27	10YR 3/2	V DK GR BR	SA LO	NCM; 60-70% rock; rock impasse at 27cm
27.5	1	0-21	10YR 3/2	V DK GR BR	SA LO	NCM; 60-70% rock; rock impasse at 21cm
27.6	1	0-16	10YR 3/2	V DK GR BR	SA LO	NCM; 60-70% rock; rock impasse at 16cm
27.7	1	0-26	10YR 3/2	V DK GR BR	SA LO	NCM
27.7	2	26-36	10YR 5/6	YL BR	SA CL	NCM
28.1	1	0-8	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 8cm
28.2	1	0-24	10YR 4/2	DK GR BR	SA LO	NCM; rocky
28.2	2	24-34	10YR 5/4	YL BR	SI CL	NCM; rocky
28.3	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 15cm
28.4	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 12cm
28.5	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM; rocky
28.5	2	28-38	10YR 5/4	YL BR	SI LO	NCM; rocky
28.6	1	0-16	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 16cm
29.1	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 15cm
29.2	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 18cm
29.3	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 19cm
29.4	1	0-30	10YR 4/2	DK GR BR	LO	NCM; bedrock impasse at 30cm
29.5	1	0-35	10YR 4/2	DK GR BR	LO	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
29.5	2	35-47	10YR 5/6	YL BR	SA LO	NCM
30.1	1	0-9	10YR 3/3	DK BR	SA LO	NCM; 70% gravel content topsoil; rock impasse at 9cm
30.2	1	0-33	10YR 3/3	DK BR	SA LO	NCM; 70% gravel content topsoil; rock impasse at 33cm
30.3	1	0-13	10YR 4/2	DK GR BR	SA LO	NCM; 70% gravel content topsoil; rock impasse at 13cm
30.4	1	0-8	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 8cm
30.4	1	0-28	10YR 3/3	DK BR	SA LO	NCM
30.5	2	28-40	10YR 5/6	YL BR	SA LO	NCM
31.1	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 30cm
31.2	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 10cm
31.3	1	0-8	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 8cm
31.4	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM; bedrock impasse at 30cm
31.5	1	0-27	10YR 3/3	DK BR	SA LO	NCM
31.5	2	27-37	10YR 5/6	YL BR	SA CL	NCM
32.1	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; 20-30% rock, rock impasse at 20cm
32.2	1	0-27	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 27cm
32.3	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 18cm
32.4	1	0-21	10YR 3/2	V DK GR BR	SA LO	NCM; rock impasse at 21cm
32.5	1	0-18	10YR 3/2	V DK GR BR	SA LO	NCM; rock impasse at 18cm
33.1	1	0-16	10YR 4/2	DK GR BR	SA LO	NCM; high gravel content
33.1	2	16-27	10YR 5/6	YL BR	SA CL	NCM; high gravel content
33.2	1	0-15	10YR 3/2	V DK GR BR	SA LO	NCM; bedrock impasse at 15cm
33.3	1	0-13	10YR 4/2	DK GR BR	SA LO	NCM
33.3	2	13-28	10YR 5/6	YL BR	SA CL	NCM
33.4	1	0-18	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 18cm
33.5	1	0-12	10YR 4/2	DK GR BR	SA LO	NCM
33.5	2	12-25	10YR 5/6	YL BR	SA CL	NCM
34.1	1	0-6	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 6cm
34.2	1	0-10	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 10cm
34.3	1	0-8	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 8cm
34.4	1	0-5	10YR 3/3	DK BR	SA LO	NCM; rock impasse at 5cm
34.5	1	0-22	10YR 4/1	DK GR	SA LO	NCM; rock impasse at 22cm
35.1	1	0-14	10YR 4/2	DK GR BR	SI LO	NCM; bedrock impasse at 14cm
35.2	1	0-12	10YR 4/2	DK GR BR	SI LO	NCM; bedrock impasse at 12cm
35.3	1	0-9	10YR 4/2	DK GR BR	SI LO	NCM; bedrock impasse at 8cm
35.4	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM; bedrock impasse at 18cm
36.1	1	0-15	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 15cm
36.2	1	0-8	10YR 4/2	DK GR BR	SA LO	NCM; rocky; rock impasse at 8cm
36.3	1	0-4	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 4cm
36.4	1	0-24	10YR 4/2	DK GR BR	SI LO	NCM; rocky
36.4	1	24-34	10YR 5/4	YL BR	SI LO	NCM; rocky
37.1	1	0-31	10YR 3/3	DK BR	SA LO	NCM; topsoil 70% gravel
37.1	2	31-41	10YR 5/4	YL BR	SI LO	NCM; topsoil 70% gravel
37.2	1	0-28	10YR 3/3	DK BR	SA LO	NCM; topsoil 70% gravel
37.2	2	28-38	10YR 5/4	YL BR	SI LO	NCM; topsoil 70% gravel
37.3	1	0-33	10YR 3/3	DK BR	SA LO	NCM
37.3	2	33-45	10YR 5/4	YL BR	SI LO	NCM
37.4	1	0-30	10YR 3/3	DK BR	SA LO	NCM; 50% gravel/topsoil
37.4	2	30-40	10YR 5/4	YL BR	SI LO	NCM; 50% gravel/topsoil
38.1	1	0-30	10YR 4/2	DK GR BR	SI LO	NCM
