

NYS OPRHP Summary

SHPO Project Review Number (if available): 03PRO5509

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc.): NYSDEC, U.S. ACOE

Phase of Survey: Phase IA/IB 2005; Phase II 2005, Phase III July, 2006

Location Information

Location: North side of Grasslands Road
 Minor Civil Division: Mount Pleasant
 County: Westchester

Survey Area (Metric & English)

Length: L1: 70m (230') (includes many sterile areas) Locus 2: 11m (30')
 Width: L1: 35m (115') (includes many sterile areas) Locus 2: 7m (23')
 Depth (when appropriate): _____
 Number of Acres Surveyed: _____
 Number of Square Meters & Feet Excavated (Phase II, Phase III): L1-83.5sqm (899sq') L2-17.5sqm (188sq')
 Percentage of the Site Excavated (Phase II, Phase III only): L1-3.5% (see note below) L2- 22.7%

U.S.G.S. 7.5 Minute Quadrangle Map: White Plains

Archaeological Survey Overview

Number & Interval of Shovel Tests: L1-242 at 2-5m (6.5-16.4') L2-46 at 2-5m (6.5-16.4')
 Number & Size of units: L1-23 1x1m (3.2 x 3.2') L2-6 1x1m (3.2 x 3.2')
 Width of Plowed Strips: L1-5 @ 62m x 3.3m (203.5' x 10.8') L2-2 @ 20m x 3m (65.6' x 9.8')
 Surface Survey of Transect Interval: _____

Results of Archaeological Survey

Number & name of prehistoric sites identified: A11908.000333, Eastview UV Site, Locus 1 and Locus 2
 Number & name of historic sites identified: None
 Number & name of sites recommended for Phase II/Avoidance Phase III Completed

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: NA
 Number of buildings/structures/cemeteries adjacent to project area: NA
 Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: 0
 Number of identified eligible buildings/structures/cemeteries/districts: 0

Report Author (s): Faline Schneiderman-Fox, Historical Perspectives, Inc., and and Tina Fortugno

Date of Report: Jun-08

NOTE: Percentage of Locus 1 excavated is actually far higher if sterile areas between artifact concentrations are precluded from the overall area calculation.

**PHASE III DATA RECOVERY
DEP WATER TREATMENT
PRECONTACT
ARCHAEOLOGICAL SITE
11908.000333**

**CATSKILL/DELAWARE UV FACILITY
EASTVIEW SITE**

**GREENBURGH AND
MOUNT PLEASANT
WESTCHESTER COUNTY
NEW YORK**

**CEQR No. 04DEP050U
OPRHP No. 03PRO5509**



**PHASE III DATA RECOVERY
DEP WATER TREATMENT PRECONTACT ARCHAEOLOGICAL SITE 11908.000333
CATSKILL/DELAWARE UV FACILITY, EASTVIEW SITE
GREENBURGH AND MOUNT PLEASANT
WESTCHESTER COUNTY, NEW YORK
CEQR No. 04DEP050U
OPRHP No. 03PRO5509**

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June, 2008

MANAGEMENT SUMMARY

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I. INTRODUCTION

The New York City Department of Environmental Protection (NYCDEP) proposes to design, construct, and place into operation an Ultraviolet Light (UV) Disinfection Facility (“the UV Facility”) for the Catskill/Delaware Water Supply System. The project is being proposed to meet the water supply needs of the City of New York (City) and lower Westchester County and to safeguard the City’s compliance with state and federal drinking water standards. The introduction of this additional disinfection “barrier” would significantly enhance the City’s Water Supply Protection Program.

The UV Facility would be constructed on City-owned property (“the Eastview Site”) within the Towns of Mount Pleasant and Greenburgh, in Westchester County, New York (Figure 1). The 149-acre parcel is divided by Grasslands Road (Route 100C) into two sections. The north section is located in the Town of Mount Pleasant (“North Parcel”) and the south section is in the Town of Greenburgh (“South Parcel”). The Area of Potential Effect (APE) for the proposed facility would include approximately 67 acres: 58 acres in Mount Pleasant and nine in Greenburgh (Figure 2). This area would be required for the UV Facility construction area, staging, parking and storage activities during construction; the finished project would cover approximately nine acres.

The project property was historically part of the early 18th century Hammond Farm; the National Register (NR) listed Hammond House, ca.1719, standing directly south of the North Parcel APE on Grasslands Road. The property was purchased by the City in the early 1900s, and the site was equipped with connections to the Delaware and Catskill Aqueducts in anticipation of the potential future need for a water treatment facility. In order to satisfy the concerns of the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) and the New York State Department of Environmental Conservation (DEC), as well as comply with environmental review regulations, which specify a series of studies on the development parcel, Historical Perspectives, Inc. (HPI) completed a Phase I and Phase II Archaeological Study of the UV Facility site (HPI 2005a, 2005b).

The documentary study component of the Phase I study indicated that the APE is potentially sensitive for precontact resources (HPI 2005a). Phase IB archaeological field testing (2004-2005) was subsequently completed on the North and South Parcels as a function of the EIS process. Several diagnostic precontact period artifacts were found on the North Parcel in Mount Pleasant, and a Phase IB report was submitted to the OPRHP in June, 2005 (HPI 2005a). Concurrent with the finalization of the Phase1B report, Phase II testing was undertaken on the North Parcel as per the direction of OPRHP (personal communication Cynthia Blakemore, OPRHP, May 3, 2005). Phase II testing was completed in the spring of 2005 at each of the potentially sensitive loci that were identified in the Phase IB investigation (HPI 2005b). The Phase II testing confirmed the presence of two precontact lithic concentrations, Locus 1 and Locus 2, designated as the *NYCDEP Water Treatment Precontact Archeological Site (A11908.000333)*. Loci boundaries were confirmed by two negative shovel tests (ST) in a row in all directions (Figures 3 and 10).

The Phase II investigation concluded that Locus 1 and Locus 2 should be protected during the construction of the UV Project and that mitigation was warranted (HPI 2005b). Cynthia Blakemore at OPRHP concurred with the recommendations (Cynthia Blakemore to Mark Page, NYCDEP, August 9, 2005). Since site avoidance was not feasible, a Memorandum of Agreement (MOA) was created for the project between the Army Corps of Engineers (ACOE), the NYCDEP, and NYSHPO. Subsequently, a Data Recovery Plan (DRP) was developed by HPI and submitted to OPRHP for approval. The DRP, outlining specific research goals and methods, was approved by OPRHP and Phase III excavations commenced. The results of the Phase III Data Recovery (DR) are presented herein.

II. PREVIOUS ARCHAEOLOGICAL WORK

The prior documentary study for the Phase I investigation concluded that the APE was potentially sensitive for precontact resources (HPI 2005a). Precontact period artifacts and, more specifically, a pestle, were reportedly found in an unknown location on the Hammond farm, which historically extended far beyond the boundaries of the UV Facility site. This find suggested that somewhere near or within the APE there was once a more extensive Native American habitation site, as pestles are rather cumbersome and are associated with a more sedentary lifestyle. They were typically utilized at a larger base encampment or food processing station. References to the collection of this and other precontact period tools and projectile points at the Hammond Farm confirmed a Native American presence in the vicinity of the APE. Furthermore, a pedestrian survey of the APE completed as part of the Phase I investigation recovered a projectile point on the surface in the vicinity of Mine Brook.

To establish the presence or absence of precontact resources, Phase IB archaeological field testing was subsequently completed on the APE within the North and South Parcels as a function of the EIS process (HPI 2005a). For management purposes, the North Parcel was subdivided into seven smaller Areas, designated as Areas A through G. A series of STs, spaced at 15-meter intervals, was completed to the Phase IB level within each Area, for a total of 704 STs. Precontact material was found in 18 of the STs spread between Areas B, D, F, and G. The presence of a diversity of chert and quartz projectile points found on the surface and in STs (untyped triangle, possible Brewerton, Orient Fishtail, Madison) during the Phase IB field investigation, suggested that the UV Facility site was periodically utilized by hunting groups during the Late and Terminal Archaic, and Early Woodland periods.

A Phase IB report was submitted to the OPRHP on June 7, 2005. Concurrent with the finalization of the Phase IB report, Phase II testing was undertaken on the North Parcel as per the direction of OPRHP (personal communication Cynthia Blakemore, OPRHP, May 3, 2005). Phase II testing was completed over the course of two and a half weeks in May and June 2005 at each of the potentially sensitive loci that were identified in the Phase IB investigation (HPI 2005b).

Phase II testing entailed the excavation of additional 50x50cm (20x20in) STs excavated on grids around each of the initially positive units. The initially positive test served as each locus' datum point, and blocks of additional STs were laid out in relation to this point. A minimum of 16 STs were completed at two- and five-meter intervals out from the initially positive ST. Shovel tests were placed in each of the cardinal directions (N, S, E, and W) as well as at the diagonal points (NW, NE, SE, SW) with the result being a series of eight STs placed in "squares" around each positive ST at two- and five-meter (6.6-16.5 foot) intervals.

When precontact material was found in a primary array ST, a larger five-meter grid was established outward from the datum point, and additional STs were excavated until two sterile STs were excavated at either two- or five-meter intervals in all directions. In some areas, STs were also excavated at one-meter (3.29foot) intervals out from the initial positive shovel test. This tightly-clustered distribution of test locations allowed archaeologists to establish the horizontal distribution of precontact material in the vicinity of each positive ST, while also addressing the nature of the precontact deposit. Upon the completion of the additional STs, a series of larger 1x1m (3.29x3.29ft) excavation units (EUs) were hand dug at each locus that contained additional cultural material (HPI 2005b).

The Phase II testing revealed that the majority of the positive STs encountered in the Phase IB study had no significant deposits associated with them (HPI 2005b). However, testing also confirmed the presence of two precontact lithic concentrations, designated as Locus 1 and Locus 2, and hereafter referenced as the *NYCDEP Water Treatment Precontact Archeological Site (A11908.000333)*. Loci boundaries were confirmed by two negative STs in a row in all directions (Figures 3 and 10).

Locus 1 produced two projectile points in the Phase IB and II studies, suggesting a Middle through Late Woodland, or possibly earlier, occupation of the site. This assemblage also consisted of a diffuse scatter of tertiary quartz flakes indicating that the site may have been used as an end-stage tool production area, possibly during the Late Archaic and Early Woodland periods, which are typified by sites with a higher percentage of quartz flakes. In contrast, the Locus 2 lithic collection represented a small localized scatter of chert and quartz debitage. While the chert debitage reflected evidence of the end stages of tool production, the quartz artifacts suggested earlier stages of tool production. Phase III excavations were recommended for each of these loci.

III. DATA RECOVERY RESEARCH GOALS

For the Phase III investigation of Locus 1 and Locus 2, a Data Recovery Protocol (DRP) was formulated in conjunction with OPRHP, and specific research goals were established (HPI September 7, 2005). For the subsurface testing, three goals were outlined. These were: 1) to obtain an adequate sample of lithic materials from each of the two loci; 2) to derive spatial information concerning the relationship between various classes of artifacts at each locus; and, 3) to fully explore potential cultural features such as hearths, pits, living surfaces, and post molds which might be encountered as larger areas are excavated. Data necessary for addressing specific research questions pertinent to the site were obtained through excavating a series of EUs. Specifically, the following research questions guided the formulation of the Data Recovery Plan:

- *Is there a possible association between activities at Area G, Locus 1, and the excavated materials from Area F, Locus 2?*
- *The nature of seasonally utilized sites and/or hunting stations is poorly understood in the Westchester County area. How do Locus 1 and Locus 2 compare to contemporaneous sites in the immediate region and in the Lower Hudson Valley?*
- *Does Locus 1 and Locus 2 “fit” the existing model of site locations and types for this period?*

The long-term repeated use of the NYCDEP Eastview site (A11908.000333) had the potential to provide additional data which could contribute to a greater understanding of the potential Late Archaic-Early Woodland period in the Lower Hudson Valley.

The goals of the DRP would be achieved through additional wide-scale field investigations, and a more exhaustive review of pertinent precontact site data from the surrounding region in which to interpret finds. Each of these tasks is described in more detail in the following section, Research Methods.

To address the research goals outlined in the DRP, the following field testing was proposed:

- **Locus 1:** It was estimated that the larger area identified as Locus 1 would require the excavation of approximately 25-30 STs to fill in the existing grid so the coverage of the site is systematic. Double negative shovel tests would need to be excavated to confirm site boundaries. Approximately 18-20 systematic 1m x 1m excavation units would be complete in order to provide for adequate recovery and even coverage of the entire locus. Subsequently and if indicated, additional judgmental 1x1 meter units would be completed in areas that have yielded substantive resources and/or possible features. It is estimated that no more than 2 – 4 judgmental units would be required.
- **Locus 2:** It was estimated that this small site would require the excavation of approximately 10 additional STs and 4-6 systematically placed 1x1 meter excavation units, in order to provide for adequate recovery, with two EUs reserved for artifact concentrations or feature excavation.

The results of the Phase III STs and EUs were evaluated in conjunction with the results from the prior Phase I and II testing.

IV. RESEARCH METHODS

In accordance with the OPRHP-approved DRP (September 7, 2005), Phase III archaeological field testing of the Eastview UV Site consisted of two steps. The initial subsurface testing, which was comprised of intensive hand-excavations of Locus 1 and Locus 2, was undertaken in July of 2006 (Photographs A and B). Tina Fortugno (MA) served as Field Director for the Phase III investigation, and, together with a team of five to nine field technicians, conducted this portion of the Data Recovery over 20 days, weather permitting. This phase of fieldwork included the excavation of a total of 138 STs and 23 EUs between the two loci (Appendices A-1 and A-2).

The second and final portion of the Phase III testing, the mechanical stripping of the topsoil within both loci, was conducted on August 24 and 25, 2006. A flat-blade excavator was used to strip systematically placed linear transects across Locus 1 and Locus 2 (Photographs J, K, and L). A total of five transects ranging in width from 1.6ms (5.3ft) to 3.3ms (10.8ft) were stripped in Locus 1. These transects were oriented from north to south and averaged a length of approximately 62m (203.5ft). Two north-south transects, each roughly 3m (9.8ft) wide and over 20m (65.5ft) long were also excavated in Locus 2. In each transect, the topsoil layer was gradually removed until the interface between the plowzone and the underlying soil horizon was reached. Subsequently, the stripped transects were left exposed to rainfall so that any soil anomalies, potential features at the A/B soil interface, or evidence of lithic clusters would become visibly evident. Several weeks of consistent rainfall and the extremely poor drainage on site inundated the plowed transects, and delayed their inspection.

A pedestrian survey and visual inspection of the plowed transects began on September 25, 2006 and continued for four days. Poor soil drainage had resulted in standing water in portions of the plowed strips. To facilitate water removal, a mechanical pump was brought on site to drain each of the inundated transects (Photograph K). Once the strips were pumped out, the top 2 to 3cm (.75 to 1in) of soil within each transect was shovel-scraped in order to remove mud and clear off the A/B interface. These newly exposed surfaces were then systematically surveyed for soil stains, artifact concentrations, or charcoal deposits. Potential stains were flagged and further examined as Test Units (TUs) (Appendix A-3). After an initial plan-view drawing was made of each TU, it was then bisected so as to reveal the depth, shape, and nature of any potential cultural deposits. After bisecting, any TU that appeared to be cultural was assigned a Feature designation. Where feasible, soil samples and/or charcoal samples were taken from each Feature. A total of 12 potential Features were identified in Locus 1, and three were identified in Locus 2 (Appendix A-4).

All soils were hand-excavated and screened through ¼ inch hardware mesh and cultural material was collected by natural strata from the STs and the EUs (Appendices A-1 and A-3). Each EU was hand-excavated stratigraphically within natural and cultural soil horizons (Appendix A-2). Within each natural stratum, excavations were completed in 10cm arbitrary levels so as to record specific three-dimensional provenience information for any recovered cultural material. Field notes recorded where artifacts were recovered, the level at which they were found, profiles of the natural soil strata, and the texture and color of these soils according to *Munsell Soil Color Charts*. Artifacts were washed and all cultural material was inventoried and catalogued as per the New York Archaeological Council (NYAC) 1994 *Standards* and the NYSHPO's 2005 *Phase I Archaeological Report Format Requirements* (see Appendices B-1 and B-2).

Artifact counts and weights for the precontact material were established (Appendix B-1). Lithics were sorted by stage of reduction, function, and size range. With respect to any recovered debitage, additional attributes - such as the character of the striking platform, if present, and cortical surfaces - were also considered. Ultimately, the lithic analysis collected data aimed at determining the range of activities represented by the assemblage. Recovered soil samples were subjected to flotation, and processed in search of micro-debitage, and floral, faunal, or carbonized remains. The light fraction and any identified cultural material were sent to specialists for further analysis. Two charcoal samples—one from each Locus—were also submitted for radiocarbon dating. Such analyses were intended to help determine not only the nature of each potential Feature, but also to better understand the past occupation and precontact usage of the site.

Photographs were taken in the field of individual EUs and of potential Features. Hand drawn profiles for the EU walls were completed. Plan-view drawings were also made for TUs, with additional profile and plan-view drawings for potential Features. Site maps showing the location of Phase IB, Phase II, and Phase III STs, EUs, TUs, and Features, as well as artifact frequencies, were generated using Excel databases and Arcmat software.

V. FIELD RESULTS

An updated NYSM Precontact Site Inventory form was completed for Site A11908.000333 (Appendix C-3).

1. LOCUS 1

A. CURRENT CONDITIONS

Locus 1 is located on the western side of Hammond House Road, a graded dirt roadway that runs roughly north-south off of Grasslands Road. Culverts and drainage pipes have been installed along either side of the road, immediately east of the precontact site. Although this area was cultivated historically, it was left untouched for many years, and thick brush grew to cover the former planting field. At the time of the Phase III investigation, the area that had formerly been covered by multiflora rose and other brush had been cleared by a brush hog (Photograph A). The majority of the Locus was cleared of vegetation, with the exception of a few small patches of short-grass and brush, and several larger trees. An artificially elevated berm, which borders a deep drainage ditch adjacent to the west side of Hammond House Road, forms the eastern edge of the Locus. Several large deciduous trees border the eastern edge of Locus 1, flanking the road. Between the trees are tall grasses, ivy, and multiflora rose bushes.

B. FIELD INVESTIGATIONS

Field investigations at Locus 1 included both subsurface testing, in the form of a series of STs and EUs, and the machine-excavated stripping of transects (Figures 4 and 5).

1. SUBSURFACE TESTING

The Phase III DRP proposed the excavation of additional STs within Locus 1 in order to more firmly establish the site boundaries and to fill in any gaps within the systematic site testing grid, and the excavation of additional EUs to obtain a greater representative sample of cultural deposits on site. In total, 124 STs and 18 additional EUs were completed in Locus 1 (Figure 4). For all three phases of study, a total of 242 STs and 23 EUs were excavated in Locus 1. The site is estimated to be approximately 70m (230') in length by 35m (115') in width, for a total area of 2450sqm (26371.8sq'). However, within this larger area are numerous locations that were entirely devoid of precontact material (see Figure 4). Testing for all three phases covered an area of 83.5sqm (899sq'), or approximately 3.5% of the site.

The STs excavated during the Phase III subsurface testing demonstrated that the Locus 1 lithic scatter extended slightly to the south, west, and east of the boundaries established by the Phase II fieldwork. Testing found that the horizontal distribution of material extended to an area of approximately 65ms to 70ms (213 to 230 ft) on the north-south axis and 30ms to 35ms (98 to 115ft) on the east-west axis (Figure 4). The majority of these STs exhibited a uniform stratigraphic pattern including an overlying plowzone (Appendix A-1). The Apz (plow zone) horizon primarily consisted of a brown (10YR4/3, 7.5YR4/2-4/3) or a grayish brown (10YR3/2-4/2) silty loam. This layer varied in depth between 25cms and 40cms (9 to 16ins) below grade, and is consistent with reports of historical plowing of the fields. The Apz layer generally overlay a shallower deposit of yellowish brown (10YR5/6-5/8), brown (10YR4/3, 7.5YR4/4), or brownish yellow (10YR6/6) silty soil, the B (subsoil) horizon (Appendix A-1). Within the majority of the STs, the B horizon overlay compact sandy subsoil. This C (glacially deposited) horizon varied in shade between grayish brown (10YR5/2-6/2), yellowish brown (10YR5/4-6/4), and light olive brown (2.5Y5/4-5/6) tones. In several tests, the Apz soil overlay a mottled layer of Apz and B horizon soils, a mottled B and C horizon layer, or the sterile C subsoil. The mottling of the subsoil layers and the lack of a distinct B horizon in portions of Locus 1 most likely reflect disturbance caused by previous episodes of plowing and farming undertaken in this area, and may have resulted from deeper prior excavations designed to improve drainage in the fields.

The greatest stratigraphic discrepancies between the Locus 1 STs involved the eastern tests located directly in or adjacent to Hammond House Road. In many of these tests, a shallow organic brown (7.5YR4/2, 5/4) or very dark brown (10YR2/2) silty soil was found overlying sequential layers of asphalt and gravel and trap rock bedding (Compare Photographs C and D). The asphalt and gravel deposits appear to represent the remnants of a previously

paved surface of Hammond House Road. In those STs within which the asphalt and rock layers could be penetrated, a deep layer of compact fill was found underlying the former road bed (Appendix A-1). This brown (7.5YR4/3) or reddish brown (7.5YR6/6) silty soil often contained historical artifacts and ranged in thickness from 20cms to over 40cms (7.8 to 18.6ins). This level of fill was frequently found over light yellowish brown (7.5YR6/4) or brown (7.5YR5/3) compact sandy subsoil like that seen in the majority of the Locus 1 STs.

One other ST, ST 3.85 (S2W11), presented strata unlike those documented in the majority of the STs (Appendix A-1). In this ST the B horizon was an incomplete level, with only the southeastern portion of the test having an intact deposit. In the northwestern portion of the test, a mottled deposit of dark grayish brown (10YR3/2) organic soil and brown (10YR5/3) silty soil were found intermixed with the B horizon soil (Photographs E and F). Small traces of charcoal were found within this mottled layer. No other cultural material was recovered from this ST. Given the lack of artifacts and the presence of a large cobble at the interface of the mottled soil and the intact B horizon, the unusual stratigraphy most likely reflects past plowing or farming-related disturbance rather than a precontact cultural feature with a mechanical instrument, e.g., a plow, having displaced the large stone along with intermixing surface and subsurface soil horizons. It may have also resulted from manipulation of the field in an attempt to improve drainage.

