Phase I Archaeological Survey

Proposed GE/LM Wind Blade Facility
23PR09506

Town of Coeymans
Albany County, New York

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Management Summary

Involved Agencies	Department of Environmental Conservation US Army Corps of Engineers New York State Office of Parks, Recreation, and Historic Preservation
Phase of Investigation	Phase I (IA/IB) Archaeological Survey
Project Location	Between Route 144 and Bronk Road, Town of Coeymans, Albany County, New York.
Description of APE	Vacant Land, Former Quarry Project area: Area: 55 hectares (135 acres) Length: 1100 meters (3300 feet) Width: 550 meters (1800 feet)
Survey Overview	Number of Shovel Tests: 461 Number of Trenches: 0 Number of Test Units: 0
USGS 7.5-Minute Quadrangle Map	Ravena, New York 1981
Investigation Methods	Background research Pedestrian reconnaissance survey Systematic subsurface survey 15-meter interval: 441 30-meter interval: 20
Identified Sites	None
Entity/Author	Stony Creek Archaeology, Inc. – Dell Gould & Stuart Fiedel, PhD
Recommendations	No additional investigation is recommended.
Date of Report	December 15, 2023

ABSTRACT

Stony Creek Archaeology, Inc (SCA) has completed a Phase I (IA/IB) archaeological survey on behalf of Carver and Ingalls for the proposed manufacturing facility in the Town of Coeymans, Albany County, New York. The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) determined that the project area is archaeologically sensitive and has recommended a Phase I (IA/IB) Archaeological Survey prior to ground disturbing activities associated with the project. The area of potential effect (APE) for the project includes portions of two contiguous parcels identified as 156.-3-1.1 and 156.-2-1.1 and comprises 135 acres (55 hectares) of land. Of the 135 acres within the APE, 87 acres will be used for the construction of the facility buildings and adjacent parking and storage yard space. Project plans also include a newly constructed haul road to connect the facility to the Port of Coeymans and River Road, as well as adjacent grading, filling and drainage in the additional 48 acres.

SCA conducted the initial archaeological pedestrian reconnaissance survey on October 23 and 24, 2023, with coverage of some harder-to-access areas occurring in conjunction with the shovel testing through November 22. Based on the results of the sensitivity assessment, the APE has a low to moderate sensitivity for the presence of historical archaeological sites based on nearby historically mapped occupation. The precontact sensitivity for the APE was deemed to be moderate based on the presence of documented archaeological sites within a one-mile radius, though previous disturbances over much of the parcel reduce the overall sensitivity. Due to the presence of moderate to low precontact and historical archaeological sensitivity, it was SCA's opinion that Phase IB archaeological subsurface testing be conducted in undisturbed or minimally disturbed areas with less than 12 percent slopes to determine if any archaeological sites are present in the APE. The former quarry and the access road are not considered archaeologically sensitive due to extensive disturbance.

The Phase IB archaeological survey was carried out between October 25 and November 22, 2023, and consisted of the excavation of 461 shovel tests (441 shovel tests in a 15-meter grid and 20 shovel tests in a 30-meter grid). No precontact or historical artifacts were recovered during the subsurface survey. No archaeological sites were identified as a result of the survey. Based on the results of the Phase I (IA/IB) Archaeological Survey, it is SCA's opinion that no additional archaeological investigation is warranted for the project area.

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I. Introduction

The Carver Companies (Carver) proposes to construct a new manufacturing facility between River Road (NYS Route 144) and Bronk Road in the Town of Coeymans, Albany County, New York (Figure 1). The area of potential effect (APE) for the project includes portions of two contiguous parcels identified as 156.-3-1.1 and 156.-2-1.1 and comprises 135 acres (55 hectares) of land. Of the 135 acres within the APE, 87 acres will be used for the construction of the facility buildings and adjacent parking and storage yard space. Project plans also include a newly constructed haul road to connect the facility to the Port of Coeymans and River Road, as well as adjacent grading, filling and drainage in the additional 48 acres.

II. Scope of services

SCA conducted a Phase I (IA/IB) Archaeological Survey consisting of background research, pedestrian reconnaissance, and a Phase IB subsurface survey. Background research included a review of archaeological site files located within 1.6 kilometers (1-mile) of the project area. This search also included a review of unpublished cultural resource management reports. To support recommendations, SCA also prepared precontact, historic, and environmental contexts for the project area. SCA conducted a detailed review of historical maps, atlases, and aerial images for the project area. The pedestrian reconnaissance survey was carried out on October 23 and 24, 2023, and the Phase IB Survey was conducted between October 24 and November 22, 2023.

Laws, Regulations, and Guidelines

SCA conducts cultural resources studies meeting state and federal legislation such as the National Historic Preservation Act of 1966, as amended, the National Environmental Policy Act of 1969, and the New York State Parks, Recreation and Historic Preservation Law. SCA adheres to the New York Archaeological Council *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* and *Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations* (NYAC 1994 and 2000). SCA's Principal Investigator meets the Secretary of the Interior Professional Qualification Standards listed in the Code of Federal Regulations (36 CFR Part 61).

Personnel

This work was carried out by SCA President and Senior Archaeologist Dell Gould and Principal Archaeologist Stuart Fiedel, PhD. Mr. Gould supervised the field investigation. Dr. Fiedel and Mr. Gould conducted the background research and authored the technical report.

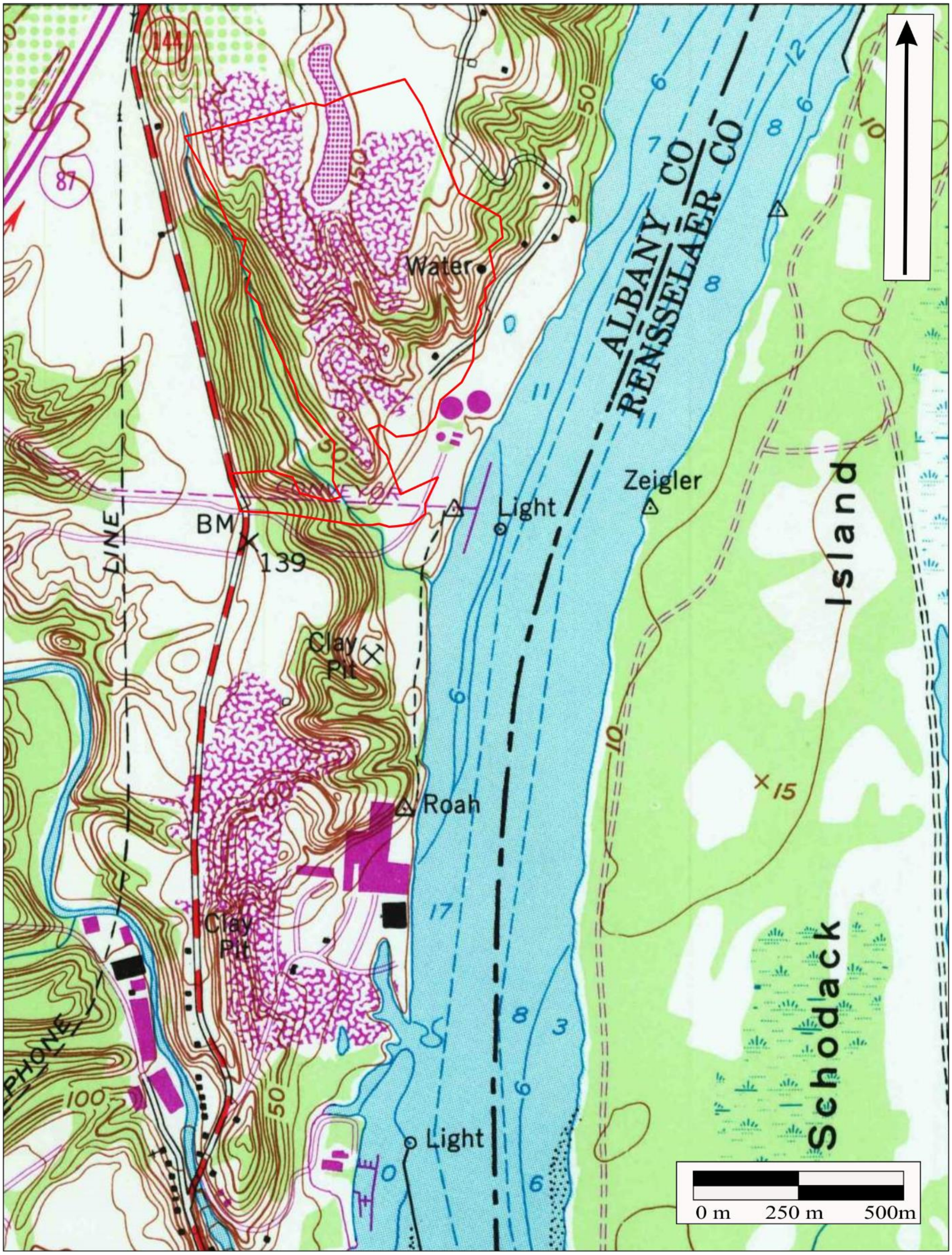

Figure 1. Location of the APE (USGS 1953, Photorevised 1981).

III. Geological Setting

The project area is located on vacant land located between River Road (NY 144) and the Hudson River (see Figures 1 and 2). The elevation of the project area is between 6-45 meters (20-150 feet) above mean sea level (amsl). The project area is situated in the Hudson-Mohawk Lowlands Physiographic Province and the eastern edge of the project area is approximately 30 meters (100 feet) west of the Hudson River.

Bedrock in the project area is mapped as Austin Glen Formation (Oag) greywacke and shale dating to the Middle Ordovician (Fisher et al 1970). The bedrock in the project area is mapped as an overthrust block lying unconformably against Normanskill Shale (On) to the west. Limestone formations of the Devonian Helderberg Group (Dhg) are mapped nearby as well. Cadwell and Dineen (1987) map the surficial geology for the project area as lacustrine silt and clay (lsc), described as laminated silt and clay deposited in proglacial lakes.

Table 1.
Soils Mapped in the Project Area

Series Name	Slope	Typical Profile	Color	Texture	Drainage/Landform
Udorthents (Uh)	Varies	Varies	Varies	Varies	Well drained areas subject to past building and/or earth working
Udipsamments (Uf)	Varies	Varies	Varies	Varies w/ sandy parent material	Well drained areas of sandy parent material subject to past building and/or earth working
Elnora (ElA)	0-3%	Ap 0-23 cm (0-9 in) Bw 23-46 cm (9-18 in) C1 71- 122 cm (28-48 in) C2 122-183 cm (48-72 in)	V Dk Gr Br Str Br Lt Gr Br Gr Br	Lo Fi Sa Lo Fi Sa Sa Sa	Moderately well drained soils formed in sandy glacial lake, eolian, and deltaic sediments on lake plains
Rhinebeck (RhB)	3-8%	Ap 0-23cm (0-9in) Eg 23-36cm (9-14in) Bt1 36-58cm (14-23in) Bt2 58-81cm (23-32in) C1 81-114 (32-45in) C2 114-183 (45-72in)	V Dk Gr Br Gr Br Lt Ol Br Lt Ol Br Br Br	Si Lo Si Cl Lo Si Cl Si Cl Lo Si Cl Lo Si/Cl	Somewhat poorly drained soils formed in clayey lacustrine sediments on glacial lake plains and uplands mantled with lake sediments.
Hudson (HuE)	25-45%	Ap 0-12 cm (0 to 5 in) E 12-20 cm (5 to 8 in) B/E 20-40 cm (8 to 16 in) Bt 40-69 cm (16 to 28 in) C 69-183 cm (28 to 72 in)	Br Br Yl Br Br Gr Br	Si Lo Si Cl Si Cl Si Cl Si Cl	Moderately well drained on convex lake plains, hilly moraines, lower valley slopes
Legend: Ch – Channery Yl – Yellowish	Si – Silt V – Very	L-Loam Dk – Dark	Br – Brown Gr – Grey	Lt – Light Cl – Clay	Ol - Olive Str- Strong

The United States Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS) maps soils in the project area as Elnora (ElA), Hudson(HuE) and Rhinebeck (RhB) series soils as well as large areas of Udorthents and Udipsamments (USDA-NRCS 2023; Figure 2).

Udorthents and Udipsamments are reworked soils subject to prior disturbance. Udorthents vary widely in depth and parent material but are usually loamy; udipsamments are also reworked soils, but from sandy parent material. Elnora series soils are moderately well drained soils formed in sandy lacustrine or deltaic sediments of Wisconsin age. Rhinebeck soils tend to be somewhat poorly drained soils that are formed in clayey lacustrine sediments, consistent with the mapped surficial geology. The Hudson series is comprised of moderately well-drained silty clay loams, also developed from lacustrine deposits. Both the Rhinebeck and Hudson series soils are moderately shallow (USDA-

NRCS 2023). No alluvial, colluvial, or other Holocene depositional soils are mapped in the project area, and deeply buried archaeological deposits are not expected.

Based on the mapped soils, the project area is not expected to contain alluvial soils. Mapped soils are of Wisconsin age, and in situ archaeological materials are expected to be found within the Ap and upper B horizons.

Figure 2. Soils Mapped in the APE

IV. Environmental and Historical contexts

Environmental Context

Deglaciation

During the Pleistocene (after 2.6 million years ago), New England and New York were repeatedly covered by ice sheets. The last of these, the 2-mile-thick Laurentide ice sheet, advanced to its southernmost front across Long Island (the Harbor Hill Moraine) around 28,000 cal BP (calibrated years before present). The glacier began to melt and retreat after 23,700 cal BP. The ice front in eastern New York had retreated to the vicinity of Albany by about 15,000 cal BP and had receded to the Canadian border by ca. 13,500 cal BP (Ridge 2003; Ridge et al. 2012; Halsted et al. 2023). The remnant ice sheet continued to shrink over the ensuing millennia, but it had a lingering effect on the climate of the Northeast until 8000 cal BP.

Meltwater from the ice sheet created a vast proglacial lake in the Hudson Valley, called glacial Lake Albany (Dineen 1979; Stanford 2010). For some time during the glacial retreat, glacial Lake Iroquois—much larger than modern Lake Ontario-- was connected to glacial Lake Albany through the Mohawk Valley (Ridge 1997). This channel may have been occupied by a torrential river for a few centuries after 13,800 cal BP. Around 13,300 cal BP, waters of glacial Lake Iroquois drained catastrophically through Lake Albany, and then through the Narrows (between Staten Island and Brooklyn), into the North Atlantic. This meltwater input may have caused a disruption of thermohaline circulation in the ocean, which triggered a cold episode known in Europe as the Intra-Allerod Cold Period (Donnelly et al. 2005).

Only two radiocarbon dates have been obtained from sediments of Lake Albany in the upper Hudson Valley: 11,770±115 rcbp (ETH 5051) on peat, and 11,150±450 rcbp (GX14348) on bulk organic sediment. Both dates, on material from a drill site in Saratoga County, came from the abrupt interface of the varved lake clay and overlying laminated "Quaker Springs" sand. The peat date was on material dislodged during the catastrophic Lake Iroquois overflow event (Dineen and Miller 2006).

Post-Glacial, Holocene Climatic and Environmental Changes

Studies of annually deposited varved clays in ancient glacial lake beds, supported by radiocarbon dates on bits of vegetation and cosmogenic nuclide dates on boulders first exposed to radiation when the ice retreated, indicate that northern New Jersey and southeast New York were ice-free by ca. 18,800 cal BP (Ridge et al. 2012). However, AMS radiocarbon dates of 12,200-12,700 rcbp from the basal sediments of ponds in this region indicate that tundra-like vegetation-- mosses and stunted shrubs-- only began to colonize the barren landscape between 15,200-14,100 cal BP (Peteet et al. 2012). It seems improbable that the region would have remained without any vegetation for 4,000 years, but the ostensible hiatus remains unexplained (Halsted et al. 2023).

The retreating ice left in its wake meltwater lakes in low-lying areas. One of these lakes ultimately filled with sediment, becoming the 55-square-mile "Black Dirt" bog, now drained farmland in the southwestern part of Orange County, New York.

As vegetation from the south re-colonized the deglaciated landscape, so did the big herbivores that fed on those plants. The initial tundra vegetation was adequate to sustain grazing mammoths in northern Westchester County by about 15,500 cal BP, the age of the Kitchawan Mammoth (found east of Croton-on-Hudson). Following the abrupt onset of the Bølling warm period at 14,700 cal BP, spruce trees spread rapidly into the region, followed by fir, oak, ash, beech, and hornbeam. Spruce twigs were a dietary staple of mastodonts. At least 41 mastodont fossils have been discovered in the muck deposits of the Black Dirt and other swampy areas in Orange County (Dumont and Ehlers 1973). The oldest mastodonts from this concentration date to about 14,300 cal BP. The mastodont found north of Albany in Cohoes in 1866 has been dated to about 13,100 cal BP (Feranec and Kozlowski 2012).

Post-glacial warming was abruptly interrupted at 12,850 cal BP by the Younger Dryas cold episode, which lasted for 1200 years. Pollen sequences from northern New Jersey show the effect of the nearly glacial Younger Dryas conditions on the regional flora, which responded very rapidly to the climate change (Peteet et al. 1990; Yu 2007). Spruce increased to a maximum during this period.

Tree macrofossils dating from about 12,600–11,600 cal BP, the middle to the end of the Younger Dryas, were found in an organic deposit in Cohoes, on the southwest side of the Mohawk River, near its junction with the Hudson. The wood fragments and plant remains, associated with pollen, indicate a local forest of white spruce (*Picea glauca*), balsam fir (*Abies balsamea*), and tamarack (*Larix laricina*). The presence of white, rather than black or red spruce was probably due to the local riverbank environment. Beaver tooth marks were found on some of the wood fragments (Miller and Griggs 2012).

Within only a few decades at 11,650 cal BP, temperatures soared in the Northern Hemisphere (about 4˚C in the northeastern U.S.), marking the end of the Younger Dryas and onset of the present Holocene interglacial. The climate of the Holocene has not been as dramatically variable as that of the late Pleistocene, but oscillations have been substantial enough to affect biota and the human cultures that depended upon them. Vegetation changes through the Holocene, as represented by shifting pollen frequencies, were first recognized by Deevey (1939) in New England. The successive zones were labeled as T or L (herb), A (spruce), B (pine), and C (oak). Deevey correlated these zones with the Northern European pollen/climate sequence (Blytt-Sernander terminology).

Although Deevey's basic scheme is still generally valid, a more detailed sequence of regional climate and vegetation changes through the Holocene has been reconstructed mainly on the basis of stratified pollen cores from the beds of several lakes in the Catskills and Hudson Valley. These records come from: Lake Mohonk and Lake Minnewaska in the Shawangunk Mountains (Menking et al. 2012); Balsam Lake in the western Catskill Mountains (Ibe 1982, 1985); Sutherland Pond in Orange County and Spruce Pond near Tuxedo Park in Rockland County (Maenza-Gmelch 1997); and Ballston Lake, located between Saratoga and Schenectady (Toney et al. 2003). Cores from Tivoli Bays on the Hudson document vegetation there since cal AD 800 (Peteet et al. 2011; Sritrairat et al. 2012). Most recently, preliminary data have been reported from Dyken Pond, located 40 km southeast of Ballston Lake on the Rensselaer Plateau near the New York/Vermont/Massachusetts border. The Dyken Pond sequence closely resembles the record from Ballston Lake (Menking et al. 2018).

The Ballston Lake sequence is most relevant to the present project location. At 11,000 cal BP, spruce declined abruptly there; white pine and birch became the predominant trees for several centuries. Smaller quantities of pollen indicate the presence in the Early Holocene mixed forest of tamarack, hemlock, oak, elm, basswood, aspen, hornbeam, ash, walnut/butternut, hickory, maples (sugar, red, and mountain), willow, alder, and sedge. At 10,800 cal BP, pine declined as hemlock and oak became prevalent; hickory remained present at low percentages (Toney et al. 2003). Minimal loss-on-ignition values indicate a period of aridity from about 10,000–7000 cal BP. Hemlock (*Tsuga*) collapsed at Ballston Lake at 5300 cal BP (Toney et al. 2003)—this was a region-wide collapse probably triggered by drought (Foster et al. 2006; Haas and McAndrews 1999). The drought and the hemlock die-off may have facilitated an expansion of chestnut (*Castanea*), which spread into the Shawangunk Mountains by 4100 cal BP and into the Hudson Highlands, ca. 3900 cal BP. Ballston Lake pollen shows a gradual increase of conifers, hardwoods, and boreal taxa starting at about 2680 cal BP (2520 rcbp); this is interpreted as marking a shift to colder climate (Toney et al. 2003). The same trend is implied by tamarack needles from the late Holocene zone at Dyken Pond (Menking et al. 2018).

A recent synthesis of environmental proxies across the Northeast finds a long-term cooling trend from 3000 cal BP to cal AD 1700. An abrupt transition from wet to dry conditions occurred around cal AD 550-750 (1400-1200 cal BP). It was warmer and drier than today during the Medieval Climate Anomaly (ca. cal AD 950-1250) (Marlon et al. 2017).