38.1	2	30-40	10YR 5/4	YL BR	SA LO	NCM
38.2	1	0-28	10YR 4/2	DK GR BR	SI LO	NCM
38.2	2	28-39	10YR 5/4	YL BR	SA LO	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
38.3	1	0-29	10YR 4/2	DK GR BR	SI LO	NCM
38.3	2	29-40	10YR 5/4	YL BR	SA LO	NCM
38.4	1	0-30	10YR 4/2	DK GR BR	SI LO	NCM
38.4	2	30-46	10YR 5/4	YL BR	SA LO	NCM
39.1	1	0-30	10YR 3/3	DK BR	SA LO	NCM
39.1	2	30-40	10YR 5/6	YL BR	SA LO	NCM
39.2	1	0-25	10YR 3/3	DK BR	SA LO	NCM
39.2	2	25-37	10YR 5/6	YL BR	SA LO	NCM
39.3	1	0-27	10YR 3/3	DK BR	SA LO	NCM
39.3	2	27-38	10YR 5/6	YL BR	SA LO	NCM
39.4	1	0-27	10YR 4/2	DK GR BR	SA LO	NCM
39.4	2	27-39	10YR 5/3	BR	SA	NCM
40.1	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
40.1	2	26-38	10YR 4/6	DK YL BR	SA LO	NCM
40.2	1	0-29	10YR 4/2	DK GR BR	SA LO	NCM
40.2	2	29-39	10YR 4/3	BR	SA LO	NCM
41.1	1	0-30	10YR 3/3	DK BR	SA LO	NCM
41.1	2	30-40	10YR 5/6	YL BR	SA LO	NCM
41.2	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
41.2	2	28-40	10YR 5/3	BR	SA LO	NCM
42.1	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM; less than 10% natural chert
42.1	2	23-36	10YR 5/6	YL BR	SA CL	NCM; less than 10% natural chert
42.2	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM; natural chert
42.2	2	26-36	10YR 5/6	YL BR	SA CL	NCM
42.3	1	0-22	10YR 4/2	DK GR BR	SA LO	NCM
42.3	2	22-33	10YR 5/6	YL BR	SA CL	NCM
42.4	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM; rock impasse at 23cm
42.5	1	0-27	10YR 4/4	DK YL BR	SA LO	NCM
42.5	2	27-37	10YR 5/6	YL BR	SA CL	NCM
42.6	1	0-25	10YR 4/4	DK YL BR	SA LO	NCM
42.6	2	25-36	10YR 5/6	YL BR	SA CL	NCM
43.1	1	0-22	10YR 4/2	DK GR BR	SI LO	NCM
43.1	2	22-32	10YR 5/6	YL BR	SA CL	NCM
43.2	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM
43.2	2	18-30	10YR 5/6	YL BR	SA CL	NCM
43.3	1	0-20	10YR 4/2	DK GR BR	SI LO	NCM
43.3	2	20-30	10YR 5/6	YL BR	SA CL	NCM
43.4	1	0-23	10YR 4/2	DK GR BR	SI LO	NCM
43.4	2	23-33	10YR 5/4	YL BR	SA CL	NCM
43.5	1	0-24	10YR 4/2	DK GR BR	SI LO	NCM
43.5	2	24-34	10YR 5/4	YL BR	SA CL	NCM
43.6	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM
43.6	2	25-35	10YR 5/4	YL BR	SA CL	NCM
43.7	1	0-22	10YR 4/2	DK GR BR	SI LO	NCM
43.7	2	22-32	10YR 5/4	YL BR	SA CL	NCM
43.8	1	0-24	10YR 4/2	DK GR BR	SI LO	NCM
43.8	2	24-34	10YR 5/4	YL BR	SA CL	NCM
43.9	1	0-20	10YR 4/2	DK GR BR	SI LO	NCM
43.9	2	20-30	10YR 5/4	YL BR	SA CL	NCM
43.10	1	0-34	10YR 4/1	DK GR	SI LO	NCM
43.10	2	34-44	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 34cm
43.11	1	0-30	10YR 4/1	DK GR	SI LO	NCM; water seepage
43.11	2	30-40	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
44.1	1	0-28	10YR 4/3	BR	SA LO	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
44.1	2	28-38	10YR 5/4	YL BR	LO SA	NCM
44.2	1	0-27	10YR 4/3	BR	SA LO	NCM
44.2	2	27-37	10YR 5/4	YL BR	LO SA	NCM
44.3	1	0-26	10YR 4/3	BR	SA LO	NCM
44.3	2	26-37	10YR 5/4	YL BR	LO SA	NCM
44.5	1	0-25	10YR 4/3	BR	SA LO	NCM
44.5	2	25-36	10YR 5/4	YL BR	LO SA	NCM
44.6	1	0-32	10YR 4/3	BR	SA LO	NCM
44.6	2	32-44	10YR 5/4	YL BR	LO SA	NCM
44.7	1	0-32	10YR 4/1	DK GR	SA LO	NCM
44.7	2	32-43	10YR 5/4	YL BR	LO SA	NCM
44.8	1	0-27	10YR 4/1	DK GR	SA LO	NCM
44.8	2	27-37	10YR 5/4	YL BR	LO SA	NCM
44.9	1	0-33	10YR 3/1	V DK GR	SA LO	NCM; water at 20cm
44.9	2	33-43	10YR 5/4	YL BR	LO SA	NCM
44.10	1	0-25	10YR 3/1	V DK GR	SA LO	NCM; water at 25cm
44.10	2	25-35	10YR 5/4	YL BR	SA CL LO	NCM
44.11	1	0-26	10YR 3/1	V DK GR	SA LO	NCM
44.11	2	26-36	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL LO	NCM
44.12	1	0-30	10YR 3/1	V DK GR	SA LO	NCM
44.12	2	30-40	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL LO	NCM
44.13	1	0-23	10YR 3/1	V DK GR	SA LO	NCM
44.13	2	23-35	10YR 6/3 10YR 6/8	PALE BR BR YL	SI CL LO	NCM
44.14	1	0-28	10YR 3/1	V DK GR	SA LO	NCM
44.14	2	28-38	10YR 6/3 10YR 6/8	PALE BR BR YL	SI CL LO	NCM
45.1	1	0-25	10YR 4/2	DK GR BR	SA LO	NCM
45.1	2	25-35	10YR 5/6	YL BR	SA CL LO	NCM
45.2	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
45.2	2	26-36	10YR 5/6	YL BR	SA CL LO	NCM
45.3	1	0-25	10YR 4/2	DK GR BR	SA LO	NCM
45.3	2	25-35	10YR 5/6	YL BR	SA CL LO	NCM
45.4	1	0-31	10YR 4/4	DK YL BR	SA LO	NCM
45.4	2	31-45	10YR 4/3	BR	CL LO	NCM
45.5	1	0-27	10YR 4/4	DK YL BR	SA LO	NCM