A total of 18 EUs were placed within Locus 1 in order to obtain a representative sample of the cultural material and the distribution of this material across the area. The majority of these EUs revealed stratigraphy like that exhibited by the STs (Appendix A-2; Photograph G). Namely, the EUs tended to have an overlying dark grayish brown (10YR3/2-4/2) or brown (10YR4/3, 7.5YR4/2) Apz horizon which extended to a depth of approximately 30cms (12ins) below grade. The Apz horizon was found above a yellowish brown (10YR5/6-5/8) or a brown (10YR5/3) silty B horizon. A compact grayish brown (10YR5/2), yellowish brown (10YR5/4), or strong brown (7.5YR5/6) sandy subsoil, the C horizon, was typically found underneath the B horizon (Appendix A-2). EU 3.9 (N39W1) had a deeper plowzone deposit than that found within the majority of the units—the Apz soil mottling with the B horizon to a depth over 40cms (15.8ins) below grade (Photograph H). This unit also produced a significant number of historical artifacts, particularly within the plowzone stratum (Appendix B-2). This deposit contained diagnostic nineteenth century artifacts including yellowware sherds, several Rockingham fragments, salt-glazed stoneware, a mochaware sherd, and kaolin pipe bowl fragments. These artifacts were primarily small sherds and fragments ranging from one to four cms (.4 to 1.5ins). The small size of the artifacts suggests that their provenience reflected a secondary or tertiary discard location rather than a primary depositional context, i.e., that these items had been redeposited, perhaps through the distribution of night soil in the agricultural fields. Precontact artifacts including quartz shatter, quartz flakes, and chert flakes were found in the same levels as the historical material (Appendices B-1 and B-2). STs in proximity to EU 3.9 (N39W1) also produced a few whiteware sherds and brick fragments (Figure 4; Appendix B-2). However, STs in this area did not have the density of material as that found within the EU. The location of the EU near the berm along the eastern edge of Locus 1, in addition to the depth of the plowzone within this unit, ca. 40cms (15.8ins) below grade, suggests that this deposit might reflect an earlier dumping episode possibly for the establishment of fill at the base of Hammond House Road.

Excavations at EU 3.109 (S13W9) also revealed an unusual stratigraphic deposit (Appendix A-2). In particular, a small circular stain of very dark grayish brown silty soil with charcoal flecks was found within the B horizon of this unit (Photograph I; Appendix A-2). This deposit extended as a tapered cylinder into the underlying subsoil. Given its shape and organic nature, this deposit was labeled Feature A, and was interpreted as a possible postmold. Feature A, which appeared within the B horizon, may have once been longer, having been truncated by the overlying plowzone. A charcoal sample and soil sample were collected from the soil stain. Flotation of the soil sample did not produce botanical, faunal, or other cultural remains beyond modern grass and root matter (Appendix C-1). Furthermore, the charcoal flecks sampled from the deposit were too small to submit for carbon dating. The lack of recovered cultural material makes it difficult to determine the origin of the stain—it may have resulted from a rodent hole or a root intrusion. However, the cylindrical profile of the Feature suggests that it represents a culturally-derived postmold.

Phase III excavations in Locus 1 produced a scatter of mixed modern and historical artifacts within the plowzone. This deposit consisted primarily of window glass, bottle glass, coal, shell, plastic, and ceramic fragments (see Appendix B-2). Several STs produced historical materials in association with modern materials, e.g., yellowware and mochaware sherds in the same layer as machine-made bottle glass. Within a few excavations - EU 3.9 (N39W1) and ST 3.11 (N35E8) - denser deposits of historical artifacts were collected (Appendix B-2). These

assemblages consisted of mid to late nineteenth century materials including mochaware, yellowware, Rockingham glazed sherds, salt-glazed stoneware, and kaolin pipestems. The artifacts within these assemblages generally consisted of small fragments or sherds suggesting that the material had been repeatedly broken and most likely redeposited. Within ST 3.11 (N35E8), the historical artifacts were recovered from a layer of fill underlying sequential levels of asphalt and gravel and trap rock, the former bedding of Hammond House Road (Appendices A-2 and B-2). The resemblance between the cultural deposits recovered from the plowzone within EU 3.9 (N39W1) and the fill layer of ST 3.11 (N35E8) (compare Appendices B-1 and B-2) further suggests that each represents a past dumping or filling episode. In light of the small size of the artifacts within these assemblages and the light scatter of mixed historical materials across the Locus, these deposits appear to represent the redeposition of previously discarded historical artifacts. Such redeposition may relate both to filling and grading associated with the construction of Hammond House Road and the berm adjacent to the Road, and also to the scatter and distribution of secondarily discarded material as a result of past plowing and farming of the area. The recovery of mixed historical and modern materials within many of the ST and EUs most likely reflects tilling-related formation processes. Potential modern or historical artifacts, particularly twentieth century glass or brick fragments, were also occasionally found within the B horizon. The presence of such materials within the B horizon further suggests that an extant integral precontact living surface may not exist throughout Locus 1. Rather, the extent of historical farming and plowing of this area may have undermined and compromised the integrity of the precontact deposits.

A total of 31 of the 124 STs and 17 of the 18 EUs in Locus 1 produced precontact cultural material (Figures 4 and 7; Appendix B-1). The majority of this material was recovered from the Apz horizon in association with modern or historical material (Appendices A-1 and A-2). Only four of the EUs and eleven of the STs yielded precontact artifacts from the B horizon (Figure 4; Appendix B-1). The recovered precontact assemblage consisted of lithic artifacts, primarily debitage including quartz shatter, quartz flakes, and chert flakes (see Section VI: *Lithic Analysis*, below). The majority of this material was scattered across a rather large horizontal area (Figure 7), with relatively small quantities of chert flakes spread across Locus 1 (Figure 8). However, a higher density of quartz debitage was recovered from the EUs located in the vicinity of one of the original Phase IB positive STs, ST 1.2 (Phase IB ST 717) (see Figures 3 and 9 of this report). The relative density of quartz material in this smaller zone as opposed to that found across the Locus suggests that this area may have once been a node for precontact activity, such as tool manufacturing.

Several tools were also recovered from the Locus 1 excavations. Two potential quartzite knives were collected and a chert scraper was found within the B horizon of ST 3.114 (S15W11), although upon closer inspection in the laboratory, only the scraper was found to be cultural (Figure 4; Appendix B-3). Several projectile points were also recovered from the plowzone during the three phases of study. These include a chert Levanna point from EU 3.111 (S14W10) and a potential quartz Levanna point preform from ST 3.79 (N0E9) (see Appendix B-1). Levanna points are associated with the Middle to Late Woodland periods in the Northeast, ranging in date from ca. 2000 B.P.-500 B.P. A third projectile point was recovered from EU 3.86 (S2W10.5) (Appendix B-1). This was a chert small-stemmed point with basal grinding reminiscent of bifurcated technology like the Kanawha tool industry. Bifurcated points are often associated with the Early Archaic period, from 10,000-8,000 B.P. The small-stemmed point was recovered in association with window glass and slag suggesting that it may have been found in a disturbed context. This EU was also just east of ST 3.85 (S2W11) which had an unusual mottled subsurface soil deposit in its north and east walls. A further discussion of the lithics recovered in the excavation of Locus 1 is provided in Section VI of this report.

2. STRIPPING AND TRANSECT SURVEYS

After completing intensive hand-excavations at Locus 1, five transects were mechanically stripped across Locus 1 by a flat-blade excavator. These transects were roughly oriented from north to south and extended from the western limit of identified cultural material to the eastern tree line and road buffer (Figure 5). Transects were approximately 62ms (203.5ft) in length and varied in width from 1.6ms to 3.3ms (5.3 to 10.8ft). In each transect, the topsoil layer was gradually removed until the interface between the plowzone and the underlying soil horizon was reached (Photographs J, K, and L). Subsequently, the stripped transects were left exposed to rainfall so as to enable saturation and, thereby, the legibility of the interface. However, several weeks of consistent rainfall and the poor drainage on site flooded the transects and necessitated the use of a mechanical pump to remove excess water (Photograph K). Each transect was then shovel-scraped so as to re-expose the interface. The newly exposed

interface was then visually inspected for soil stains, artifact concentrations, charcoal deposits, and any other evidence of features.

A total of 28 soil stains were identified in the five transects completed in Locus 1. Each of these stains was plan-viewed and bisected as a Test Unit (TU). The majority of these TUs consisted of irregular and shallow deposits of grayish brown (10YR3/2-4/2) or brown (10YR4/3) silty soil suggesting past bioturbation caused by root systems and rodent activity (Appendix A-3). A few of these irregular deposits extended for depths of 20 to 30cms (7.9 to 11.8ins) below the interface. However, such stains continued their amorphous shape throughout, had no defined margins, and possessed little, if no, charcoal deposition.

Eleven of the 28 TUs were potential cultural formations and, thus, were treated as Features, designated as Features A-K, with subsets Feature I-1 and I-2 (Appendix A-4). Two of these Features—Features C and D—appeared to be of historical origins. Feature C consisted of a large circular deposit of organic soil with stacked cobbles and rocks (Figure 6; Photograph M). The nature of this assemblage along with the poor drainage throughout Locus 1 suggested that this feature historically functioned to improve drainage in the field. Alongside the quartzite fragments recovered from the feature fill, a small chert thinning flake was also found (Appendix B-1). The presence of debitage within the fill suggests that the soil for this historical or modern drainage feature was redeposited from the immediate vicinity. Feature D was a semi-circular deposit of mottled soil containing ash and charcoal (Figure 6). Brick and shell fragments were noted on the surface of the Feature, suggesting that it represented a historical scatter or fill deposit like that seen in a few of the STs and EUs. Similarly to the previously discussed historical deposits, Feature D was identified near the eastern border of the precontact site, near the artificial berm bordering Hammond House Road.

The majority of the remaining Features were shallow deposits ranging from 5cms to 10cms in depth (see Appendix A-4). Although Features E and I-1 were fairly defined circular stains, their overall shallowness suggested that they most likely represent root or rodent activities as opposed to postmolds or some other cultural feature (Photograph N). Only three small pieces of charcoal were recovered from Feature E; two oak and one hickory, which suggests that the feature could easily represent root burn from prior field burning. Feature G was also a shallow stain. However, this Feature was a more diffuse and amorphous stain suggesting a burned root system or disturbance from bioturbation. While Features B and F were similarly shallow deposits, Feature B possessed small charcoal flecks including possible white oak, while Feature F contained a more extensive charcoal deposit comprised of oak, maple, and elm (Appendix C-2). Both indicate that the site was populated by a mixed deciduous forest during the time these charcoal deposits were created.

Three of the 11 Features appeared to be precontact period cultural formations; Features H, J, and K. Features H and K were both small circular stains which extended into the subsoil horizon with depths greater than 20cms (7.8ins) below the B/C horizon interface. Feature H maintained a fairly uniform diameter and shape throughout with a mottled soil matrix of brown (10YR4/3) sandy soil with the B horizon yellowish brown (10YR5/6) silt and a high density of charcoal (Appendix C-2). The presence of charcoal throughout this deposit coupled with the feature's cylindrical shape suggested that it might be a post mold. A post may have burned and collapsed, enabling subsoil to fill the resulting void. Over 1000 charcoal fragments, for a total of 17.5 grams, were recovered, and of these, 25 fragments were of Black Walnut (*Juglans nigra*) wood (Appendix C-2). However, the presence of 20 pieces of charred black walnut shell in the feature suggests that instead it may represent a fall to early-winter nut processing event. Walnut hulls are difficult to remove without destroying the meat, and various methods of extraction exist. These include rolling the shells on a hard surface, such as a metate¹, smashing them open, boiling them to soften prior to opening, and forcing the shell open with a blade. Although no such grinding implements were recovered from either loci during the archaeological investigation, a review of the files held at the Westchester County Historical Society revealed an inventory of artifacts found "in and around the Hammond House during repair and restoration in 1926." According to Bolton, an "Indian stone pestle" was recovered somewhere on the Hammond House property (Bolton 1927:20). Pestles are a labor intensive tool, and are typically recovered from sites with a more extensive settlement. The presence of the pestle from the property, together with the recovery of black walnut shell fragments from Feature H suggests that Locus 1 represents at least one episode of settlement during the fall or early winter.

¹ A large stone with a smooth depression or bowl worn into the upper surface formed by the continual and long-term grinding of materials

Unlike Feature H, Feature K did not maintain a uniform circular diameter throughout. Rather, in profile, this deposit angled deeply and disproportionately to the northeast. The unusual profile of the Feature may reflect a former postmold that has been impacted by subsequent rodent activity or it may indicate that the entire stain is the result of bioturbation. The flotation of a soil sample from this Feature recovered semi-carbonized fragments of oak, hickory, maple, and an unknown angiosperm. In addition, one legume-like seed was identified, although its exact species was indiscernible (Appendix C-2). If all of the charcoal fragments were of one wood type, the feature could arguably be a post mold from a single charred post. However, the presence of three types of wood suggests otherwise.

Feature J was the most unique deposit identified during the investigation of Locus 1 (Figure 6; Appendices A-3 and A-4). This squarish stain with rounded corners consisted of oxidized red and reddish-gray clayey soil with charcoal deposits (Photographs O and P). The density of charcoal within the feature and the clear oxidation of the feature fill suggests that the feature resulted from a heat treated surface or a temporary fire pit. Feature J was an approximately 20cm (7.8in) deep deposit containing only charcoal (roughly 550 pieces for a total of 1.11 grams) and no other cultural material (Appendices C-1 and C-2). The botanical analysis of a soil sample taken from the west half of the feature produced one possible seed of the *Cornus* species (which includes dogwood and bunchberry), one modern seed that was not charred, and four pieces of what may be charred nutshell (Appendix C-2). A radiocarbon date was obtained from a charcoal sample taken from Feature J. The sample dated to 300±40 B.P. (Appendix C-3), which would place it roughly in the Contact period in the Northeast. Feature J lies to the northeast of one of the Levanna point finds - roughly 4ms (13.1ft) north and 5ms (16.4ft) east of EU 3.111 (S14W10) (Figures 4, 5, and 6). Feature J is also approximately 10ms (32.8ft) south of the other two recovered projectile points. The presence of diagnostic Middle to Late Woodland material on site coupled with Feature J dating to the Contact period suggests that Locus 1 may have been revisited or sequentially occupied by indigenous peoples during these periods. The four charred fragments of possible nut shell also suggest the possibility of a fall to early winter encampment. Alternatively, the Contact period fire pit may represent an early European or Colonial-related deposit associated with the sites use as an agricultural field, rather than Native American activities in the area. However, no historical artifacts were found in association with the feature.

2. LOCUS 2

A. CURRENT CONDITIONS

Locus 2 is located to the east of the unpaved portion of Hammond House Road, downhill and east of Locus 1. This area gradually slopes down to Mine Brook to the east. At the time of the Phase III investigations, the area - which was previously covered in multiflora rose and other brush like Locus 1 - had been recently cleared at grade by a brush hog (Photograph B). Therefore, when testing was conducted the site was primarily devoid of vegetation, although there were cut branches strewn across the surface. Short-grass and patches of low brush were also scattered about the Locus. Multiflora rose and other larger bushes surrounded the testing area to the east and south. In order to protect the testing area from on-going construction activities, a chain-link fence was placed to the north of Locus 2. The area uphill of the site, between Locus 2 and Hammond House Road, had been previously cleared by the brush hog as well.

B. FIELD INVESTIGATIONS

Field investigations at Locus 2 included both subsurface testing, in the form of a series of STs and EUs, and the machine-excavated stripping of transects (Figures 11 and 12).

1. SUBSURFACE TESTING

The Phase III DRP proposed the excavation of additional STs within Locus 2 in order to more firmly establish the site boundaries and to fill any gaps within the systematic site testing grid. Given the relatively small size of Locus 2, only 14 STs were excavated for the Phase III Data Recovery (Figures 10 and 11). The Phase III protocol also proposed the excavation of larger EUs so as to obtain a representative sample of the cultural deposits at this locus. A total of five EUs were completed in Locus 2. For all three phases of study a total of 46 STs and 6 EUs were

excavated at Locus 2. Site size is approximately 11m (30ft) by 7m (23ft), with testing covering an area of 17.5sqm (188sqft) or 22.7% of the site.

The Phase III subsurface testing of Locus 2 confirmed the limited horizontal distribution of this lithic scatter as established by the previous phases of fieldwork. The scatter of precontact material occupied an area of at most 7ms (23ft) on the north-south axis and 11ms (30ft) on the east-west axis (Figure 11). The 14 STs excavated in Locus 2 revealed a similar stratigraphic pattern throughout (Appendix A-1). The overlying topsoil within the STs consisted of a dark grayish brown (10YR3/2) silty plowzone. The depth of this Apz horizon varied across the area from 30cms (11.8ins) to over 60cms (23.6ins) below grade. Unlike the Locus 1 tests, there was no distinct B horizon identified in the STs. Instead, the Apz in Locus 2 was found above a compact layer of light olive brown (2.5Y5/4) sand, interpreted as the C horizon. The lack of B horizon along with the overall depth of the Apz in these tests suggests that previous plowing of this area compromised and completely effaced any preexisting B horizon deposit, incorporating it into the plowzone. No unusual soil or charcoal deposits were identified in any of the Phase III STs. A few of the more eastern STs terminated in bedrock or rock obstructions, reflecting a shallower underlying bedrock sheet within this portion of the site.

The five EUs excavated in Locus 2 revealed similar stratigraphic patterns to those observed within the ST excavations (Appendix A-2). These units also displayed a deep plowzone level, overlying compact sandy subsoil (Photograph Q). However, the C horizon encountered in the EUs was generally mottled. This mottling of light olive brown (2.5Y5/4) with yellowish brown (10YR5/6) soil or brown (10YR5/3) sand with yellowish brown (10YR5/6) soil may reflect the leaching of the compromised B horizon soil into the subsoil matrix. Nevertheless, there was no intact or integral B horizon layer identified in the EUs.

Each of the EUs within Locus 2 produced lithic artifacts (Appendix B-1). Four of the EUs each yielded two secondary or tertiary chert flakes. Two pieces of quartz shatter were recovered from EU 3.11 (N4W1) (Figures 11 and 13). All of the lithic material was recovered from the plowzone and the majority of it was found in association with mixed modern or historical material including glass fragments, ceramic sherds, slag, and coal (Appendices A-2, B-1, and B-2). The Locus 2 STs did not yield any precontact artifacts, but served to confirm site boundaries (Figure 11). Furthermore, coal and brick fragments represent the only cultural material noted in these tests. The distribution of quartz and chert flakes at Locus 2 is similar to that observed at Locus 1; chert flakes are diffusely spread across the locus, while quartz flakes are relatively clustered, suggesting that the quartz reduction event took place in a relatively confined area (Figures 14 and 15).

No diagnostic precontact material was recovered from any phase of testing within this Locus (HPI 2005a, 2005b). The lack of a distinct B horizon within this area, in addition to the recovery of the precontact material within the plowzone and in association with mixed materials, suggests that an integral precontact living surface is no longer extant within Locus 2. Previous episodes of farming and plowing across this area may have compromised and dispersed any preexisting intact precontact deposit into this localized plowzone scatter.

2. STRIPPING AND TRANSECT SURVEYS

After completing the STs and EUs, two transects were mechanically stripped utilizing a flat-blade excavator across Locus 2. These transects were roughly oriented from north to south and cut across the western and eastern edge of the lithic scatter (Figure 12). The machine-excavated transects were approximately 20ms (65.6ft) in length and 3ms (9.8ft) in width. In these transects, the overlying plowzone level was gradually removed until the interface between the plowzone and the underlying subsoil – the C horizon - was reached. Subsequently, the stripped transects were left exposed to rainfall so as to enable saturation and, thereby, increase the visibility of any soil anomalies or artifact concentrations. However, several weeks of consistent rainfall and the poor drainage on site resulted in the inundation of the transects, and necessitated the use of a mechanical pump to remove standing water. The proximity of the stripped transects to Mine Brook and its associated wetlands directly to the east did not allow for water to be pumped onto the surface without a NYSDEC issued permit. Instead, excess water from one transect was pumped into the other for temporary storage. After the water was pumped into the adjacent transect, the emptied transect was then shovel-scraped to re-expose the Apz/C interface. The newly exposed interface was then visually inspected for any possible soil stains or anomalies, artifact concentrations, and/or charcoal deposits. Once the inspection of the first transect was complete, water was pumped from the second transect into it, and the same process of inspection was carried out.

A total of five soil stains were identified in the two transects (Figure 12). Two stains were identified during mechanical stripping of the eastern transect, Transect 2, and were designated as Features A and B (Appendices A-3 and A-4). Both deposits were excavated, and contained organic, dark grayish brown (10YR3/2) silty soil, with stacked cobbles and rocks that extended well into the subsoil to depths greater than 60cms below the interface. Each Feature almost identically resembled the historical drainage feature identified as Feature C in Locus 1 (Photographs R and S). Given the poorly drained soils present at Locus 2, these historical drainage features would have allowed for the productive use of these fields, and were essential to the past agricultural use of this area. The depth of these Features, penetrating into the compact subsoil, the relatively large surface area of these Features, and the lack of any associated precontact deposits further supports their historical origins.

Three soil anomalies were flagged in the western transect, Transect 1 (Appendices A-3 and A-4). Two of these soil stains, TU-2 and TU-3, were shallow deposits of organic soil—brown (10YR4/3) silt, and black (10YR2/1) silt. No cultural material, or evidence of burning, e.g., oxidized soil or charcoal deposits, was found within either TU. Given the shallow depth and irregular size of these stains, they were interpreted as evidence of past tree root systems.

The most unusual soil stain identified in Locus 2 was also found in this transect. TU-1 consisted of an oval shaped deposit of oxidized stratified soil with a significant charcoal deposit (Photograph T). The three distinct oxidized soil layers observed were clearly of cultural origin, and the anomaly was thus designated as Feature C (Photograph U). The two uppermost levels of the Feature contained silt and sandy silt, while the lowermost level consisted of a gray fine ash and charcoal deposit (Appendices A-3 and A-5; Photograph U). The subsoil surrounding this deposit also showed evidence of oxidation, suggesting evidence of intense heat from fire. Soil samples were taken from each of the distinct fill layers and a charcoal sample was taken from the ashen bottom layer. A radiocarbon date of 1870 ± 40 B.P. was obtained from this charcoal sample (Appendix C-3). This would date Feature C's origin to the Middle Woodland period.

The botanical analysis of the feature found the following (see section VII, Botanical Analysis, and Appendix C-2):

- Stratum 1 contained three nutshells, possibly hickory, and 2.5 grams of charcoal from the white oak group.
- Stratum 2 contained one charred item, possibly an aquatic seed, and charcoal from white oak, oak, and an unknown angiosperm, as well as a sample from an unknown source that bore evidence of a hot fire.
- Stratum 3 contained 13 nutshell fragments, possibly hickory, and 2.09 grams of charcoal in poor condition, which was predominantly oak, with minor traces of hickory.

No other artifacts or cultural material were recovered from the Feature. The charcoal extracted from Feature C represents the only datable material recovered from Locus 2, as no diagnostic artifacts were recovered from any phase of testing at this locus. Feature C is located about 2ms (79ins) north and 4ms (158ins) west of the densest deposition of lithic material identified in Locus 2. The date obtained from the Feature suggests that this lithic scatter may also date to the Middle Woodland period as well, and that the site was occupied during the fall and/or early winter when nut processing was most prevalent. More recent plowing or other farm-related activities undoubtedly disturbed much of the precontact living surface in this area - the surface that might have once hosted a temporary, single component lithic processing camp site. The apparent disturbance to this former living surface would have also caused the dispersal of any other artifacts (e.g., fire cracked rock) that may have previously been in proximity to this likely fire pit feature. However, none of the STs or EUs previously excavated in direct proximity to Feature C produced any precontact material or charcoal deposits.