Peteet et al. (2011) and Sritrairat et al. (2012) reported charcoal peaks and coincident pollen frequency changes in cores at Tivoli Bay and Piermont in the Hudson Valley. They interpret these as records of severe aridity from about AD 850-1350. Tree rings in the Catskills indicate another major pre-Contact drought that lasted from AD 1555 to 1578 (Pederson et al. 2013), as well as other episodes in the 16th and 17th centuries.

At the time of European arrival, the Hudson Valley region hosted a northward intrusive prong of the Oak-Chestnut Forest Region. The dominant trees of this forest were chestnut, oaks, hickories, and tulips (Braun 1950). However, there is some ambiguity about the native vegetation due to the pervasive impacts of Euro-american forest clearance and agriculture since the 1600s. The structure of the remnant forests also was affected by the chestnut blight, caused by a fungus from Japan that was first recognized at the Bronx Zoo in 1904. Spreading about 50 miles a year, this fungus had wiped out all the mature chestnut trees of the eastern US by 1940.

A minor component of the climax forest in the Hudson Valley was butternut (or white walnut, *Juglans cinerea*). Nevertheless, these trees were apparently very important to the indigenous people. Butternut shell fragments dominated the samples from Vosburg phase (ca. 5300-5000 cal BP) features at the Kingston Armory site near the Hudson; a minor amount of hickory also was present (Asch Sidell 2008). Black walnut (*Juglans nigra*) and hickory (*Carya*) nutshells were recovered from the Vergennes phase occupation (ca. 6000 rcbp, 6800 cal BP) at this site (Gould et al. 2008). Charred butternuts were found in an Orient phase occupation (ca. 3000 cal BP) at the Church site in Saratoga County (Funk 1976). Butternuts were found in 16th-17th-century contexts at the Goldkrest site (Largy et al. 1999). It is noteworthy that white walnut does not tolerate shade and therefore cannot grow under a canopy of taller trees. This might imply that the prehistoric people were intentionally creating more open habitats where this economically important tree could thrive.

HOLOCENE FAUNA

Eastern North America had been depleted of its largest native mammals—e.g., mastodont, mammoth, stag-moose, giant beaver, giant ground sloths—by the Terminal Pleistocene megafaunal extinction at 13,000-12,700 cal BP (more on this, below). Caribou, which had been present in New England and southeastern New York (e.g., at Dutchess Quarry Caves) retreated northward, while elk, moose, and gray wolf migrated southward from Beringia. Elk, cougar, and wolf were probably locally extirpated by the mid-nineteenth century. Among the extant native mammals of the region are deer, raccoon, beaver, black bear, fox, bobcat, rabbit, opossum, woodchuck, and muskrat. Small numbers of passenger pigeons (now extinct since 1914), grouse, goose and turkey were recognized in the bone sample from the Late Woodland Nahrwold site in the Schoharie drainage (Ritchie and Funk 1973).

Notations on the map of Kiliaen van Rensselaer's Rensselaerswijck estate, drawn in 1632, include observations on the local wildlife. As translated from the original Dutch: "Opposite the Fort [Fort Orange], on the south corner of de Laet's Island, many birds are to be shot, such as geese, swans, wild ducks and cranes, and turkeys are found in the woods. Also deer and other game. Wolves are found there also, but not large, like dogs…. From the Maquaas [Mohawks] (especially in the winter) plenty of venison can be obtained that is fat and fine; about 3, 4, or 5 hands of seawan [shell money]for a deer. They would be glad to exchange deer for milk or butter. The meat is fit for smoking or pickling…. In the fourth kill [Bloemaerts Kill, probably the present Patroon Creek in Albany] are pike and all sorts of fish. The sturgeon there is smaller than at the Manathans [Manhattan]. One can be bought from the savages for a knife. "

PRE-CONTACT CULTURAL CONTEXT

PALEOINDIANS

Some archaeologists believe that humans had already entered North America by about 15,000 years ago, but the evidence of arrival before ca. 13,500 cal BP remains incoherent and unpersuasive. In Orange County, in southeastern New York, a sequence of environmental changes dated to ca. 14,000 cal BP hints at an earlier human presence: spores of the dung-dependent *Sporormiella* fungus decrease sharply, followed by a charcoal influx and a marked vegetation change. These proxies seem to manifest a decline of mastodont and other megafauna, plausibly attributed to human predation (Robinson et al. 2005); however, radiocarbon-dated bones and tusks from the same region show that mastodont and other megafauna persisted in southern New York until ca. 13,000 cal BP (11,000 rcbp) or even several centuries later (Feranec and Kozlowski 2012; Fiedel 2018). The Temple Hill mastodont has been dated to 11,000±80 rcbp (Robinson et al. 2005) and 10,900±40 rcbp (Feranec and Kozlowski 2012). The Otisville mastodont yielded a date of 10,970±40 rcbp (Robinson et al. 2005) and a mastodont from Ellenville (in Ulster County) has been dated to 10,850±45 rcbp (Feranec and Kozlowski 2012, 2016). The stag-moose (*Cervalces scotti*) found at the Dewey-Parr site in Orange County, was dated to 10,950±150 rcbp (I-4016) (Funk et al. 1970). The Van Sickle stag-moose, found near Goshen in 2007, was dated to 11,040±110 rcbp (Yorke et al. 2011).

Across the continent, the first well-attested and ubiquitous cultural tradition is Clovis, with earliest dates of ca. 13,500 cal BP. Paleoindians using Clovis spearpoints arrived in the Mid-Atlantic region ca. 13,000 cal BP. These fluted points were often made of high-quality cryptocrystalline stone. Many have been found, with few or no associated artifacts, on the surfaces of fields; but buried, stratified Paleoindian sites are very rare. Among these is the Shawnee-Minisink site on the upper Delaware in northeastern Pennsylvania. Multiple radiocarbon dates on burnt hawthorn plum seeds from a single hearth yielded an average age of 10,940±15 rcbp (ca. 12,850 cal BP) for the Clovis occupation there (Gingerich 2011; Waters et al. 2020). Note that this date is statistically indistinguishable from those obtained for the last Orange County megafauna, that lived about 50 miles (80 km) northeast of Shawnee-Minisink.

Megafaunal extinction across the continent coincided with both human arrival and the abrupt onset of the Younger Dryas. Paul Martin argued since the 1960s (Martin 2005) that human predation was primarily responsible for the simultaneous extinction of 32 genera of North American megamammals at 13,100-12,700 cal BP. Paradoxically, the extinction was so rapid—only some 400 years of overlap of the last megafauna and the first Paleoindians—that one should not expect to find many preserved kill and butchery sites (Fiedel and Haynes 2004; Fiedel 2009).

Clovis points have been found alongside skeletons of butchered mammoths at a dozen kill sites in the Plains and Southwest. However, no unambiguous evidence of hunting or butchering of mastodonts or other terminal Pleistocene megafauna has been found in the eastern US. Instead, the few tiny preserved bone fragments that have been recovered from eastern Paleoindian sites represent still extant species that have moved north during the Holocene, such as caribou and Arctic fox. Along with the evidence of fruit-harvesting at Shawnee-Minisink, the absence of kill sites has led some archeologists to conclude that megafauna had mostly vanished from the Middle Atlantic and New England by the time Paleoindians arrived (e.g., Dent 1991, Boulanger and Lyman 2014).

South of Albany, several Paleoindian sites in Greene County (Kings Road, Swale, West Athens Hill) show that the Normanskill chert sources of this area attracted early quarrying and camping (Funk et al. 1969; Funk 2004). Juliet Morrow (personal communication 2016) has recently examined artifacts from the Greene County sites and confirms that they include early Clovis-style bifaces. However, later point styles, with longer flutes, deeper basal concavities, and flaring basal ears, also are present at those sites. These have been called King's Road/Whipple and Bull Brook/West Athens Hill points, and probably date to ca. 12,700-12,300 cal BP (Lothrop and Bradley 2012)

Early Archaic and Middle Archaic Cultures

Although the megafauna seem to have been extinct by 12,600 cal BP, the use of fluted points continued for another thousand years. Perhaps they had proven effective in the pursuit of caribou, which may have lingered in the cold conifer-dominated forests of the Younger Dryas period. From Pennsylvania southward, the dramatic warming at the Holocene onset was coincident with a shift from fluted points to notched dart or knife forms (Kessell, Kirk/Palmer, Hardaway) that mark the start of a distinct cultural era, the Early Archaic, at ca. 11,500 cal BP.

The style change is evident at Shawnee-Minisink, where a single side-notched "Kline" point was recovered from the "Early Early Archaic" level, estimated to date to about 11,500 cal BP (McNett 1985). This point bears some resemblance to the Early Archaic St. Charles type of the Midwest. The only reported find of similar points in the Northeast is the discovery of four at a workshop site (194-3-1) located near West Athens, NY during a survey for the Iroquois Pipeline (Funk 1996:15; Cassedy 1998).

Robert Funk (1996) observed the dearth of both Early and Middle Archaic sites and surface-collected diagnostic artifacts in the Northeast. The "Ritchie-Fitting" hypothesis (Fitting 1970; Ritchie 1971a) attributed the near-absence of cultural remains of these periods to the regional prevalence of a closed boreal forest that offered few resources for human foragers. Subsequent paleoecological research has shown that oaks and other deciduous trees colonized the region earlier than had been thought, and several deeply buried Early Archaic sites have been discovered (e.g., Johnsen No. 3 and Russ on the upper Susquehanna) (Funk 1993). Nevertheless, the paucity of Early and Middle Archaic diagnostics and components has not changed substantially and must be explained, probably in terms of paleoclimate or vegetation.

Corner-notched points of the Kirk series, dated to circa 9500-8500 rcbp (10,800-9600 cal BP) in the South, are very rare from New Jersey northward. Early Archaic and early Middle Archaic points (Hardaway Side-Notched, Kirk/Palmer Corner-Notched, Kirk Stemmed, LeCroy bifurcates, Kanawha, Stanly/Neville) have been reported from several sites on Staten Island, including Old Place, Ward's Point, and Richmond Hill. The deepest levels at Ward's Point, evidently containing a mixture of several cultural components, were radiocarbon-dated to 8250±140 rcbp and 7260±125 rcbp. A Kirk/Palmer component at Richmond Hill yielded a date of 9360±120 rcbp (ca. 10,600 cal BP) (Ritchie and Funk 1973:38-39). Farther north, two Kirk-like notched points were recovered from the Muddy Brook Rockshelter in Putnam County, NY (Tompkins and DiMaria 1979).

These early notched points are extremely rare farther north and east in New England. Instead, from about 11,600 to 10,000 cal BP, New England seems to have been sparsely occupied by foragers using parallel-flaked spearpoints similar to the Plano points of the northern Plains (Sanger et al. 1992). At Varney Farm in Maine, a single component of this culture was dated to 9400 to 8400 rcbp (10,600-9400 cal BP) (Petersen et al. 2000). A few examples of these Plano-like points have been found in New Jersey (Stanzeski 1996).

The relationship, if any, between this Plano-like horizon and the contemporaneous riverine adaptation of the Gulf of Maine Archaic tradition, revealed by deep excavations in Maine (e.g., at the Sharrow Site on the Penobscot), is unclear (Petersen 1991; Petersen and Putnam 1992; Robinson 1992). These sites, dated to between ca. 10,500 and 8500 cal BP, contain crude quartz scrapers and groundstone tools (full-channeled gouges and rods), but no projectile points. This same tradition seems to be manifest in New Hampshire (Bunker 1992), Connecticut (Jones and Forrest 2003), and Massachusetts (Jones 2012).

In the Middle Atlantic region, bifurcate points are currently interpreted as diagnostic of the inception of a new period, the Middle Archaic (8500 to 5500 rcbp, 9600-6300 cal BP). This period roughly corresponds to the Hypsithermal climatic period, a warm, dry period when the oak-chestnut-deer-turkey biome became established in much of the Northeast. The warmest temperatures of the entire Holocene (in Greenland at least, if not everywhere in the Northern Hemisphere) actually occurred at the beginning of this period, around 10,000-9500 cal BP (Lecavalier et al. 2017).

People who made bifurcate-based points migrated from the Southeast into southern New England around 8500 rcbp (9500 cal BP). In the lower Connecticut River valley, numerous bifurcates were found at the Dill Farm Site in East Haddam, Connecticut. An associated feature containing carbonized hazelnut and walnut shells was dated to 8560±270 rcbp (ca. 9500 cal BP) (Pfeiffer 1986). In eastern Massachusetts, finds of bifurcates are concentrated along the upper Taunton River in the Titicut area of North Middleboro and Bridgewater (Johnson 1993; Taylor 1976, 2005). In southeastern New York, bifurcate points are very uncommon.

The near-contemporaneity of bifurcate points and the non-bifacial quartz assemblages of the Gulf of Maine Archaic sites suggests three alternative interpretations: (1) bifurcate makers spread northward as the range of the Gulf of Maine Archaic contracted, (2) populations of two distinct traditions and adaptations somehow co-existed for centuries by partitioning the landscape, or (3) the assemblages without bifaces represent some special task-, season-, or gender-specific facies of the bifurcate makers' settlement system (Lavin 2013:70).

In the Southeast, bifurcate points developed into Kanawha and very similar Stanly points ca. 7800 rcbp (8600 cal BP). In the Northeast, the Stanly equivalent is the Neville point, named for the site on the Merrimack River in Manchester, New Hampshire, where they were first recognized (Dincauze 1976). Radiocarbon dates from Neville and the Eddy Site, located on the opposite bank of the river, range from ca. 7800-7100 rcbp (8600-7900 cal BP) (Kenyon 1986:4). At Annasnappet Pond in Carver, Massachusetts, Neville points were associated with features, including red ochre-stained burial pits, dated between 7210±70 and 7880±240 rcbp (ca. 8700-8000 cal BP) (Doucette 2005).

A rare occurrence of bifurcate points in the Mid-Hudson region was reported from the Haviland site, located near Cobleskill (Ferguson 1995). Charcoal loosely associated with the artifacts was dated to 8405±65 rcbp (9400 cal BP). Several points found here most closely resemble the Kanawha type; another point seems to be a miniature Neville. Numerous pointed, thin ovate preforms or knives, and many utilized flakes, were recovered at the Haviland site.

A substantial Middle Archaic occupation is attested in the Mohonk Rockshelter, located on a ridge west of the Wallkill Valley in Ulster County, NY. A total of 73 Neville points were found here, as well as four very similar points ascribed to the Kanawha bifurcate type (Eisenberg 1991). The rockshelter deposits were entirely mixed, so no stratigraphic associations were observed. Also in Ulster County, some 20 Nevilles and bifurcates are present in a private collection from the Winston Farm area near Saugerties (Funk 1992).

In the Southeast, Stanly points are followed by convergent-stemmed Morrow Mountain points (Coe 1964). In the Northeast, the equivalent transition at ca. 8000 cal BP was from Neville to Stark points (Cross 1999; Rainey 2005). Fiedel (2014) proposes that an abrupt transition from Neville to Stark/Morrow Mountain may reflect regional environmental and social changes caused by the 8200 cal BP (7400 rcbp) cold event—the most dramatic climate downturn in the Holocene. A major change in settlement patterns is evident in New England after the 8200 cal BP climate event, as groups shifted away from large interior wetlands. For example, the fringes of Cedar Swamp, on the Mashantucket Pequot Reservation in Connecticut, seem to have been "nearly devoid of a regular human presence" after 7500 rcbp (8300 cal BP), as inferred from the scarcity of Stark, Morrow Mountain I, and Merrimack stemmed points (Jones 1999). Stark points also are very rare in eastern New York. This may reflect, in part, their similarity to much later (ca. 2000 cal BP), and somewhat more common, Rossville points.

The latter part of the Middle Archaic, ca. 7000 to 5500 rcbp (7900-6400 cal BP), is not well attested in the Hudson Valley. Hunterbrook or Beekman triangles, originally described in Westchester County and later discovered in deep strata at Area D of the Abbott Farm Site near Trenton, NJ, may belong in this period (Stewart 1990, 2018). At the

Sylvan Lake Rockshelter in Dutchess County, a few Beekman triangles were recovered from Stratum 3, radiocarbon dated to circa 6600 to 6000 rcbp (7600 to 6900 cal BP).

LATE ARCHAIC CULTURES: OTTER CREEK, BREWERTON, NARROW STEMMED

About 6000 rcbp (6800 to 6500 cal BP), large side-notched Otter Creek points began to spread across the Northeast, from the Upper Susquehanna (Funk 1993) to Maine (Sanger et al. 2007). This "Proto-Laurentian" development was interpreted by Funk (1993) as the initiation of the region's Late Archaic period. Otter Creek points may ultimately have been derived from the side-notched types of the mid-continent (e.g., Big Sandy, Raddatz). If there was a population expansion/migration from the Great Lakes to New England, it may have been a response to environmental changes around 7000 years ago (Almquist et al. 2001; Ellis et al. 2004; Gajewski et al. 2007; Parris et al. 2009).

The Otter Creek point type and the affiliated Vergennes phase were originally defined on the basis of finds in western Vermont (Ritchie 1965:87). There, the Otter Creek points are associated with ground slate knives and *ulus* (crescent-shaped artifacts resembling the knives used by Inuit women). Ritchie also reported a copper gorge from the KI site. One of the slate points he illustrated (1965:Plate 27:2) is clearly imitative of a typical point form of the Old Copper Culture of the Great Lakes. Copper use around Lake Superior may have started as early as 9000 cal BP, but the peak of copper production there was about 7000-3600 cal BP (Pompeani et al. 2015; Pompeani et al. 2021; Bebber et al. 2022).

Several Otter Creek occupations have been radiocarbon-dated in the mid- and upper Hudson Valley. At the Kingston Armory site in Ulster County, NY, three sequential components were identified: Vergennes (Otter Creek), Late Archaic (Vosburg), and Terminal Archaic (Snook Kill, River, Frost Island, and Orient phases). Radiocarbon dates for the Vergennes phase occupation are 6170±40 rcbp (7300-7000 cal BP) and 5820±40 rcbp (6700 cal BP) (Gould et al. 2008). Otter Creek points were found at Site 303 (also known as the Shafer site) on the Schoharie Creek floodplain near Breakabeen; they were associated with a radiocarbon date of 6290±190 rcbp (ca. 7200 cal BP), which was obtained by combining charcoal from three hearths (Wellman 1996).

On Barren Island (formerly known as Beeren Island, as discussed below), about 3 km (2 miles) south of the project area, 70 typed points were recovered from unstratified contexts. Among these were three Otter Creek points. West of Barren Island, four Otter Creek points were found in the lowest strata of Fish Club Cave, in the valley of Hannacroix Creek (Funk 1976).

Otter Creek points appear to have evolved into the Brewerton complex of side-notched, corner-notched, and eared points. William Ritchie (1965) regarded the Brewerton complex as part of a "Laurentian" tradition, while Dean Snow (1980) termed it the "Lake Forest Archaic." Triangular points, not easily distinguished from much later Woodland arrow points, sometimes occur in association with Brewerton notched forms. The Brewerton complex dates to ca. 6000-4500 cal BP (Ritchie 1971a; Funk 1993:190). At the Robinson site in Onondaga County, Ritchie (1965: Plates 32 and 33) found copper tools of Old Copper types, including a gouge or "spud," a celt, and awls. These artifacts suggest some temporal overlap of the Brewerton phase with the peak production period of the Old Copper culture. This is consistent with the available radiocarbon dates.

Wall et al. (2003) identified typical Brewerton projectile points as well as other untyped projectile forms in association with a large and diverse cobble tool assemblage from the Mansfield Bridge Site (36Ti116) on the Tioga River near the New York-Pennsylvania border. Dates for features associated with this component ranged from 6600 to 6020 rcbp (7500-6800 cal BP) (Wall et al. 2003). These dates are anomalously old—earlier than some Otter Creek components. If accurate, they complicate the interpretation of Brewerton as simply derived from Otter Creek.

In the Hudson Valley, a distinctive local variant of the Brewerton corner-notched type is the Vosburg corner-notched point. At the Sylvan Lake Rockshelter in Dutchess County, the Vosburg component dated to 4780±80 rcbp (5500 cal BP) (Funk 1966). At the Kingston Armory site in Ulster County, the Vosburg phase occupation yielded radiocarbon dates of 4550±40 rcbp (5200 cal BP), 4520±40 rcbp (5200 cal BP), and 5130±40 rcbp (5800 cal BP) (Gould et al. 2008).

The Barren Island site assemblage (already noted for its Otter Creek points) included seven Vosburg points, 17 Brewerton notched points, two Beekman Triangle points, a polished slate *ulu*, and a winged drilled bannerstone (atlatl weight). Two Vosburg points were found at Fish Club Cave.