45.5	2	27-37	10YR 4/3	BR	CL LO	NCM
45.6	1	0-6	10YR 4/4	DK YL BR	SA LO	NCM; disturbed
45.6	2	6-25	10YR 4/6 10YR 6/8	DK YL BR BR YL	CL LO	NCM
45.7	1	0-20	10YR 3/2	V DK GR BR	SA LO	NCM; standing water/saturated soil
45.8	1	0-22	10YR 3/2	V DK GR BR	SA LO	NCM; standing water/saturated soil
45.9	1	0-10	10YR 3/2	V DK GR BR	SA LO	NCM; standing water/saturated soil
45.10	1	0-26	10YR 3/2	V DK GR BR	SA LO	NCM
45.10	2	26-38	10YR 5/4 10YR 5/6	YL BR	SA CL	NCM
45.11	1	0-26	10YR 3/2	V DK GR BR	SA LO	NCM
45.11	2	26-36	10YR 4/6	DK YL BR	SA LO	NCM
45.12	1	0-25	10YR 3/2	V DK GR BR	SA LO	NCM; water seepage at 25cm
45.13	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; wet soils
45.13	2	20-30	10YR 5/6	YL BR	CL LO	NCM; wet soils
46.1	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM
46.1	2	18-28	10YR 5/4	YL BR	SA CL	NCM
46.2	1	0-19	10YR 4/2	DK GR BR	SI LO	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
46.2	2	19-29	10YR 5/4	YL BR	SA CL	NCM
46.3	1	0-23	10YR 4/2	DK GR BR	SI LO	NCM
46.3	2	23-33	10YR 5/4	YL BR	SA CL	NCM
46.4	1	0-24	10YR 4/2	DK GR BR	SI LO	NCM
46.4	2	24-34	10YR 5/4	YL BR	SA LO	NCM; water seepage at 24cm
46.5	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM; water seepage
46.5	2	25-35	10YR 5/4	YL BR	SA LO	NCM
46.6	1	0-21	10YR 4/2	DK GR BR	SI LO	NCM; water seepage
46.6	2	21-31	10YR 5/4	YL BR	SA LO	NCM
46.7	1	0-24	10YR 4/1	DK GR	SA LO	NCM; water seepage
46.7	2	24-34	10YR 5/6	YL BR	SA CL	NCM
46.8	1	0-26	10YR 4/1	DK GR	SA LO	NCM
46.8	2	26-31	10YR 5/4	YL BR	SA CL	NCM
46.9	1	0-23	10YR 4/1	DK GR	SA LO	NCM; water seepage
46.9	2	23-33	10YR 5/4	YL BR	SA CL	NCM
46.10	1	0-24	10YR 4/1	DK GR	SI LO	NCM
46.10	2	24-34	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 24cm
46.11	1	0-25	10YR 4/1	DK GR	SI LO	NCM
46.11	2	25-35	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 25cm
46.12	1	0-22	10YR 4/1	DK GR	SI LO	NCM
46.12	2	22-32	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 22cm
46.13	1	0-18	10YR 4/1	DK GR	SI LO	NCM
46.13	2	18-30	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 18cm
47.1	1	0-14	10YR 4/2	DK GR BR	SI LO	NCM
47.1	2	14-30	10YR 5/4	YL BR	SA CL	NCM
47.2	1	0-27	10YR 4/2	DK GR BR	SI LO	NCM
47.2	2	27-39	10YR 5/4	DK GR BR	SA CL	NCM; water seepage at 27cm
47.3	1	0-26	10YR 4/2	DK GR BR	SI LO	NCM
47.3	2	26-37	10YR 5/4	YL BR	SA CL	NCM
47.4	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM
47.4	2	25-37	10YR 6/3	PALE BR	SA LO	NCM; water seepage st 25cm
47.5	1	0-26	10YR 4/2	DK GR BR	SI LO	NCM
47.5	2	26-38	10YR 6/3	PALE BR	SA LO	NCM
47.6	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM
47.6	2	25-36	10YR 6/3	PALE BR	SA LO	NCM
47.7	1	0-14	10YR 4/1	DK GR	SI LO	NCM
47.7	2	14-24	10YR 5/4	YL BR	SA CL	NCM
47.8	1	0-16	10YR 4/1	DK GR	SI LO	NCM; water seepage
47.8	2	16-26	10YR 5/4	YL BR	SA CL	NCM
47.9	1	0-28	10YR 4/1	DK GR	SI LO	NCM; water seepage
47.9	2	28-40	10YR 5/4	YL BR	SA CL	NCM
47.10	1	0-25	10YR 4/1	DK GR	SI LO	NCM
47.10	2	25-36	10YR 5/4	YL BR	SA CL	NCM
47.11	1	0-26	10YR 4/1	DK GR	SI LO	NCM
47.11	2	26-38	10YR 5/4	YL BR	SA CL	NCM
47.12	1	0-18	10YR 4/1	DK GR	SI LO	NCM
47.12	2	18-33	10YR 5/4	YL BR	SA CL	NCM
48.1	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM
48.1	2	20-30	10YR 5/4	YL BR	SA LO	NCM
48.2	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM
48.2	2	23-35	10YR 5/4	YL BR	SA LO	NCM
48.3	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
48.3	2	23-35	10YR 5/4	YL BR	SA LO	NCM
48.4	1	0-27	10YR 4/1	DK GR	SA LO	NCM
48.4	2	27-37	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.5	1	0-28	10YR 4/1	DK GR	SA LO	NCM
48.5	2	28-38	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.6	1	0-25	10YR 4/1	DK GR	SA LO	NCM; water seepage to 20cm
48.6	2	25-35	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.7	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM
48.7	2	30-40	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.8	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM; water filled pit at 20cm
48.9	1	0-10	10YR 4/2	DK GR BR	SA LO	NCM; water filled pit at 10cm
48.10	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