VI. LITHIC ANALYSIS

The three phases of study at the Eastview UV project site collectively produced an extensive amount of lithic material. In total, 11 projectile points and one late-stage biface, that was probably a point in progress, were found in the APE on the north side of Grasslands Road, west of Mine Brook. No diagnostic points were recovered east of the brook. While two of the projectile points were found during the walkover survey, the rest were recovered from the STs. The greatest abundance of points was found in Locus 1, which produced five points and a late-stage biface. Table 1 below lists all projectile points found on the project site, and specifically indicates those found at the Locus 1 precontact site:

TABLE 1: PROJECTILE POINTS RECOVERED FROM THE EASTVIEW UV PROPERTY, NORTH OF GRASSLANDS ROAD, WEST OF MINE BROOK.

LOCATION	PHASE RECOVERED	ST/EU NUMBER	PROJECTILE POINT TYPE	MATERIAL	DATE RANGE
West side of Mine Brook	Walkover	Surface	Adena-like point - ovoid shaped, broad stem and broken tip	Chert	2,800 to 2,000 BP ² (Early Woodland)
West side of Mine Brook	Walkover	Surface	Lamoka-like stemmed point – lower segment only	Chert	4,400 to 3,800 BP (Late Archaic possibly into Early Woodland)
Northeast of Locus 1	IB	Area F, ST 597	Possible Brewerton - corner-notched, basal grinding.	Quartz – smoky	5,500 to 4,000 BP (Late Archaic, Laurentian Tradition)
Northwest of Locus 1	IB	Area G, ST 800	Orient Fishtail –lower segment only	Quartz - smoky	3,200 to 2,500 BP (Late Archaic through Early Woodland)
North of Locus 1	IB	Area G, ST 876J	Levanna	Chert- light gray	1,300 to 600 BP (Middle to Late Woodland)
Locus 1	IB	ST 1.3 (N0E0)	Untyped Triangle – with basal grinding	Chert – dark gray	Woodland?
Locus 1	II	ST 2.82 (N2E4)	Madison	Argillite – gray/brown	1,200 to 450 BP (Late Woodland)
Locus 1	III	EU 3.86 (S2W10.5)	Kanawha/Neville-like point - basally notched	Chert – light olive gray	Possibly 8,000 to 6,000 BP (Middle Archaic)
Locus 1	III	EU 3.111 (S14W10)	Levanna	Chert – mottled dark gray	1,300 to 600 BP (Middle to Late Woodland)
Locus 1	III	ST 3.79 (N0E9)	Late-stage biface – probable Levanna in progress	Quartz	1,300 to 600 BP (Middle to Late Woodland)
Locus 2	IB	ST 1.1 (N0E0)	Projectile Point Tip	Chert – black	Unknown

Artifacts recovered from Locus 1 during the Phase III excavations included two projectile points, one late stage biface, an early stage biface, an ovate knife, a scraper, a retouched and utilized flake, and 204 pieces of debitage (Appendix B-3; Tables 1 and 3). A total of ten pieces of debitage (8 chert flakes and 2 quartz shatter) were also recovered from Locus 2 (appendix B-3; Tables 2 and 3). The following lithic analysis focuses on description and analysis of these artifacts as well as interpretations and comments in terms of artifact attributes, spatial patterns, and associations.

² BP – Before Present

1. LOCUS 1

Several diagnostic artifacts attributed to the Middle to Late Woodland periods (1300 to 600 Before Present [BP]) from Locus 1 recovered during the Phase III investigation included a mottled dark gray chert Levanna point, and a white quartz late stage biface that was probably a Levanna point in process. These finds offer support for a Middle to Late Woodland occupation of the site that was suggested during the Phase I and II investigations by the recovery of a Madison triangle (ST 2.82 [N2E4]) and an untyped triangular point in Locus 1 ST 1.3 [N0E0]. The only radiocarbon date obtained from Locus 1 was taken from Feature J, and dated to 300±40 B.P. (Appendix C-3), which would place it roughly in the Contact or Historic Period in the Northeast. No definitive Middle to Late Woodland period features were identified at Locus 1.

The mottled dark gray chert Levanna triangle recovered in EU 3.111 (S14W10) from Locus 1 was a complete and finished point having no evidence of basal grinding (Photograph V; Figure 4). The only preparation for hafting appears to have been where broad flakes were removed from either side of the base in order to thin it. The point had the general shape of a broad isosceles triangle, with nearly straight to slightly convex sides and a slightly concave base. It was nearly as broad as it was long, being 28mm (1.1in) long and 25mm (.98in) wide; and also fairly thin (6mm or .24in), appearing to be somewhat between plano-convex and flattish in cross section. The point is considered to have been finished and was probably attached to a haft prior to being discarded or lost.

A late-stage biface made from white quartz – a locally available material – and recovered from ST 3.79 (N0E9) was also probably a Levanna point in process (Photograph W; Figure 4). The biface was approximately 4cm (.16in) long and 3cm (.12in) wide. While being fairly well thinned along the basal portion through the removal of a broad and long thinning flake, the tip remained uncharacteristically thick. Several flakes having step terminations were observed along one lateral edge of the tip. These may indicate that the biface was discarded during the manufacturing process due to the inability to set up platforms in order to successfully thin the tip and midsection.

A second finished projectile point was also recovered from Locus 1, but this artifact is discussed below because its typology remains ambiguous. The rest of the artifacts recovered from Locus 1 are most likely associated with the Middle to Late Woodland projectile points described above.

Locus 1 also produced two tools that were probably utilized as knives. The first is a pale olive quartzite oval knife about 8cm (3.1in) long and 4cm (1.5in) wide that was recovered from EU 3.41 (N18E3) (Photograph X; Figure 4). The artifact was oval at one end and the other came to a blunt but well-defined point. It was chipped with long and broad flakes along both faces, except along two-thirds of one of its lateral margins where short and steep flakes - often resulting in step fractures - were removed to create a sharp but thick and sturdy edge.

The other artifact that was apparently utilized as a knife was a banded, very dark gray quartzite flake that had been retouched along one of its lateral margins (Photograph X). The knife, recovered from EU 3.134 (S21W7), bore evidence of use-wear in the form of small microflakes on the opposite side of the same edge that was retouched. One end of the flake may have been intentionally snapped in order to facilitate a grip, and so the artifact may be best classified as a triangular knife.

Finally, a second biface, a crude early stage biface fragment made from white quartz, was recovered from EU 3.28 (N22.5W3) (Figure 4). The biface had been broken during the manufacturing process, and was relatively thick. The tool-knapper had only been able to remove a limited number of flakes around the perimeter of the tool to create an even margin before it had broken and then been discarded.

In total, 204 pieces of lithic debitage were recovered from Locus 1 during the Phase III investigation (Appendix B-2). Of this total, there were 170 quartz flakes and shatter, representing 83% of the total Phase III lithic assemblage; 33 chert flakes and shatter (16%), and 2 quartzite flakes (1%). The chert debitage recovered represents a variety of different colored cherts ranging from gray to dark gray, very dark gray, black, olive gray, mottled gray and black, and dusky yellowish brown (see Appendix B-1)

The analysis of the debitage included qualitative and quantitative observations and the identification of certain debitage “types,” distinguishing flakes from shatter. Flakes are perceived to be the result of the intentional removal of lithics, created by the application of direct percussion, indirect percussion, or pressure along the edge of a core,

where the core in actuality may be a tool preform. Shatter is considered to be unintentional or unplanned removals that may occur as a result of a poorly directed blow, but more often is simply produced during early stages of raw material processing, when many uncontrolled fractures are created in order to reduce the raw material into manageably sized pieces.

When assessing a lithic assemblage to determine the stages of lithic reduction that occurred at a site, two characteristics are important: 1) the presence of cortex; and, 2) debitage size. For the Eastview UV lithic assemblage, lithics were categorized as a flake when the dorsal face could be distinguished from the ventral face, using characteristics such as the bulb of percussion, striking platform, ripples, and such as landmarks. Shatter was identified when no such features could be observed. Other identifiable flake types included pressure flakes, bifacial thinning flakes, and bipolar flakes.

Qualitative observations included:

- the presence of cortex; and,
- the ranking, on an ordinal scale, of the amount of cortex observed.

Specific observations for flakes included:

- the presence of a remnant striking platform;
- platform type;
- the presence of platform grinding or abrasion;
- the presence of flake scars from previous removals existed on the dorsal surface;
- the number of arises from previous removals; and,
- the number of platform facets.

Quantitative measurements included the weight of each individual piece of debitage, and length as measured by one centimeter increments. Both weight and size measurements indicated that raw material procurement and initial processing were activities that were carried out elsewhere, at least for the most part. Because stone tool manufacture is a reductive process, and because the size of a detached piece is limited by the size of the core from which it is removed, the larger debitage sizes are most often thought to occur during earlier stages of raw material processing and tool manufacture. Analysis of debitage from Locus 1 reveals that the smaller size classes are most heavily represented: 0-1 cm included 17 pieces (8%), 1-2 cm included 120 (59%), 2-3 cm included 50 (25%), 3-4 included 11 (5 %) and 4-5 cm and 5-6 cm each had 3 pieces (1%).

Debitage with a cortical surface was also infrequent at Locus 1, accounting for 9% of the assemblage of quartz and 9.7% of chert. Additionally, very few primary flakes or flakes having a surface completely covered with cortex were present. Typically, the further that a stage of lithic reduction is physically removed from the initial quarrying or lithic procurement episode, the less likely that debitage with a cortical surface would be found. The relatively low percentage of debitage with a cortical surface recovered from Locus 1 indicates that raw materials were more likely procured and processed elsewhere. This observation, however, is qualified due to the evidence of expedient tool use at the site.

The presence of a bipolar industry at the site would, in effect, indicate the presence of another tool type, informal and expedient tools. The bipolar technique involves placing a core on an anvil for support, and then striking it with a large heavy hammer which causes the core to shatter into hundreds of flakes. This technique is often utilized where the only reliable source of workable stone is rounded river cobbles that are extremely hard to work in any other fashion (UCSB 2005). Locally acquired cobbles of quartz and chert that were available in the subsoil may have been occasionally reduced at the site for the production of expedient tools. This is indicated by several lines of evidence, including: 1) small quantities of debitage of both chert and quartz having a cortical surface that appears to be from a river rolled or glacially transported cobble; 2) the presence of a few probable bipolar flakes; and, 3) the observed presence of a slightly larger quantity of quartz shatter, 90 (52%) as compared to flakes, 82 (48%). Stone-tool societies often take advantage of expedient tools, consisting of nothing more than an unmodified piece of debitage having a sharp edge suitable for the task at hand; a variety of activities can be performed in this way.

Expedient tools are often used once and quickly discarded, making them difficult, at best, to identify in the archaeological record.

Because Locus 1 consisted of a fairly large area measuring approximately 65ms to 70ms (213ft to 230ft) on the north-south axis and 30ms to 35ms (98 to 115ft) on the east-west axis (Figure 4), and because of the relatively low artifact densities, it was not feasible to excavate more than a moderate percentage of the site's overall assemblage. Regardless, artifacts recovered displayed significant variability in tool types, and include: projectile points, bifaces, a scraper, an ovate knife, a retouched flake, and probable evidence of a bipolar reduction industry indicating the manufacture of expedient tools. The assortment of recovered tool types suggests that Locus 1 represents a short-term habitation site, where a wide range of domestic activities were carried out. Furthermore, the moderate density of artifacts suggests that the site was a temporary or seasonal encampment, which may have been reoccupied on several occasions. The site was probably located to take advantage of game animals (hunting) as well as wetland and riverine resources located near by.

Finally, an additional projectile point was recovered during the Phase III excavation of Locus 1, EU 3.86 (S2W10.5) (Appendix B-1; Figure 4). This was a nearly complete light olive gray chert stemmed point having a notched base, the only portion missing being part of one basal tang (Photograph Y; Figure 4). The point is incongruous with other Middle to Late Woodland projectile points recovered from Locus 1, and the presence of historical glass, copper tubing, and slag in the same level from which the point came strongly suggests that it was secondarily redeposited (Appendices A-2 and B-2).

The stemmed point has features suggestive of an Early to Middle Archaic type, being somewhat similar to either the Early Archaic Kanawha stemmed or the Middle Archaic Neville point. It has a triangular blade, and pronounced shoulders. The shoulders above the stem, clearly being the widest portion of the point, are close to a right angle or moderately sloping away from the base, which has an expanding stem. The stem has a shallow notch, but notching is clearly indicated by a broad and steep notching flake removed from one side of the stem. The point measures 29.5mm (1.16ins) long, 23mm (.91) wide and 5mm (.19ins) thick (Photograph Y), and there is no evidence of basal grinding on the stem. This description falls comfortably within the range of variability of morphological characteristics for Kanawha stemmed points as described by Fogelman (Fogelman 1988:78). However, according to Fogelman, Kanawha points tend to be serrated and have concave edges (Ibid.). Furthermore, although notched, the point recovered from Locus 1 has only a moderate basal indentation, leaving its status as a true Early to Middle Archaic bifurcate questionable.

The Kanawha-like point is probably more similar, in overall form, to Neville points with concave bases that have been identified by archaeologist Brian Jones in Middle Archaic levels at sites located on the Mashantucket Pequot Reservation in southeastern Connecticut (Jones 1999:101-123). A possibly important observation made by Jones with regard to the present discussion, is the fact that Kanawha stemmed points have been observed in intermediate layers between Early Archaic bifurcates and Middle Archaic Neville points at Mashantucket (Ibid.:119). Neville points were first described by Dincauze (1976) who identified them as Middle Archaic points dating to between 7,790 BP and 7,065 BP. Archaeologist Snow reports that Kanawha points, although dated to the Early Archaic in the Carolina Piedmont, are more often found in contexts dating to the Middle Archaic (8,000 to 6,000 BP) in the Northeast (Snow 1980:168).

It is impossible to positively identify the basally notched point recovered from Locus 1 as a Middle Archaic type because: 1) the point's morphological characteristics are somewhat ambiguous; and, 2) its presence in the Apz horizon in Locus 1 together with window glass could potentially be explained as a result of secondary deposition into a disturbed context. However, it can not be completely ruled out that the point represents an isolated Middle Archaic find, left behind during a hunting episode, and at least suggests the possibility that the Eastview UV project area was visited by hunters during the Middle Archaic period.

2. LOCUS 2

During the Phase II study, three STs contained precontact material, as did one EU. Artifacts recovered from Locus 2 during the Phase III study were limited to two pieces of quartz shatter, and eight chert flakes (Appendix B-1). In total, the following artifacts were recovered from Locus 2 from all three phases of study:

TABLE 2: ARTIFACTS RECOVERED FROM ALL PHASES OF STUDY, LOCUS 2.

PHASE OF STUDY	LOCATION	TYPE	LEVEL	HORIZON	DEPT H (cmbs)	NO.	MATERIAL	COLOR	OBJECT
IB	1.10 (N0E0)	ST	1	A	0-29	1	Chert	Black	Projectile Point Tip
II	2.9 (N5W5)	ST	1	A	0-34	1	Chert	Grayish Brown	Secondary Reduction Flake
II	2.9 (N5W5)	ST	2	B/C	34-42	1	Chert	Black	Tertiary Reduction Flake
II	2.10 (N5W3)	ST	1	A	0-32	1	Chert	Grayish Brown	Thinning Flake
II	2.20 (N0W10)	ST	1	A	0-14	1	Chert	Med. Gray	Tertiary Reduction Flake
II	2.11 (N5W2)	EU	2	A	10-20	1	Chert	Grayish Brown	Tertiary Reduction Flake
II	2.11 (N5W2)	EU	2	A	10-20	1	Chert	Lt Gray	Thinning Flake
II	2.11 (N5W2)	EU	2	A	10-20	1	Quartzite	Lt Gray	Tertiary Reduction Flake
II	2.11 (N5W2)	EU	2	A	10-20	2	Quartz	Smoky Gray	Tertiary Reduction Flakes
II	2.11 (N5W2)	EU	2	A	10-20	1	Quartzite	Dark Gray	Biface
II	2.11 (N5W2)	EU	3	A	20-30	2	Quartz	Smoky Gray	Blanks
II	2.11 (N5W2)	EU	3	A	20-30	2	Quartz	Smoky Gray	Shatter
II	2.11 (N5W2)	EU	3	A	20-30	2	Quartz	Smoky Gray	Primary Reduction Flakes
II	2.11 (N5W2)	EU	3	A	20-30	2	Quartz	Smoky Gray	Secondary Reduction Flake
III	3.6 (N6W2)	EU	2	Apz	16-42	2	Chert	Dark Gray	1 Tertiary Flake, and 1 Secondary Flake
III	3.7 (N5W6)	EU	1	Apz	14-31	2	Chert	Dark Gray	1 Tertiary Flake, and 1 Secondary Flake
III	3.8 (N5W4)	EU	3	Apz	40-50	1	Chert	Gray	Tertiary Flake
III	3.8 (N5W4)	EU	3	Apz	40-50	1	Chert	Dk Yellow Brown	Tertiary Flake
III	3.10 (N4W3)	EU	2	Apz	20-30	2	Chert	Dk Yellow Brown	1 Tertiary Flake, and 1 Secondary Flake
III	3.11 (N4W1)	EU	2	Apz	25-40	1	Quartz	White	Shatter
III	3.11 (N4W1)	EU	6	Apz/C	25-40	1	Quartz	Smoky Gray	Shatter
TOTAL ALL LITHICS						29			

Phase III testing yielded a total of ten additional lithics, 80% of which were chert, with the remaining 20% being quartz (Table 2 above and Appendix B-3; Table 2). Including lithic material from all three Phases of study, a total of 29 lithics were recovered from Locus 2, including 15 chert lithics (52%), 12 quartz lithics (41%), and 2 quartzite lithics (7%). Chert ranged in color from dark gray and gray, to yellowish brown and black, suggesting that it originated at a variety of different sources, or was procured from a diversity of glacially transported chert cobbles found in the nearby glacial till.

Of the 15 chert lithics, 7% of the assemblage is represented by the projectile point tip; 20% are secondary reduction flakes, 60% are tertiary reduction flakes, and 13% are thinning flakes, probably from tool resharpening. Given the relatively small assemblage of chert, 15 lithics, gross generalizations are tenuous, at best. This assemblage suggests

that chert was being reduced elsewhere into tools or blanks, and then a final stage of reduction was taking place at this campsite. The small black chert thinning flake may represent the creation of a new tool for use after the point was broken – or it may represent the end stages of reduction during the initial creation of this tool. This suggests that the prehistoric occupants may have desired to conserve their more valuable chert tools, reworking and resharpening them to extend the use-life of non-local lithic tools.

Quartz makes up 41% of the Locus 2 assemblage and is represented evenly by blanks (16.5%), primary flakes (16.5%), secondary flakes (16.5%), and tertiary flakes (16.5%). Shatter constitutes 34% of the assemblage (Table 2 above and Appendix B-3; Table 2). However, as with the chert, gross generalizations are tenuous since there are only 12 lithics from which to derive data. These data suggest that all stages of lithic reduction were employed on what were probably locally available quartz cobbles, as none of the quartz bore evidence of having been extracted from veins. The slightly higher quantity of shatter compared to other types of lithics is expected where primary lithic reduction occurs. However, it is clear that this was not occurring to any great extent. Quartz reduction appears to represent the expedient use of locally available cobbles for tool production.

Locus 2 is interpreted as a small lithic reduction site – possibly a specialized hunting camp - with the chert representing evidence of the end stages of tool processing and resharpening, and the quartz bearing evidence of all stages of tool production in a relatively confined location (Figures 14 and 15). The black chert projectile point tip found in this area was probably broken as a result of impact during a hunting episode, and the tool was probably reworked into either a smaller point or a scraper (Table 2). Since the reworked tool or remnant of the point was not recovered, this assumption can only be made based on the presence of a single black chert tertiary reduction flake. The relatively small quantity of lithics indicates that this campsite was utilized for brief periods of food procurement by a mobile band or bands of hunter/gatherers. The lack of food processing tools (e.g., scrapers, pestles, etc...), and the small quantity of lithics (Figure 13), points to only a brief period of use.

VII. BOTANICAL ANALYSIS

Soil samples were collected from each of the two loci during the Phase III investigation (see Appendices C-1, C-2). Samples were placed in a tub of water with a small air pump to increase buoyancy. The light-fraction was skimmed off the surface with an aquarium net. The heavy-fraction was drained through a .0197 inch sieve to recover any botanical, faunal materials or lithics that did not float to the surface. The heavy-fraction was allowed to dry and then put through a .0394 inch sieve to remove larger pieces of stone. Charred and sorted botanical remains were then analyzed by archaeobotanist Lucinda McWeeney, Ph.D. for identification and evidence of carbonization. A Zeiss stereoscope and Axioscope were used for the microscopic analysis of the plant macrofossils using magnification spanning 0.8 to 400X. A modern comparative collection of plant remains and published photomicrographs were used to compare with the prehistoric remains. Some pieces of charred wood were situated in lab sand to rotate the orientation of the structure to provide some possible identification.

Thirteen soil samples were analyzed from the Eastview UV Site:

Locus 1:

Locus 1 Transect 1 TU 2	Feature B-East half	
Locus 1 Transect 2 TU 5	Feature K	
Locus 1 Transect 3 TU 6	Feature 6-West half	
Locus 1 Transect 4 TU 8	Feature H-Northwest half	34-44 cmbd
Locus 1 Transect 5 TU 2	Feature E	
Locus 1 Transect 5 TU 3	Feature F	
Locus 1 EU 3.109 (S13W9)	East wall	Feature-South half

Locus 2:

Locus 2 Transect 1 TU 1	Feature C Stratum 1
Locus 2 Transect 1 TU 1	Feature C Stratum 2
Locus 2 Transect 1 TU 1	Feature C Stratum 3

The following table summarizes the findings from these flotation samples and the subsequent botanical analysis.

TABLE 3: SUMMARY OF FLOATATION SAMPLES AND BOTANICAL IDENTIFICATION.