The disappearance of hemlock trees from the Northeastern forests—probably caused by climate changes between ca. 5800 and 5400 cal BP—opened the way for growth of a diverse understory and the florescence of northern hardwoods (Sanger et al. 2007). This new vegetation, combined with a possible reduction of snowfall, would have provided prime habitat for deer. Coeval with the hemlock decline there is a sudden, dramatic increase in radiocarbon dates associated with human occupation in New England and New York (Hoffman 1988, 1990; Reeve and Forgacs 1999; Fiedel 2001; Munoz et al. 2010). It is probably no coincidence that, around 5500-5000 cal BP, Lamoka and other, similar narrow stemmed points replaced notched points of the Brewerton tradition in New York, New England, and Quebec.

Late Archaic people hunted deer and other animals of the deciduous forest (dominated by oak and chestnut, after the hemlock decline), collected nuts and seeds, and took fish and shellfish from the rivers. The predominant artifact in Late Archaic assemblages is the narrow stemmed point. This type, variously named in southeastern New York as "Taconic" (Brennan 1968) or "Sylvan Stemmed" (Funk 1976), dates from circa 4500 to 3500 rcbp (5300 to 3800 cal BP). A side-notched type (Sylvan Side-Notched or Twombly Side-Notched) apparently co-occurred with these stemmed points. In central New York, the narrow stemmed variant is known as Lamoka. At the Lamoka Lake Site in Schuyler County, dated to 4400 rcbp (4950 cal BP) (Hart et al. 2023), hunting of terrestrial animals and birds, fishing and mussel-collecting, and acorn-harvesting produced a sufficient resource base to support a semi-sedentary occupation by about 150 people; their prolonged occupation is indicated by a multitude of postmolds and numerous storage pits.

On the Upper Susquehanna, Lamoka components were dated to between 4185±120 and 3750±100 rcbp (4800-4100 cal BP) at the Fortin Site, between 4490±90 and 3920±95 rcbp (5300-4300 cal BP) at Mattice No. 2, and have similar associated ages at other sites (Funk 1993:158-164). Vestal corner-notched and side-notched points, apparently contemporaneous with Lamoka, are very numerous in the area around Binghamton. Also partially contemporaneous or slightly later than Lamoka and Vestal (from about 3900 to 3700 rcbp [4400 to 4000 cal BP]) is the side-notched Normanskill point type, which was prevalent in the mid-Hudson, Susquehanna, and Mohawk valleys. Vestal points are not found in the Hudson Valley and are very rare on the upper Delaware, but Normanskill points do appear in those areas.

The Barren Island assemblage included 12 Sylvan Stemmed points and one one Normanskill point (Funk 1976:56). One Normanskill point was found in Fishclub Cave (Funk 1976:63).

Terminal Archaic (Transitional) Cultures: Broadspears and Fishtails

A centuries-long megadrought affected the interior of North America around 4200 cal BP (Booth et al. 2005). Perhaps in reaction to related environmental changes, Broadspear-makers from the Southeast seem to have spread northward along the coastal plain, circa 4000 to 3500 rcbp (4500 to 3800 cal BP, 2500 to 1800 cal BC) (Kinsey 1972:359). There has been much debate regarding the nature of this expansion: was it a matter of indigenous residents adopting a useful new form of knife, or an entire intrusive cultural complex and immigrant population replacing the local peoples (e.g., Cook 1976; Custer 1991; Turnbaugh 1975)? Bourque (1995) makes a strong case for the Susquehanna Broadspear complex as an intrusive culture in northern New England.

The more northern broadspears seem to be derived from those of the Mill Branch culture, which had occupied the mid-Savannah River valley since 4700 cal BP. The Mill Branch people abandoned this homeland around 4200 cal BP (Sassaman 2006a), but they kept making their characteristic broadspears as they spread rapidly north through the Piedmont and Coastal Plain. As the broadspears spread, they replaced Late Archaic narrow stemmed points—probably also a signal of population replacement. In Georgia, the broadspears were made of rhyolite. In the Delaware Valley, lithic raw materials changed dramatically when the broadspears replaced the local narrow stemmed Lackawaxen points. The latter had been made of shale and argillite, but the preferred materials for broadspears are rhyolite, chert, and jasper. There does not appear to have been so radical a shift in the upper Hudson Valley, where chert continued to be used for broadspears.

The prototypical broad-bladed form, which spread as far north as Virginia and Maryland, is the Savannah River point. In Pennsylvania and New Jersey, these developed into Lehigh/Koens-Crispin points. At the Savich Farm, east of Philadelphia, dates of 3820±60, 3640±60, and 3530±70 rcbp (4200-3700 cal BP) were obtained for graves containing Koens-Crispin points and winged bannerstones (atlatl weights) (Regensburg 1971, 1982). In New York, the earliest broad-bladed form is Snook Kill. At the Snook Kill site, near Saratoga Springs, the assemblage was dated to 3420±100 rcbp. However, Funk (1976:259) suspected that this date was inaccurate; in the Upper Susquehanna drainage, older dates of 3830±80 and 3620±130 rcbp are associated with Snook Kill points (Funk 1993:162).

These squarish-stemmed early broadspears developed into the later Susquehanna and Perkiomen points, with trowel-shaped blades, sharp shoulders, narrow waists, and fishtail-like bases; these coeval types date to about 3600 to 3200 rcbp (3900-3400 cal BP). The last types in this series are Dry Brook (a narrower variant of the Susquehanna) and Orient Fishtail (3300 to 2900 cal BP), slimmer than its predecessors, with rounded shoulders. Four precise AMS dates for a hearth associated with Susquehanna and Dry Brook fishtail points and steatite bowl fragments at the Little Wood Creek site in Fort Edward, NY, are: 3160±30, 3070±30, 2970±30, and 2980±30 rcbp, or 3400-3100 cal BP (Grossman et al. 2015).

Tub-shaped, flat-bottomed bowls carved from soapstone (steatite) occur for the first time in association with Perkiomen or Susquehanna broadspears, both in the Upper Susquehanna and Upper Delaware drainages. In New England, soapstone vessels were first used in the Atlantic phase (ca. 3700 rcbp, 4000 cal BP [Sassaman 2006b]) but they became more numerous in the next, Watertown phase. Steatite vessel fragments are present, but very rare, on Hudson Valley sites; only one was found on Barren Island (Funk 1976: Plate 15).

This carved stone vessel technology, interpreted as a step toward ceramic manufacture, was formerly seen as demarcating a "Transitional" cultural stage prior to the ceramic-producing Early Woodland cultures. Today, *Terminal Archaic* is the term more often applied to the period characterized by soapstone and broadspears. It has become evident that, in the Southeast, the manufacture of the first clay pots was contemporary with the soapstone vessels, not a derivative imitation (Sassaman 2006b). Nevertheless, the oldest ceramic pots in the Middle Atlantic region, called Marcey Creek ware, dating from ca. 3300 cal BP, were flat-bottomed like the steatite pots, and even included crushed bits of steatite as the tempering agent.

Broadspear occupations tend to be focused on river floodplains and levees. In the absence of organic remains, it is unclear if this tendency is primarily indicative of the importance of fish (and perhaps also seed-bearing plants and tubers) in the diet, or simply reflects the importance of rivers as transportation routes. An innovation associated with broadspears is the construction of large platform hearths or pavements, full of fire-cracked rock. Despite an absence of actual fish remains, it is generally assumed that these features were devoted to some kind of fish-processing, such as drying or smoking.

Despite the evident concentration of sites in river valleys, broadspears are also found in interior, upland settings. This distribution complicates models that propose habitat partition as the basis for the presumed centuries-long coexistence in southern New England of stemmed point makers in the uplands and broadspear makers in the floodplains (e.g., Pagoulatos 1988; Pfeiffer 1992). Nevertheless, numerous radiocarbon-dated components do indicate that there was some temporal and spatial overlap of these traditions around 3700 rcbp (4000 cal BP). Dincauze (1975) suggested that the indigenous and intrusive traditions eventually coalesced, which would account for the narrow blades of Orient Fishtail points—the last type in the Broadspear sequence.

In the Delaware Valley there is good evidence of the stylistic evolution of Orient Fishtail points from broadspears, by way of the intermediate Dry Brook type. Orient Fishtail points (circa 3200 to 2700 rcbp, 3500 to 2800 cal BP) were found in elaborate mortuary deposits at the northeastern tip of Long Island, associated with carved soapstone bowls (Ritchie 1965). Ceramics, imitative of the soapstone (steatite) vessels in shape, are a minor part of Orient assemblages in the Upper Delaware Valley and eastern Long Island (Ritchie 1965:172); their appearance marks the onset of the Early Woodland. Marcey Creek steatite-tempered pottery was found in the Orient assemblage at Miller Field, New Jersey (dated to 3170±120 rcbp) (Kraft 1970). At the Faucett Site in the upper Delaware Valley, Exterior Corded/Interior Smoothed pottery appeared to be associated with an Orient component (Kinsey 1972:360).

Orient components are found at sites along the Hudson as far north as Saratoga County. At the stratified Coffin Site near Schuylerville, the Orient component yielded dates of 2820±110 and 3040±95 rcbp (Funk 1976:264). Orient points do not seem to occur farther west; they may overlap temporally with the Meadowood points that are predominant in central and western New York. Vinette 1 pottery, quartz-tempered, conical-shaped, and cordmarked on both exterior and interior surfaces, is frequently associated with Meadowood points and is the index trait for the beginning of the Early Woodland.

The assemblage from Barren Island included one Snook Kill point, four Susquehanna Broad points, and one Orient Fishtail point (Funk 1976:56). No Broadspear component was recovered from Fishclub Cave.

Early Woodland Cultures

The temporal division between Terminal Archaic (without pottery) and Early Woodland (with pottery) has conventionally been set at 3000 rcbp (3200 cal BP). In the Middle Atlantic region, the earliest pottery seems to have imitated the soapstone bowls of the Broadspear tradition. The first pots of the Marcey Creek type, dated ca. 3300 cal BP, are shaped like the stone bowls and even contain crushed steatite pieces as temper.

Very few steatite-tempered sherds (only about a dozen in all) have been found farther north in eastern New York and New England. At the Schuylerville Site in the Hudson Valley, a few sherds were probably associated with a Dry Brook (Susquehanna/Orient) component, dated ca. 3100 rcbp. The sherds are described as curved and cord-marked; based on these attributes, they seem to resemble the Selden Island type of the Potomac drainage (dated ca. 2900 rcbp) more than Marcey Creek vessels (which were flat-sided and not cordmarked). Based on their relative stratigraphic position, a few sherds of another ware, with grit temper and cord-marked exterior, seem to be slightly older than the Vinette 1 sherds found above them (Brumbach 1979).

These few steatite-tempered sherds offer only a faint clue that the oldest ceramic tradition of the Northeast (north of New Jersey) might have developed *via* some sort of stimulus diffusion from the Middle Atlantic Marcey Creek/Selden Island tradition.

Most Orient Fishtail-associated radiocarbon dates, beginning about 3200 rcbp (3400 cal BP), fall on the early side of the Terminal Archaic/Early Woodland boundary (Fiedel 1988). However, a few dates are as late as ca. 2800 rcbp (2900 cal BP) (albeit with large standard errors). No credible Orient-associated dates are later than ca. 2750 rcbp (2850 cal BP, 880 cal BC). Orient points are associated with carved soapstone vessels, but also, rarely, with soapstone-tempered clay pots. Also, in rare instances, Orient points have been found in association with Vinette I potsherds. At the Kingston Armory site, for example, Vinette I sherds were recovered in association with a hearth that was dated to 2980±40 rcbp (ca. 3320-3060 cal BP). Orient Fishtail points also were found near this feature. Another date for this component is 2790±40 rcbp (ca. 2950 cal BP) (Gould et al. 2008).

An *in situ* transition from Orient to the succeeding Woodland cultures has not been established. There is instead a sharp stylistic break, along with reduced numbers of recognizable and radiocarbon-dated Early Woodland components. Other than a real population collapse, the most plausible alternative explanation might be a period of severe riverine erosion that destroyed the relevant archaeological record. However, that would not explain the comparably small numbers of Early Woodland components in upland settings (Fiedel 2001).

Meadowood points are often associated with Vinette I pottery. Therefore, they are assigned unambiguously to the Early Woodland period. Radiocarbon dates for Meadowood generally fall between ca. 2900 and 2400 rcbp (3200-2300 cal BP) (Hart et al. 2023); an anomalously early outlier from the Fortin site on the Upper Susquehanna is 3180±95 (ca. 3300-3500 cal BP). Meadowood points seem to have developed from the small, notched points (e.g., of the Hind type) that are found in southern Ontario and the northern Midwest between ca. 3500 and 2800 rcbp (3800-2900 cal BP).

The Terminal Archaic/Early Woodland transition appears to be connected to an abrupt climate event. Numerous environmental records in Europe indicate a climatic downturn around 2750-2700 cal BP (800 to 750 cal BC), which coincides with a "cliff" in the radiocarbon calibration curve indicating weakened solar activity. Atmospheric ^{14}C increases and radiocarbon dates drop abruptly from 2750 to 2450 rcbp (Fiedel 2001; Martin-Puertas et al. 2012; Van Geel and Mauquoy 2010). Pollen sampled from Ballston Lake, located between Saratoga and Schenectady, shows an increase of conifers, hardwoods, and boreal taxa at about 2680 cal BP (2520 rcbp); this is interpreted as marking a shift to colder climate (Toney et al. 2003). All of these climate proxies may indicate the climatic stress responsible for the demise of the Broadspear tradition—i.e., the end of the Orient phase at ca. 2800 cal BP.

The period from about 2700 to 1700 rcbp (800 cal BC to cal AD 400) (Early Woodland and early Middle Woodland) is not well known. As Robert Funk observed, "Next to the Early Archaic this is the most poorly understood substage in the Northeast" and overall, "The evidence for this phase in New York State remains meager" (Funk 1993:200). Not only are the recognized point types of the period (Meadowood, Adena, Rossville, and Lagoon) scarce, but so are Vinette potsherds. Setting aside diagnostic artifacts, even radiocarbon-dated components of this period are also relatively rare. If not a severe population downturn (as suggested by Fiedel 2001), the scarcity of sites in previously inhabited areas at least seems to indicate a dramatic change of settlement pattern, perhaps entailing aggregation in selected habitats.

Thin, side-notched Meadowood points, very different from Orient, are made usually of Onondaga chert from central/western New York, where this culture seems to have been centered. Meadowood points are thinly scattered across southern New England and do not seem to connote an established population; rather, they may represent transient traders or explorers seeking to acquire marine shells. In all of the Hudson Valley assemblages he analyzed at the New York State Museum, Funk (1976:199) identified a total of only 48 Meadowood points; for comparison, the collection included 539 Vosburg points, 2330 Sylvan Stemmed points, and 441 Orient Fishtail points.

Small Meadowood habitation sites and diagnostic lithic artifacts appear to be anomalously concentrated in a linear zone stretching from the Mohawk River to the upper Susquehanna (Taché 2011). This group includes Nahrwold 2 along Schoharie Creek (Ritchie and Funk 1973), where the small Meadowood component was dated to 2710±80 rcbp.

A more permanent occupation of northern New England by people tied to the Adena culture of the Ohio region is indicated by the Boucher cemetery, located on the Missisquoi River in Vermont (Heckenberger et al. 1990). Here, typical and remarkably well preserved Adena artifacts, as well as a Vinette 1 pot with unusual incised lines on the exterior, were recovered from 84 burial pits. Numerous radiocarbon dates place the graves within a long period from ca. 2700 to 2100 rcbp (with an older outlier at ca. 3000 rcbp).

In the Hudson Valley, Funk (1976) typed 124 points as Adena (known in this region as "Middlesex'). The only site with Adena-like burials was Van Orden, south of Catskill, where two graves contained Adena-like points and thick rolled copper beads (Ritchie, 1958:100-101).

Funk (1976) typed only 61 Rossville points from the whole Hudson Valley. At Teller's Point (the south tip of Croton Point) on the lower Hudson, Fiedel (1991a) excavated 27 Rossville points (16 of them complete). Unfortunately, the points came from a mixed context, which also contained sherds of Vinette 1 and other (probably Middle Woodland) pottery, a few Orient points, and small stemmed points. At other Tappan Zee shell middens, there is a hiatus after 4365 rcbp, then dates of 3765 and 3750 rcbp from Piping Rock, followed by a long hiatus before dates of 2500 and 2200 rcbp at Dogan Point and 2480 rcbp at Piping Rock (Claassen 1995). These dates correlate quite closely with those reported for submerged oyster beds in the river (Carbotte et al. 2004). Those dates indicate an absence of oysters from ca. 3400 to 2800 cal BP (4200 to 3720 rcbp, without reservoir correction); then they recolonized the lower Hudson and thrived until about 900-500 cal BP. The unusual prevalence of Rossville points at Teller's Point may reflect renewed harvesting of oysters after 2800 cal BP.

At Barren Island, the Early Woodland was represented by one Meadowood point, one Adena-like point, and five Vinette I sherds (Funk 1976:55-56).

Middle Woodland Cultures

Fiedel (1987, 1991b) observed that linguistic evidence indicated the fairly recent (less than 3,000-year) age of the Algonquian language family and placed its homeland north and west of Lake Ontario; this precluded an *in situ* Archaic ancestry of the New England and eastern New York Algonquian-speakers. Fiedel suggested that early Middle Woodland Point Peninsula pottery represented the initial expansion of Proto-Algonquians. Early Point Peninsula pottery, with complicated rocker- and dentate-stamped designs on exterior surfaces, was distributed across a vast expanse from Manitoba to the New England coast. Its expansion occurred between ca. 2400 and 1800 cal BP (400 cal BC-cal AD 200).

In central New York, Early Point Peninsula pottery is a marker of the Canoe Point phase (ca. 2200-1700 rcbp, 200 cal BC-cal AD 400). The pottery seems to be associated with crude, nondescript side-notched points. At the Cottage Site, a midden located on the Upper Susquehanna near Binghamton, an assemblage of this phase was dated to 1810±100 rcbp (Funk 1993:204). A later stage of the same cultural tradition seems to be represented at the Davenport Creamery Site, near Oneonta (Funk and Hoagland 1972). Dentate and rocker-stamped sherds were associated with well-made, thin, side-notched points, resembling Ritchie's (1971b) Long Bay type. A feature at the Creamery site was dated to 1625±95 rcbp. Apparently, Fox Creek points and Petalas "blades" (large bifaces) formed part of the same assemblage. Hart and Brumbach (2005) have recently reported dates from central New York, on organic residues adhering to sherds, that push back the date of Point Peninsula rocker-stamped pottery in that area: 2270±35, 2205±30, and 1620±35 rcbp.

Funk (1993) recognized a small (1 to 1.5 inches long) stemmed point type of the Middle Woodland period in the upper Susquehanna drainage; he referred to this type as “Sand Hill Stemmed.” At Harry’s Farm (Site 28Wa2) on the Upper Delaware, Kraft (1975a) excavated points of the Tocks Island type, in association with Abbott Horizontal Dentate, Brodhead Net-Marked, and Exterior Corded/Interior Smoothed pottery, and a radiocarbon date of 1660±95 rcbp. The corner- or side-notched Tocks Island points are restricted to that vicinity.

Two distinct and probably sequential Middle Woodland cultural complexes in southern New England and southeast New York are often conflated: Fox Creek and Jacks Reef/Kipp Island.

Fox Creek stemmed and lanceolate points were named by Robert Funk, based on examples he excavated from Stratum 3 of the Westheimer Site, at the confluence of Schoharie Creek and Fox Creek (Funk 1968). Avocational archaeologist Edward Kaeser called points equivalent to Funk’s Fox Creek type, “CONY” points (for “Coastal New York”). He found evidence of intensive CONY/Fox Creek occupation around Pelham Bay on Long Island Sound (Kaeser 1968, 2004).

The Fox Creek points at the Westheimer Site and at the Ford Site in Columbia County, NY (Funk 1976:131) were associated with net-marked potsherds. The same pottery was found at the Black Rock and Dennis sites on the Hudson. This component at Westheimer produced overlapping radiocarbon dates of 1500±80 and 1540±80 rcbp (ca. cal AD 500-530) (Ritchie and Funk 1973). A residue deposit on a Ford Netmarked sherd from Westheimer has been dated to 1600±35 rcbp (ca. cal AD 470) (Hart and Brumbach 2005). Both the Westheimer and Ford Site assemblages also included sherds of zoned-incised Abbott ware; this distinctive Middle Woodland type also has been found in New Jersey and coastal Virginia.

The wide distribution of Abbott Zoned pottery shows that the Middle Woodland people of southern New York participated in a trade network that extended along the coastal plain from Maryland to Massachusetts. Fox Creek points also moved through this network. Many of these points were made of a reddish-purple argillite obtained near present-day Trenton, New Jersey.