48.10	2	26-36	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.11	1	0-24	10YR 4/2	DK GR BR	SA LO	NCM
48.11	2	24-37	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
48.12	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
48.12	2	28-38	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
49.1	1	0-23	10YR 4/2	DK GR BR	SI LO	NCM
49.1	2	23-33	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
49.2	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM
49.2	2	25-36	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 25cm
49.3	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM
49.3	2	18-30	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water seepage at 18cm
49.4	1	0-20	10YR 4/2	DK GR BR	SI LO	NCM
49.4	2	20-32	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM; water at 25cm
49.5	1	0-22	10YR 4/2	DK GR BR	SI LO	NCM; water at 15cm
49.5	2	22-33	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
49.6	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM; water at 15cm
49.6	2	18-29	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
49.7	1	0-18	10YR 4/2	DK GR BR	SI LO	NCM
49.7	2	18-28	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
50.1	1	0-28	10YR 4/2	DK GR BR	SI LO	NCM
50.1	2	28-40	10YR 6/3	PALE BR	SA LO	NCM
50.2	1	0-27	10YR 4/2	DK GR BR	SI LO	NCM
50.2	2	27-39	10YR 6/3	PALE BR	SA LO	NCM; water seepage/saturated soils
50.3	1	0-25	10YR 4/2	DK GR BR	SI LO	NCM
50.3	2	25-37	10YR 6/3	PALE BR	SA LO	NCM
50.4	1	0-25	10YR 4/1	DK GR	SI LO	NCM
50.4	2	25-36	10YR 5/4	YL BR	SA CL	NCM
50.5	1	0-26	10YR 4/1	DK GR	SI LO	NCM
50.5	2	26-38	10YR 5/4	YL BR	SA CL	NCM
50.6	1	0-27	10YR 4/1	DK GR	SI LO	NCM
50.6	2	27-38	10YR 5/4	YL BR	SA CL	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
50.7	1	0-27	10YR 4/1	DK GR	SI LO	NCM
50.7	2	27-39	10YR 5/4	YL BR	SA CL	NCM
51.1	1	0-26	10YR 4/2	DK GR BR	SA LO	NCM
51.1	2	26-37	10YR 5/6	YL BR	SA LO	NCM
51.2	1	0-25	10YR 4/2	DK GR BR	SA LO	NCM
51.2	2	25-35	10YR 5/6	YL BR	SA LO	NCM
51.3	1	0-30	10YR 4/2	DK GR BR	SA LO	NCM
51.3	2	30-35	10YR 5/6	YL BR	SA LO	NCM; water filled pit
51.4	1	0-23	10YR 4/2	DK GR BR	SA LO	NCM
51.4	2	23-34	10YR 5/6	YL BR	SA LO	NCM
51.5	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM
51.5	2	20-30	10YR 5/6	YL BR	SA LO	NCM
51.6	1	0-30	10YR 3/2	V DK GR BR	SA LO	NCM; saturated soils
51.6	2	30-40	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM; saturated soils
51.7	1	0-23	10YR 3/2	V DK GR BR	SA LO	NCM
51.7	2	23-33	10YR 5/2 10YR 5/6	GR BR YL BR	SA LO	NCM
52.1	1	0-26	10YR 4/1	DK GR	SI LO	NCM
52.1	2	26-36	10YR 5/4	YL BR	SA CL LO	NCM
52.2	1	0-29	10YR 4/1	DK GR	SI LO	NCM
52.2	2	29-40	10YR 5/4	YL BR	SA CL LO	NCM
52.3	1	0-22	10YR 4/1	DK GR	SI LO	NCM
52.3	2	22-32	10YR 5/4	YL BR	SA CL LO	NCM
52.4	1	0-26	10YR 4/1	DK GR	SI LO	NCM; water filled at 15cm
52.4	2	26-38	10YR 5/4	YL BR	SA CL LO	NCM
52.5	1	0-25	10YR 4/1	DK GR	SI LO	NCM
52.5	2	25-35	10YR 5/4	YL BR	SI CL LO	NCM
52.6	1	0-32	10YR 4/1	DK GR	SI LO	NCM
52.6	2	32-42	10YR 5/4	YL BR	SI CL LO	NCM; water filled at 10cm
P20	1	0-35	10YR 4/2	DK GR BR	SA LO	NCM
P20	2	35-45	10YR 5/4	YL BR	SA CL	NCM
P20+7.5E	1	0-35	10YR 4/2	DK GR BR	SA LO	NCM
P20+7.5E	2	35-46	10YR 5/4	YL BR	SA CL	NCM
P20+15E	1	0-38	10YR 4/2	DK GR BR	SA LO	NCM
P20+15E	2	38-50	10YR 5/4	YL BR	SA CL	NCM
P20+7.5N	1	0-35	10YR 4/2	DK GR BR	SA LO	NCM
P20+7.5N	2	35-47	10YR 5/4	YL BR	SA CL	NCM
P20+15N	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
P20+15N	2	28-40	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
P20+7.5S	1	0-34	10YR 4/2	DK GR BR	SA LO	NCM
P20+7.5S	2	34-49	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
P20+15S	1	0-37	10YR 4/2	DK GR BR	SA LO	NCM
P20+15S	2	37-52	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
P20+7.5W	1	0-26	10YR 4/2	DK GR BR	SA LO	1 biface
P20+7.5W	2	26-38	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
P20+15W	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
P20+15W	2	28-39	10YR 5/4	YL BR	SA CL	NCM
P20+22.5S	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
P20+22.5S	2	28-38	10YR 5/6	YL BR	SA CL	NCM
P20+22.5W	1	0-28	10YR 4/2	DK GR BR	SA LO	NCM
P20+22.5W	2	28-38	10YR 5/6	YL BR	SA CL	NCM