LOCUS	FEATURE	BOTANICAL IDs
Locus 1 Transect 1 TU 2	Feature B-East half	Seeds or Nutshell -NOT nut shell 1 possible seed not yet identified, maybe an insect gall Charcoal - 6 pieces, <0.1 g; 5 oak, 1 unknown angiosperm wood, maybe oak
Locus 1 Transect 2 TU 5	Feature K	Seeds -1 Legume-like. Charcoal - (NCC*) 4 oak- (white oak group) 2 Cf. hickory 7 maple 2 unknown angiosperm sp.
Locus 1 Transect 3 TU 6	Feature 6-West half	Seeds - 1 Cf. <i>Cornus</i> sp. 1 modern, not charred 4 pieces maybe nutshell-charred Charcoal - ~550 pieces, 1.11gm 1 unknown cylinder shape 1 unknown angiosperm sp., ring porous 20 oak+ (white oak group)
Locus 1 Transect 4 TU 8	Feature H-Northwest half 34-44cmbd (13.4-17.3insbd)	Package labeled potential nut shell; Not nut shell but = 20 walnut charcoal pieces Charcoal - >1000 pieces, 17.5 gm 25 Black walnut

LOCUS	FEATURE	BOTANICAL IDs
Locus 1 Transect 5 TU 5	Feature E	No seeds Charcoal 3 pieces, <0.1 g 2 oak 1 hickory
Locus 1 Transect 5 TU 3	Feature F	Seeds -Not seeds, =fungi Charcoal- 30 pieces, 0.14 g mostly <1mm 19 oak (white oak group) 1 maple 2 possibly elm 4 unknown angiosperm-parenchyma
Locus 1 EU 3.109 (S13W9)	East wall Feature, South half, 57-64 cmbd	Seeds -None Charcoal- barely flakes in light fraction 1 maybe from a monocotyledon
Locus 2 Transect 1 TU 1	Feature C Stratum 1	Nutshell package 3 possibly hickory nutshell Charcoal- 22 not nut=charcoal-5 oak Charcoal- 670 pieces, 2.5 g 20 oak (white oak group)
Locus 2 Transect 1 TU 1	Feature C Stratum 2	Seeds - 1 charred, possibly an aquatic seed Charcoal- 15 oak (white oak group) 2 Cf oak but aerated 4 unknown angiosperm wood 2 unknown-ligninized (Hot fire)
Locus 2 Transect 1 TU 1	Feature C Stratum 3	Seeds -possibly <i>Cornus</i> sp. dogwood shrub 13 nutshell possibly hickory Charcoal -poor condition 373 pieces, 2.09 g 20+ oak 2 hickory

KEY

NCC= Not Completely Carbonized
cmbd = centimeters below datum

Cf = Closely favors
insbd = inches below datum

The analysis of botanical material recovered from the two loci at the precontact site has been incorporated into the summary of findings. The results most clearly demonstrate that during the time period that the two loci were occupied, the area was a mixed-deciduous forest as evidenced by the presence of charred oak, black walnut, hickory, maple, and possibly elm. The lack of non-native species in any of the soil samples that were floated and subjected to botanical analysis suggests that precontact peoples were not exploiting non-local resources. No evidence of plant domestication was observed.

VIII. REGIONAL COMPARISONS

1. CULTURAL CHRONOLOGIES

The New York State Museum under William Ritchie (1969, 1971) and Robert Funk (1976) presented the first cultural chronologies for the Hudson River region, based on radiocarbon dates from stratified rockshelters and floodplain sites. Funk (1976:306) proposed a succession of cultural traditions, phases, and associated projectile point types that remain relevant to archaeologists across the Northeast. Underlying Funk's rigid cultural chronology is an assumption that technological changes were relatively rapid and widespread, perhaps reflecting shifting populations. The following time periods can be associated with the Eastview UV site.

- The Middle Archaic period (8000 to 6600 BP), a Proto-Laurentian Tradition reflected the appearance of notched projectile points in New York. Neville and Stark stemmed points were also common in the Hudson Valley, analogous to sites in New Hampshire and the Southeast. At Locus 1, potential evidence was recovered for a brief Middle Archaic occupation in the form of a Kanawha/Neville-like stemmed point that was found together with historical artifacts. The isolated occurrence of this potential Middle Archaic point in a disturbed context suggests that the point was either an anomaly amongst the predominant Late Archaic through Woodland period projectile points identified at the site, or that it was secondarily deposited from elsewhere.
- During the Late Archaic period (6600 to 3200 BP), the Laurentian Tradition was widespread in northern New York. The Vergennes Phase (6600 to 5800 BP) was indicated by Otter Creek side-notched points and Brewerton notched points in the Lower Hudson Valley. At the Eastview UV site, no evidence was recovered for Vergennes Phase occupations, but the possible Brewerton corner notched point recovered north of Locus 1 could indicate a Laurentian component.
- Funk (1976:247) speculated that a Narrow-Point Tradition originated during the Lamoka Lake Phase (4500 to 4000 BP) in central New York and emerged later in the Hudson Valley during the Sylvan Lake Complex (4400 to 3800 BP). However, evidence throughout New England and the Lower Hudson Valley now strongly suggests that the Narrow-Point or Small-Stemmed Traditions persisted into the Woodland period. The Sylvan Lake Complex included small side-notched points, stemmed points analogous to Bare Island points in Pennsylvania, Wading River points on Long Island and Squibnocket stemmed points from southern New England, as well as triangular points analogous to Beekman and Squibnocket triangular points. A Lamoka-like stemmed point was found on the surface immediately west of Mine Brook during the initial walkover survey of the Eastview UV project site, suggesting that the site was visited during the Lamoka Lake Phase.
- The Transitional Stage, or Orient Phase (3200 to 2800 BP), was marked by the appearance of Orient Fishtail points, steatite bowls and Vinette 1 pottery. Elaborate cremation burials and regional exchange were also characteristic of the Orient Phase. Although no evidence of these practices was encountered at the Eastview UV site, the lower segment of an Orient Fishtail projectile point was recovered on the property, northwest of Locus 1.
- Funk (1976:306) indicated that the Woodland Stage was marked by the appearance of a new Adena Tradition in the Hudson Valley during the Early Woodland Meadowood Phase (2800 to 2500 BP) and the Middlesex Phase (2500 to 2000 BP). Meadowood side-notched points, Rossville contracting-stemmed points, Adena convex-base points, ovate blade caches, and Vinette 1 pottery were characteristic artifacts of the Early Woodland. Adena cemeteries have not been discovered in the Hudson Valley analogous to sites in the Ohio River drainage, Chesapeake Bay, western New York, and Vermont. At the Eastview UV project site, an Adena-like projectile point was found on the surface during the initial walkover survey, downhill and east of Locus 2, adjacent to the Mine Brook.
- The Middle Woodland period (2000 to 1000 BP) was represented by the sequential appearance of Fox Creek stemmed and lanceolate points, Jacks Reef corner-notched and pentagonal points,

Greene lanceolate points and Levanna triangular points, and the diversification of ceramics related to the Point Peninsula Tradition (Funk 1976). Regional exchange networks with the Middle Atlantic region again were expressed during the Fox Creek Phase (1600 to 1200 BP). At the Eastview UV site, Feature C in Locus 2 was radiocarbon dated to the Middle Woodland period (1870±40 B.P). Furthermore, a Levanna point, attributed to this and the subsequent Late Woodland period, was found north of Locus 1.

- The Late Woodland period (1000 to 500 BP) was marked by the increasing dominance of the Owasco Tradition ceramics, suggesting Iroquoian influences. Projectile points included Levanna, Madison and other small triangular points that were attributed to bow and arrow technology. This period also marked the appearance of tropical cultigens maize and beans. Algonquian-speaking groups occupied the Hudson Valley at the time of European contact. Feature J in Locus 1 was radiocarbon dated to 300±40 B.P., which would suggest a Contact or Historic period deposition at the Eastview UV site.

In the decades following Funk's (1976) seminal study, archaeologists investigated many new sites and added new radiocarbon dates that often conflicted with Funk's chronological sequence. Instead of conforming to rigid periods, phases and complexes, many dated features, associated projectile points, ceramic types and other artifacts overlapped in time (e.g. Funk 1989). For example, the Archaic Stage was originally devised by Ritchie (1969) and Funk (1976) as lacking pottery. However, Hoffman (1998) compiled radiocarbon dates from eastern New York and New England indicating that Vinette 1 pottery appeared in coastal areas of New England by 4535 BP, far earlier than previously believed. Steatite, Vinette 2 and Point Peninsula pottery and copper grave offerings appeared before 3000 BP and persisted after 1900 BP, completely obscuring chronological boundaries between the Archaic-Transitional and Woodland Stages (Reeve 2005:34).

Recently, the Canadian National Museum compiled a database of radiocarbon dates from northern North America, including 566 dates from New York State archaeological sites and sites containing Late Pleistocene fauna (Morlan 2001). Appendix B-4 summarizes dates for Late Pleistocene fauna and archaeological sites in different regions of New York State. The Lower Hudson Valley region includes sites from Columbia, Dutchess, Putnam, Westchester, Orange, and Rockland Counties. Dates for archaeological sites are very rare across New York from Paleo-Indian into Middle Archaic times, after 6000 BP. A dramatic increase in dated archaeological sites occurred in the Lower Hudson Valley between 6000 and 5000 BP, corresponding to the end of the hot and dry Atlantic climatic phase. After 5000 BP, total dates across New York State indicate a bimodal distribution, with peak numbers of dates between 3000 to 4000 BP during the Late Archaic period and Transitional Stage, and between 300 to 1000 BP during the Late Woodland period. In contrast to the bimodal pattern across New York State, dated sites were most common in the Lower Hudson Valley between 6000 and 4000 BP during the Vergennes and Vosburg Phases and during the Sylvan Lake Complex, and then decreased from the Late Archaic through the Late Woodland periods. These modes in numbers of dated archaeological sites might reflect regional changes among Native American populations (Reeve 2005:34).

Many Middle Archaic sites have been identified along the Lower Hudson Valley from dated shells, which may produce unreliable, often old dates due to carbon reservoirs in shell. Among dates based on charcoal and bone, the Middle Archaic is marked by Kirk-Stemmed and Neville points dated between 6825 and 6560 BP at the Muddy Brook and Sylvan Lake Rockshelters. The Laurentian Tradition appeared by 6560 BP. The Vosburg Phase is defined by only two reliable dates of 4730 BP at the Bannerman site and 4480 at Sylvan Lake Rockshelter.

The Narrow Point Tradition is marked by Taconic points at 4425 BP in Kemey's Cave in Rockland County, the Sylvan Lake Complex at 4160 and 4000 BP in Dutchess County, and 4120 BP for Wading River points at the Athena site in Westchester County (Appendix B-4). Notched and stemmed points persisted perhaps to between 2850 and 2095 BP at Muddy Brook Rockshelter in Putnam County, although Funk (1989) rejected these dates as too recent. The Narrow Point Tradition might have persisted far longer in the Lower Hudson Valley than previously believed.

The Susquehanna Tradition also is poorly dated in the Hudson Valley. Susquehanna and Orient points are most common in riverine and coastal areas (Funk 1976). Several late dates at the Bronck House Rockshelter suggested persistence perhaps until 2520 and 2030 BP (Funk 1989).

The Early Woodland and Middle Woodland periods are dated poorly in the Hudson Valley. There are very few sites (only six) dating between 2800 and 2100 BP, and only two dates between 2000 and 1500 BP. Vinette 1 pottery appeared by 3040 BP at the Athena site in Westchester County. The Adena Tradition remains undated in the Lower Hudson Valley.

Dated sites became more common during the late Middle Woodland between 1400 and 1100 BP, and especially during the Late Woodland period. Burial ceremonialism continued from the Middle to Late Woodland in coastal areas, suggesting burgeoning populations and social hierarchies. The earliest date for maize agriculture was at 1090 BP in Columbia County.

In summary, the radiocarbon chronology in the Lower Hudson Valley and surrounding areas suggested dynamic processes of population changes, and is further exhibited at the Eastview UV site. Overlaps of many projectile point types and ceramic styles observed at other sites suggest possibilities of complex social adaptations facilitating the persistence of technological diversity between traditionally recognized cultural periods. The occurrence of projectile point types dating from the Middle Archaic through Contact period that have been found across the Eastview UV property (both in and around Locus 1) suggests that the area was visited periodically across a multitude of cultural periods, and is reflective of this continuity of use of the area for food procurement and limited encampment.

3. COMPARATIVE SITES

To more fully understand the activities represented in the archaeological record at the Eastview UV site, the artifact assemblage is compared to potentially contemporaneous sites in the immediate vicinity.

Landmark Quartz Quarry: A comparison of debitage recovered from the Eastview UV Locus 1 site and the nearby Landmark Quartz Quarry - located about a mile west of the Eastview UV APE along the banks of the Saw Mill River - provides important insights into how precontact people organized stages of lithic processing within their overall settlement pattern in the immediate area. Table 4 below compares debitage, in terms of size, between samples from the two sites. Because of the tremendous quantity of debitage recovered from the Landmark Quartz Quarry, a single sample ST was selected, as this ST was excavated immediately adjacent to the identified quarry where primary quartz extraction and reduction was observed. ST S15W45 in Locus 1 at the Landmark Quartz Quarry, excavated by Historical Perspectives, Inc. in 2005 during a Phase II investigation, was chosen for comparative purposes given its large quantity of debitage (1,640 pieces). Frequency of debitage is given in terms of each size class, and the percentage of debitage within each class is also provided for both samples.

TABLE 4: COMPARISON OF DEBITAGE SIZES: EASTVIEW UV PHASE III LOCUS 1 DEBITAGE COMPARED TO DEBITAGE FROM LOCUS 1, ST S15W45, AT THE LANDMARK QUARTZ QUARRY SITE (HPI 2005c).

SIZE (cm)	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
Eastview UV Locus 1	17	120	50	11	3	3	-	-	-	-
% of total	8.0%	59.0%	25.0%	5.0%	1.0%	1.0%	-	-	-	-
Landmark Locus 1, ST S15W45	18	600	480	243	166	76	31	17	7	2
% of total	1.1%	36.6%	29.3%	14.8%	10.1%	4.6%	1.9%	1.0%	0.4%	0.1%

In comparison, debitage from the Landmark Quartz Quarry site, where primary lithic extraction was taking place, tended to be larger than debitage from the Eastview UV. Whereas 67% of the Eastview UV Phase III debitage was 2cm (.8ins) or less in size, only 37.7% of the sample from the Landmark Quartz Quarry compared in size. Any stage of lithic reduction will produce numerous small fragments of debitage, but because lithic processing is a reductive process, debitage removed from a core is limited in size to that of the core from which it came. For this reason, the size of debitage, especially the larger size classes, is a good indicator of the maximum size of lithic raw

material cores available at a site. In this comparison it is apparent that raw material was introduced into the Eastview UV site in a much-reduced state when compared to the raw material blocks that had been processed at the Landmark Quartz Quarry.

Table 5 compares Locus 1 of the Eastview site and our sample unit from the Landmark Quartz Quarry in terms of percentages of flakes and shatter.

TABLE 5: COMPARISON OF PROPORTION OF FLAKES TO SHATTER BETWEEN THE EASTVIEW UV PHASE III LOCUS 1 SITE, AND LOCUS 1, ST S15W45, AT THE LANDMARK QUARTZ QUARRY SITE (HPI 2005c).

SITE	Flakes		Shatter	
Eastview UV Phase III Locus 1	110	53.9%	94	46.1%
Landmark Quarry Locus 1, ST S15W45	420	25.6 %	1220	74.4%

Since flakes represent controlled and intentional removals from a core, they are thought to be produced in greater numbers in the later stages of lithic processing, while shatter, representing uncontrolled removal of material, is thought to occur more often in early stages of lithic processing. It is apparent that flakes make up a much higher percentage of debitage at the Eastview UV site (53.9%) than at the Landmark Quarry (25.6%).

In comparison to the Landmark Quartz Quarry, the Eastview UV site does not appear to be a location where early stages of lithic processing were undertaken in an extensive way. Instead it would appear that later stages of lithic processing dominated the lithic reduction sequence at the Eastview UV Locus 1 site. This is not surprising since the Landmark site represents a precontact quarry, but it still allows for some speculation about how precontact people organized their lithic technology around quarry sites. The comparison of debitage sizes and proportions of flakes and shatter between these two sites does demonstrate a fairly dramatic separation in terms of lithic reduction stages. If the Eastview UV Locus 1 site is typical of precontact sites in the area surrounding the Landmark Quartz Quarry, this could suggest that stone-tool cultures initially processed raw material at the source, before it was removed from the quarry.

A similar comparison of artifacts from Locus 2 at the Eastview UV site was not undertaken due to the low number of lithics recovered (29). Meaningful comparative analysis would require a larger assemblage. Where there are very few observations – as is the case with Locus 2 - then there are, also, respectively few possible combinations of the values of the variables. Therefore, the probability of obtaining a chance combination of those values indicative of a strong relation is relatively high, meaning that the accuracy of these observed relations is relatively low.

Landmark at Eastview, Lot 2 Area 7, Locus A: In addition to the quartz quarry that was subjected to Phase II testing at the Landmark at Eastview property, Phase I through III excavations were undertaken for what was designated as Lot 2, Area 7 at Landmark (HPI 2004). Two loci were excavated: A and B. A complete chert Madison point, dating to the Late Woodland period, was recovered from Area 7, Locus A, but it was found in a disturbed context so any conjecture as to its original deposition was considered to be speculative. The point did not appear particularly worn and did not exhibit any impact scars.

Madison points (ca. 1200-450 B.P.) are part of a Triangular/Lanceolate point technology that existed within the Late Woodland to early Contact period in the Northeast (Ritchie 1971). Currently, it is believed that these periods and the transition between them were characterized by an annual subsistence round which included a semi-permanent settlement pattern (Funk 1976). Late Woodland peoples are believed to have occupied sedentary or semi-sedentary habitation sites, sending out smaller hunting parties at different times of the year, either to procure resources from distant areas or simply to break up into smaller groups to exploit a larger area in times of resource stress (e.g., late winter months). The presence of the Madison point suggests that the Locus A site may have been used as a temporary hunting station, and the presence of chert debitage, which underwent the most unique lithic production trajectory at the site, indicates tool resharpening. The strategy for chert raw material at the site apparently focused on curation, as if chert was valued highly as a raw material and was saved as much as possible for use only during important tasks. Three of the chert flakes had a small portion of cobble cortex adhering to them, suggesting that raw chert was recovered as small pebbles from exposed glacial till near the site, perhaps along the banks of the Saw Mill

River, and worked into tools. Extensive quantities of quartz were recovered at the site, with smoky quartz – similar to that observed in mined veins on the property – bearing evidence of primary reduction, and white quartz bearing evidence of tool manufacturing (HPI 2004:14).

Camping at some distance from their primary habitation site, the prehistoric occupants of Locus A may have desired to conserve more valuable chert tools and so would have been anxious to exploit other locally available raw materials such as quartz whenever possible; hence the presence of quartz flakes and shatter. This fact would explain both the conservative curation of chert observed at Landmark's Area 7, and the use of a bipolar reduction strategy, which may have provided debitage useful as expedient tools along with some tool blanks to be used in the process of making replacement tools as needed. Late Woodland people may have had access to higher quality raw materials at their base camp by trade connections to other groups and through their ability to stockpile high quality lithic resources as they became available.

The argillite Madison point found at the Eastview UV Site in Locus 1 may represent a similar seasonal hunting foray by Late Woodland people that were more permanently settled elsewhere, and who valued these highly siliceous non-local lithics. Like Locus A in Area 7 at the Landmark property, quartz flakes and shatter were found nearby, but in far lower quantities on the Eastview UV Site. However, the presence of quartz shatter and flakes at Eastview UV Locus 1 indicates that local lithics were also being utilized for expedient tool production. The vicinity of the Madison Point in Locus 1, around ST 2.82 (N2E4), was an area of only light lithic scatter. In fact, no other lithics were recovered from this ST, and the majority of the STs in the vicinity of the point were devoid of artifacts. Those that did contain material had only 1-2 fragments of quartz or chert each (Appendix B-1; Figures 7, 8, and 9). No argillite flakes were recovered from either Locus 1 or 2. Although quartz and chert were worked at the site, it was not necessarily in direct connection with the Madison point that was likely lost during a hunting episode.

Westgate Farms, Locus 2: A precontact site was recently excavated by HPI about three miles southwest of the Eastview UV site in Greenburgh, New York (Fortugno 2006). Phase IB testing at the Westgate Farms site produced four potential loci of precontact activity, while Phase II testing at each of these loci found that only one, Locus 2, had a more substantial precontact deposit, and this was only represented by low-density of dispersed lithics (see Appendix B-3, Tables 4-7 of this report). The only diagnostic artifact, a nearly complete chert Madison point from the A₁ horizon, was recovered from Locus 2 (Fortugno 2006:6; Appendix B-3, Table 4 of this report).

Westgate Farms' Loci 3-1 and 3-2 were entirely comprised of quartz, and the vast majority of this was shatter. As can be seen in Appendix B-3 Table 5 of this report, 60% of the quartz recovered from these two loci was shatter, while 40% were flakes. These two loci were interpreted as quartz reduction sites, which bore extensive evidence of modern disturbance. Locus 4 at Westgate was virtually identical, although there was a very small percentage (10% of the lithic assemblage) of chert flakes as compared to quartz shatter and flakes (Appendix B-3; Table 6 of this report). A compiled comparison of debitage recovered from Loci 1, 2, 3-1, 3-2, and 4 at Westgate Farms pointed to a strong preference across the site for working locally available quartz, with quartz shatter and flakes comprising 55.8% of the assemblage, and chert shatter and flakes making up only 9.3% of the assemblage (Appendix B-3; Table 7 of this report). However, a Madison projectile point and a point tip recovered from Locus 2 were both of chert.

Clearly, these excavated sites – Eastview UV Locus 1, Landmark at Eastview Area 7 Locus A, and the Westgate Farms loci - point to a distinct Late Woodland presence in the immediate area. All three properties were located in proximity to fresh water (the Mine Brook, Saw Mill River, and the Sprain Brook, respectively), and all bore evidence of ephemeral occupation, and none appear to represent more extensive habitation such as a village. The Westgate Farms Locus 2 site – where the Madison projectile point was recovered - consisted primarily of quartz debitage which reflected differing stages of tool production. In this respect, Westgate Farms Locus 2 is quite similar to the artifact assemblage recovered from the Eastview UV Locus 1 site, which produced a large percentage of quartz flakes and shatter (roughly 81% of all lithics).

While no other diagnostic material was recovered from the Westgate Farms' Phase 2 excavations, a preexisting collection of material was reviewed at the New York State Museum from the Lander Farm (NYSM 6798), of which the Westgate Farms property represents a portion. The Lander Farm material is part of the "Blackie Collection," which includes artifacts from a number of additional archaeological sites, many along Sprain Brook. The collection was donated to the NYSM, and in 1989 a student researcher created an inventory of the materials, assigning temporal affiliations to the diagnostic artifacts (Whiteman 1989). The following table is a transcription of the

researcher's database.

TABLE 6: DIAGNOSTIC ARTIFACTS FROM THE NYSM BLACKIE COLLECTION, WESTGATE FARMS SITE.

Artifact	Number of Specimens	Temporal Affiliation
Untyped Bifurcate Point	1	Middle Archaic
Kirk Stemmed Point	1	Middle Archaic
Neville Point	2	Middle Archaic
Lamoka Point	28	Late Archaic
Normanskill Point	1	Late Archaic
Vosburg Point	1	Late Archaic
Brewerton Side-Notched Point	8	Late Archaic
Brewerton Corner-Notched Point	3	Late Archaic
Brewerton Ear-Notched Point	3	Late Archaic
Bare Island Point	4	Late Archaic
Snook Kill Point	1	Transitional
Rossville Point	1	Late Archaic/Transitional/Early Woodland
Orient Fishtail Point	2	Late Archaic/Transitional/Early Woodland
Green Point	1	Middle-Late Woodland
Levanna Point	1	Middle-Late Woodland
Blades	10	N/A
Scrapers	5	N/A
Drill and Fragments	4	N/A
Knife, Side-Notched	1	N/A
Blade, Ovate	2	N/A
Muller	1	N/A
Hammer Stone	1	N/A
Gouge	1	N/A
Chopper	1	N/A
Untyped Form	29	N/A

Based upon the Whiteman study, it appears that the diagnostic artifacts from the Lander Farm date from the Middle Archaic through the Late Woodland periods, with the largest number of diagnostic artifacts dating to the Late Archaic period. However, some scholars assign bifurcate and Kirk Stemmed projectile points to the Early Archaic period (e.g. Eisenberg 1991:165; Snow 1980:168-170), suggesting that if typed this way, artifacts from the Lander Farm could actually span the entire Archaic and Woodland periods. With the addition of the Madison Point from the Westgate Farms site, this cultural representation could potentially be further extended into the early Contact period. This repetition or continuity of site use is mimicked at the Eastview UV property, where projectile points dating from the Middle Archaic through Contact period have been recovered.