This Fox Creek preference for argillite contrasts sharply with the lithic preference of the immediately succeeding (and perhaps partially coeval) Jack’s Reef complex (or Kipp Island Phase). Jack’s Reef corner-notched and pentagonal points are often made of Pennsylvania jasper, a material that is very rare or absent in Fox Creek lithic assemblages. Unlike earlier points, which were used as spear or dart tips, Jack’s Reef points may have been used as arrow tips (Seeman 1992). From Maine to Illinois, they demarcate a late Middle Woodland horizon, the Kipp Island phase, dating from ca. cal AD 550 to 900 (Halsey 2013). Slightly older dates are reported from the Chesapeake region (Lowery 2013). Associated pottery types in New York include Point Peninsula Plain, Corded, and Rocker-Stamped; Jack’s Reef Corded and Corded Punctate; and Vinette Dentate. Radiocarbon dates on residues from Jack’s Reef Corded pottery in central New York are 1430±40, 1428±41, and 1315±50 rcbp (about cal AD 660) (Hart and Brumbach 2005). Clear differences from Fox Creek in lithic material preferences, associated ceramics, subsistence practices (Kipp Island has a strong emphasis on fishing), and site distributions suggest that Kipp Island represents a distinct, intrusive population in New England and the Middle Atlantic (Strauss 1993).

A particularly noteworthy find of late Middle Woodland age is a cremated burial on Minisink Island in the Upper Delaware (Ritchie 1965:234). The grave goods included “the calcined remains of a large, decorated comb of classic Kipp Island style, two perforated shark teeth, and a fragmentary straight-based platform pipe, all index markers for this phase.” These artifacts bespeak an obvious cultural relationship to the coeval Island Field cemetery in Delaware (Custer et al. 1990) and the cremated burial discovered beside the Whitehurst Freeway in Washington, D.C. (Knepper et al. 2006). Similar burials were found at Tottenville on Staten Island (Jacobson 1980) and at Taylor Hill on Cape Cod (Bradley 2008).

Twenty-six burials excavated at the Tufano site, located on the Hudson about 2.5 miles (3.8 km) north of Athens, also date to the Middle Woodland. A charcoal sample was dated to 1250±100 rcbp (Y-1382), ca. cal AD 650-850. However, the usual Jack's Reef Corner-notched points and soapstone platform pipes were not present. Instead, there were Jack's Reef Pentagonal and Levanna and points, drills on Levanna bases, a clay elbow pipe, a bone comb, a bone pendant, and a two-holed gorget, as well as lithic bifaces of two local types--Greene points and Petalas "blades" (large bifacial knives). The associated ceramic types include Point Peninsula Rocker Stamped, Jack's Reef Corded Punctate, Black Rock Trailed, and Point Peninsula Plain (Funk 1976:70-89).

The Black Rock site was located at the southern end of the village of Athens. Most of the assemblage was attributed to the late Middle Woodland. The projectile points were mostly Levanna triangles, with a few Jack's Reef Pentagonal and one Jack's Reef Comer-notched point; a few Petalas blades also were recognized. The pottery was attributed mostly to the Vinette Dentate, Point Peninsula Corded, Jack's Reef Corded, and Point Peninsula Plain types. A feature was dated to 1100±95 rcbp (ca. cal AD 750-1050). Older artifacts also were present at the site: an Otter Creek point, six narrow stemmed points, a Perkiomen point, an Orient Fishtail, a steatite sherd, two Vinette 1 sherds, and a Fox Creek Stemmed point made of purple argillite (Funk 1976:90-97).

Faunal remains from the Black Rock midden were dominated by deer, but there were also many plates, vertebrae, and skull fragments of sturgeon. Other species recognized were black bear, elk, beaver, woodchuck, raccoon, red fox, gray squirrel, dog or wolf, bobcat, turkey, passenger pigeon, turtles, freshwater mussels, and pike perch. No remains of vegetal foods were recovered from pit features (Funk 1976:97).

At the Barren Island site, about 3 km (2 miles) south of the project area, most of the 267 potsherds were of Middle Woodland Point Peninsula types: Point Peninsula Plain, Corded, and Rocker-stamped, Vinette Dentate, Jack's Reef Corded, Black Rock Trailed (also found at the Black Rock site), and Ford Net-marked. The lithics of this period were Jack's Reef Pentagonal and Corner-notched, Fox Creek Stemmed and Lanceolate, and Levanna points (Funk 1976:49-55).

Relatively few faunal remains were found at Barren Island. The dominant food animal in all levels was the white-tailed deer. In the Middle Woodland zone, there were freshwater clams and bones of sturgeon, elk, and turtle (Funk 1976:57).

A small shell heap containing artifacts resembling the late Middle Woodland assemblage from the Black Rock site was found in 1960 at Cedar Hill in Albany County; this site is about 5 miles (8 km) north of the project area. The midden lay under 4 feet (1.2 meters) of alluvial silt on the Hudson River. The artifacts in the midden included: two rim sherds of Jack's Reef Corded type, three rim sherds of Point Peninsula Corded, one rim sherd of Point Peninsula Plain, 25 body sherds, five Levanna points, a biface fragment, and some chert debitage. Several late prehistoric (incised and collared) rim sherds were stratified several inches above the midden (Funk 1976:295).

At Fish Club Cave, in the valley of Hannacroix Creek, the Middle and Late Woodland occupations were represented by only a few points (Fox Creek, Levanna, and Madison-like) and a few potsherds (most cordmarked, but one net-marked). The faunal remains were dominated by deer bones; black bear, red fox, turkey, turtle, freshwater clam, and sturgeon (one scute) also were present (Funk 1976:61-63).

LATE WOODLAND CULTURES: VILLAGE FARMERS

Archaeologists once believed that a commitment to horticulture was one of the main innovations that distinguished the Woodland from the preceding Archaic era. However, in this respect the Archaic/Woodland distinction has become very blurry as more data have accumulated that show, on the one hand, intensive plant-collecting and even cultivation at very early dates in the Archaic, and on the other, very limited reliance on cultigens of tropical origin until quite late in the Woodland era. Based upon his experience in the Hudson and Upper Susquehanna valleys, Robert Funk (1993:139) suggested that the whole cultural sequence from Early Archaic through Middle Woodland ought to be collectively lumped as a "Forager" stage of cultural development; Funk saw the transition from Middle to Late Woodland as the shift from this stage to the "Village Farmer" stage.

Several approximately coeval innovations mark the onset of the Late Woodland in southern New England and eastern New York ca. cal AD 1000: maize-based agriculture; permanent villages with storage facilities; the bow and arrow (signaled by triangular stone points of the Levanna and Madison styles); and globular-bodied, collared and incised pots manifesting Iroquoian stylistic influence. There has been much debate about how pervasive and disruptive the effects of maize adoption and village life were in this region. Several researchers have observed that there are few or no archaeological traces of nucleated villages (e.g., Ceci 1979, Luedtke 1988). Chilton (2002) dismissed the adoption of maize as a "non-event," but others (e.g., Petersen and Cowie 2002) have emphasized the ubiquitous evidence of maize and nucleated settlements after ca. cal AD 1300 and unambiguous Contact-era reports of relatively intensive agriculture. Some Late Woodland/Contact villages at the heads of estuaries may have been rendered invisible by subsequent establishment of modern cities at the same favored locations. The Late Woodland population was sufficiently dense to sustain chiefdom-level polities in New England in the sixteenth and seventeenth centuries (Bragdon 1996). It is noteworthy, however, that surface finds of diagnostic triangular projectiles suggest that in many areas, the Late Woodland population was barely more numerous than that of the Late or Terminal Archaic. The New York State Museum collection analyzed by Funk (1976) contained 1287 Levanna points, 87 Madison points, and 2,330 Sylvan Stemmed points.

In Connecticut, there is evidence that hazelnuts and cattails were gathered at the Sandy Hill Site by 9500 cal BP. A fragment of "gourd" (*Cucurbita*) rind recovered from the Sharrow Site in Maine was directly dated to 5695±100 rcbp (about 6500 cal BP) (Petersen and Asch-Sidell 1996; Hart 2008). This plant has very bitter flesh, so it may have been grown and used for containers or fishing floats rather than consumed. Laurentian occupants of the Bliss-Howard Site in Connecticut were collecting goosefoot seeds (*Chenopodium*) around 5500 cal BP. Similar gathering of diverse plants by Archaic peoples of the mid-continent resulted in the coalescence by 3800 cal BP of an indigenous horticultural complex, recognized at the Riverton Site in Illinois (Smith and Yarnell 2009). However, there is no evidence that millennia of plant-gathering in the Northeast resulted in cultivation and sedentism prior to the adoption of maize.

John Hart's project of radiocarbon-dating carbonized residues on sherds at the New York State Museum has produced a date of 2905±35 rcbp for a sherd from the Scaccia Site, in Livingston County, that contains squash phytoliths. A sherd from the Vinette Site contains maize phytoliths in residue dated to 2270±35 rcbp (Hart et al. 2003, 2007). Hart (2008) asserts that maize was common in central New York by ca. cal AD 500. It should be cautioned, however, that freshwater reservoir effects can make such residue dates too old by centuries (Fischer and Heinemeier 2003; Roper 2013; but see Hart and Lovis 2014).

Surprisingly old maize, directly dated to 1210±40 rcbp (cal AD 770-890) has been reported from the Deposit Airport I Site in Delaware County, New York (Knapp 2009). Site 211-1-1, located on Roeliff Jansen Kill, a small tributary on the east side of the Hudson River, was excavated as part of the Iroquois Pipeline survey (Cassedy and Webb 1999). A date of 810±50 rcbp was reported for maize, but corrected for ^{13}C, this date should be 1050±50 rcbp or ca. cal AD 985. Hart has emphasized that beans spread into the Northeast much later than maize, but the temporal gap in New England is not great; a bean has been directly dated to 765 rcbp (cal AD 1275) at the Skitchewaug Site in the Connecticut River drainage in Vermont (Petersen and Cowie 2002).

About cal AD 900-1000, cordmarked pottery of the Owasco complex replaced the Point Peninsula types in New York. This marks the beginning of the Late Woodland period. In central New York, Owasco cultural development can be divided into three sequential phases, based mainly on ceramic style changes: Carpenter Brook (cal AD 1000 to 1200), Canandaigua (cal AD 1200 to 1275), and Castle Creek (cal AD 1275 to 1350) (Ritchie 1965:272; Snow 1980, 1995). Owasco vessels are less conical than Point Peninsula pots, but not as globular as later Iroquoian vessels. They had defined necks and flaring rims, and most were decorated with cord impressions around the neck. Collars, sometimes decorated with appliqued human effigies or incised designs, began to appear on Castle Creek phase pots. Stone and clay elbow pipes are also characteristic of Owasco.

The abruptness of the Point Peninsula/Owasco transition is debatable. Ritchie (1965) recognized a brief Hunter's Home phase, transitional between Kipp Island and Owasco. Snow (1995) argued that there was an abrupt style change from Point Peninsula to Owasco, and that Hunter's Home is an artificial construct attributable to assemblage mixing. He hypothesized that Owasco represents the intrusion of Proto-Iroquoians, migrants from a homeland somewhere in the Appalachian uplands. The Owasco economy, unlike their predecessors', was committed to cultivation of maize and squash, (beans were a later addition to the diet, after AD 1300) supplemented by fishing, hunting, and gathering. Snow's migration model was weakened by the discovery of maize in Princess Point complex sites in Ontario, dating to as early as AD 600 (Crawford and Smith 1996). As noted above, Hart et al. (2007) have reported even earlier dates for organic residues on ceramic sherds that contain maize phytoliths.

Princess Point ceramics are quite distinct from those of the Point Peninsula tradition and resemble Clemson's Island pottery from Pennsylvania in some respects, such as the decoration of vessel necks with punctates. It may be that Princess Point and early Clemson's Island actually represent the Iroquoian intrusion (as Fiedel [1991b] suggested).

Particularly on the Upper Susquehanna, the Owasco culture's close relationship to, and perhaps derivation from, the Clemson's Island culture of central Pennsylvania is evident. This can be seen in the near identity of Clemson's Island ceramics, dated to between AD 1000 and 1300, to types of the early Owasco Carpenter Brook phase (Stewart 1988:VIII-2). At the Deposit Airport Site located on the West Branch of the Delaware in Delaware County, NY, early Owasco and punctated Clemson's Island sherds were recovered from the same features, dated to ca. 930 rcbp (ca. cal AD 1100) (Knapp 2009). At Smithfield Beach on the Upper Delaware, a date of 890±60 rcbp (ca. cal AD 1050-1150) was associated with Clemson's Island Punctate sherds (Fischler and French 1991). A squash (*Cucurbita*) seed fragment was recovered from the same feature.

Owasco ceramics are associated with triangular points of the Levanna and, after AD 1100, Madison types, which were certainly arrowheads. Owasco assemblages also include a wide variety of bone and antler tools.

Because the geographic extension of particular styles of pottery decoration requires frequent face-to-face interactions between potters (almost certainly women in the Middle and Late Woodland Northeast), archaeologists tend to assume that the distributional boundaries of recognized ceramic types roughly correspond to socio-linguistic entities. This assumption has led to a particularly thorny problem in the interpretation of Owasco. William Ritchie (1965) had originally, in the 1940s, accepted Arthur C. Parker's identification of the Owasco culture as the material manifestation of Algonquian speakers; but as he later adopted an *in situ* theory of Iroquoian origins, he envisioned a gradual developmental continuum from Point Peninsula to Owasco to incipient Iroquois culture (e.g. Ritchie 1965:210). But this left the Munsee culture, which Ritchie investigated at the Bell-Philhower site on Minisink Island, unexplained:

> "*The Munsee division of the Lenni Lenape or Delaware Nation, of known Algonkian linguistic affiliation, were participants in the Owasco culture in a late prehistoric phase of their development. There seems to be no equally logical alternative to the judgment that Munsee culture, as it first appeared at their Minisink Island capital, conformed with the Castle Creek phase of the Owasco; that it underwent, prior to European impingement, progressive acculturation from neighboring groups, and from developing cultures upriver to the north which can historically be related to Iroquoian-speaking people…. Owasco culture was produced and shared by various groups whose linguistic affiliation included both Algonkians and Iroquoians" [Ritchie 1965:299].*

The Algonquian and Iroquoian languages are radically distinct in all respects (phonology, grammar, and vocabulary); if they share a common ancestor, it can only be at great time depth, i.e., Paleoindian or Early Archaic.

There is a similar lack of fit of the ethnolinguistic and archaeological evidence in the Hudson drainage. When the Dutch arrived in the early 1600s, the lower Hudson was occupied by the Munsee, who spoke a distinct regional dialect of the Delaware language (a member of the Algonquian family) (Goddard 1978:213). Munsee speakers were divided into numerous social and political units (bands), but these formed a loose network, connected by kinship and marriage ties, that permitted frequent movement of individuals between bands. The Middle and Upper Hudson valley, north of the Roeliff Jansen Kill, was occupied by the Mahican. Their Eastern Algonquian language was intermediate between Delaware and the languages of New England Algonquians (Goddard 1978). Nevertheless, as Funk (1976:311) observed, in the Hudson Valley "the fragmentary data for post-Owasco manifestations leave little doubt that there was an unbroken development into ceramic stages similar to the Oak Hill, Chance, and Garoga horizons of the Mohawk Iroquois."

Herbert Kraft (1975b), well aware of the linguistic problem, attempted to define a regionally specific variant of Owasco on the Upper Delaware, ancestral to the Munsee; he called it "Pahaquarra," and contended that it could be distinguished from New York Owasco on five criteria. However, a subsequent re-evaluation of the regional Late Woodland sequence (Williams et al. 1982) concluded that Pahaquarra was not really different from Owasco. Most recently, Hart and Brumbach (2003) have argued that Owasco is a miscellaneous hodgepodge of unrelated traits that should not have been regarded as a coherent, temporally and spatially bounded cultural entity in the first place.

The complete correspondence of presumably ancestral Munsee ceramics to Iroquoian, and specifically Mohawk types, continues through the post-Owasco period, when Upper Delaware types are variations on Chance Incised pottery. Kinsey (1972:393) remarked, "In brief, there is the ambiguity of Iroquoian-speaking and Algonquian-speaking Indians possessing an identical ceramic tradition. This is not what we would expect, and it is regarded as an important and unresolved Late Woodland problem."

The earliest Owasco pottery types in central New York are Wickham Corded Punctate, Carpenter Brook Cord-on-Cord, Levanna Cord-on-Cord, and Canandaigua Plain. The generally accepted ages of the successive Owasco phases are cal AD 1150-1200 for Carpenter Brook, cal AD 1200-1275 for Canandaigua, and cal AD 1275-1350 for Castle Creek. However, recently reported dates on residues suggest that some Owasco types may be substantially older than previously thought, although possible reservoir effects should be borne in mind. New dates for Wickham Corded Punctate are 1425±45, 1260±39, and 1228±42 rcbp. Carpenter Brook Cord-on-Cord sherds have been dated to 1470±43, 1247±48, and 1231±44 rcbp (about cal AD 700) (Hart and Brumbach 2005). Sackett Corded is dated to 810±150 rcbp at the Sackett Site in central New York. Sackett Corded is the predominant middle and late Owasco type; it encompasses Owasco Corded Horizontal, Owasco Herringbone, Owasco Platted, and Owasco Corded Oblique variants (Kinsey 1972:380). Hart and Brumbach (2005) reported residue dates of 1211±46 rcbp (ca. cal AD 750) for Owasco Corded Horizontal and 781±42 rcbp (cal AD 1250) for Owasco Corded Oblique. On Minisink Island, Sackett Corded and Levanna Cord-on-Cord sherds were dated to 730±50 rcbp (Kraft 1978).

The transition from Owasco into a recognizable proto-Mohawk culture occurred during the Oak Hill phase (AD 1350-1400) in central New York. During the following Chance phase (AD 1400-1525), ancestral Mohawk moved into nucleated, fortified villages. Their characteristic Chance Incised pottery was decorated with alternate triangular plats and oblique lines. Deowongo Incised, Durfee Underlined, and Garoga Incised are recognized on the basis of slight design elaborations on the Chance prototype. The culture of the protohistoric Mohawk is ascribed to the Garoga phase. This phase has previously been dated to cal AD 1525-1550, but modelling of some new AMS dates suggests the Garoga village was occupied a little later, cal AD 1550-1582 (Manning et al. 2021).

The only known late prehistoric or early historic Mahican dwellings were excavated at the Goldkrest site. This site is located along the east bank of the Hudson River on the former Kuyper Island, which is now attached to Papscanee Island. It was discovered in 1993 during an archaeological survey for a new gas pipeline. Excavation into deep alluvium revealed two main occupation phases (Lavin 2004; Lavin et al. 1996). Neither phase yielded many artifacts. The late Middle Woodland or early Late Woodland was manifest as a burn layer (Stratum IV) with charcoal dated to about cal AD 1050-1150 (890±70 rcbp and 960±60 rcbp). Overlying this was a later occupation (Stratum III) dated to the late pre-Contact or Protohistoric period; the eight radiocarbon dates ranged from 480 to 270 rcbp, mostly about 350 rcbp (ca. cal AD 1450-1650). This age is consistent with the finds of European trade items (two sheet-brass fragments and a glass bead), triangular arrow points made of chert, and Garoga sherds with incised collars (Garoga is now dated to ca. cal AD 1550-1582). In one of the three excavated loci, the postmold outlines of two structures were exposed. One was oval in shape, measuring 8 x 11 meters. This shape and size are consistent with an Algonquian-style *wetu* or wigwam. The second structure was rectangular, measuring 11 x 4 meters, with a row of large central posts, like an Iroquoian-style longhouse. It underlines the material culture similarities between the protohistoric Mohawks and Mahicans, as also demonstrated by the Garoga sherds. Despite extensive exposure, no postmolds of a palisade were recognized (Lavin 2004).

In addition to the houses, the Goldkrest site also contained several hearths and other features, which yielded abundant floral and faunal remains (Largy et al.. Plants included charred butternut and hickory shells, raspberry, elderberry, and other seeds, maize kernels (one dated directly to 380±50 rcbp) and cob fragments. Animal remains included sturgeon and other fish, freshwater mussels, and white-tailed deer. Feature 59, a hearth with fire-cracked rocks, yielded most of the carbonized floral remains; it also contained the two brass pieces and a carbon sample dated to 350±50 rcbp (probably ca. cal AD 1600-1630, less likely ca. AD 1500; see Manning et al. 2021). This hearth also contained many seeds of the common buttercup (*Ranunculus sp.*). These toxic seeds are not edible, but the Iroquois attributed medicinal properties to the plant; it was used as a treatment for toothaches and for venereal diseases. Given the Contact-era dating of Feature 59, Largy et al. (1999) infer that the buttercups seeds may indicate Mahicans' reaction to European-introduced diseases.

Their interpretation raises the question of demographic impacts of pandemics caused by early European contacts. The possibility of undocumented disease waves in the late 16th century remains contentious and is now disputed by most archaeologists, but deadly pandemics in 1616-19 in coastal New England (Marr and Cathey 2010) and in 1633-4 in the Connecticut and Mohawk drainages are well documented. Seventeen epidemics were recorded in the Northeast between 1624 and 1783 (Cook 1973; Snow and Lamphear 1988). Although it seems likely that the 1619 pandemic also spread up the Hudson, the available documents are mute on this point. Native populations were dramatically reduced by these successive waves of epidemics of European-introduced diseases. The cumulative effect was reduction of the Indigenous population of the Northeast to a small remnant by the mid-eighteenth century—perhaps 10 percent of the pre-Contact population. Starna (2011:43) notes a 1655 statement by Adriaen van der der Donck that Indians living on the Hudson had told him that, since the arrival of Europeans, "their numbers have dwindled owing to smallpox and other causes to the extent that there is now barely one for every ten."