Shovel Test Log for Honeoye Falls Quarry Phase I

Transect/ STP	Stratum	Depth (cm)	Munsell	Soil Color	Soil Description	Comments
P20+22.5E	1	0-32	10YR 4/2	DK GR BR	SA LO	1 flake
P20+22.5E	2	32-42	10YR 5/6	YL BR	SA CL	NCM
P20+25.5E	1	0-29	10YR 4/2	DK GR BR	SA LO	NCM
P20+25.5E	2	29-53	10YR 5/6	YL BR	SA CL	NCM
P20+30E	1	0-29	10YR 4/2	DK GR BR	SA LO	NCM
P20+30E	2	29-40	10YR 5/6	YL BR	SA CL	NCM
A	1	0-20	10YR 4/2	DK GR BR	SA LO	NCM
A	2	20-30	10YR 5/4	YL BR	SA LO	NCM
B	1	0-33	10YR 4/2	DK GR BR	SA LO	NCM
B	2	33-48	10YR 5/6 10YR 4/6	YL BR DK YL BR	SA CL	NCM
C	1	0-37	10YR 4/2	DK GR BR	SI LO	NCM
C	2	37-52	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
D	1	0-33	10YR 4/2	DK GR BR	SA LO	NCM
D	2	33-45	10YR 6/3 10YR 6/8	PALE BR BR YL	SA CL	NCM
E	1	0-36	10YR 4/2	DK GR BR	SA LO	NCM
E	2	36-50	10YR 5/4	YL BR	SA CL	NCM
F	1	0-39	10YR 4/2	DK GR BR	SA LO	NCM
F	2	39-53	10YR 5/4	YL BR	SA CL	NCM