IX. DISCUSSION AND CONCLUSIONS

Locus 1

To summarize, a total of 242 STs, 23 EUs, 28 TUs within five plowed transects, and 11 Features (most of which were not of precontact origin) were excavated at Locus 1. The following table provides a summary of all lithics recovered from all three phases of study.

TABLE 7: ALL ARTIFACTS RECOVERED FROM PHASE I THROUGH III EXCAVATIONS AT LOCUS 1

ARTIFACT	TOTAL COUNT	PERCENTAGE OF ENTIRE ASSEMBLAGE
Quartz flakes	146	
Quartz shatter	98	
Quartz blocks	1	
Quartz bifaces (or frags)	3	
Quartz scrapers	1	
Quartz utilized flakes	1	
Quartz knife	1	
Quartz Biface/Probable Levanna (1300-1600 B.P. Middle-Late Woodland)	1	
Total Quartz	250	81%
Slate flakes	7	
Total Slate	7	2.3%
Quartzite flakes	8	
Quartzite utilized flakes	1	
Total Quartzite	9	2.9%
Chert shatter	5	
Chert flakes	32	
Chert scrapers	1	
Chert Untyped triangle (Woodland)	1	
Chert Kanawha/Neville like point (possibly 8,000-6000 B.P. Middle Archaic – disturbed context)	1	
Chert Levanna point (1300-1600 B.P. Middle-Late Woodland)	1	
Total Chert	40	12.9%
Siltstone flakes	2	
Total Siltstone	2	.6%
Argillite Madison Point (1,200-450 B.P. Late Woodland)	1	
Total Argillite	1	.3%
TOTAL ALL LITHICS	309	100%

The high percentage of quartz artifacts indicates a continued preference for reducing and working this locally available material, while the low percentage of slate, chert, siltstone, and argillite indicates limited tool reworking and minimal, if any, primary reduction of non-local lithics (as evidenced by only five pieces of chert shatter). Projectile point types from Locus 1 suggest that it *may* have been occupied by as early as the Middle Archaic period (although the Kanawha/Neville-like point was found in a disturbed context with historical artifacts), but that the Woodland period is more heavily represented. Indeed, the vast majority of artifacts were recovered from the upper

Apz horizon, further suggesting that if there was an earlier occupation episode on the site, it was relatively minimal (Appendix B1). An extensive collection of artifacts in the subsoil would support an older site occupation.

The botanical analysis of a soil sample taken from Feature J in Locus 1 produced four pieces of what appear to be charred nutshell (Appendix C-2). A radiocarbon date of 300 ± 40 B.P. was obtained from the feature, which would place it roughly in the Contact period in the Northeast. The presence of diagnostic Middle to Late Woodland material on site coupled with Feature J dating to the Contact period suggests that Locus 1 may have been revisited or sequentially occupied by indigenous peoples during these periods. The four charred fragments of possible nut shell also suggest the possibility of a fall to early winter encampment, with nut collection and processing being a targeted goal. Alternatively, the Contact period fire pit may represent an early European or Colonial-related deposit associated with the sites use as an agricultural field, rather than Native American activities in the area. However, no historical artifacts were recovered from the feature that would support this alternative scenario.

The lithic analysis identified the presence of a bipolar industry at the site that would, in effect, indicate the presence of another tool type, informal and expedient tools. Locally acquired cobbles of quartz and chert, available in the subsoil may have been occasionally reduced at the site for the production of expedient tools. This is indicated by several lines of evidence including: 1) small quantities of debitage of both chert and quartz having a cortical surface that appears to be from a river rolled or glacially transported cobble; 2) the presence of a few probable bipolar flakes; and, 3) the observed presence of a slightly larger quantity of quartz shatter. Stone tool cultures often take advantage of expedient tools, consisting of nothing more than an unmodified piece of debitage having a sharp edge suitable for the task at hand, and a variety of activities can be performed in this way. Expedient tools are often used once and quickly discarded, making them difficult, at best, to identify in the archaeological record.

The assortment of tool types recovered suggests that Locus 1 represents a short-term habitation site, where a wide range of domestic activities were carried out. Furthermore, the moderate density of artifacts present suggests the site was a temporary or seasonal encampment, which may have been reoccupied on several occasions.

The lack of extensive features, pottery, hammerstones, metates, pestles, and other tools indicative of more extensive habitation (e.g., food, wood, and tool processing), suggests that Locus 1 was probably never utilized as an extended occupation site, instead serving repeatedly over a diversity of cultural periods as a short-term hunting and food processing encampment, perhaps utilized seasonally as weather conditions favored. However, one must be careful to base this conclusion on negative evidence, as artifact collectors have historically removed precontact artifacts – such as a stone pestle – from somewhere on the Hammond House property (HPI 2005a; Bolton 1927:20). Since the geographic origin of artifacts previously removed from the property is unknown, they cannot be definitively tied to Locus 1. But the known presence of at least one pestle on the property does support the site's use for food processing, and may have indeed been associated with fall nut harvesting. The site was probably reused to take advantage of game animals (hunting) as well as woodland, wetland, and riverine resources located in the immediate vicinity.

Locus 2

To summarize, a total of 46 STs, 6 EUs, 5 TUs from two plowed transects, and 3 Features (most of which were not of precontact origin) were excavated at Locus 2. The following table provides a summary of all lithics recovered from all three phases of study.

TABLE 8: ALL ARTIFACTS RECOVERED FROM PHASE I THROUGH III EXCAVATIONS AT LOCUS 2

ARTIFACT	TOTAL COUNT	PERCENTAGE OF ENTIRE ASSEMBLAGE
Quartz flakes	6	
Quartz shatter	6	
Quartzite flakes	1	
Quartz bifaces	1	
Total Quartz	14	48.2%
Chert flakes	14	
Chert tool (Projectile Point Tip)	1	
Total Chert	15	51.8%
TOTAL ALL LITHICS	29	100%

Unlike Locus 1, Locus 2 had a relatively small number of lithics that indicate generally equal use of both quartz and chert, although the way in which these two lithics were used varies. The presence of quartz flakes and shatter indicate primary reduction of locally available cobbles, probably for expedient tool use. Chert, in contrast, was not reduced from a cobble at Locus 2, but instead represents later stages of tool reduction and reworking. No diagnostic tools were recovered, although a black chert point tip was found. No other remnants of this tool were encountered, although one black chert flake was found that could represent reworking of the chert point after it had broken.

A soil sample taken from Feature C in Locus 2 yielded a radiocarbon date of 1870±40 B.P., the Middle Woodland period (Appendix C-3). This locus lacks diagnostic lithics and multiple features, so one cannot definitively determine if the site was repeatedly occupied. However, based on the presence of Feature C and the lithic material, it appears that this loci was utilized at least once, and possibly multiple times, during the Middle Woodland period by hunters and gatherers that were engaging in various stages of lithic processing that differed with regard to material (this alone may suggest the possibility of multiple occupation episodes). The site was probably occupied in the fall or early winter as evidenced by the presence of charred nutshells, possibly hickory, in Levels 1 and 3 of Feature C. Although not definitively associated with Locus 1, the parallel activities of nut processing, quartz reduction and chert tool reworking indicate they may have been related. The possibility of a fall to early winter encampment at Locus 2 indicates that although not necessarily contemporaneous, the site served the same purpose as Locus 1. The two loci together suggest this continued reuse of the general area throughout the Woodland period.

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SOURCE: USGS QUADRANGLES, 7.5' SERIES; WHITE PLAINS, NY 1979

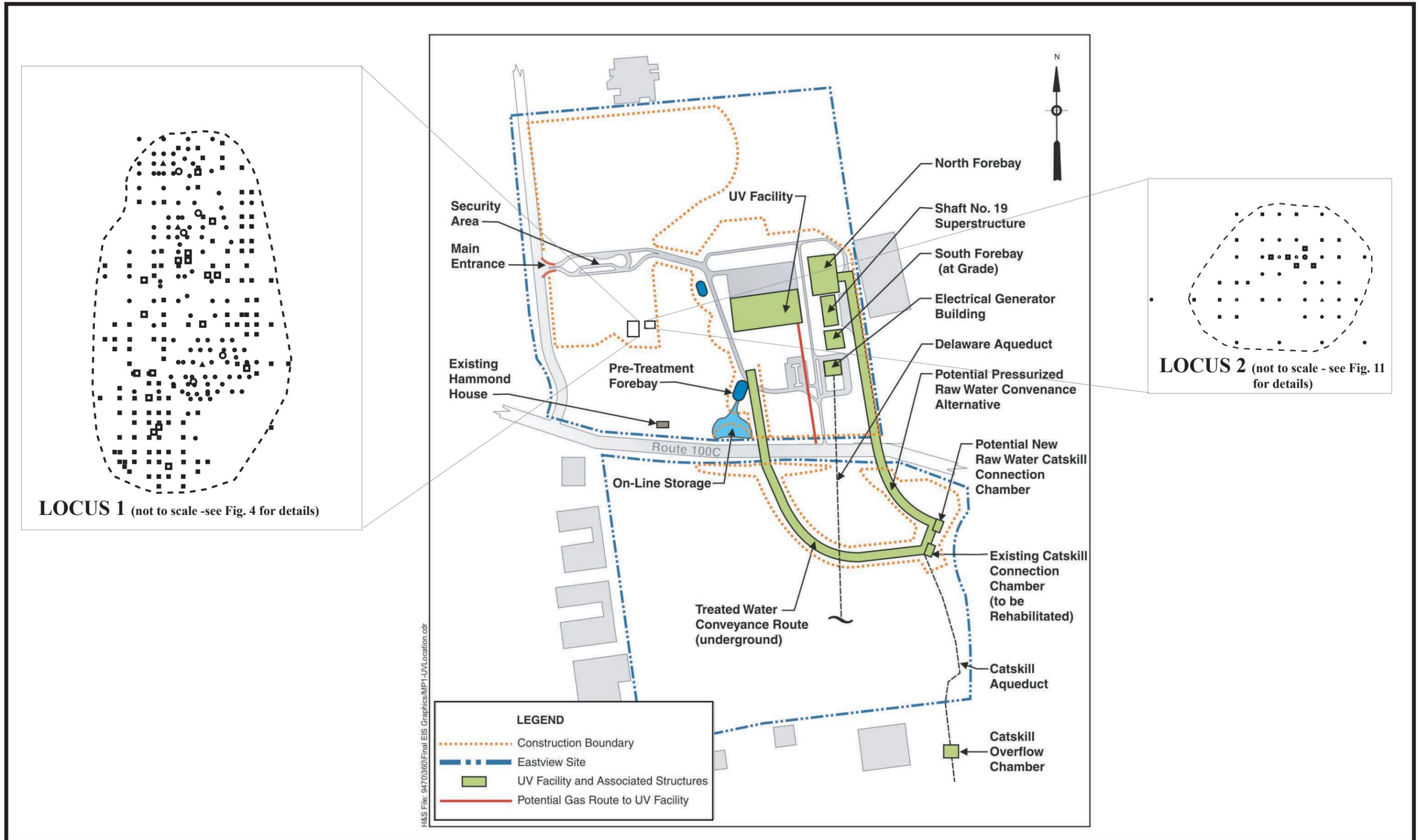
**EASTVIEW UV
GREENBURGH, NEW YORK**

OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 1. PROJECT SITE LOCATION, U.S.G.S. WHITE PLAINS QUADRANGLE, 1979.



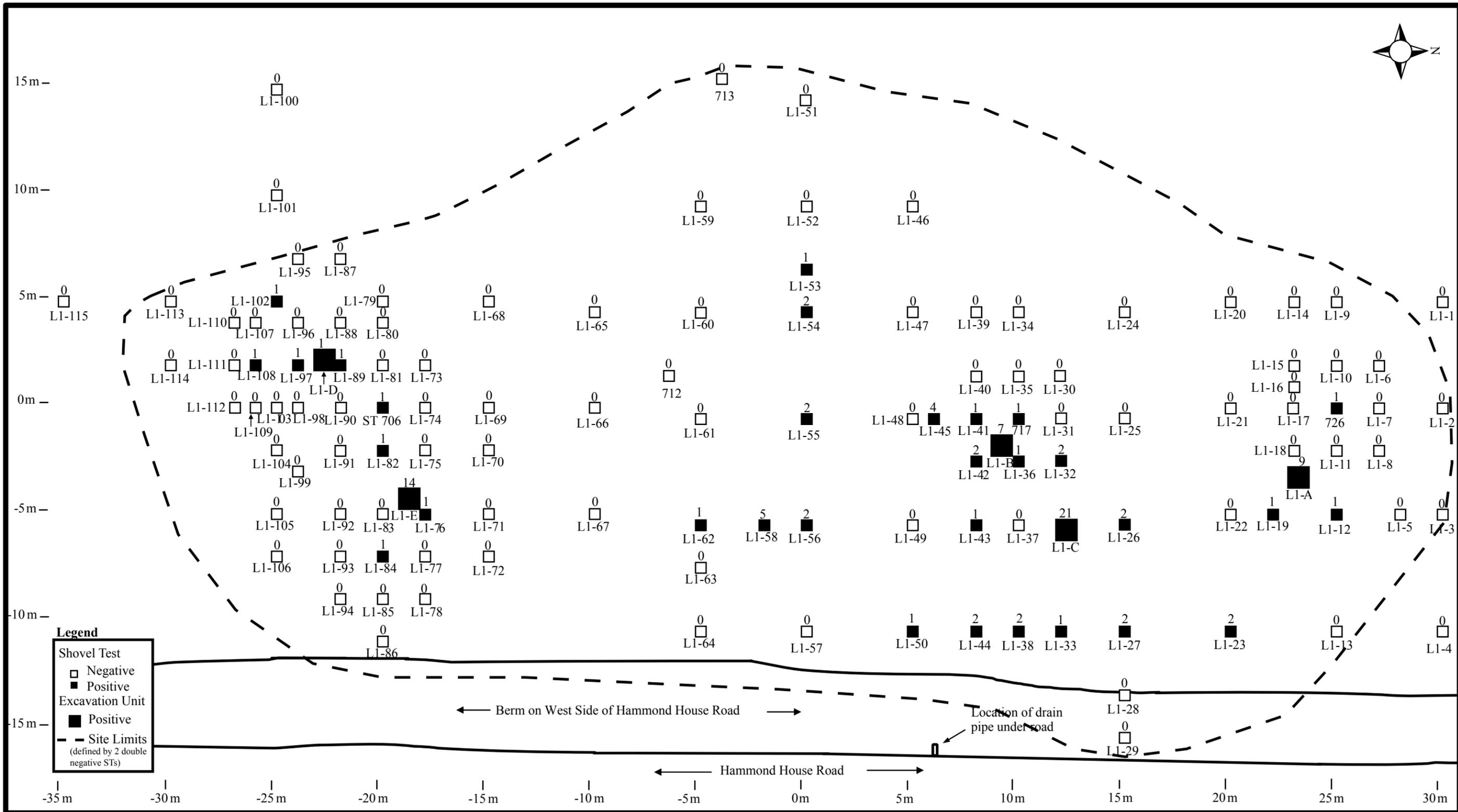


SOURCE: HAZEN AND SAWYER, NEW YORK, NY FILE 9470360\FINAL EIS GRAPHICS

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PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS**

OPRHP No. 02PR05569

FIGURE 2. EASTVIEW PROJECT SITE SHOWING DEVELOPMENT, AREA OF POTENTIAL EFFECT (APE) AND ARCHAEOLOGICAL LOCI.



SOURCE: FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

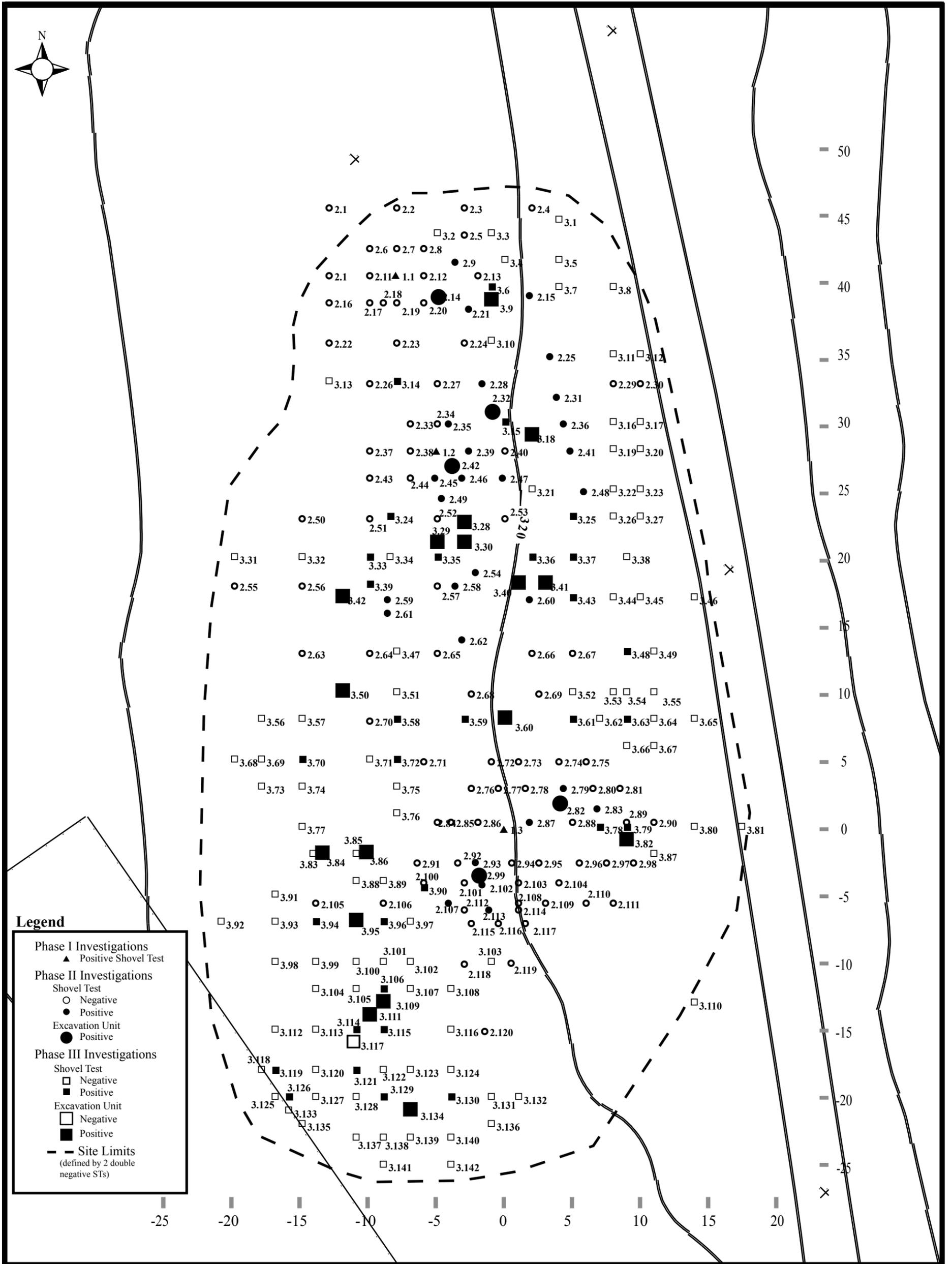
EASTVIEW UV
 GREENBURGH, NEW YORK

OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 3. PHASE IB AND PHASE II TESTING LOCATIONS AND RESULTS IN LOCUS 1.





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
 GREENBURGH, NEW YORK

OPRHP No. 02PR05569

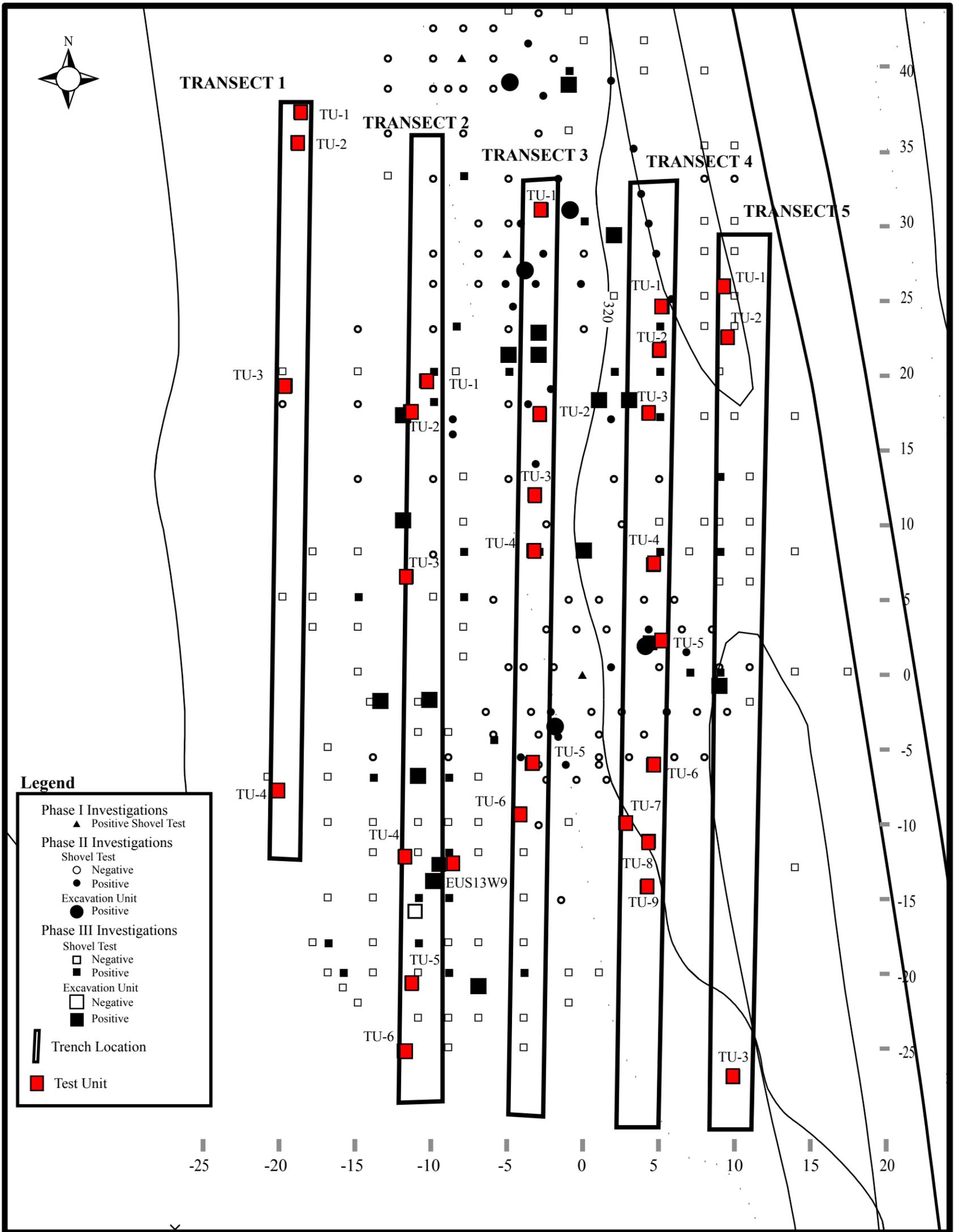
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS



CONTOUR INTERVAL 2 FEET

FIGURE 4. LOCATION OF SHOVEL TESTS AND EXCAVATION UNITS IN LOCUS 1.