Early Historic (Contact Period) Context

In 1524 Giovanni da Verrazzano, an Italian pilot financed by a Lyonnaise silk merchants' syndicate and authorized by the king of France, sailed along the Atlantic coast from Florida to Newfoundland. Verrazzano spent less than a day in New York Bay; thinking it was a lake, he called it "Santa Margarita" and Manhattan, "Angouleme." In Narragansett Bay, Rhode Island, Verrazzano observed that the natives had "many sheets of worked copper which they prize more than gold" (Wroth 1970:137-40). Presumably this was European copper, already obtained from French or Basque traders in Canada by "down-the-line" exchange.

In 1609 Henry Hudson, an Englishman financed by the Dutch East India Company, searched for the Northwest Passage to Asia. Instead, he found the Hudson River. He sailed upriver in the *Halve Maen* (*Half Moon*) as far as present-day Albany, reaching that point on September 19. Robert Juet, the mate of the *Half Moon*, kept a journal in which he remarked that the local Indians (a branch of the Munsees) along the lower Hudson possessed "red Copper Tobacco pipes, and other things of Copper [which] they did wear about their neckes" (Juet 1609 [1909]:18). These seem to have been trade goods, and the Indians' cautious or outright hostile behavior toward Hudson's crew suggests that they had already had hostile encounters with other Europeans. It is intriguing that, in 1624, Dutch pamphleteer Nicolaes van Wassenaer noted that the Hudson River, which the Dutch called the Mauritius and later, the North River, had previously been known as the "Rio de Montagnes" (Jameson 1909). This old river name (also acknowledged on the 1651 Jansson map) hints at a French and/or Spanish presence before Hudson's exploration.

Dutch merchants quickly dispatched trading ships to exploit Hudson's discovery by acquiring beaver pelts. The first venture of this sort was in 1611. Ten thousand pelts were reportedly acquired from the Hudson River Indians in the winter of 1613-1614 (Kraft 1989).

Several trading voyages were undertaken between 1611 and 1614 by the merchant partners Hendrick Christiaensen and Adriaen Block. A 1616 map discovered in the Royal Archives in the Hague in 1841 probably was based on a map drawn in 1614 by Block (O'Callaghan 1856; Williamson 1959:8). Another map created in 1616 is attributed to Cornelis Hendricksen, who had continued sailing Block's yacht, the *Onrust*, after Block left for Holland. The locations of Native groups on the Hendricksen map correspond closely to the verbal descriptions provided in 1624 by Wassenaer and in 1625 by De Laet.

On one trip, Christiaensen and Block returned to Holland with two sons of the principal sachem of the area, who were whimsically called "Orson" and "Valentine," after characters in a well-known romance. Orson would later be involved in the murder of Christiaensen. According to Wassenaer, after the partners went their separate ways, Christiaensen undertook 10 voyages on his own (Wassenaer 1624, in Jameson 1909). On one of these trips, he is credited with establishing a fortified trading post, Fort Nassau, on Castle Island in present-day Albany, to trade with the Mohawks and their Algonquian-speaking neighbors, the Mahicans.
The 1616 map shows the locations of Fort Nassau ("Nassau") and of Sturgeon Hook ("Steurhoek"). Large islands are depicted south of Sturgeon Hook but not named.

Both the British and French attempted to oust the Dutch interlopers, but their attacks were rebuffed. In 1621 the new Dutch West India Company took control of the Hudson River fur trade. In 1624 the company ordered construction of a new fort, Fort Orange, to replace Fort Nassau, which had been destroyed by a flood. This fort served to draw Iroquois hunters away from the French traders on the St. Lawrence; however, the Dutch had some political problems at Fort Orange, becoming embroiled in the ongoing hostility between the Mohawks and the Mahicans. Colonists were also brought to New York Harbor in 1624, settling first on Notten (Nut) Island (now Governors Island), then at the newly constructed Fort Amsterdam on the southern tip of Manhattan.

A war raged between the Mohawks and Mahicans from 1624 to 1628. It resulted in the Mahicans retreating to the east side of the Hudson, and the victorious Mohawks thus gaining unimpeded access to trade with the Dutch.

Dissatisified with the colony's progress, the West India Company tried a new strategy. It proposed a Charter of Freedoms and Exemptions, ratified by Holland's States General on June 7, 1629. This document authorized creation of feudal estates (patroonships) that would be purchased from the Indians by individual members of the Company. Within four years after buying the land, the patroon was obligated to recruit 50 adult settlers to farm it. In return for these efforts, the patroons would own the lands and pass them on to their descendants as perpetual fiefdoms; the Company would provide protection and free African slaves. The patroon's profits were expected to be based on agriculture because the fur trade remained under the Company's control.

A strong advocate for the new system was the diamond and pearl merchant, Kiliaen van Rensselaer, who had been one of the Directors of the Company ("The Nineteen") since 1625. In January 1629, he had dispatched Gillis Houset and Jacob Jansz Cuyper to scout for a good settlement location. They recommended an area on both sides of the North River (later known as the Hudson) near Fort Orange. This estate would be 24 miles (39 km) long and 40 miles (64 km) wide.

Van Rensselaer instructed his agents to buy large tracts from the Mahicans, who had suddenly become more willing to sell their lands near the river after their defeat by the Mohawks. One tract along the west side of the river was purchased on April 8, 1630, according to the inset on the map of the colony drawn for Van Rensselaer in 1632. It says in Dutch:

A° 1630 den 8 April heeft Killiaen van Renselaer noch doen koopen van Paep Sickene Komptas Noucoutamhat en Sickonosen hare landerijen genaemt Sanckhagag streckende twee dagh reijsens te landwaert in van het Beeren Eijland tot Smaeks Eijlandt.

Anno 1630, the 8th of April, Killiaen van Renselaer caused further to be bought from Paep Sickene, Komptas, Noucoutamhat and Sickonosen their lands called Sanckhagag, stretching two days' journey inland, from Beeren Island to Smackx Island.

In a letter dated June 27, 1632 Kiliaen van Rensselaer wrote to Johannes van Laet:

> *"Director Minuijt has given me a map of the additional land lately purchased, situated between Beeren Island and Smax Island. There are about 200 [morgens] of cleared land (or which has been seeded before by the savages) at the water's edge along the river, but stretching toward the woods and inland two days' journey, so that we have at present bought and obtained from the Mohicans by legal conveyance all the shore along the river, on the west side, from Beeren Island to Momnenis Castle, being about six hours' walk, the account of the cost of which is still in the hands of the Company"* (van Laer 1908:197).

In a document dated July 20, 1634, "Account of the jurisdictions, management and condition of the territories named Rensselaerswyck" (van Laer 1908:306-7), there is another brief account of the purchase of Sanckhagag:

> *"First, the free lordship and jurisdiction named Sanckhagag, lying on the west side of the river, beginning from Beeren Island and extending up to Smax Island, having along the shore of the river about 210 morgens of cleared land now ready to put animals on, for raising hay and cultivating with the plow, and extending two days' journey inland, bought from their chief Paapsickenekas with his accompanying councilors and co-owners, Keraptac, Nankoutamhat and Sickenosen."*

Beeren Island ("Bear's Island") has become the present Barren Island. According to van Laer (1908:681), Smacks or Smax Island was known as Shad Island in 1908. It is now a peninsula lying below the Castleton Bridge. A Dutch *morgen* was equivalent to roughly 8500 square meters or 2.1 acres, so the ca. 200 morgens of cleared land mentioned in these descriptions amounted to about 420 acres.

A parchment map now curated at the New York State Museum in Albany is believed to have been drawn for Van Rensselaer in Holland in July 1632. It was based on drafts sent by three informants from the colony, but the compiler, not having seen the area himself, evidently was confused about some local details. The Mohawk River was not correctly mapped, and Huey (1993) notes the mapmaker's "complete lack of knowledge about the Schodack area south of Papscanee and Constapels Islands."

Based on the accessible images of the 1632 map, it is impossible to read and translate the Dutch notations on the west bank north of Beeren Island. However, the numbers appear to indicate some measure of land area, and the rectilinear divisions of the area probably are meant to indicate the Mahicans' cornfields ("*cleared land (or which has been seeded before by the savages)*"). The area depicted seems to be the floodplain located north of the present Castleton bridge, but that identification would be inconsistent with the equation of Smacks Island and Shad Island. In any case, the amount of cleared or planted land indicates a commitment of the Contact-era Mahicans to intensive maize farming (as also shown by the maize remains from the Goldkrest site). The average 18th-century Iroquoian village was sustained by adjacent cornfields of 100 to 200 acres, half the size of the clearings north of Beeren Island (Mt.Pleasant and Burt 2010).

Kiliaen van Rensselaer remained an absentee landlord, who did not live on or even visit his American estate. Nevertheless, of the original patroons, only his private colony proved a long-term success. When the British took control of New Netherland in 1664, renaming it New York, they did not interfere with Rensselaerswijck. The Van Rensselaers obtained an English patent in 1685 that established Rensselaerswijck as a manor and settled disputes about its southern and eastern boundaries (Dunn 1991). Successive generations of Van Rensselaer's descendants continued collecting rent from their tenants into the 1840s. The Hudson Valley retained a strong Dutch linguistic and cultural imprint for a century and a half after Dutch political sovereignty ended.

After selling land to van Rensselaer's agents in 1631, it appears that the Mahicans did not abandon the area north of Barren Island. When David de Vries sailed up the Hudson, on April 28, 1639, he observed "many savages fishing" at Beeren Island (Jameson 1909: 206). The Mahicans either resided on the islands in the river, or at least retained control of them for decades, until ca. 1750.

Van Rensselaer's and his heirs' estate managers and tenants periodically and opportunistically bought more parcels from the Mahicans along the east bank of the Hudson (Dunn 1991). It is unclear whether the sellers were always authorized by their people to do so. One land seller who is mentioned in several documents between 1645 and 1684 was known to the Dutch as "Aepje," or "Little Ape." His Mahican name was Skiwias, Schiwias, or Eskuvius. His political role is unclear; he was called a chief or sachem in several Dutch documents. He first appears in 1645 as a mediator representing the tribes living south of the Mahicans in their negotiations to end hostilities with the Dutch. Aepje was a canny real estate dealer, marking off tracts with chalk and demanding private up-front payments (Starna 2011:96). Upper Schodack Island was referred to in some 17th-century documents as Aepjes Island (e.g., in a 1650 land purchase there). A few 19th-century sources mention his "castle" in this area, but this does not seem to be based on any 17th-century documentation.

The 19th-century authors also refer to a supposed central Mahican village at Schodack, where the sachems convened periodically. The first mention of this seems to be in an 1845 publication by Henry R. Schoolcraft (1845:32), who said that the Mahicans' "seat of their council fire, was, for a length of time, at Schodac." This idea seems to have arisen from an etymology that probably was mistaken. Schoolcraft surmised that “Schodack” was derived from a hypothetical Mahican word *ishcoda* meaning "fireplain," perhaps with the suffix *akee* meaning "earth" or "land." Ruttenber (190:596) did not dispute the existence of a council fire, but he proposed a different etymology for Schodack or Esquatak, as meaning “a high place.” He compared it to the Massachusett word *Ashpohtag*, “a high place.” Ruttenber supposed the Mahican word referred to the ridge east of Castleton, where he thought the Mahican “castle” had once been located. If we look for the Mahican word for “fire” we find several consistent transliterations of a word like *stauw* (Miles 2015). For comparison, “fire” is *skweda* in Abenaki, *skwude* in Penobscot, *squtta* in Massachusett. So, the Mahican word is abnormal among Eastern Algonquian forms, and not much like Schodack. Notably, the Stockbridge Mahican Hendrick Aupaumut, in his “History of the Muh-he-con-nuk Indians” written about 1790, stated that their “chief seat” on the river at Albany was called *Pempotowwuthut Muhhecanneuw* or “the fire place of the Muhheakanuck nation.” (Aupaumut 1790 in Peyer 2007:63).

The 1639 Vinckeboons map shows “Mahiecans” centered on a substantial tributary flowing into the east side of the Hudson, northeast of Smacks Island. Near the confluence and this ethnonym, a small building symbol is depicted; with some imagination, this can be interpreted as an Iroquoian-style longhouse, like the one found at the Goldkrest site (in contrast to a domed, ovoid *wetu* or wigwam). This is the only building in the vicinity that might plausibly represent a Mahican chief’s “castle.” Given the scale and inaccuracy of the map and the subsequent changes in local landforms it is impossible to pinpoint this place on a modern map of Schodack.

Despite the intermittent land sales, Mahicans were still living on or near Beeren (Barren) Island in 1690. On February 22, 1690, the council in Albany, fearing attacks by the French and their Indian allies, resolved to persuade the “River Indians livieng at Beere Island and Catskill to goe all & live & plant at Catskill” where they could be employed as scouts while hunting in the woods (O’Callaghan 1849:162).

Mahicans gave title to Jeremiah van Rensselaer for an island at or near Schodack in September 1727. The last recorded land transfer occurred in October 1730, when four Mahicans--Ampamet, Manonanys, Wautaukemet, and Wanewausee--deeded to Maes Hendricksen van Buren the southeastern third of Moesmans Island (today, Lower Schodack Island). A map accompanying the deed shows a cluster of four rectangular structures labeled as "Ampamet's house" at the northeastern comer of the island, near the tip (Huey 1993). Ampamet (Ampamit) appears in several records of this period as the main sachem of the Mahicans; in that role, he discussed the problems of his people with Governor William Burnet in Albany on August 31, 1722 (O’Callaghan 1855:633).

Ampamit’s community was still present on the island in June 1744, when Dr. Alexander Hamilton sailed past on a sloop: "we sailed past Musman's Island, starboard, where there is a small nation of Mochacander Indians with a king that governs them." (Bridenbaugh 1948: 60). These Mahicans seem to have finally left the island in the mid-1750s (Huey 1993); they are not shown there on maps from the 1760s. They probably moved to Otsiningo on the upper Susquehanna in 1756.

On November 2, 1651, Crijn Cornelisz and Hans Jansz, from Rotterdam, had received permission from Van Rensselaer’s agents to build a sawmill on a creek on the west side of the river, a little north of Beeren Island (van Laer 1908:811). This was presumably what would become known as Coeyman’s Creek in the 18th century. It is unclear whether Cornelisz and Jansz actually built their mill there. Around 1650, a carpenter and millright, Jacob Janse Flodder (a.k.a. Gardenier) bought a few parcels around the Schodack area from the Mahicans. Evidently, Flodder cut timber in the uplands in the vicinity of the project area and rolled the logs down to the river at a place called “Sietkatm” by the Mahicans. This is attested by the patent including this area, granted to Barent Pieterse Coeymans in 1673; Sietkatm is shown on a map accompanying a confirmation of that patent a century later (the map was drawn sometime between 1770 and 1794).

Coeymans, who had arrived from Holland in 1639, became the owner of mills and lands on the west side of the river. The patent he received from English governor Francis Lovelace on April 7, 1673 covered mostly a large tract south of Rensselaerswyck, but there was some overlap, which caused a legal conflict with Van Rensselaer's heirs and their agents. Coeyman presumably had purchased the land already from some Mahicans before receiving the patent, but no documentation survives. The northern part of the grant applied to the land

> "…*Stretching in length to the highest place where Jacob Flodden [sic] did used to Roll Down his Timber, named by the Natives Sietkatm to the south of the Island belonging to John Reyers, and into the woods as far as the Indian Sachems Right Goes as alsoe the woodland Kills Creek Valley and Meadows hereunto appertaining without any Reservation, for all which the sd Indian Sachems Doe acknowledge to have Received or are Secured to have satisfaction according to their agreement, and the said Barent Pieters having Requested my Grant by Patent for the Confirmation of the Purchase aforesaid, engaging to Sett up a Saw Mill on the said Creek which will be useful for the Country &c. to make the best Improvements of the Rest of the Land According to its Capacity…." (McKownville Improvement Association n.d.)*

Coeymans petitioned Governor Cornbury in 1703 and again in 1704 for confirmation of the patent grant. Killian van Rensselaer (grandson of the original patroon) filed a counter-petition on November 6, 1704. The dispute about the overlapping land was resolved in 1706: Barent Pieterse and his eldest son, Andries Barentse Coeymans, agreed to pay a token rent of 9 shillings per year to the patroon (McKownville Improvement Association n.d.).

There is no cartographic evidence of Coeyman's sawmill or residence from the early 18th century. The first maps showing Dutch settlers' residences and installations along the west bank in the area of modern Coeymans are two that were drafted in the 1760s. On a British army map dating from ca. 1762-1765, numerous structures are shown around the mouth of Coeyman's Kill. To the north, one structure is shown beside an inlet that appears to correspond to Sietkatm of the 1673 patent. This location appears to be east of and below the project area. The structure shown here may be the same one labeled as "The Homestead of Henry Ten Eyck", #3 on the 1767 "Map of the Manor Renselaerwick" drawn by Jonathan Bleeker.

In 2011, the Stockbridge-Munsee Community Band of the Mohican Indians regained ownership of 156 acres along the east bank of the Hudson River near East Greenbush and Schodack, known as the Papscanee Island Nature Preserve. The land was donated by the Open Space Initiative. While owned by the Mohicans, the property is managed by Rensselaer County and the Rensselaer Land Trust for public access and protection.

Historic context

In the late 1670s, Barent Pietuisz Koigemans (the Dutch spelling for Coeymans), erected his home, known as the Coeymans Castle, two sawmills and two gristmills along Coeymans Creek. Coeymans' mills sparked the development that turned the mostly rural area into a flourishing commercial and industrial river port. The Revolutionary War led to a flourishing ship-building industry in Coeymans, with the local sawmills supplying lumber for the construction of ships (Howell 1886).

The Town of Coeymans was officially formed in 1791, and by this time it was already an established town with a prosperous riverport, Coeymans Landing. The Landing was an essential commercial and recreational port on the Hudson River, used for shipping building materials and local farm produce to the Port of Albany. Merchants' records reveal the shipping port traded spices, molasses, tobacco, cloth, clothing, rice, brandy and spirits. In the early nineteenth century, Coeymans Landing consisted of 30 houses, wharves and several sloops, a post office, two gristmills, and a sawmill. Coeymans Landing grew rapidly between 1820 and 1850, as the completion of the Erie Canal in 1825 opened the length of the state to the Hudson River shipping industry. From the late 1820s to the 1880s the Hannacroix Creek provided waterpower for paper mills, two of which were located in the Town of Coeymans (Town of Coeymans n.d., Howell 1886, Sylvetser 1880).

During winter months, the ice harvesting industry became a popular new business in Coeymans. There were a few icehouses in Coeymans Landing and one on Barren Island. J.N. Briggs ran the largest ice operation. When modern refrigeration replaced the need for iceboxes, the icehouses were used to grow mushrooms. The Powell & Minnock brick company opened in the late 1880s, along with other brick companies such as Sutton & Sudderley, Roah Hook, Hardwick & Walsh, Zeigler & Zeigler, Sutton & Sinsabaugh, and Corwin & McCullogh (Bayley 2011, Town of Coeymans n.d.).

Through the 20th century, the principal industries shifted from the docks to the rail yards, and the riverfront, once the focus of life within the hamlet of Coeymans, slowly began to decline. By the early 20th century, the railroad virtually replaced the river as the way of transporting goods, and a new community began to blossom in and around the new transportation center Ravena (formerly Coeymans Junction). The limestone escarpment of the Helderberg Mountains brought the cement industry to Coeymans in the early 1960s. The Atlantic Cement Company was established in 1962 and was later taken over by Blue Circle Cement in the mid-1980s, and then Lafarge North America in 2001. Lafarge is the largest cement producer in the world, and the Ravena/Coeymans plant has the capacity to produce two million tons of cement annually. A large area of the Town is owned by Callanan Industries Inc., which quarries the limestone beds for construction materials. The brickyard owned by Powell-Minnock Brick Works is now the Port of Coeymans Marine Terminal, just south of the project area (Bayley 2011, Town of Coeymans n.d.)

DOCUMENTARY RESEARCH

SCA reviewed files archived by the New York State OPRHP using the Cultural Resource Information System (CRIS). Background research included a review of archaeological site files, unpublished cultural resource management reports, historical narratives, and National Register of Historic Places (NRHP) listings. Additional research was conducted using electronic files archived by the Library of Congress.

In the search radius there are ten sites mapped by OPRHP. Four of the ten sites in the search radius are precontact archaeological sites, five are historic Euro-American sites, and one is an historically documented Mahican village. There is also one New York State Museum Site (NYSM 7563) for which there is no additional information available. Three of the four precontact sites (Answers Sites C-1 to C-3) have been determined not eligible; the fourth (Stylebarrack Road Precontact Site) is labelled as undetermined, but Phase II investigations at this site led to a recommendation of avoidance or data recovery (HAA 2004). None of the historic sites have been assessed for eligibility. No documented sites are present in the project area.