Appendix C
ARTIFACT CATALOG

Artifact Log for Honeoye Falls, Phase IAB

Provenience	Depth	Str.	Lev	Material	Type	#	Description	Color	Dates	Other Information
P1	surface	1	1	Onondaga chert	side scraper	1	1.9 cm or unifacial retouch and moderate usewear	mottled gray and light brownish gray		tool
P2	surface	1	1	Onondaga chert	projectile point	1	side-notched base, straight and ground base, possible Brewerton side-notched	mottled gray and light brownish gray		tool
P3	surface	1	1	Onondaga chert	secondary reduction flake	1		light brownish gray		debitage
P4	surface	1	1	Onondaga chert	flake fragment	1		mottled gray and light brownish gray		debitage
P5	surface	1	1	Onondaga chert	projectile point	1	Levanna, broken tip, 4cm long x 3.3 cm wide	mottled gray and light brownish gray	Late Woodland	tool
P6	surface	1	1	Onondaga chert	projectile point	1	broken, broad, 3.6 cm wide x 4.6 cm long although missing base, possible Perkiomen, light usewear	mottled gray and light brownish gray	Transitional ?	tool
P7	surface	1	1	Onondaga chert	end scraper	1	expediently made, light unifacial modification	mottled gray, light gray and light brownish gray		tool
P8	surface	1	1	undetermined	possible abrader	1	fairly symmetrical disk with possible biface reduction, course grained lithic, no apparent usewear or grinding	dark gray		possible tool
P9	surface	1	1	Onondaga chert	secondary reduction flake	1		mottled gray and light gray		debitage
P10	surface	1	1	Onondaga chert	flake fragment	1		light brownish gray		debitage
P11	surface	1	1	Onondaga chert	projectile point	1	Lamoka, 3.2 cm x .6 cm	mottled gray and light gray	Late Archaic	tool
P12	surface	1	1	Onondaga chert	knife	1	biface, broken (missing proximal end), light to moderate usewear	mottled gray, light gray and light brownish gray		tool
P13	surface	1	1	Onondaga chert	knife	1	biface, retouched edges	mottled gray, light gray and light brownish gray		tool
P14	surface	1	1	Onondaga chert	primary reduction flake	1	cortex present	gray		debitage
P15	surface	1	1	Onondaga chert	secondary reduction flake	1		gray		debitage
P16	surface	1	1	Onondaga chert	projectile point	1	Madison point base, 2.6 cm wide	gray		tool
P17	surface	1	1	Onondaga chert	tertiary reduction flake	1		light gray		debitage
P18	surface	1	1	Onondaga chert	utilized flake	1	shatter with unifacial modifiaction and light usewear, cortex present	light gray		tool
P18	surface	1	1	Onondaga chert	shatter	1	cortex present	light gray		debitage

Artifact Log for Honeoye Falls, Phase IAB

Provenience	Depth	Str.	Lev	Material	Type	#	Description	Color	Dates	Other Information
P19	surface	1	1	Onondaga chert	secondary reduction flake	2		gray		debitage
P20	surface	1	1	Onondaga chert	secondary reduction flake	1		gray		debitage
P20 7.5 m west	Stratum 1	1	1	Onondaga chert	biface fragment	1	no apparent usewear	gray		tool
P20 22.5 m east	Stratum 1	1	1	Onondaga chert	tertiary reduciton flake	1		light gray		debitage
P21	surface	1	1	Onondaga chert	primary reduction flake	1		light gray		debitage
P21	surface	1	1	Onondaga chert	flake fragment	2		light gray		debitage
P22	surface	1	1	Onondaga chert	utilized flake	1	light cutting and scraping usewear, slight unifacial modification	gray		tool
P23	surface	1	1	Onondaga chert	flake fragment	1		light gray		debitage
P24	surface	1	1	Onondaga chert	scraper	1	utilized shatter with slight unifacial modification and light scraping usewear, cortex present, fossil inclusions	light brownish gray		tool
P24	surface	1	1	Onondaga chert	tertiary reduction flake	1		light brownish gray		debitage
P25	surface	1	1	Onondaga chert	primary reduction flake	1	potlid scar on dorsal surface	light brownish gray		debitage
P25	surface	1	1	Onondaga chert	scraper	1	biface with moderate scraping usewear along 1.7 cm	light brownish gray		tool
P26	surface	1	1	Onondaga chert	knife	1	moderate cutting usewear	light gray		tool
P26	surface	1	1	Onondaga chert	primary reduction flake	1		light gray		debitage
P26	surface	1	1	Onondaga chert	secondary reduction flake	1		light gray		debitage
P27	surface	1	1	Onondaga chert	tertiary reduction flake	1	potlid scar on ventral surface	gray		debitage
P27	surface	1	1	Onondaga chert	shatter	1	small amount of cortex	gray		debitage
P28	surface	1	1	Onondaga chert	knife	1	bifacially worked shatter	light gray		tool
P29	surface	1	1	Onondaga chert	tertiary reduciton flake	1		light brownish gray		debitage
P30	surface	1	1	Onondaga chert	primary reduction flake	1		gray		debitage
P31	surface	1	1	Onondaga chert	projectile point	1	broken, expanding stem and rounded shoulder resembling Orient fishtail, unifacial scraper modification, moderate cutting and scraping usewear	mottled gray, light gray and light brownish gray		tool
P32	surface	1	1	Flint Ridge chert?	scraper	1	biface with moderate scraping usewear	mottled brown and light gray		tool
P33	surface	1	1	Onondaga chert	side scraper	1	moderate scraping usewear	light grayish brown		tool