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
GREENBURGH, NEW YORK

OPRHP No. 02PR05569

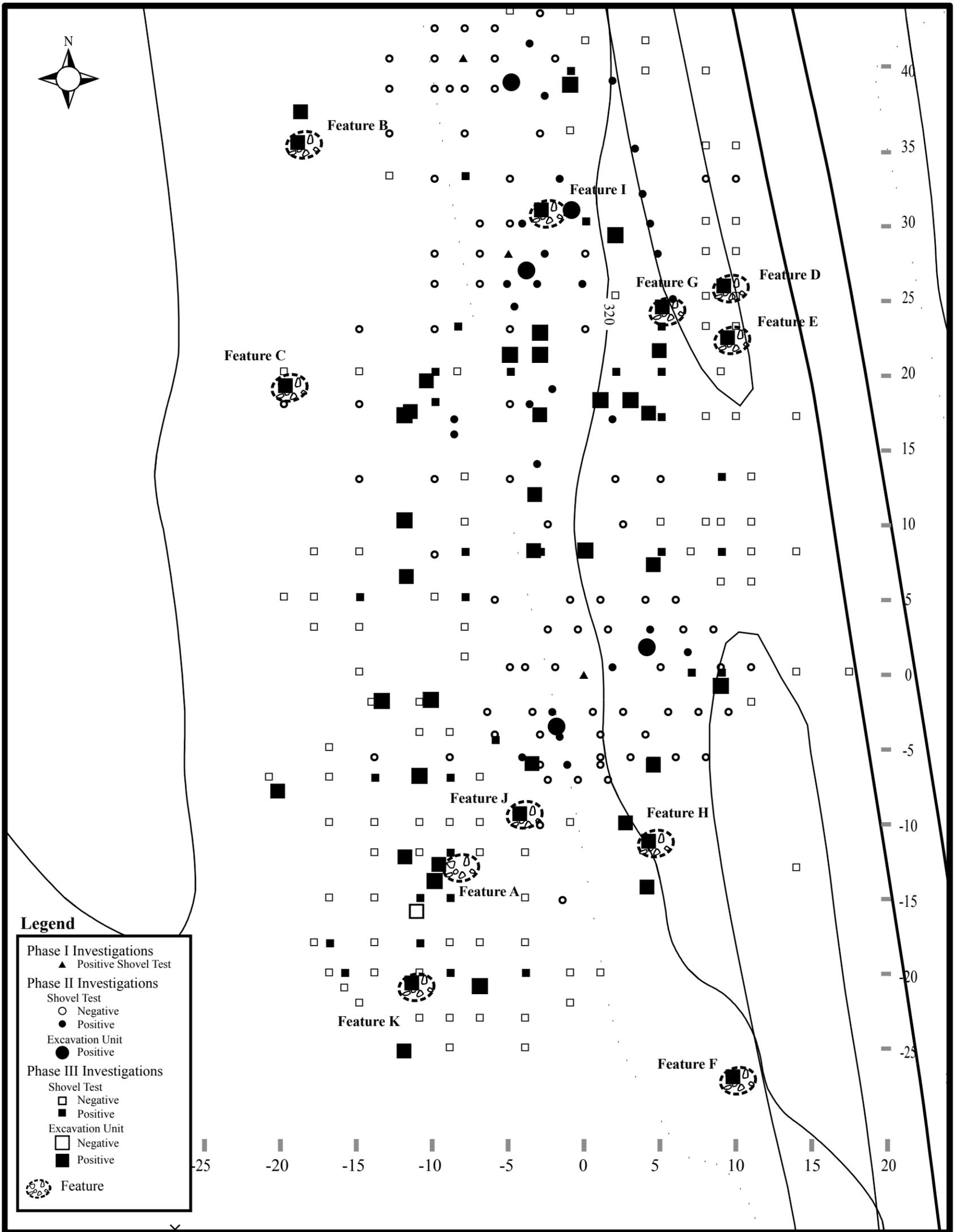
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 5. LOCATION OF TRENCHES AND TEST UNITS IN LOCUS 1.



CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
 GREENBURGH, NEW YORK

OPRHP No. 02PR05569

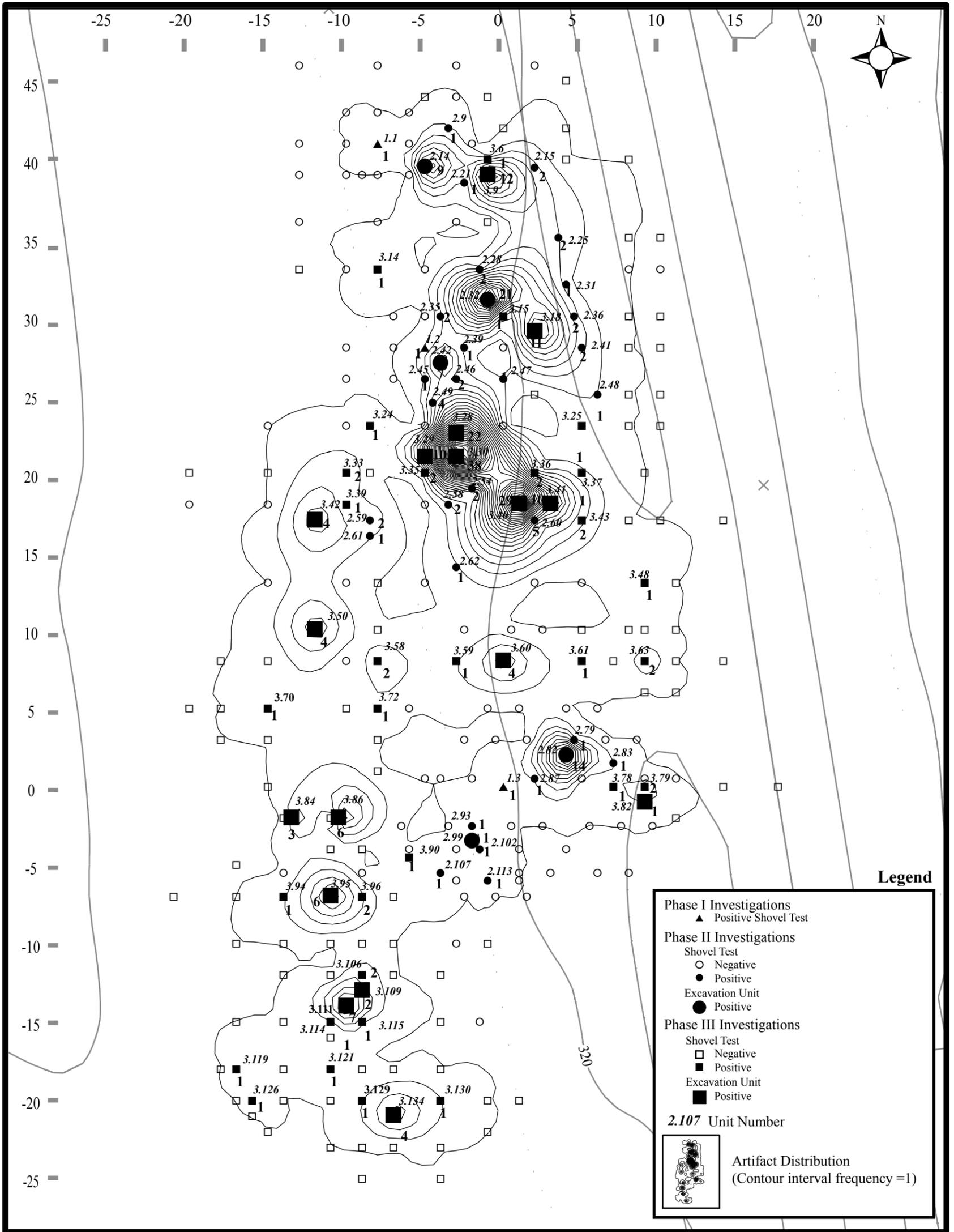
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 6. LOCATION OF FEATURES IN LOCUS 1.



CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

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OPRHP No. 02PR05569

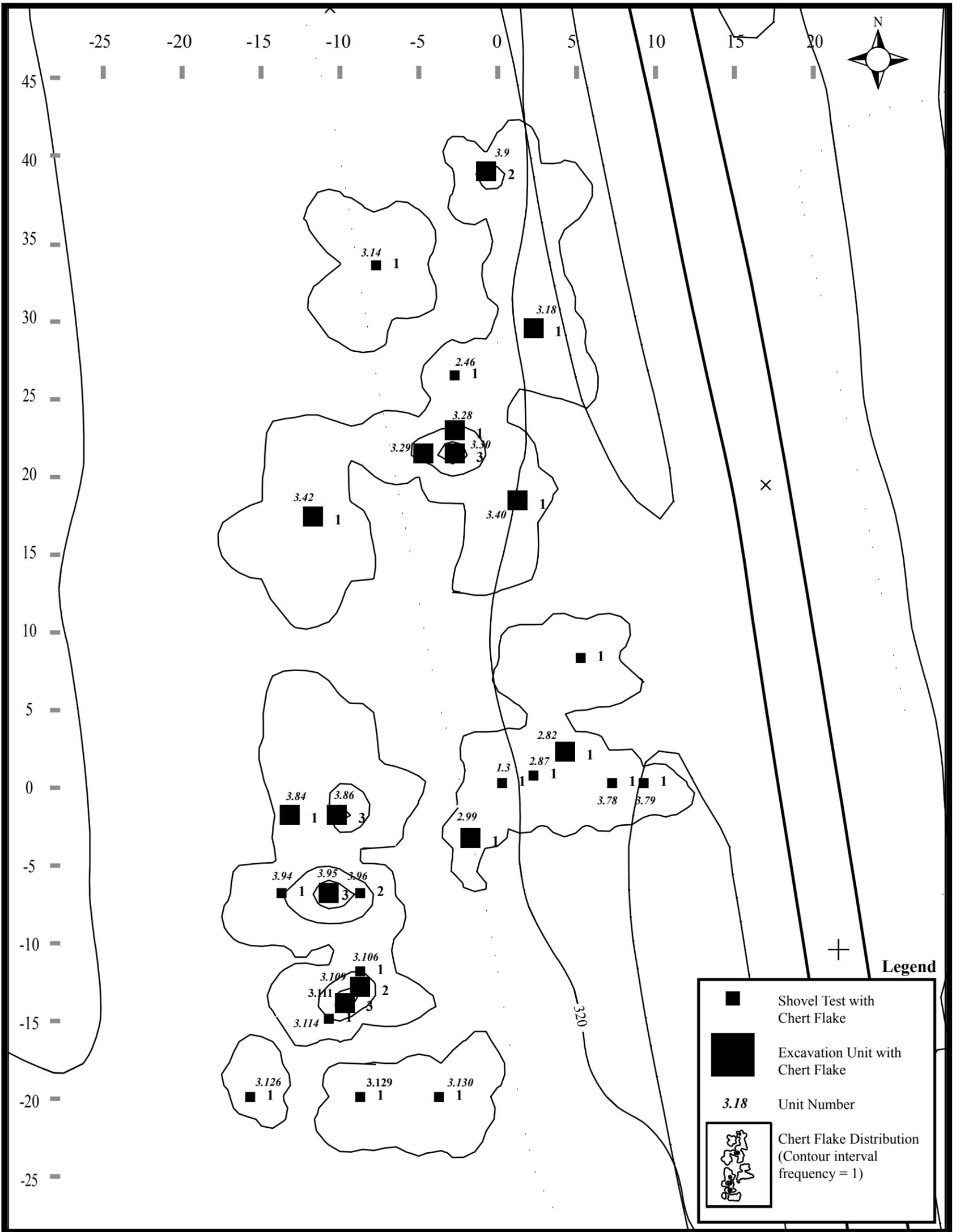
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 7. ARTIFACT FREQUENCY IN LOCUS 1.



CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

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GREENBURGH, NEW YORK

OPRHP No. 02PR05569

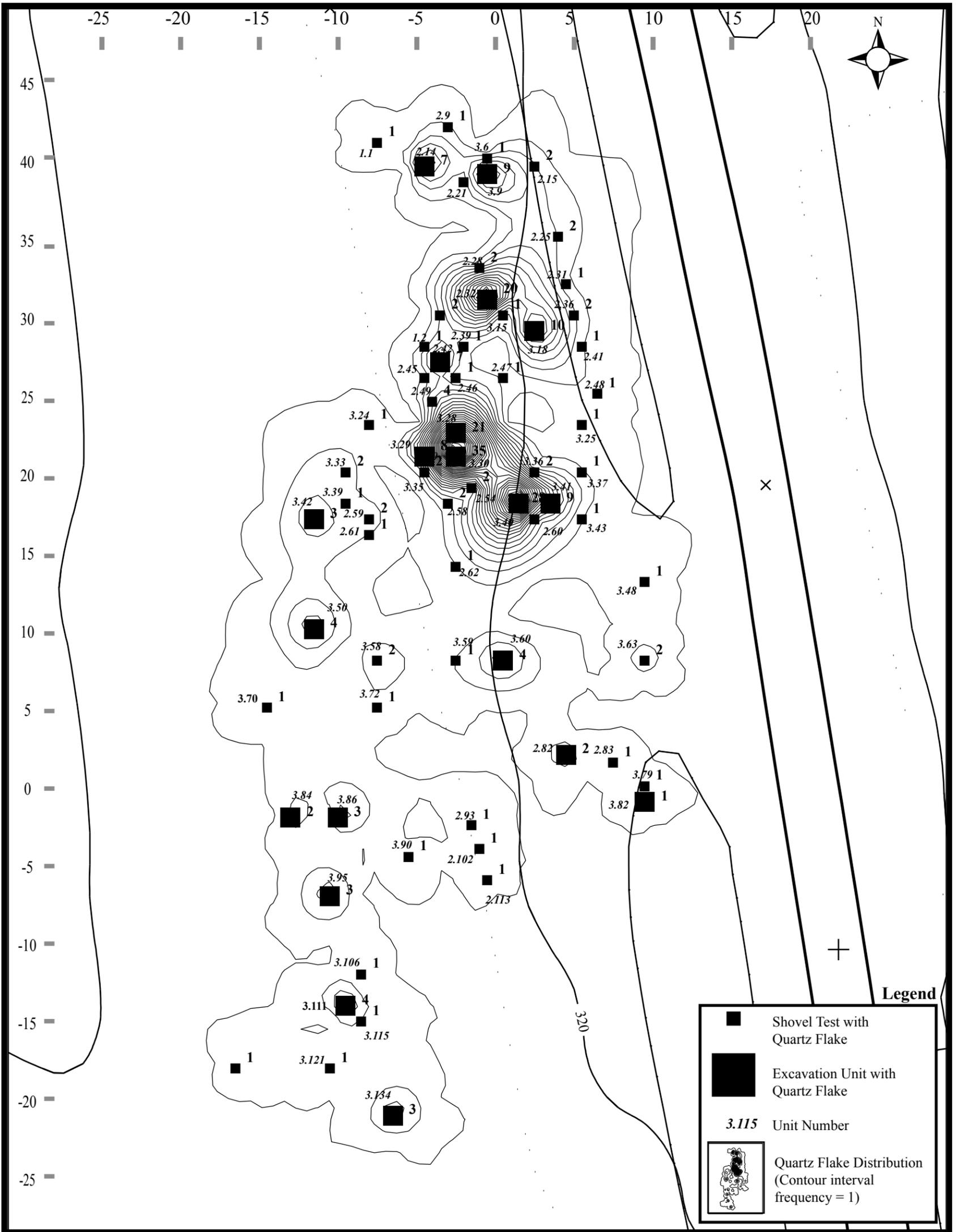
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 8. CHERT FLAKE DISTRIBUTION AT LOCUS 1.



CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
GREENBURGH, NEW YORK

OPRHP No. 02PR05569

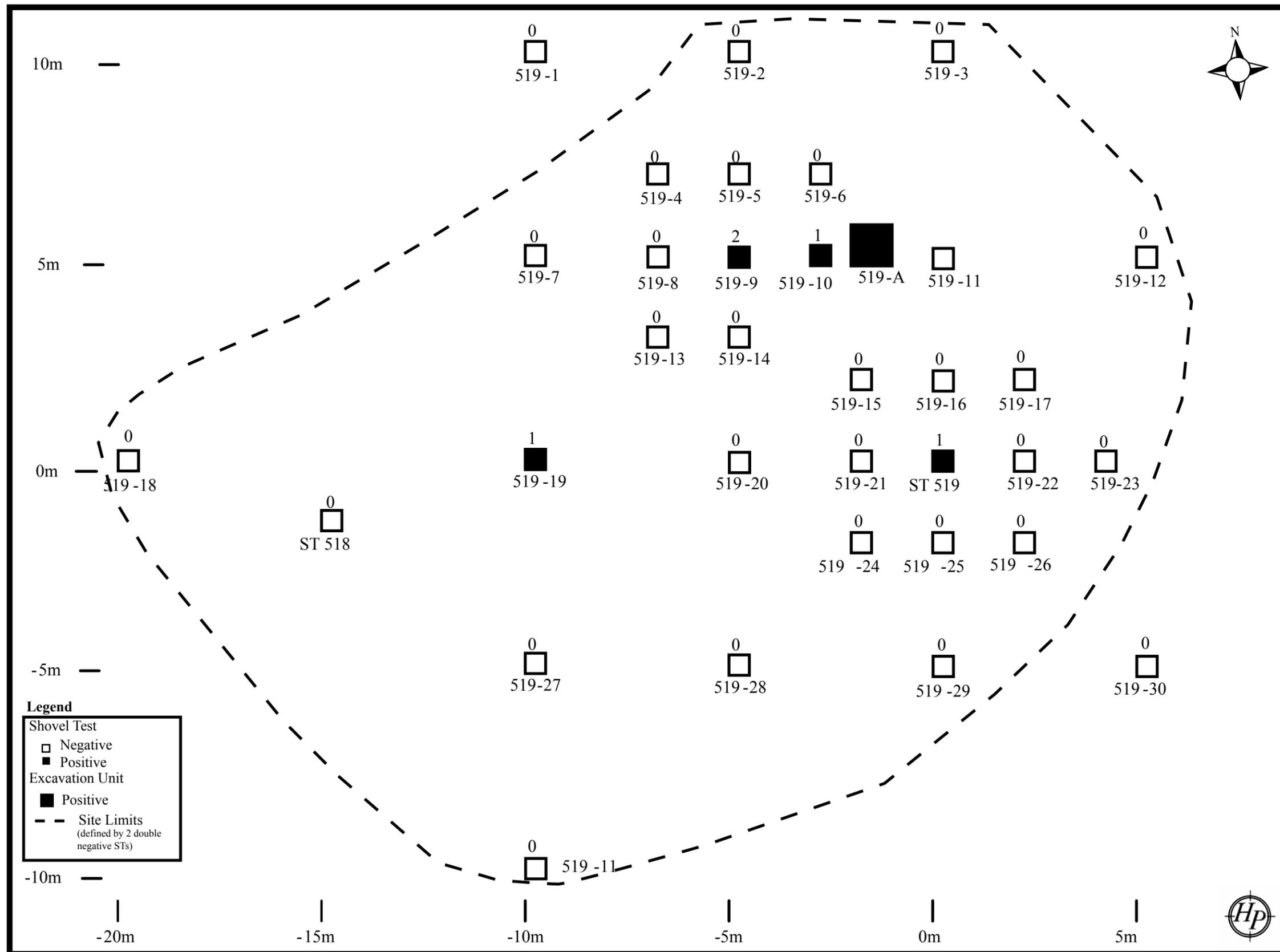
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 9. QUARTZ FLAKE DISTRIBUTION AT LOCUS 1.



CONTOUR INTERVAL 2 FEET





SOURCE: FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

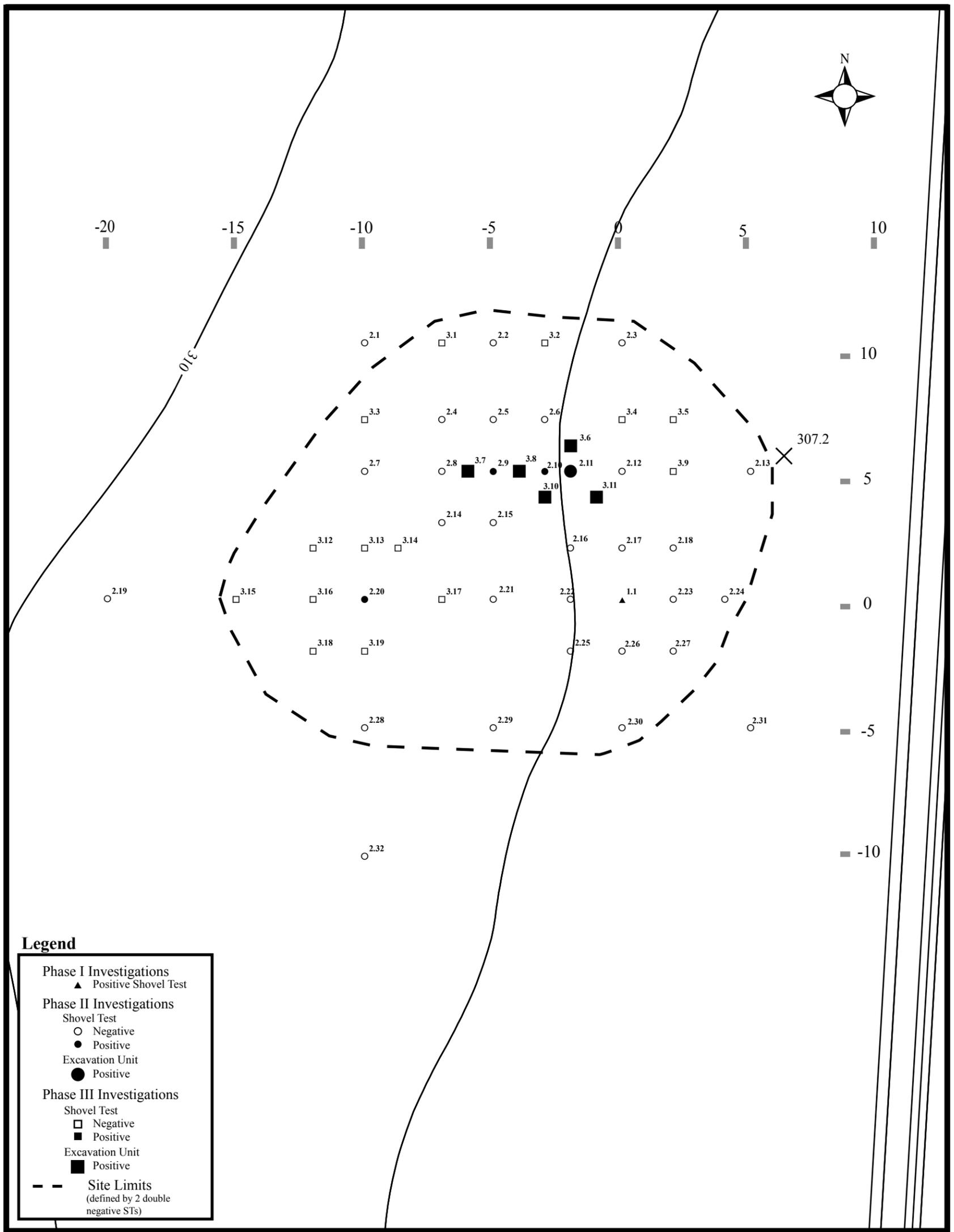
EASTVIEW UV
GREENBURGH, NEW YORK

OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS



FIGURE 10. PHASE IB AND PHASE II TESTING LOCATIONS AND RESULTS IN LOCUS 2.



SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

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 GREENBURGH, NEW YORK

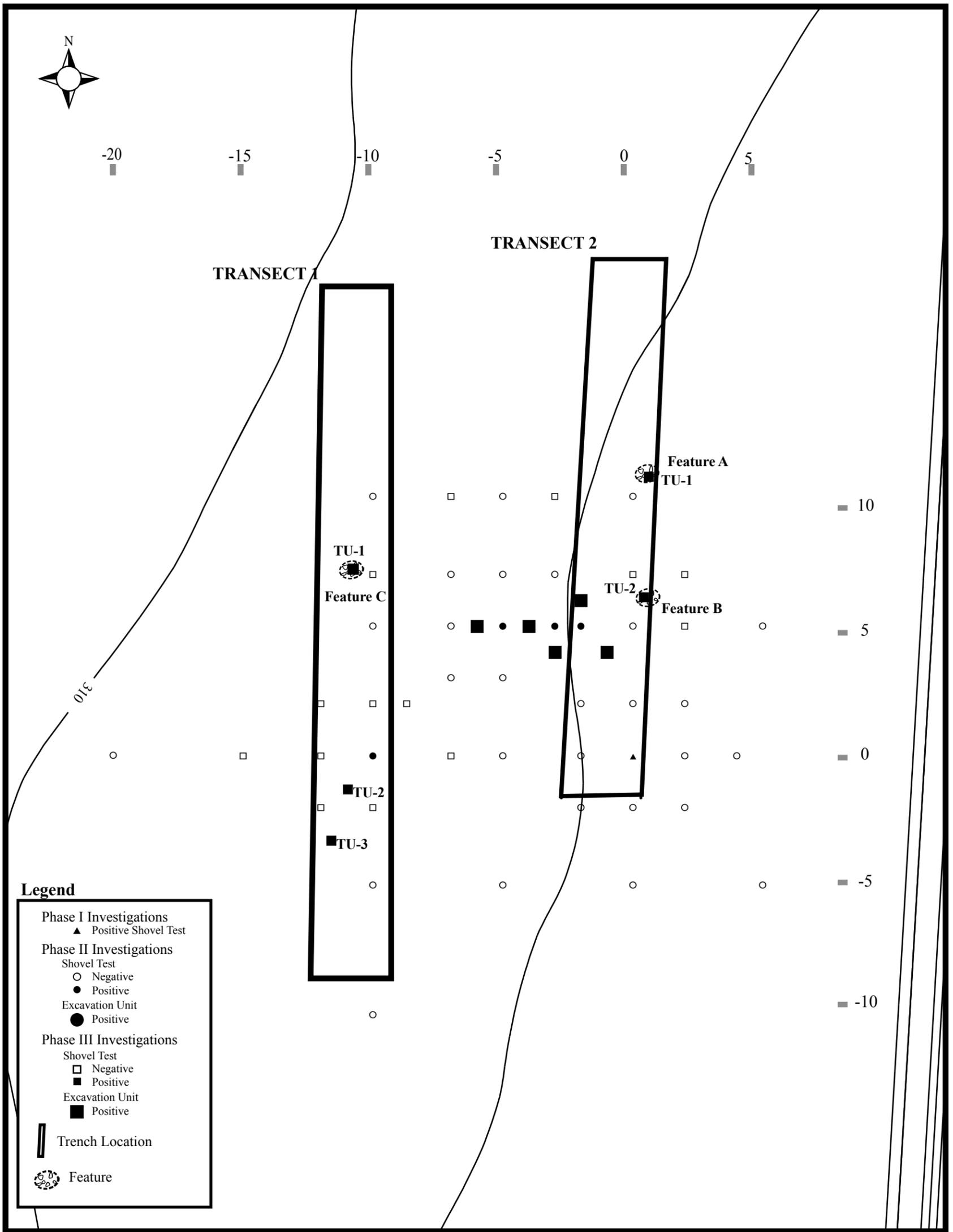
OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 11. LOCATION OF SHOVEL TESTS AND EXCAVATION UNITS IN LOCUS 2.

1 0 1 2 3 4 5 METERS
 CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
GREENBURGH, NEW YORK

OPRHP No. 02PR05569

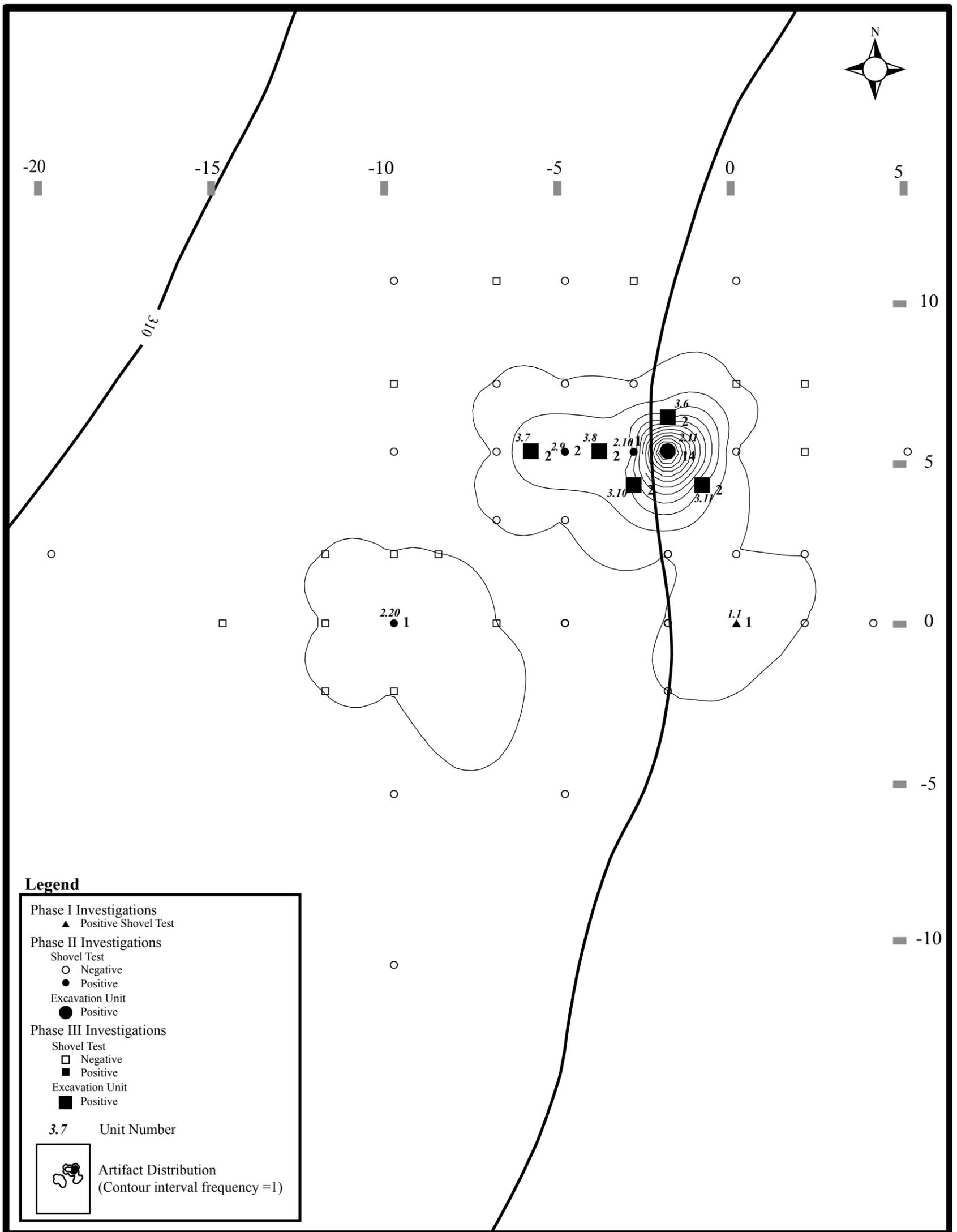
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 12 . LOCATION OF TRENCHES, TEST UNITS AND FEATURES IN LOCUS 2.

2 0 2 4 6 8 10 METERS

CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

EASTVIEW UV
GREENBURGH, NEW YORK

OPRHP No. 02PR05569

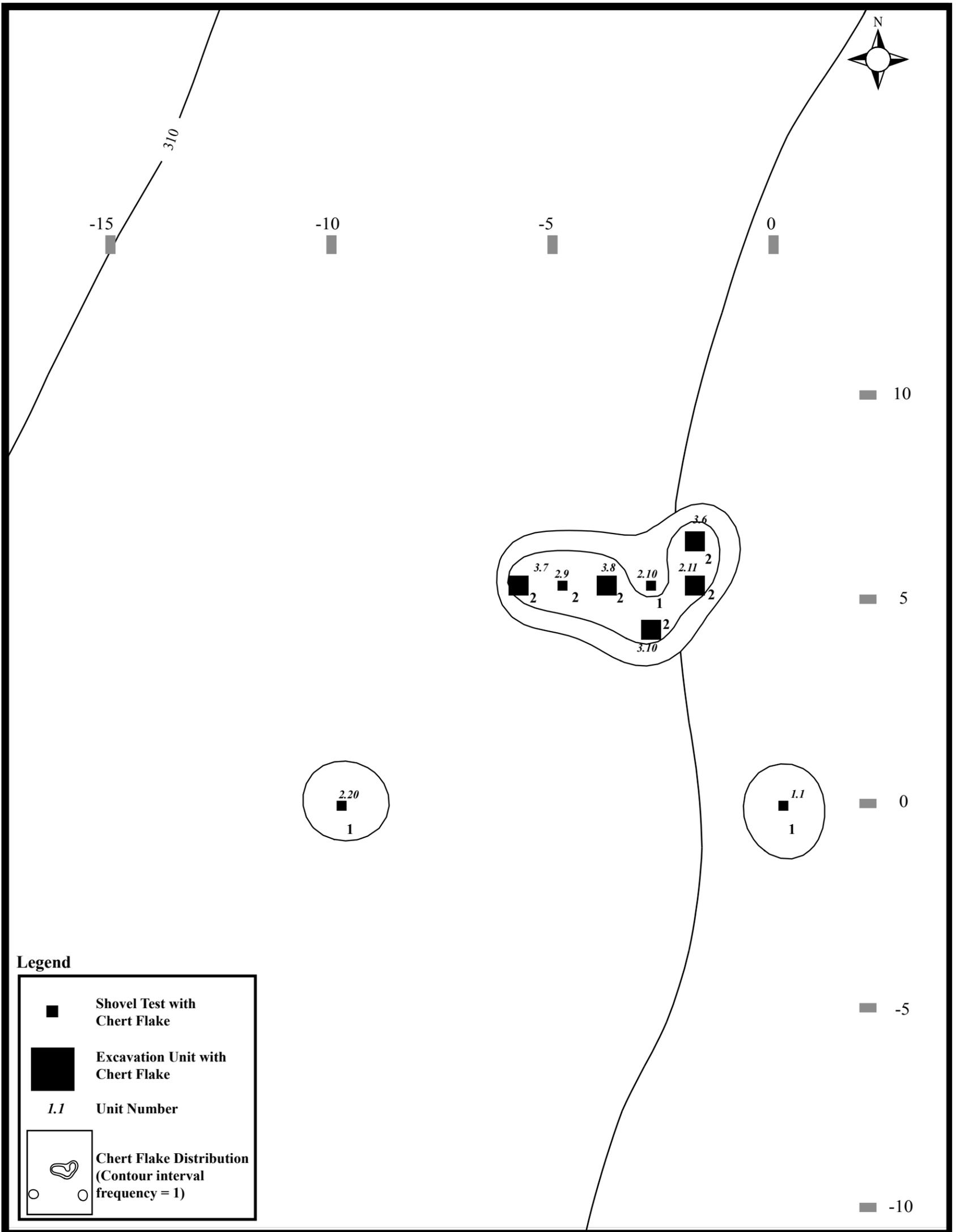
PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 13. ARTIFACT FREQUENCY IN LOCUS 2.

1 0 1 2 3 4 5 METERS

CONTOUR INTERVAL 2 FEET





SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

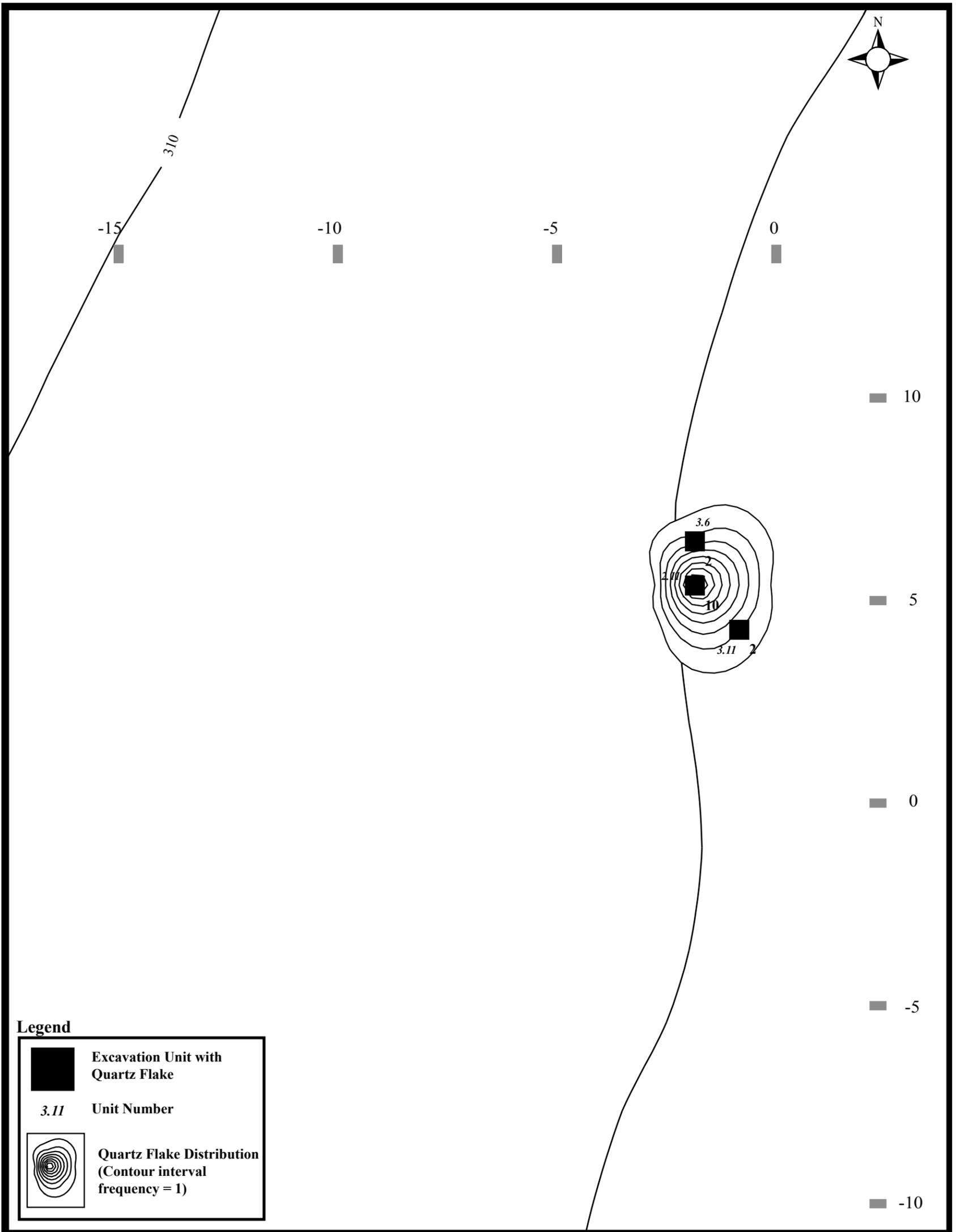
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OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 14. CHERT FLAKE DISTRIBUTION AT LOCUS 2.





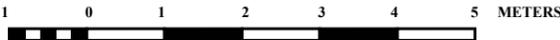
SOURCE: PROJECT SITE PLAN, HAZEN AND SAWYER, NEW YORK, NY AND FIELD MAP, HISTORICAL PERSPECTIVES, INC., WESTPORT, CT

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GREENBURGH, NEW YORK

OPRHP No. 02PR05569

PHASE I, II AND III ARCHAEOLOGICAL INVESTIGATIONS

FIGURE 15. QUARTZ FLAKE DISTRIBUTION AT LOCUS 2.



CONTOUR INTERVAL 2 FEET



PHASE	PHASE III #	PHASE I or II #	LOCATION
1	1.1	726	N41W8
1	1.2	717	N28W5
1	1.3	706	N0E0
2	2.1	L1-1	N46W13
2	2.2	L1-2	N46W8
2	2.3	L1-3	N46W3
2	2.4	L1-4	N46E2
2	2.5	L1-5	N44W3
2	2.6	L1-6	N43W10
2	2.7	L1-7	N43W8
2	2.8	L1-8	N43W6
2	2.9	L1-12	N42W3.5
2	2.10	L1-9	N41W13
2	2.11	L1-10	N41W10
2	2.12	L1-11	N41W6
2	2.13	L1-13	N41W2
2	2.14	L1-A	N39.5W5
2	2.15	L1-23	N39.5E2
2	2.16	L1-14	N39W13
2	2.17	L1-15	N39W10
2	2.18	L1-16	N39W9
2	2.19	L1-17	N39W8
2	2.20	L1-18	N39W6
2	2.21	L1-19	N38.5W2.5
2	2.22	L1-20	N36W13
2	2.23	L1-21	N36W8
2	2.24	L1-22	N36W3
2	2.25	L1-27	N35E3.5
2	2.26	L1-24	N33W10
2	2.27	L1-25	N33W5
2	2.28	L1-26	N33W1.5
2	2.29	L1-28	N33E8
2	2.30	L1-29	N33E10
2	2.31	L1-33	N32E4
2	2.32	L1-C	N31W1
2	2.33	L1-30	N30W7
2	2.34	L1-31	N30W5
2	2.35	L1-32	N30W4
2	2.36	L1-38	N30E4.5
2	2.37	L1-34	N28W10
2	2.38	L1-35	N28W7
2	2.39	L1-36	N28W2.5
2	2.40	L1-37	N28E0
2	2.41	L1-44	N28E5
2	2.42	L1-B	N27W4
2	2.43	L1-39	N26W10
2	2.44	L1-40	N26W7
2	2.45	L1-41	N26W5
2	2.46	L1-42	N26W3
2	2.47	L1-43	N26E0
2	2.48	L1-50	N25E6
2	2.49	L1-45	N24.5W4.5
2	2.50	L1-46	N23W15

PHASE	PHASE III #	PHASE I or II #	LOCATION
2	2.51	L1-47	N23W10
2	2.52	L1-48	N23W5
2	2.53	L1-49	N23E0
2	2.54	L1-56	N19W2
2	2.55	L1-51	N18W20
2	2.56	L1-52	N18W15
2	2.57	L1-57	N18W5
2	2.58	L1-55	N18W3.5
2	2.59	L1-54	N17W8.5
2	2.60	L1-58	N17E2
2	2.61	L1-53	N16W8.5
2	2.62	L1-62	N14W3
2	2.63	L1-59	N13W15
2	2.64	L1-60	N13W10
2	2.65	L1-61	N13W5
2	2.66	L1-63	N13E2
2	2.67	L1-64	N13E5
2	2.68	L1-66	N10W2.5
2	2.69	L1-67	N10E2.5
2	2.70	L1-65	N8W10
2	2.71	L1-68	N5W6
2	2.72	L1-69	N5W1
2	2.73	L1-70	N5E1
2	2.74	L1-71	N5E4
2	2.75	L1-72	N5E6
2	2.76	L1-73	N3W2.5
2	2.77	L1-74	N3W.5
2	2.78	L1-75	N3E1.5
2	2.79	L1-76	N3E4.5
2	2.80	L1-77	N3E6.5
2	2.81	L1-78	N3E8.5
2	2.82	L1-E	N2E4
2	2.83	L1-84	N1.5E7
2	2.84	L1-79	N0.5W5
2	2.85	L1-80	N0.5W4
2	2.86	L1-81	N0.5W2
2	2.87	L1-82	N0.5E2
2	2.88	L1-83	N0.5E5
2	2.89	L1-85	N0.5E9
2	2.90	L1-86	N0.5E11
2	2.91	L1-87	S2.5W6.5
2	2.92	L1-88	S2.5W3.5
2	2.93	L1-89	S2.5W2
2	2.94	L1-90	S2.5E0.5
2	2.95	L1-91	S2.5E2.5
2	2.96	L1-92	S2.5E5.5
2	2.97	L1-93	S2.5E7.5
2	2.98	L1-94	S2.5E9.5
2	2.99	L1-D	S3.5W2
2	2.100	L1-95	S4W6
2	2.101	L1-96	S4W3
2	2.102	L1-97	S4W1.5

PHASE	PHASE III #	PHASE I or II #	LOCATION
2	2.103	L1-98	S4E1
2	2.104	L1-99	S4E4
2	2.105	L1-100	S5.5W14
2	2.106	L1-101	S5.5W9
2	2.107	L1-102	S5.5W4
2	2.108	L1-103	S5.5E1
2	2.109	L1-104	S5.5E3
2	2.110	L1-105	S5.5E6
2	2.111	L1-106	S5.5E8
2	2.112	L1-107	S6W3
2	2.113	L1-108	S6W1
2	2.114	L1-109	S6E1
2	2.115	L1-110	S7W2.5
2	2.116	L1-111	S7W.5
2	2.117	L1-112	S7E1.5
2	2.118	L1-113	S10W3
2	2.119	L1-114	S10E0.5
2	2.120	L1-115	S15W1.5
3	3.1		N45E4
3	3.2		N44W5
3	3.3		N44W1
3	3.4		N42E0
3	3.5		N42E4
3	3.6		N40W1
3	3.7		N40E4
3	3.8		N40E8
3	3.9		N39W1
3	3.10		N36W1
3	3.11		N35E8
3	3.12		N35E10
3	3.13		N33W13
3	3.14		N33W8
3	3.15		N30E0
3	3.16		N30E8
3	3.17		N30E10
3	3.18		N29E2
3	3.19		N28E8
3	3.20		N28E10
3	3.21		N25E2
3	3.22		N25E8
3	3.23		N25E10
3	3.24		N23W8.5
3	3.25		N23E5
3	3.26		N23E8
3	3.27		N23E10
3	3.28		N22.5W3
3	3.29		N21W5
3	3.30		N21W3
3	3.31		N20W20
3	3.32		N20W15
3	3.33		N20W10
3	3.34		N20W8.5