SCA also reviewed records of previously conducted cultural resource management studies in the 1.6-kilometer (1-mile) search radius (Table 3). There have been twelve archaeological surveys conducted within one mile of the project area, the majority of which have been conducted in Schodack Island and Castleton Island State Parks. A series of projects northwest of the project area, on the opposite side of Route 144, identified a series of small precontact sites (see Table 3; HAA 1994, 2004). Three of these sites were recommended as not eligible.

There have been no previous archaeological surveys in the project area. The nearest property to be surveyed was located at 47 Bronk Road, just northeast of the project area. No archaeological sites were identified during this survey (Birchwood 2022).

Table 2. Archaeological Sites Recorded Within 1.6 Kilometers (1-Mile) of the APE

USN/NYSM	Site Name	Site Age	NR Status	Meters from Project Area	Feet from Project Area	Direction From APE	Recorder/Year
NYSM 7563	No Info	No Info	No Info	990	3270	N	NYSM n.d.
00103.000285	ANSWERS C-2 SITE 1	Precontact	Not Eligible	880	2900	NW	HAA 1994
00103.000286	ANSWERS C-2 SITE 2	Precontact	Not Eligible	760	2500	NW	HAA 1994
00103.000287	ANSWERS C-2 SITE 3	Precontact	Not Eligible	840	2700	NW	HAA 1994
00103.000315	Stylebarrck Road Prehistoric Site	Precontact	Undetermined	790	2650	NW	HAA 2004
08313.000235	DOUW/GARDENIER FARM SITE	Historic 19th C	Undetermined	1260	4160	E	Huey 1997
08313.000237	ZIEGLER'S ICE HOUSE	Historic 19th C	Undetermined	650	2150	E	Huey 1997
08313.000238	MAHICAN INDIAN VILLAGE	Precontact to 18th C.	Undetermined	750	4,078	SE	Huey 1997
08313.000254	THE CALVERWAY	Historic 19th C	Undetermined	1320	2480	NE	Huey 1997
08313.000255	TEN EYCK HOUSE SITE VACINITY	Historic 19th C	Undetermined	1580	5210	SW	Huey 1997
08313.000256	CLIFFORD'S ICE HOUSE	Historic 19th C	Undetermined	1466	4820	NE	Huey 1997

Table 3. Previous Cultural Resource Studies Within 1.6 Kilometers (1-Mile) of the APE

Number	Name	Recommendations	Author
01SR51979	Phase IB Monitoring, Wetland Mitigation Area and Boat Launch Installation, Schodack Island State Park, City of Castleton-on-Hudson, Rensselaer County, New York	Archaeological monitoring, no archaeological sites identified	HAA 2001
02SR52481	ADDENDUM REPORT, ARCHEOLOGICAL MONITORING INVESTIGATION, SCHODACK ISLAND STATE PARK COMFORT STATION BUILDING, WATER TREATMENT BUILDING AND WATER LINE EXCAVATIONS, TOWN OF SCHODACK, RENSSELAER COUNTY, NEW YORK	Archaeological monitoring, no archaeological sites identified	HAA 2002
04SR54670	Phase IB Archeological Field Reconnaissance, Albany Landfill, Town of Coeymans, Albany County, New York	One precontact site identified, additional survey recommended	HAA 2004
04SR54671	Phase II Site Evaluation, Stylebarrck Road Precontact Site, Albany Landfill, Town of Coeymans, Albany County, New York	Late Archaic site recommended for data recovery	HAA 2004
97SR62148	Historical and Archeological Resources of Castleton Island State Park, Town of Stuyvesant, Columbia County, New Baltimore, Greene County, and Schodack, Rensselaer County, New York: A Preliminary Phase I Cultural Resources Assessment	Several sites identified based on historical documentation and limited fieldwork	Huey 1997
99SR62149	Addendum Report, Phase I Archeological Field Investigation, Wetland Mitigation Areas 1 & 2, Schodack Island State Park, Town of Schodack, Rensselaer County, New York	One precontact site identified, additional investigation recommended	HAA 1999
98SR62150	Phase IB Archeological Field Investigation, Castleton Island State Park, Town of Schodack, Rensselaer County, New York	Extensive dredge spoil and fill encountered; one historic feature identified; avoidance recommended	HAA 1997

Table 3. Previous Cultural Resource Studies Within 1.6 Kilometers (1-Mile) of the APE

Number	Name	Recommendations	Author
18SR56421	Phase I Cultural Resources Survey, Proposed Biers Coeymans Development, Town of Coeymans, Albany County, New York	Identification of 1 site, no additional investigation recommended.	Oberon 2018
19SR00202	Report of Archeological Field Reconnaissance, SEQR Parts 1B, 2 and 3, Answers Site C-2, Town of Coeymans, Albany County, New York	No additional investigation was recommended.	HAA 1994
21SR00549	Phase I Archeological Investigation, Coeymans Creek WMA 5696-31, SHPO 19PR01728	No archaeological sites identified; no additional investigation was recommended.	HAA 2021
21SR67688	Preliminary Historical and Archaeological Assessment for the Hudson River Habitat Restoration Project, Hudson River Basin, New York: Schodack Island State Park Section	Literature review for proposed habitat restoration	USACE 2019
22SR00648	Phase IA/IB Cultural Resources Survey 47 Bronk Road Tree Clearing Project, Town of Coeymans, Albany County New York	No archaeological sites identified; no additional investigation was recommended.	Birchwood 2022

Historic Map Review

SCA reviewed historical maps, atlases, and aerial images dating from the seventeenth through the twenty-first century to identify the presence of current or former historical occupation in the project area. Figures 3-7 provide the location of the APE on historical maps and imagery. The 1767 Bleeker map provides general settlement locations, though the vicinity of the project area shows only the Hudson River and what is now River Road (Bleeker 1767). Likewise, the 1854 map of Albany County shows only the road and river north of Coeymans Landing (Gould & Moore 1854).

By 1866, scattered residences are shown in the vicinity of, but not within, the project area (see Figure 3). Twenty-five years later, the same general arrangement of residences is present, and the Corwin & McCullogh Brickyard and dock development is depicted to the south of the APE, with an ice house on the shoreline to the east (See Figure 4). While providing much detail as to the arrangement and ownership of many buildings in the area, this map is less accurate than later maps, and the position of the APE relative to these other elements is considered approximate.

The first USGS mapping was published the following year (USGS 1892) and shows the general location of buildings around the project area. This is also the earliest map that shows topography in any detail, which depicts two parallel ridges bracketed by small streams to the west and a long steep slope leading east down to the Hudson River (see Figure 5). Note that in contrast to Figure 4, the buildings to the south of the project area are shown to be much closer to the APE, and one of the two historic structures just northeast of the APE is depicted within it.

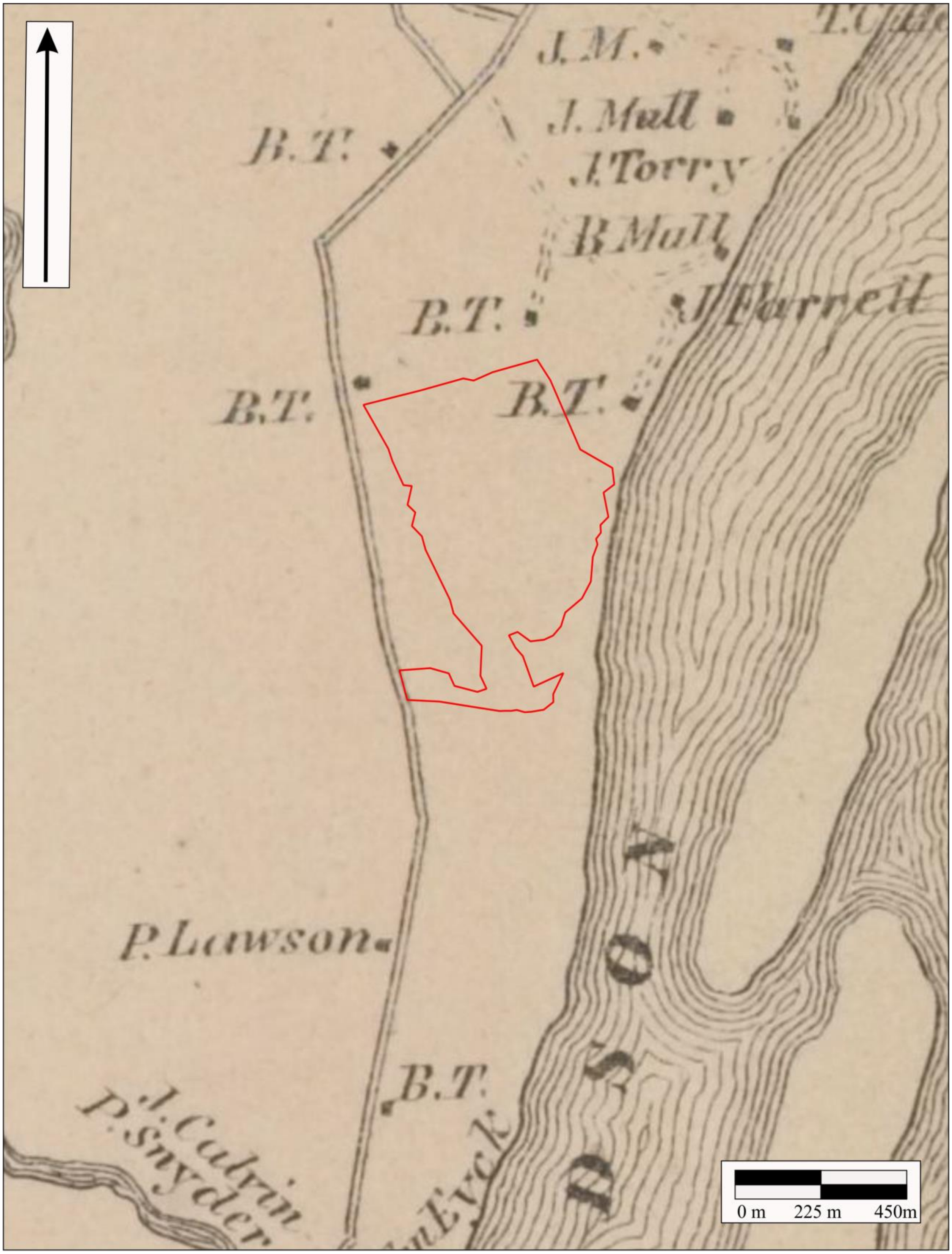

Figure 3. Location of APE in 1866 (Stone & Stewart 1866)

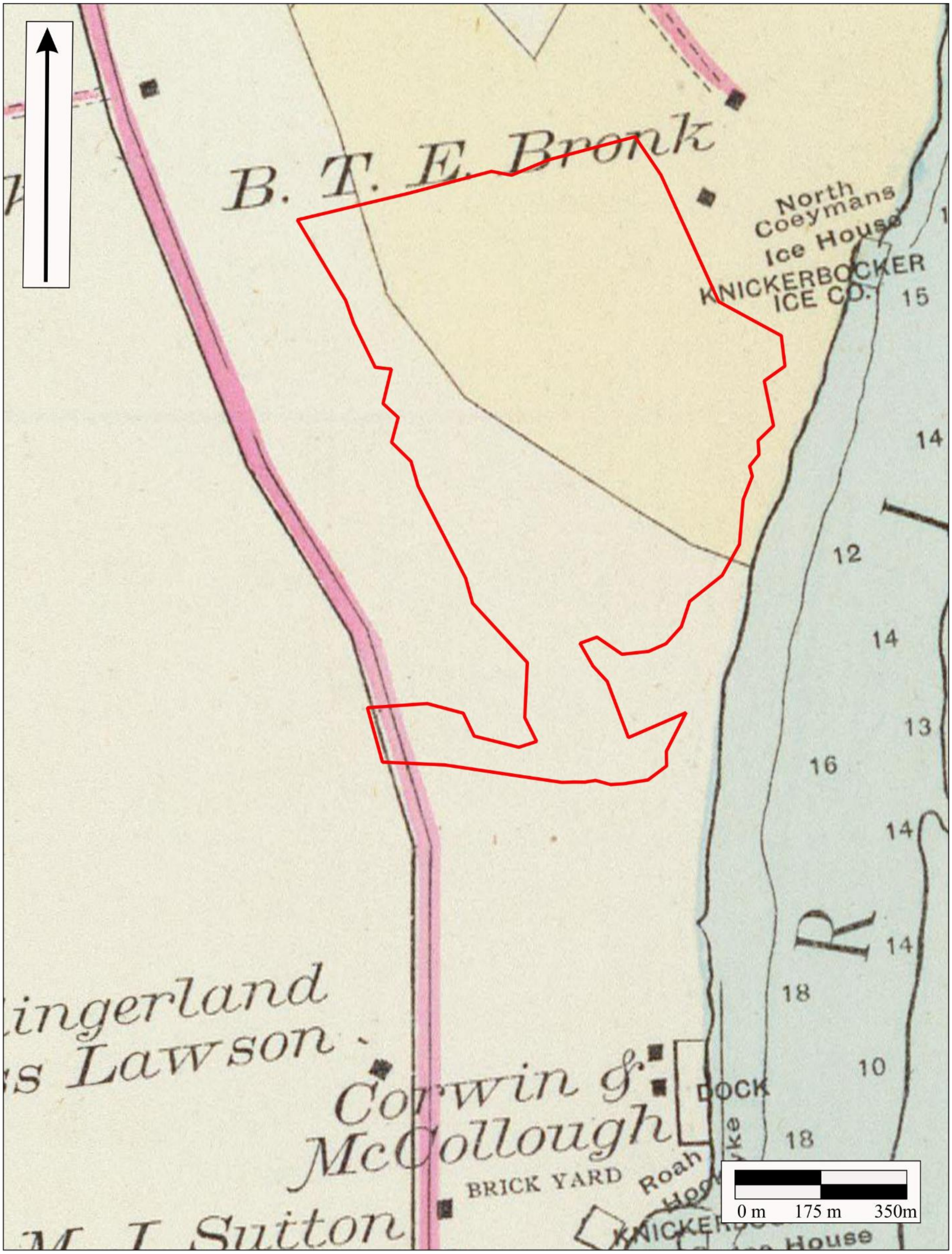

Figure 4. Location of APE in 1891 (Beers 1891).

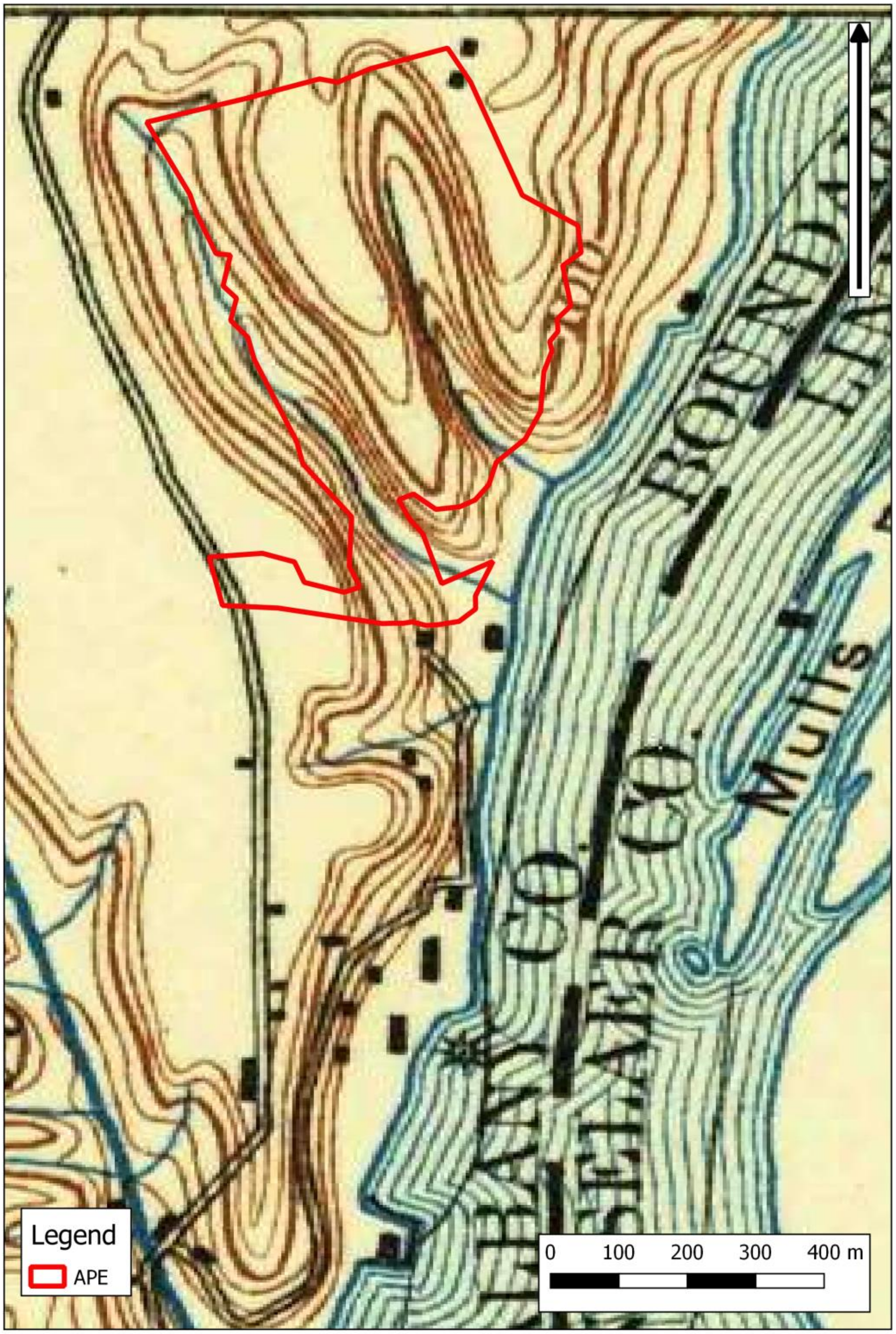

Figure 5. Location of the APE in 1892 (USGS 1892)

Subsequent iterations of the USGS 15-minute quadrangle show minimal changes until 1953, when the earliest 7.5-minute quadrangle was published (see Figure 6). This more detailed map shows a clay pit in the southern portion of the APE within the former stream valley, and also shows significant landscape changes along the western ridge in the project area (see Figure 6). It is assumed that the clay pit in the project area had been abandoned by the mid-twentieth century, as the Corwin & McCullogh Brick Company had ceased operations by 1910.

The land was subsequently purchased by the Atlantic Cement Company (later LaFarge, then Holcim) who began quarrying stone at the site in 1961. At this time much of the project area was substantially altered (see Figure 7), including the creation of the narrow impoundment between the two upland ridges. This image also shows some areas in the northern half of the APE were left undisturbed, including the northernmost portion of the western ridge in the project area, and significantly more of the eastern ridge.

The quarry was apparently only active for roughly a decade or so, and by 1981 had been abandoned. While the revised USGS quadrangle shows the former quarry with a purple stipple (see Figure 1), it is not identified or named as an active quarry on the map. Aerial imagery from the 1980s through the 2000s shows the project area much as it is today, with the now inactive quarry substantially overgrown (NETR 2023).