Artifact Log for Honeoye Falls, Phase IAB

Provenience	Depth	Str.	Lev	Material	Type	#	Description	Color	Dates	Other Information
P34	surface	1	1	Onondaga chert	projectile point	1	point tip	dark gray		tool
P35	surface	1	1	Onondaga chert	knife	1	moderate to heavy cutting usewear	mottled gray, light gray and light brownish gray		tool
P36	surface	1	1	Onondaga chert	knife or projectile point	1	bifacially worked flake into a stemmed knife/point shape, light to no usewear	mottled gray and light gray		tool
P37	surface	1	1	Onondaga chert	projectile point	1	Breweton Corner-Notched, 2.7 cm long x 2.1cm wide	mottled gray, light gray and light brownish gray	Late Archaic	tool
P38	surface	1	1	Onondaga chert	knife	1	Biface, moderate cutting usewear as evident from microflaking, break at proximal end due to cortex	mottled gray and light gray		tool
STP 19.5	Stratum 1	1	1	Onondaga chert	flake fragment	1		dark gray		debitage
STP 12.6	Stratum 1	1	1	glass	medicine bottle	1	machine made, clear glass	clear	early 20th century	historic

Appendix D
SITE FORM

NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

For Office Use Only--Site Identifier

Project Identifier OPRHP #06PR00629 **Date** July 1, 2011
Your Name Robert J. Hanley **Phone** (716) 821-1650
Address 2390 Clinton Street
Buffalo, NY 14227

Organization (if any) Panamerican Consultants, Inc.

1. **Site Identifier(s)** Site PCI/Honeoye Falls-1
2. **County** Monroe **One of following:**
   City
   Township Rush
   Incorporated Village _____
   Unincorporated Village or Hamlet

3. **Present Owner**
   Address

4. **Site Description (check all appropriate categories):**

Site

___ Stray Find	___ Cave/rockshelter	_?_ Workshop
___ Pictograph	___ Quarry	___ Mound
___ Burial	___ Shell Midden	___ Village
_X_ Surface Evidence	_x_ Camp	_x_ Material in plowzone
_?_ Single Component	_x_ Buried Evidence	___ Intact occupation floor
_X?_ Multicomponent	___ Evidence of features	___ Stratified

Location

_X_ Under cultivation	___ Never cultivated	___ Previously cultivated
___ Pastureland	___ Woodland	___ Floodplain
___ Upland	___ Sustaining erosion	

Drainage: excellent ___ **good** _X_ **fair**___ **poor** ____
Slope: flat _X_ **gentle** ___ **moderate** ____ **steep**____
Distance to nearest water from site (approx.) 750 ft (229 m)
Elevation: 715 ft AMSL

5. **Site Investigation (append additional sheets, if necessary):**

Surface _X_ **date(s)** 4/18 and 4/22 2011
_X_ **Site Map (Submit with form*)**
_X_ **Collection**

Subsurface--date(s)
Testing: shovel__ **coring** ___ **other** _____ **unit size**
no. of units ____ **(Submit plan of units with form*)**

Excavation: unit size _____ **no. of units**
(Submit plan of units with form*)
*** Submission should be 8½"x11", if feasible.**

Investigator Robert J. Hanley

Manuscript or published report(s) (reference fully):

Hanley, Robert J., Rebecca Emans, Mark Steinback, Edwin Button and Michael A. Cinquino
2011 *Phase IAB Cultural Resources Investigation for the Proposed Honeoye Falls Quarry Expansion Project, Town of Rush, Monroe County, and Town of Avon, Livingston County, New York*. Panamerican Consultants, Inc., Buffalo Branch.

Present repository of materials: Panamerican Consultants, Inc.

6. Component(s) (cultural affiliation/dates):

Late Archaic, Late Woodland

7. List of material remains (be as specific as possible in identifying object and material):

In all, 23 prehistoric artifacts were found at Site PCI/Honeoye Falls-1: 21 found during surface inspection and two artifacts found in shovel tests. Sixty-one percent (n=14) of the artifacts were lithic debitage representing all stages of tool manufacture. The remaining 39 percent (n=9) of the artifacts are tools, including two utilized flakes, two projectile points, two scrapers, two knives and one multi-use biface. One of the projectile points is a Brewerton Corner-Notched representative of the Late Archaic Period and the other is a Madison point of the late Woodland Period. The tools have little to moderate usewear. Two artifacts have potlid flake scars from heat exposure but no fire-cracked rocks were found. All of the lithics appear to be made from locally available Onondaga chert. No inter-site activity areas can be inferred from the Phase I assemblage due to the effects of plowing in the small area.

An additional 24 artifacts considered to be isolated or stray finds were found scattered in the vicinity of the site. Twenty-four were found during surface inspection and one was in an isolated shovel test. Thirty-three percent (n=8) of the artifacts were lithic debitage representing all stages of tool manufacture. Sixty-seven percent (n=16) of the artifacts are tools including six projectile points, four scrapers, five knives and one possible abrader. The diagnostic features of the projectile points indicate recurring human presence in the APE in the Late Archaic (Lamoka [P11], Brewerton Side-Notched [P2]), Transitional (Perkiomen [P6]), Transitional/Early Woodland (Orient Fishtail [P31]) and the Late Woodland (Levanna [P5]) Periods. The usewear on the tools ranges from none to heavy in degree, but most have moderate cutting or scraping usewear dependent on the tool type. All but two of the lithics appear to be made from locally available Onondaga chert. The two exceptions include a scraper (location P32) that appears to be made from Flint Ridge chert and a disk-shaped abrader (location P8) that is made from a coarse-grained lithic of undetermined type.

If historic materials are evident, check here and fill out historic site form___.

8. Map References: Map or maps showing exact location and extent of site must accompany this form and must be identified by source and date. Keep this submission to 8½"x 11", if possible.

USGS 7½ Minute Series Quad. Name Rush, NY 1976

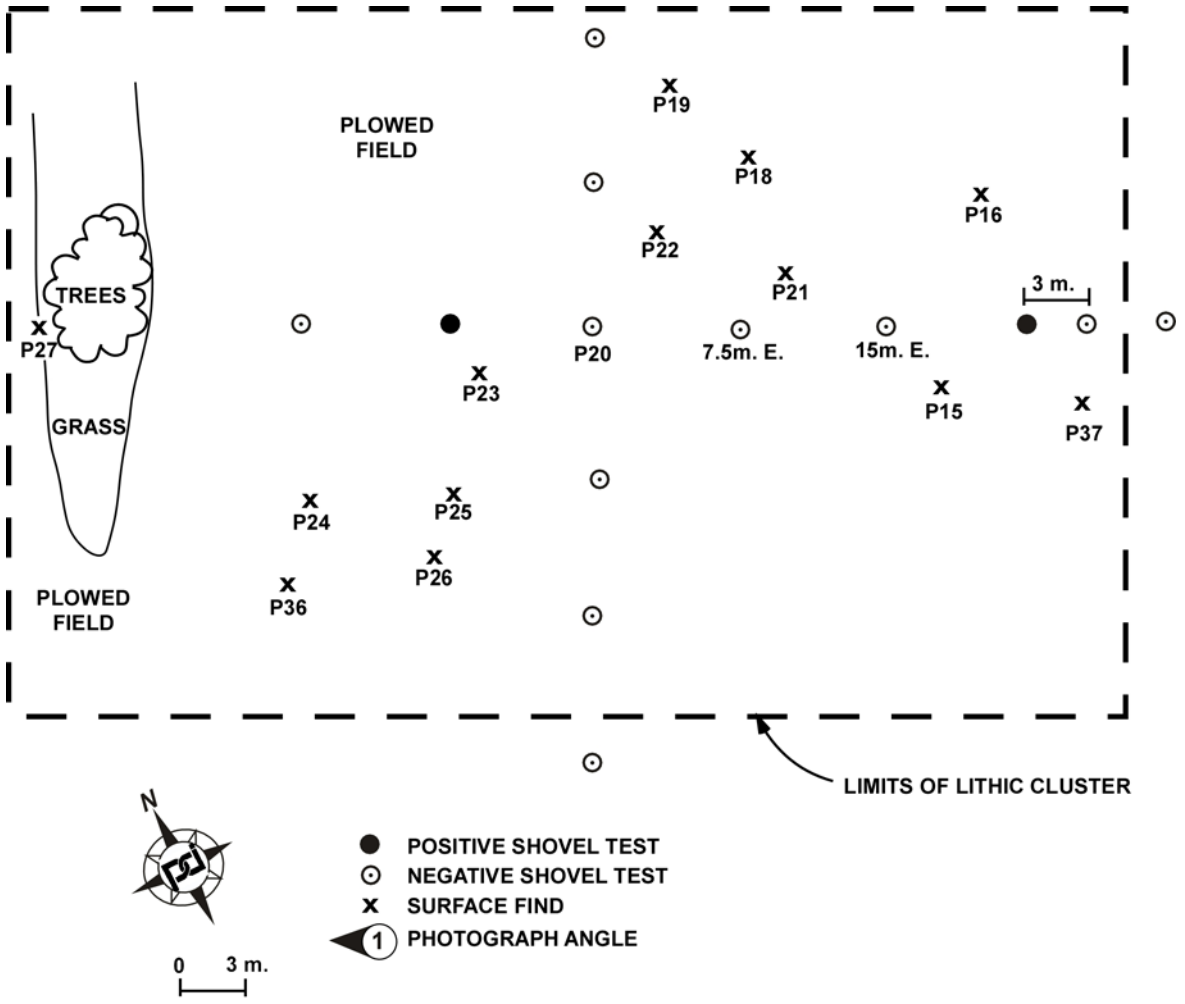
For Office Use Only__UTM Coordinates _____

9. Photography (optional for environmental impact survey):
Please submit a 5"x 7" black and white print(s) showing the current state of the site. Provide a label for the print(s) on a separate sheet.

NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM
PCI/HONEOYE FALLS-1

Location of PCI/Honeoye Falls-1 *(USGS Rush, NY 1976).*

NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM
PCI/HONEOYE FALLS-1



Site PCI/Honeoye Falls-1 with distribution of surface finds and shovel tests

Site PCI/Honeoye Falls-1 artifact catalog.

Artifact Type	Secondary Type	Location	Total
Debitage	Primary reduction flake	P21, P25, P26	**3**
	Secondary reduction flake	P15, P19, P20, P26	**4**
	Tertiary reduction flake	P17, STP P20 (22.5 E), P24, P27	**4**
	Flake fragment	P21, P23	**2**
	Shatter	P27	**1**
Debitage Total			**14**
Tool	Projectile point	P16, P37	**2**
	Scraper	P24, P25	**2**
	Utilized flake	P18, P22	**2**
	Knife	P26, P36	**2**
	Multiple-use biface	STP P20 (7.5 W)	**1**
Tool Total			**9**
Total			**23**