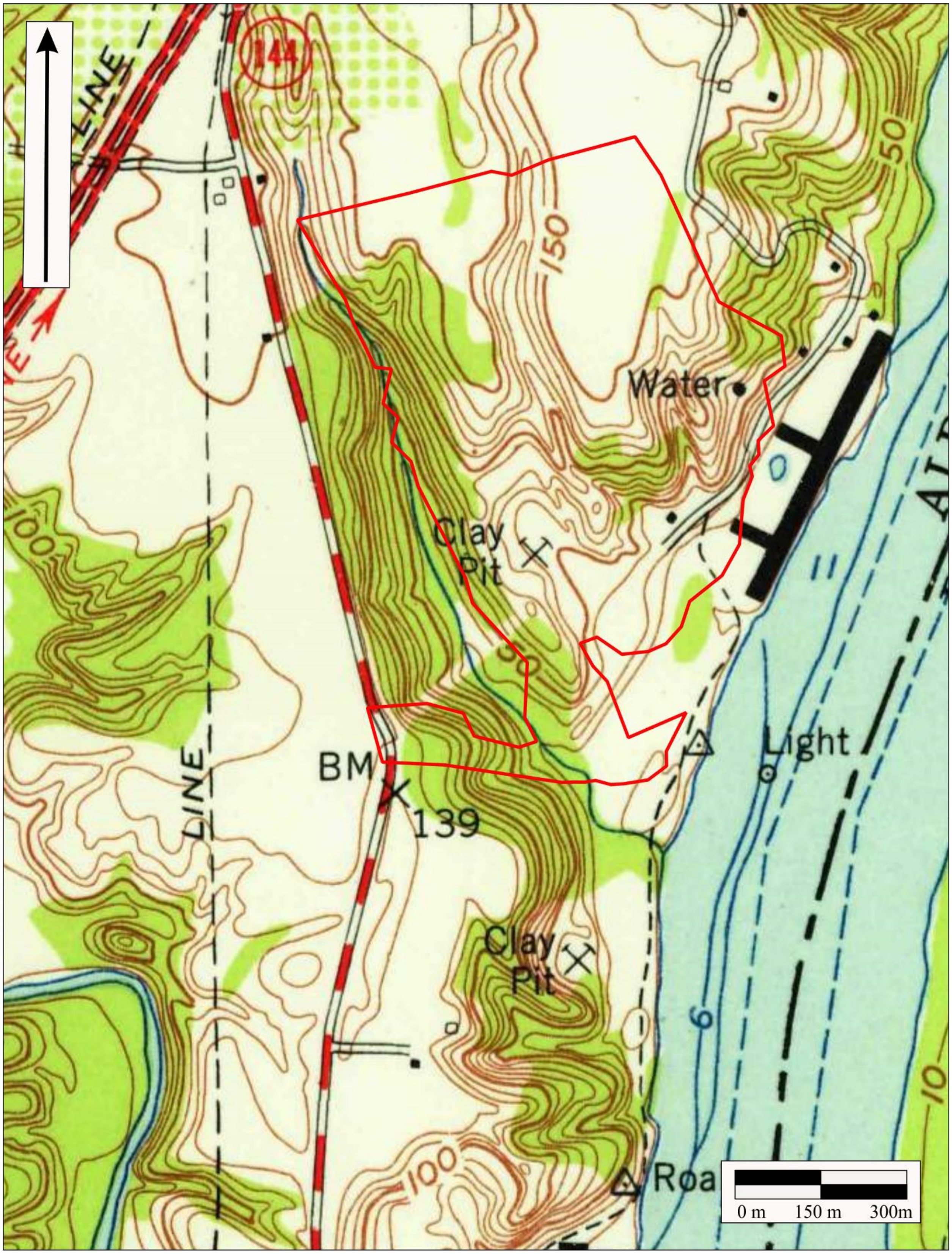

Figure 6. Location of APE in 1953 (USGS 1953)

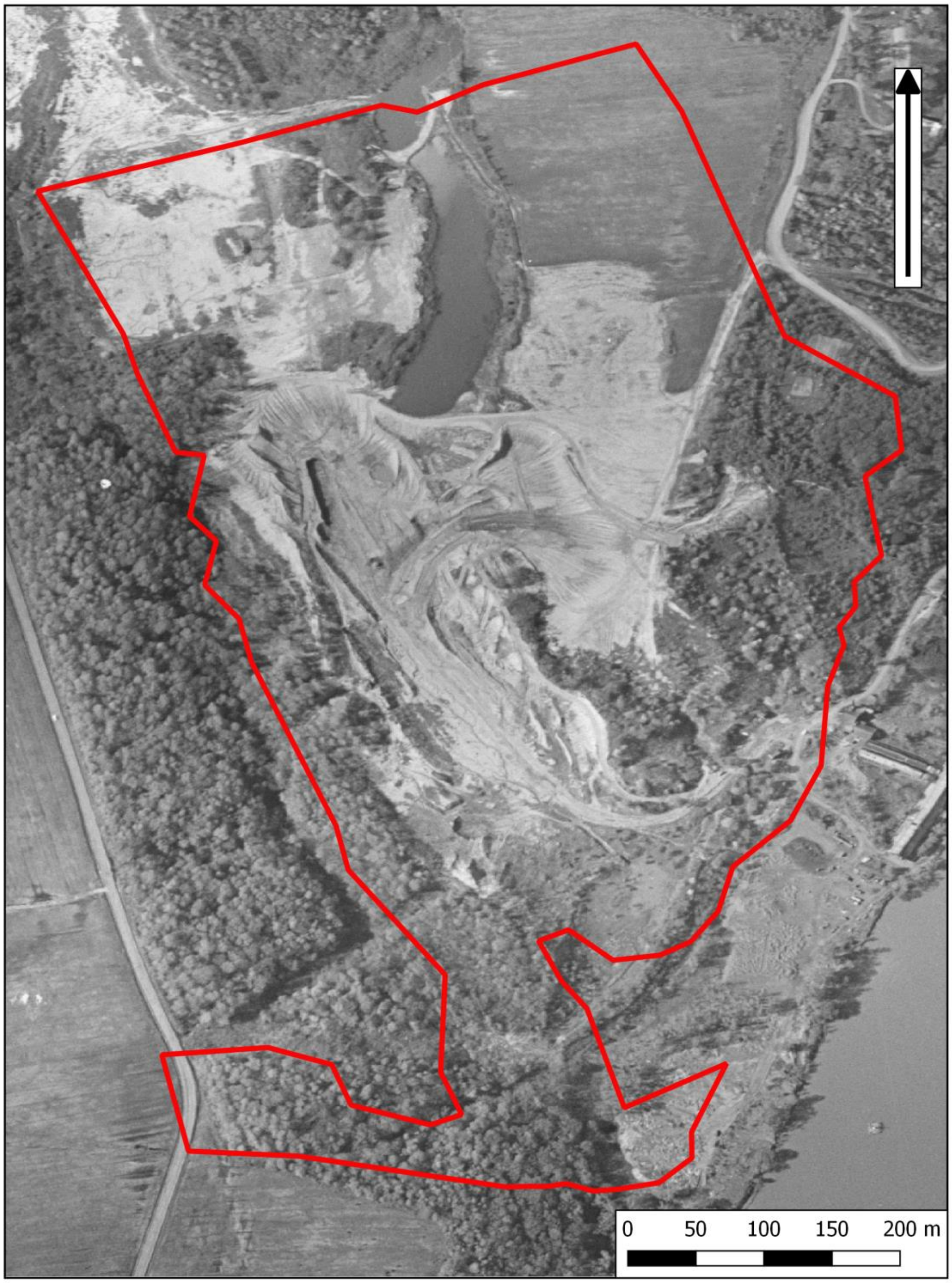

Figure 7. Location of the APE in 1961 (NETR 2023)

V. Pedestrian reconnaissance survey

SCA conducted the initial archaeological pedestrian reconnaissance survey on October 23 and 24, 2023, with coverage of some harder-to-access areas occurring in conjunction with the shovel testing through November 22. This survey consisted of a surface inspection of the project area. During the surface inspection, SCA mapped areas of disturbances, slope, and recorded existing conditions using digital photography.

Generally, the project area consists of two north-to-south trending ridgelines with a small drainage or creek flowing to the south along the western boundary of the project area, a large artificially impounded stream/pond/wetland complex which lies in the center of the project area and on the east by steep slopes leading down to the Hudson River and the active Holcim dock and yard.

Eastern Ridge

Beginning in the northeast corner of the project area, the top of the eastern ridge is relatively flat. A heavily overgrown wooded section is crossed by a cleared electrical utility line running east to west. The wooded section ends at a large open hayfield (Photographs 1-2). Both the open field and wooded sections extend west to the edge of the artificial impoundment lying in the middle of the project area. The south and east edges of the open field are bracketed by woods, much of which has been delineated as wetlands. South of the wooded wetlands, the project area slopes steeply to the southeast towards the river (Photograph 3). At the southwest edge of the open field, the slope drops away steeply into the former quarry, identifiable by artificially flat surfaces and randomly placed spoil piles, punctuated by steep slopes (Photographs 4-5).

Western Ridge

The western ridge is located along the western edge of the artificial impoundment and sits at a slightly higher elevation than on the eastern side (Photograph 6). The ridge is cut to the west by a quarry pit, which extends to the western edge of the project area (see Photograph 5). The ridge is also cut by a deep (3-5 meters) outlet ditch that connects the impoundment in the project area with the small stream that flows south along the western boundary of the APE. The ridgetop is open woods, with older mature trees and a less brushy understory (Photographs 7-8). The open woods give way to the south by a heavily overgrown section that is disturbed and appears to link the quarrying in the northeast corner of the property to the quarried sections to the south. To the west of this disturbance, near the edge of the project area, there is another small section of open woods with mature trees that is bracketed to the north, south and east by quarry disturbance, and to the west by steep slopes (Photograph 9).

Former Quarry

The former quarry is located along the western ridge, though the quarry has removed most of the ridge top down to an elevation of 125 feet amsl or lower, indicating at least 25-30 feet of overburden have been removed. The former quarry consists of relatively flat areas interspersed with spoil piles of varying sizes, irregular slopes, and a low-lying linear wetland that drains through the central part of the quarry. The western limit of the quarry is bounded by a steep slope that appears to be undisturbed but is greater than 12 percent and is not considered archaeologically sensitive. At the south end of the quarry sits a large wetland in approximately the same location as the former clay mine that predates the quarry, but it is unclear if this is a remnant of the clay mine or a feature associated with the later stone quarry. The quarry is bounded to the east by the steep slopes of the eastern ridgeline (Photograph 10).

Photograph 1. Wooded Section in the Northeastern Portion of the APE, View North.

Photograph 2. Open Hayfield on Eastern Ridge, View South

Photograph 3. Steep Slope on the Eastern Side of the APE, View Southeast

Photograph 4. Quarry Pit/Surface Downslope from Open Field, View Southwest

Photograph 5. Quarry Pit/Surface on the West Side of the Western Ridge, View West

Photograph 6. Overview of Western Ridge and Impoundment from Eastern Ridge, View Southwest

Photograph 7. Open Woods on Western Ridge Giving Way to Overgrown Quarry Disturbance, View Southeast

Photograph 8. Open Woods on Western Ridge with Large Quarry Spoil Pile, View Northwest

Photograph 9. Steep Slopes at Edge of Western Ridge in the APE, View Southwest

Photograph 10. Steep Slopes on Eastern Edge of Quarry Disturbance, View Southeast

Photograph 11. Southeastern Edge of APE Adjacent to the Active Holcim Dock Operations, View Southwest

Photograph 12. Vicinity of the Former Clay Pit/Mine with Quarry-Truncated Ridgeline Above, View West

Lower Slope and Road

The toe of the slope along the eastern edge of the project area is within or adjacent to the active industrial activity associated with the Holcim conveyor and dock operations (Photographs 11-12). Modifications to this portion of the property are extensive with large stockpiles of stone, graded surfaces, and cuts and fills associated with access roads, drainage management, and other onsite activities. The project will also reconstruct the current access road from Route 144. The current access road sits on top of a massive fill prism, owing to the fact that the prior landscape in this spot was a steep slope from the bluff top at 150 feet amsl down to just above sea level at the river. Due to the construction of the access road, this southern portion of the APE has been significantly disturbed and is not considered archaeologically sensitive. The survey did not identify any surficially visible historic or precontact archaeological materials or sites within the boundary of the APE.

VI. Archaeological Sensitivity Assessment

Based on the results of the sensitivity assessment, the APE has a low to moderate sensitivity for the presence of historical archaeological sites based on nearby historically mapped occupation. The precontact sensitivity for the APE was deemed to be moderate based on the presence of documented archaeological sites within a one-mile radius, though previous disturbances over much of the parcel reduces the overall sensitivity. Due to the presence of moderate to low precontact and historical archaeological sensitivity, it was SCA's opinion that Phase IB archaeological subsurface testing be conducted in undisturbed or minimally disturbed areas with less than 12-15 percent slopes to determine if any archaeological sites are present in the APE (Figure 8). The former quarry and the access road are not considered archaeologically sensitive due to extensive disturbance. Table 4 presents a summary of the acreage within the project area of archaeologically sensitive areas, slope, and previous disturbance.

Table 4. Summary of Archaeologically Sensitive
and Non-Sensitive Areas in the APE

Archaeologically Sensitive	29.8 acres*
Slope > 12%	25.2 acres
Quarry and Access Road (Disturbed)	80.0 acres
Total	**135 acres**
**Includes delineated wetlands outside the former quarry*	

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VII. Phase IB Archaeological Survey

SCA conducted a subsurface archaeological investigation to determine if any intact cultural deposits were present in the project area. The Phase IB archaeological survey was carried out between October 25 and November 22, 2023, and consisted of the excavation of 461 shovel tests (441 shovel tests in a 15-meter grid and 20 shovel tests in a 30-meter grid) (Figure 8). SCA used shovel test pits (STPs) arrayed across all archaeologically sensitive portions of the project area were assigned alpha-numeric shovel test designations. Shovel tests were excavated in a 15-meter (50-foot) grid and measured a minimum of 40 centimeters (16 inches) in diameter. The testing grid was expanded to 30-meters (100 feet) to confirm the extent of disturbed soil profiles where it was not apparent at the surface. Shovel tests ranged in depth from 22 to 65 centimeters (0.6 to 2.1 feet) in depth. Shovel tests were excavated into culturally sterile subsoil. Disturbed areas were mapped and documented using digital photography (see Photographs 1-12).

Soils were screened using 0.64-centimeter (0.25-inch) mesh hardware cloth and recorded using standardized SCA forms and Munsell soil color charts. Testing locations were recorded in planview. Digital photography was used to document the field investigation, ground conditions, project topography and disturbances. All shovel tests were backfilled, and the surfaces restored to the best extent possible.

Eastern Ridge

The eastern ridgetop in the project area was minimally disturbed but did have areas of delineated wetlands that were not tested and show as gaps in the shovel test coverage (Figure 9). Disturbance in this area was limited to the ridge scarp just east of the impoundment, where 9 shovel tests were excavated at 30-meter intervals and indicated that extensive earthmoving had occurred. While shovel tests profiles varied in this area, a representative test was X-5, where gray (10YR 5/1) silty clay loam with 5 percent cobbles and rock fragments was encountered down to 66 centimeters with no change to the stratigraphy. Given this section is at roughly the same elevation as the open field, the deep fill encountered indicates that archaeological deposits that might be expected in these shallow upland contexts have been disturbed or removed. This area was mapped as quarry disturbance, as it was adjacent to the steep slope leading down to a former quarry pit and was likely quarry spoil stockpiled against the edge of the quarry.

Shovel test profiles varied between the open field (and adjacent woods at the top of the slope) and the wooded section that extends to the northeast corner of the APE. In the open field and adjacent areas (Shovel Tests A1-A168), the stratigraphy was characterized by a brown (10YR 4/2) silt loam to silty clay loam Ap horizon measuring between 22 and 45 centimeters (0.8 and 1.5 feet) thick overlying a brown to light olive brown (10YR 5/3 to 2.5Y 5/3) silty clay loam subsoil.

In the wooded section to the north (Shovel Tests B1-B197), the stratigraphy was characterized by a brown (10YR 4/2) silt loam to very fine sandy loam Ap horizon measuring between 14 and 34 centimeters (0.5 and 1.1 feet) thick overlying a brown to light olive brown (10YR 5/3 to 2.5Y 5/3) very fine sandy loam to silty clay loam subsoil. Several shovel tests in this wooded section encountered groundwater within or at the base of the plowzone. With the exception of modern materials such as bottle glass, hardware (nails, fence staples, fragments of farm equipment), plastic and foil, which were recorded in the field and discarded, no artifacts were recovered and no sites were identified on the eastern ridge.

Western Ridge

The western ridge was extensively disturbed, but there were two areas where soils were intact (Transects C and D; Figure 10). These two areas were separated by a band of disturbance that may have been a former quarry road (see Figure 7). Where fill and disturbances were absent, the stratigraphy was characterized by a brown (10YR 4/3) very fine sandy loam to sandy loam Ap horizon measuring between 5 and 34 centimeters (0.2 to 1.1 feet) thick overlying a yellowish brown (10YR 5/4 to 5/6) to brownish yellow (10YR 6/6) loamy sand subsoil. The band of disturbance was tested with eleven 30-meter interval shovel tests, with the remainder placed at 15-meter intervals. Where not adjacent to or within the disturbance related to the former quarry, the sensitive areas along the western ridge were bracketed by steep slopes (see Figure 8). With the exception of modern materials which were recorded in the field and discarded, no artifacts were recovered and no sites were identified on the western ridge.

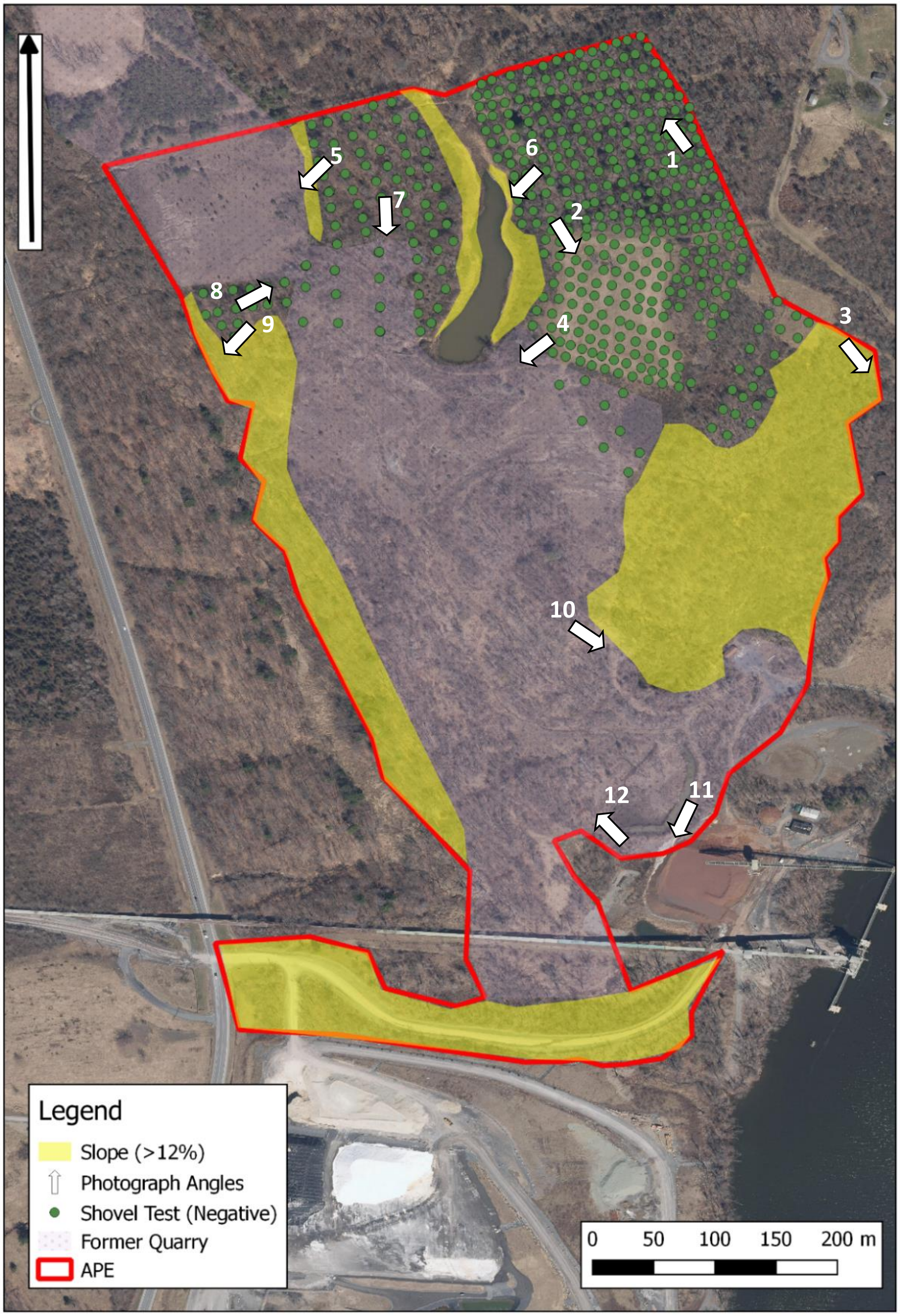

Figure 8. Existing Conditions, Testing Results and Key to Photograph Angles

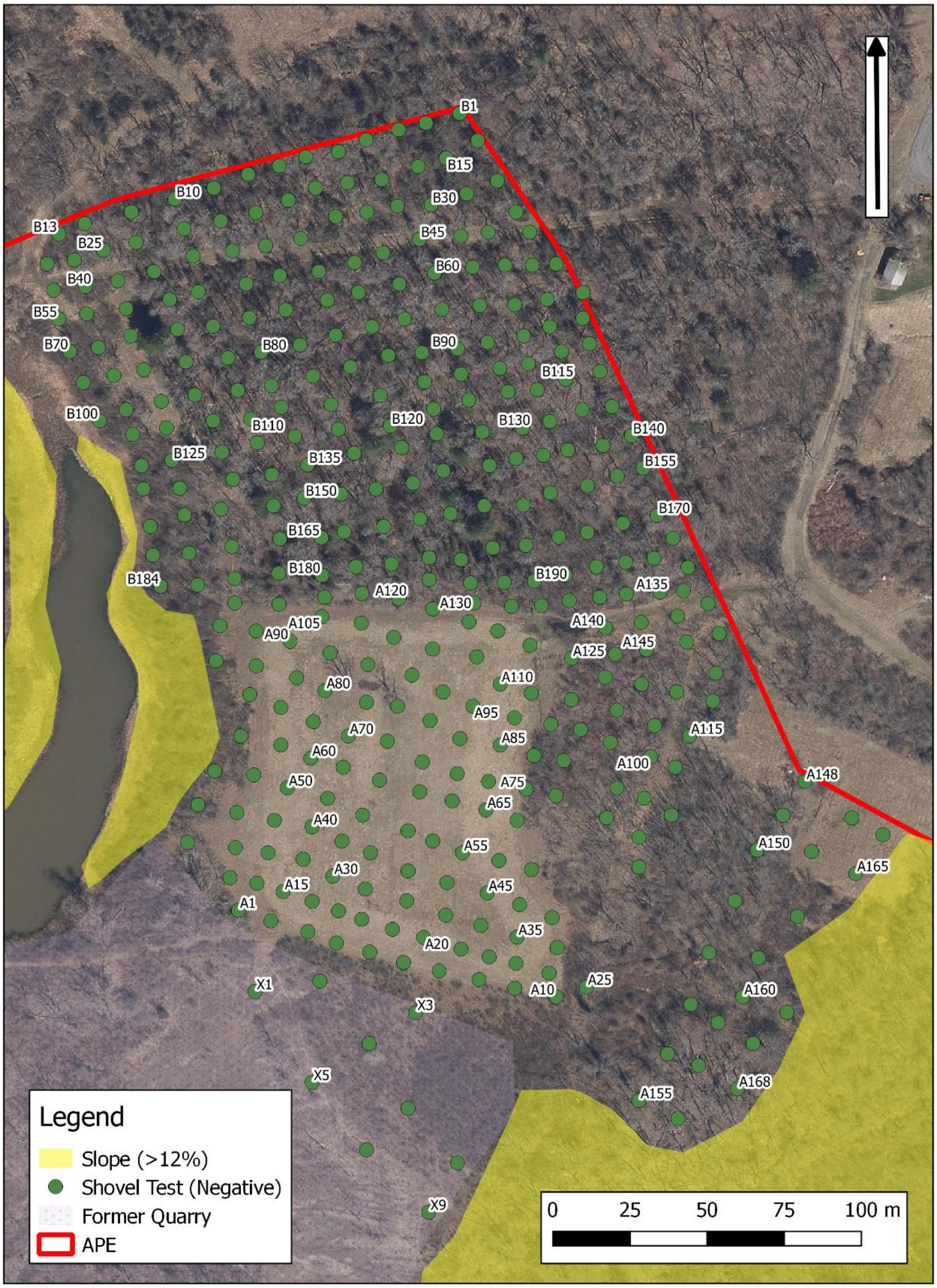

Figure 9. Shovel Test Locations, Eastern Ridge

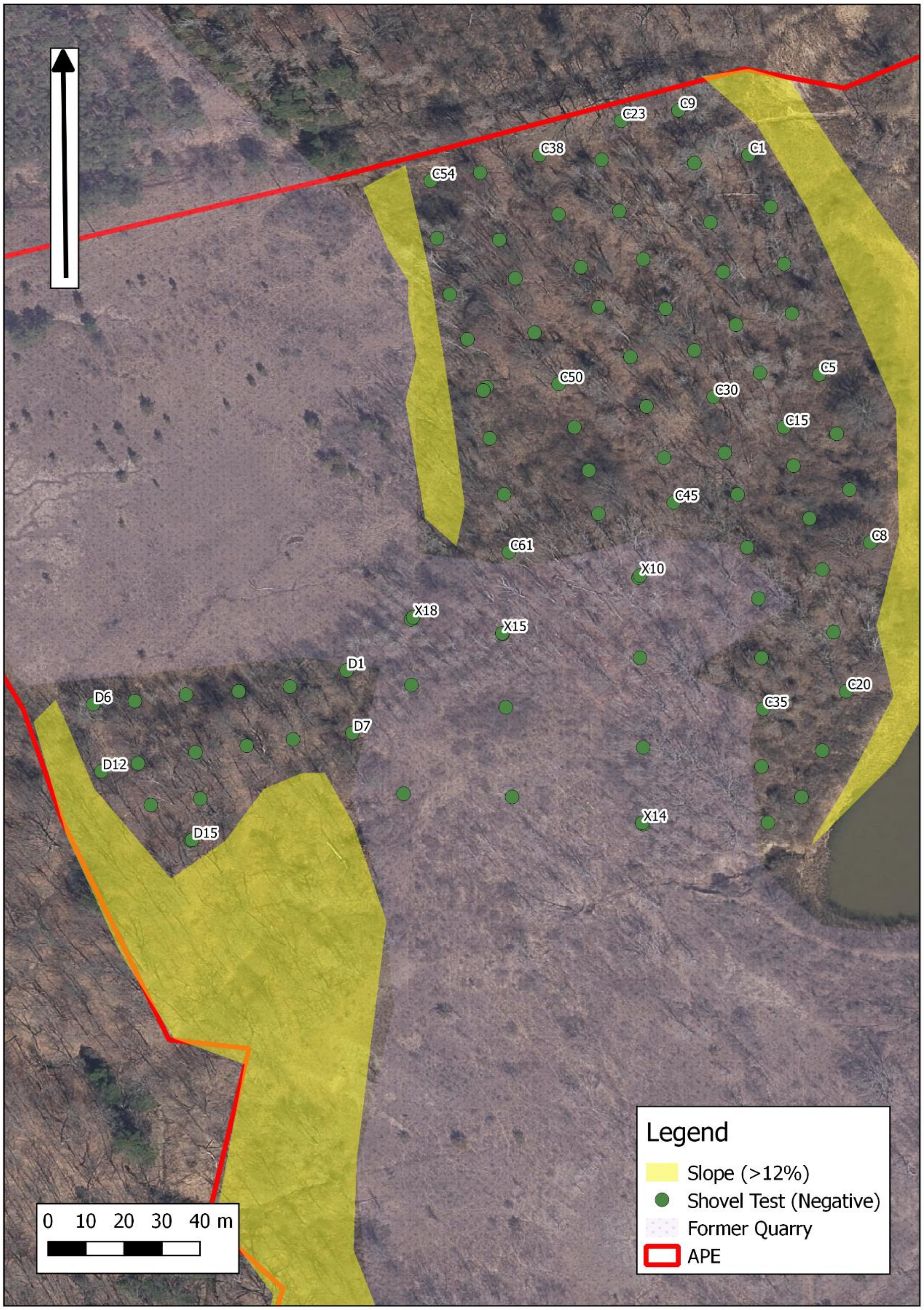

Figure 10. Shovel Test Locations, Western Ridge

VIII. Conclusions and Recommendations

SCA has completed a Phase I (IA/IB) archaeological survey on behalf of Carver and Ingalls for the proposed manufacturing facility in the Town of Coeymans, Albany County, New York. The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) determined that the project area is archaeologically sensitive and has recommended a Phase I (IA/IB) Archaeological Survey prior to ground disturbing activities associated with the project. The area of potential effect (APE) for the project includes portions of two contiguous parcels identified as 156.-3-1.1 and 156.-2-1.1 and comprises 135 acres (55 hectares) of land. Of the 135 acres within the APE, 87 acres will be used for the construction of the facility buildings and adjacent parking and storage yard space. Project plans also include a newly constructed haul road to connect the facility to the Port of Coeymans and River Road, as well as adjacent grading, filling and drainage in the additional 48 acres.

SCA conducted the initial archaeological pedestrian reconnaissance survey on October 23 and 24, 2023, with coverage of some harder-to-access areas occurring in conjunction with the shovel testing through November 22. Based on the results of the sensitivity assessment, the APE has a low to moderate sensitivity for the presence of historical archaeological sites based on nearby historically mapped occupation. The precontact sensitivity for the APE was deemed to be moderate based on the presence of documented archaeological sites within a one-mile radius, though previous disturbances over much of the parcel reduce the overall sensitivity. Due to the presence of moderate to low precontact and historical archaeological sensitivity, it was SCA's opinion that Phase IB archaeological subsurface testing be conducted in undisturbed or minimally disturbed areas with less than 12 percent slopes to determine if any archaeological sites are present in the APE. The former quarry and the access road are not considered archaeologically sensitive due to extensive disturbance in low gradient areas, as well as areas of very steep slopes.

The Phase IB archaeological survey was carried out between October 25 and November 22, 2023, and consisted of the excavation of 461 shovel tests (441 shovel tests in a 15-meter grid and 20 shovel tests in a 30-meter grid). No precontact or historical artifacts were recovered during the subsurface survey. No archaeological sites were identified as a result of the survey. Based on the results of the Phase I (IA/IB) Archaeological Survey, it is SCA's opinion that no additional archaeological investigation is warranted for the project area.

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Appendix A - Shovel Test Log

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	1	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	2	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	3	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	4	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	5	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	6	A	0.09	0.30	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	7	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	8	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	9	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	10	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	11	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	12	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	13	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	14	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	15	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	16	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	17	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.22	0.72	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	18	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	19	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	20	A	0.25	0.82	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	21	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	22	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	23	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	24	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	25	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	26	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	27	A	0.21	0.69	10YR 4/2	Silt Loam	1 modern glass	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	28	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.25	0.82	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	29	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	30	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	31	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	32	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	33	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	34	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	35	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	36	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	37	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.31	1.02	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	38	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	39	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	40	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	41	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	42	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	43	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	44	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	45	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	46	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	47	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	48	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	49	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	50	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	51	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	52	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	53	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	54	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	55	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.45	1.48	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	56	A	0.12	0.39	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	57	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	58	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	59	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	60	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	61	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	62	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	63	A	0.12	0.39	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	64	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	65	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	66	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	67	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	68	A	0.18	0.59	2.5Y5/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	7.5YR6/6	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	69	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	70	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	71	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	72	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	73	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	74	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.22	0.72	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	75	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	76	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	77	A	0.25	0.82	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	78	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	79	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	80	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	81	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	82	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	83	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	84	A	0.21	0.69	10YR 4/2	Silt Loam	1 modern glass	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	85	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.25	0.82	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	86	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	87	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	88	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	89	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	90	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	91	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	92	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	93	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	94	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.31	1.02	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	95	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	96	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	97	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	98	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	99	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	100	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	101	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	102	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	103	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	104	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	105	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	106	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	107	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	108	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	109	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	110	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	111	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	112	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@17cm
A	113	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@19cm
A	114	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	115	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	116	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	117	A	0.24	0.79	10YR 4/2	Silt Loam	1 metal	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	**Test #**	**Stratum**	**Meters**	**Feet**	**Color**	**Texture**	**NCM**	
A	118	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.22	0.72	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	119	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	120	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	121	A	0.25	0.82	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	122	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	123	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	124	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	125	A	0.27	0.89	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	126	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	127	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	128	A	0.21	0.69	10YR 4/2	Silt Loam	1 modern glass	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	129	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.25	0.82	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	130	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	131	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	132	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	133	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	134	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	135	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	136	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	137	A	0.19	0.62	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	138	A	0.15	0.49	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.31	1.02	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	139	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	140	A	0.18	0.59	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	141	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	142	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	143	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	144	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	145	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	146	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	147	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	148	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	149	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels;water@27cm

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	150	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	151	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	152	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels;water@35cm
A	153	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	154	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@22cm
A	155	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	156	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	157	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels;water@34cm
A	158	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@22cm
A	159	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	160	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@20cm

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
A	161	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	162	A	0.24	0.79	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	163	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels;water@18cm
A	164	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	165	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	166	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	167	A	0.23	0.75	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
A	168	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	1	A	0.08	0.26	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.12	0.39	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	2	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @30cm
B	3	A	0.08	0.26	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.12	0.39	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	4	A	0.11	0.36	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.20	0.66	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @20cm
B	5	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	6	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.22	0.72	10YR 5/3	Silty Clay Loam	NCM	5% Gravels; water at 22cm
B	7	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	8	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.23	0.75	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	9	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.21	0.69	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	10	A	0.13	0.43	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.18	0.59	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	11	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	12	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	13	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.44	1.44	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	14	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	15	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	16	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	17	A	0.27	0.89	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	18	A	0.20	0.66	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	19	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.23	0.75	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	20	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	21	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	22	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	23	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	24	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	25	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	26	A	0.15	0.49	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.23	0.75	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	27	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	28	A	0.28	0.92	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	29	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	30	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	31	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	32	A	0.14	0.46	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	33	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	34	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	35	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	36	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	37	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	38	A	0.25	0.82	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	39	A	0.29	0.95	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	40	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	41	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.45	1.48	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	42	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	43	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	44	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	45	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	46	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	47	A	0.22	0.72	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	48	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	49	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	50	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	51	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	52	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	53	A	0.29	0.95	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels; water @24cm
B	54	A	0.34	1.12	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	55	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	56	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	1 Glass	<5% Pebbles and Gravels
		B	0.29	0.95	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	57	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	58	A	0.29	0.95	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	59	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	60	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	61	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	62	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	63	A	0.13	0.43	10YR 4/2	V. Fine Sandy Loam	1 Machine Part	<5% Pebbles and Gravels
		B	0.26	0.85	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	64	A	0.14	0.46	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	65	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	66	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	67	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	68	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	69	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	70	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	71	A	0.17	0.56	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	72	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	73	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	74	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	75	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	76	A	0.29	0.95	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	77	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	78	A	0.21	0.69	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	79	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	80	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels; water @25cm
B	81	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels; water @20cm
B	82	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	83	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	84	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	2.5Y 5/3	Silty Clay Loam		<5% Pebbles and Gravels
B	85	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @34cm
B	86	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	87	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @35cm
B	88	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @37cm

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	89	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @32cm
B	90	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @30cm
B	91	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	5-10% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
B	92	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @34cm
B	93	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	94	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	95	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	96	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	97	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	98	A	0.25	0.82	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	99	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	100	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	101	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	102	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	103	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	104	A	0.26	0.85	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	105	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	106	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	107	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	108	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	109	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	110	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	111	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	112	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	113	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @27cm
B	114	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	115	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	116	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	117	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	118	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	119	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	120	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP Trns	Test #	Stratum	Depth Meters	Feet	Color	Soil Texture	Artifacts NCM	Notes
B	121	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	122	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	123	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	124	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	125	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	126	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	127	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	128	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	129	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	130	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	131	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	132	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	133	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	134	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	135	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	136	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	137	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @35cm
B	138	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	139	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	140	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	141	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	142	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	143	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	144	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	145	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	146	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @29cm
B	147	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @25cm
B	148	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @35cm
B	149	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @36cm
B	150	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @33cm
B	151	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	152	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	153	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @34cm
B	154	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels; water @20cm
B	155	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	156	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	157	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	158	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	159	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	160	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	161	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels; water @16cm
B	162	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	163	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels; water @18cm

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	164	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	165	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	166	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	167	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	168	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	169	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @32cm
B	170	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	171	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	172	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	173	A	0.32	1.05	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	174	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	175	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	1 Plastic	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	176	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	177	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	178	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels; water @28cm
B	179	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	180	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	181	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	182	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	1 Glass	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	183	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	184	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	185	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	186	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	187	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	188	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	Plastic	<5% Pebbles and Gravels
		B	0.46	1.51	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	189	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	190	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels;water@20cm
B	191	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels;water@22cm
B	192	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.30	0.98	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	193	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.28	0.92	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	194	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels;water@35cm
B	195	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels;water@36cm

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
B	196	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
B	197	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	2.5Y 5/3	Silty Clay Loam	NCM	<5% Pebbles and Gravels
C	1	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	2	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	3	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	4	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	5	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	6	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	7	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	8	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 6/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	9	A	0.14	0.46	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.19	0.62	10YR 6/6	Sandy Loam	NCM	<5% Pebbles and Gravels

STP Trns	Test #	Stratum	Depth Meters	Feet	Color	Soil Texture	Artifacts NCM	Notes
C	10	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.23	0.75	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	11	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/3	Sandy Loam	NCM	<5% Pebbles and Gravels
C	12	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	13	A	0.14	0.46	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	14	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 5/3	Sandy Loam	NCM	<5% Pebbles and Gravels
C	15	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	16	A	0.11	0.36	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	17	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	18	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	19	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.34	1.12	10YR 6/6	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
C	20	A	0.13	0.43	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	21	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 6/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	22	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	23	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	24	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	25	A	0.12	0.39	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	26	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	1 glass	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	27	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	28	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	29	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.25	0.82	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	30	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
C	31	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	32	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	33	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	34	A	0.12	0.39	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	35	A	0.15	0.49	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	36	A	0.14	0.46	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	37	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	38	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	39	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	40	A	0.13	0.43	10YR 4/2	V. Fine Sandy Loam	1 plastic	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
C	41	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	42	A	0.27	0.89	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	43	A	0.15	0.49	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.31	1.02	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	44	A	0.18	0.59	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	45	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
C	46	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.39	1.28	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	47	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	48	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	49	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	50	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	51	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
C	52	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	53	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	1 wire nail	<5% Pebbles and Gravels
		B	0.27	0.89	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	54	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	55	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	56	A	0.26	0.85	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	57	A	0.34	1.12	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.43	1.41	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	58	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	59	A	0.17	0.56	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	60	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
C	61	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.37	1.21	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth		Soil		Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
D	1	A	0.05	0.16	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.26	0.85	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	2	A	0.24	0.79	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	3	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.22	0.72	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	4	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.35	1.15	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	5	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.29	0.95	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	6	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.23	0.75	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	7	A	0.16	0.52	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.21	0.69	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	8	A	0.21	0.69	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.33	1.08	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	9	A	0.19	0.62	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.40	1.31	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
D	10	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	1 Alum. Can	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
D	11	A	0.29	0.95	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
D	12	A	0.27	0.89	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.42	1.38	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	13	A	0.22	0.72	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.36	1.18	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	14	A	0.25	0.82	10YR 4/2	V. Fine Sandy Loam	1 wire nail	<5% Pebbles and Gravels
		B	0.32	1.05	10YR 5/6	Sandy Loam	NCM	<5% Pebbles and Gravels
D	15	A	0.23	0.75	10YR 4/2	V. Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.38	1.25	10YR 5/4	Sandy Loam	NCM	<5% Pebbles and Gravels
X	1	A	0.38	1.25	10YR 5/4	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
X	2	A	0.35	1.15	10YR 5/3	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
X	3	A	0.38	1.25	10YR 5/1	Silty Clay Loam	NCM	<5% Pebbles and Gravels
		B	0.49	1.61	10YR 5/1	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
X	4	A	0.45	1.48	10YR 5/4	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
X	5	A	0.66	2.16	10YR 5/1	Silty Clay Loam	NCM	5% Pebbles and Gravels
X	6	A	0.51	1.67	10YR 5/1	Silt Loam	NCM	5% Pebbles and Gravels
X	7	A	0.42	1.38	10YR 4/2	Silt Loam	NCM	<5% Pebbles and Gravels
		B	0.55	1.80	10YR 5/1	Silty Clay Loam	NCM	10-15% Pebbles and Gravels
X	8	A	0.51	1.67	10YR 4/2	Silty Clay Loam	NCM	<5% Pebbles and Gravels

STP			Depth			Soil	Artifacts	Notes
Trns	Test #	Stratum	Meters	Feet	Color	Texture	NCM	
X	9	A	0.28	0.92	10YR 5/1	Silty Clay Loam	NCM	5% Pebbles and Gravels
		B	0.41	1.34	10YR 5/1	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	10	A	0.42	1.38	10YR 4/2	Fine Sandy Loam	NCM	5% Pebbles and Gravels
		B	0.48	1.57	10YR 5/1	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	11	A	0.15	0.49	10YR 4/2	Fine Sandy Loam	NCM	5% Pebbles and Gravels
		B	0.51	1.67	10YR 5/4	Fine Sandy Loam	NCM	<5% Pebbles and Gravels
X	12	A	0.16	0.52	10YR 4/2	Silt Loam	NCM	5% Pebbles and Gravels
		B	0.46	1.51	10YR 5/4	Silty Clay Loam	NCM	5% Pebbles and Gravels
X	13	A	0.41	1.34	10YR 4/2	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	14	A	0.39	1.28	10YR 5/2	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	15	A	0.37	1.21	10YR 5/3	Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.52	1.71	10YR 5/8	Fine Sandy Loam	NCM	5% Pebbles and Gravels
X	16	A	0.27	0.89	10YR 5/2	Silty Clay Loam	NCM	<5% Pebbles and Gravels
		B	0.48	1.57	10YR 5/1	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	17	A	0.49	1.61	10YR 5/1	Silty Clay Loam	NCM	<5% Pebbles and Gravels
X	18	A	0.52	1.71	10YR 4/2	Fine Sandy Loam	NCM	<5% Pebbles and Gravels
		B	0.65	2.13	10YR 5/4	Silty Clay Loam	NCM	5% Pebbles and Gravels
X	19	A	0.24	0.79	10YR 4/1	Sandy Loam	NCM	25% Pebbles and Gravels
		B	0.45	1.48	10YR 5/4	Silty Clay Loam	NCM	5% Pebbles and Gravels
X	20	A	0.42	1.38	10YR 5/2	Silty Clay Loam	NCM	<5% Pebbles and Gravels

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