PHASE	PHASE III #	PHASE I or II #	LOCATION
3	3.35		N20W5
3	3.36		N20E2
3	3.37		N20E5
3	3.38		N20E9
3	3.39		N18W10
3	3.40		N18E1
3	3.41		N18E3
3	3.42		N17W12
3	3.43		N17E5
3	3.44		N17E8
3	3.45		N17E10
3	3.46		N17E14
3	3.47		N13W8
3	3.48		N13E9
3	3.49		N13E11
3	3.50		N10W12
3	3.51		N10W8
3	3.52		N10E5
3	3.53		N10E8
3	3.54		N10E9
3	3.55		N10E11
3	3.56		N8W18
3	3.57		N8W15
3	3.58		N8W8
3	3.59		N8W3
3	3.60		N8E0
3	3.61		N8E5
3	3.62		N8E7
3	3.63		N8E9
3	3.64		N8E11
3	3.65		N8E14
3	3.66		N6E9
3	3.67		N6E11
3	3.68		N5W20
3	3.69		N5W18
3	3.70		N5W15
3	3.71		N5W10
3	3.72		N5W8
3	3.73		N3W18
3	3.74		N3W15
3	3.75		N3W8
3	3.76		N1W8
3	3.77		N0W15
3	3.78		N0E7
3	3.79		N0E9
3	3.80		N0E14
3	3.81		N0E17.5
3	3.82		S1E9
3	3.83		S2W14
3	3.84		S2W13.5
3	3.85		S2W11
3	3.86		S2W10.5

PHASE	PHASE III #	PHASE I or II #	LOCATION
3	3.87		S2E11
3	3.88		S4W11
3	3.89		S4W9
3	3.90		S4.5W6
3	3.91		S5W17
3	3.92		S7W21
3	3.93		S7W17
3	3.94		S7W14
3	3.95		S7W11
3	3.96		S7W9
3	3.97		S7W7
3	3.98		S10W17
3	3.99		S10W14
3	3.100		S10W11
3	3.101		S10W9
3	3.102		S10W7
3	3.103		S10W1
3	3.104		S12W14
3	3.105		S12W11
3	3.106		S12W9
3	3.107		S12W7
3	3.108		S12W4
3	3.109		S13W9
3	3.110		S13E14
3	3.111		S14W10
3	3.112		S15W17
3	3.113		S15W14
3	3.114		S15W11
3	3.115		S15W9
3	3.116		S15W4
3	3.117		S16W11
3	3.118		S18W18
3	3.119		S18W17
3	3.120		S18W14
3	3.121		S18W11
3	3.122		S18W9
3	3.123		S18W7
3	3.124		S18W4
3	3.125		S20W17
3	3.126		S20W16
3	3.127		S20W14
3	3.128		S20W11
3	3.129		S20W9
3	3.130		S20W4
3	3.131		S20W1
3	3.132		S20E1
3	3.133		S21W16
3	3.134		S21W7
3	3.135		S22W15
3	3.136		S22W1
3	3.137		S23W11
3	3.138		S23W9

PHASE	PHASE III #	PHASE I or II #	LOCATION
3	3.139		S23W7
3	3.140		S23W4
3	3.141		S25W9
3	3.142		S25W4

PHASE	PHASE III #	PHASE I or II #	LOCATION
1	1.1	519	N0E0
2	2.1	519-1	N10W10
2	2.2	519-2	N10W5
2	2.3	519-3	N10E0
2	2.4	519-4	N7W7
2	2.5	519-5	N7W5
2	2.6	519-6	N7W3
2	2.7	519-7	N5W10
2	2.8	519-8	N5W7
2	2.9	519-9	N5W5
2	2.10	519-10	N5W3
2	2.11	519-A	N5W2
2	2.12	519-11	N5E0
2	2.13	519-12	N5E5
2	2.14	519-13	N3W7
2	2.15	519-14	N3W5
2	2.16	519-15	N2W2
2	2.17	519-16	N2E0
2	2.18	519-17	N2E2
2	2.19	519-18	N0W20
2	2.20	519-19	N0W10
2	2.21	519-20	N0W5
2	2.22	519-21	N0W2
2	2.23	519-22	N0E2
2	2.24	519-23	N0E4
2	2.25	519-24	S2W2
2	2.26	519-25	S2E0
2	2.27	519-26	S2E2
2	2.28	519-27	S5W10
2	2.29	519-28	S5W5
2	2.30	519-29	S5E0
2	2.31	519-30	S5E5
2	2.32	519-31	S10W10
3	3.1		N10W7
3	3.2		N10W3
3	3.3		N7W10
3	3.4		N7E0
3	3.5		N7E2
3	3.6		N6W2
3	3.7		N5W6
3	3.8		N5W4
3	3.9		N5E2



Photograph A: Facing northeast from southeastern extent of site, Locus 1 after clearing with brush hog.



Photograph B: Facing north, Locus 2 after brush hog clearing.



Photograph C: Facing north to north wall profile of ST 3.81 (N0E17.5) in Locus 1; example of disturbed stratigraphy.

Photograph D: Facing north to north wall profile of ST 3.11 (N35E8) in Locus 1; example of disturbed stratigraphy.





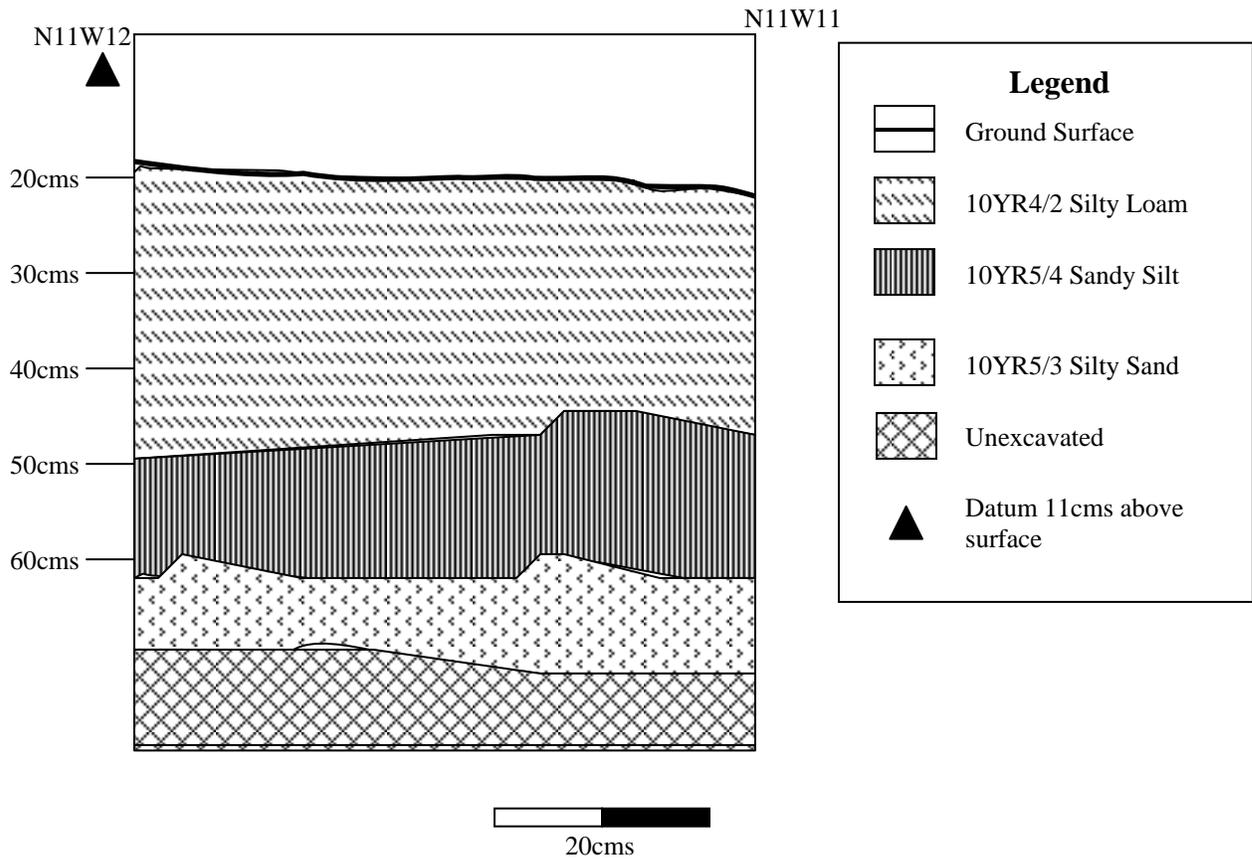
Photograph E: Facing east to east wall profile of ST 3.85 (S2W11) in Locus 1; example of unusual stratigraphy.



Photograph F: Facing north to close-up of north wall profile of ST 3.85 (S2W11) in Locus 1.

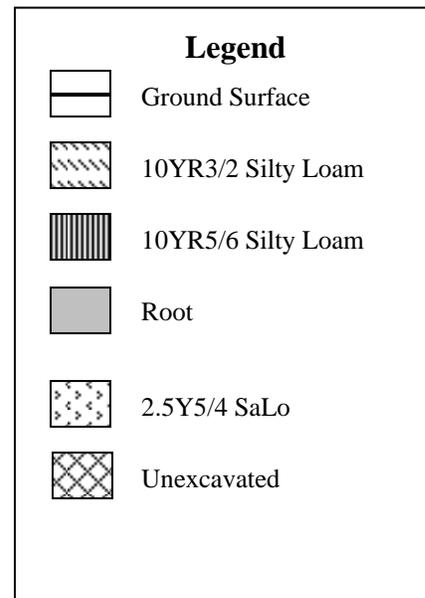
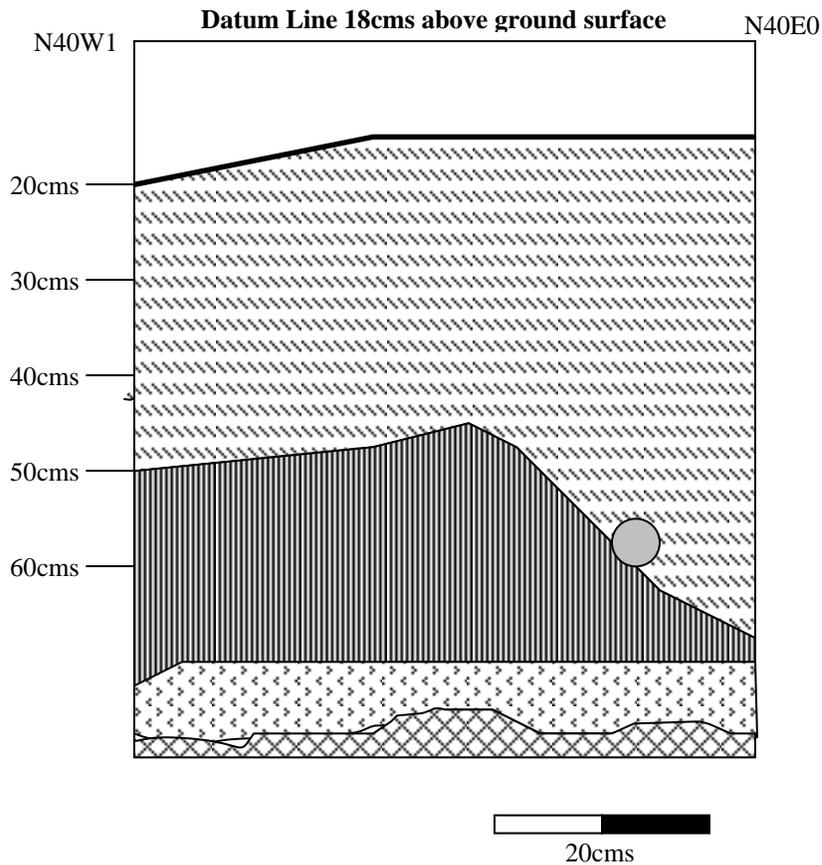


Photograph G: Facing north to north wall profile of EU 3.50 (N10W12) in Locus 1, with corresponding hand drawn profile.



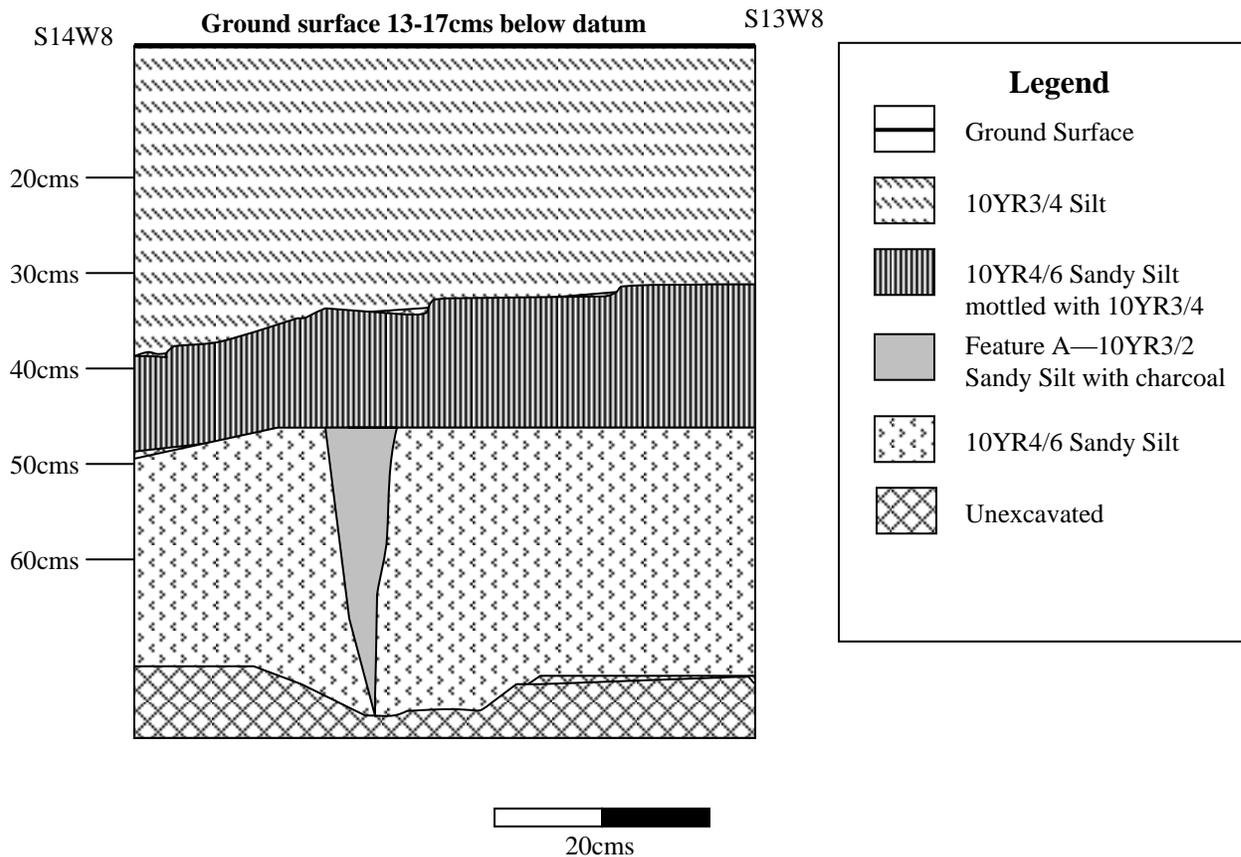


Photograph H: Facing north to north wall profile of EU 3.9 (N39W1) in Locus 1, with corresponding hand drawn profile.





Photograph I: Facing east to east wall profile of EU 3.109 (S13W9) in Locus 1, with corresponding hand drawn profile.





Photograph J: Facing south, Locus 1 after transects were mechanically stripped.



Photograph K: Facing south, example of mechanically stripped transect in Locus 1 after filling with rain water. Note mechanical pump used to facilitate water removal.



Photograph L: Facing south, example of mechanically stripped transect in Locus 1, after shovel shaving.



Photograph M: Facing north, bisected historical drainage feature identified as Feature C in Locus 1, Transect 2, TU-3.



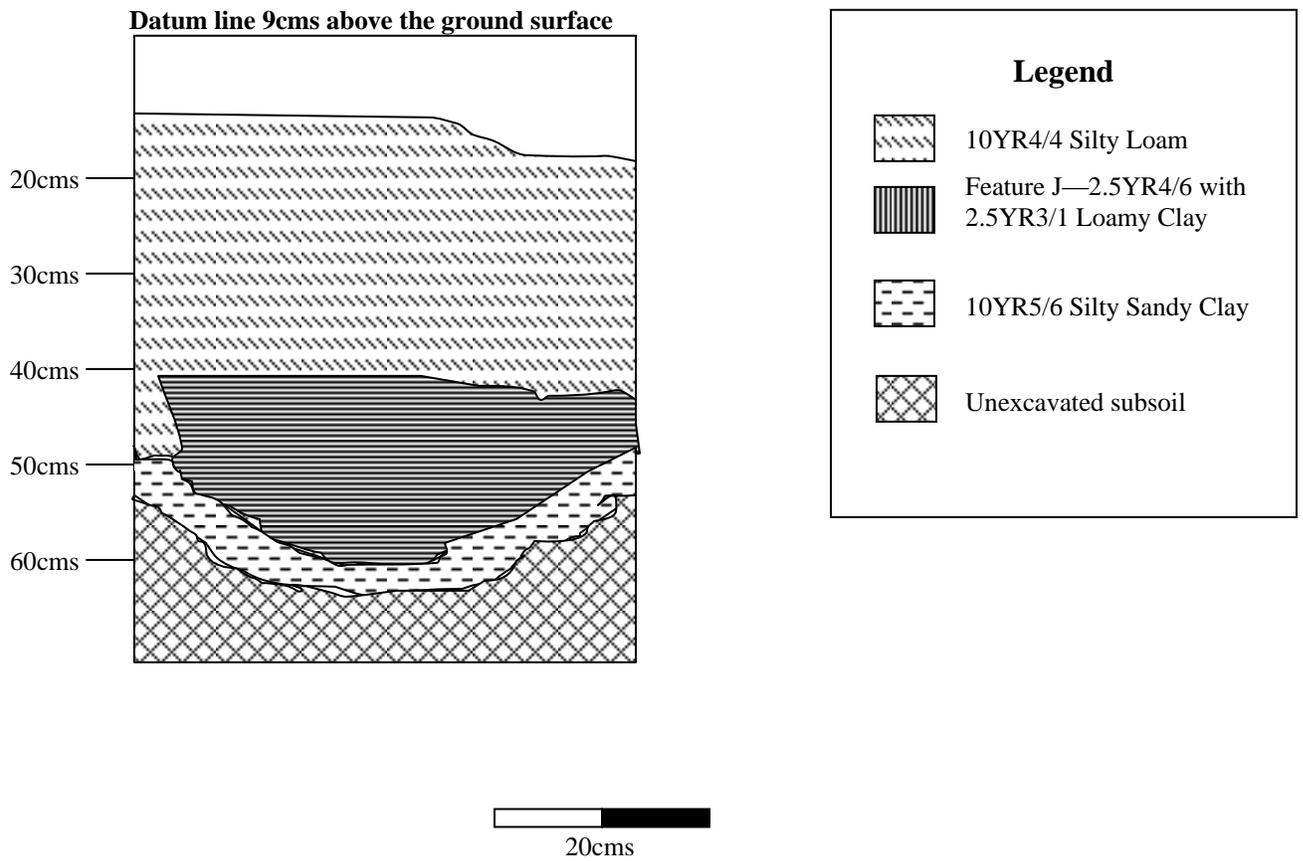
Photograph N: Facing south, Feature I-1 and Feature I-2 in Locus 1, Transect 3, TU-1 prior to excavation.



Photograph O: Facing west, Feature J (possible fire pit) in Locus 1, Transect 3, TU-6 prior to excavation. (Note: TU number is incorrect on the photo board)

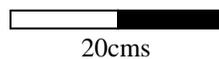
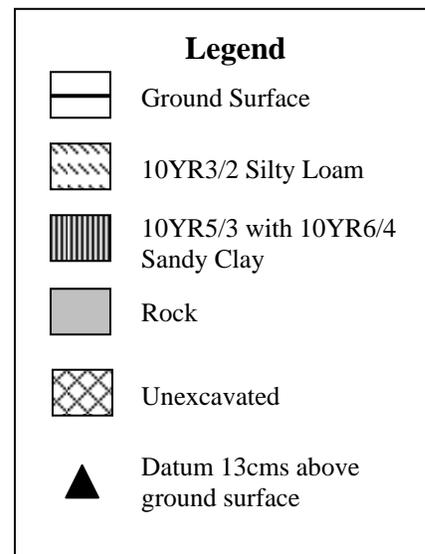
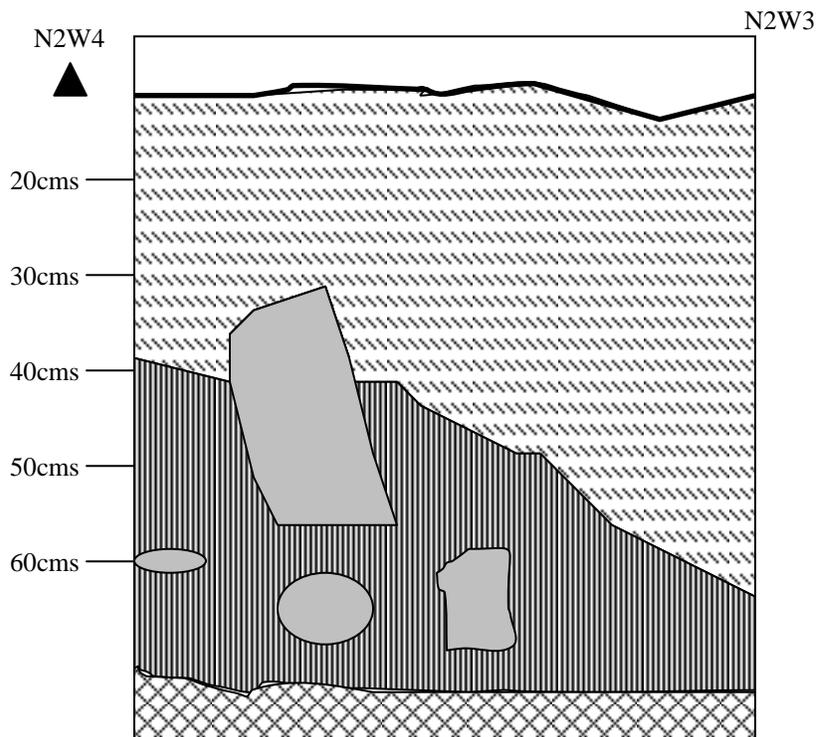


Photograph P: Facing west to west wall profile of Feature J in Locus 1, with corresponding hand drawn profile.





Photograph Q: Facing north to north wall profile of EU 3.11 (N4W1) in Locus 2, with corresponding hand drawn profile.





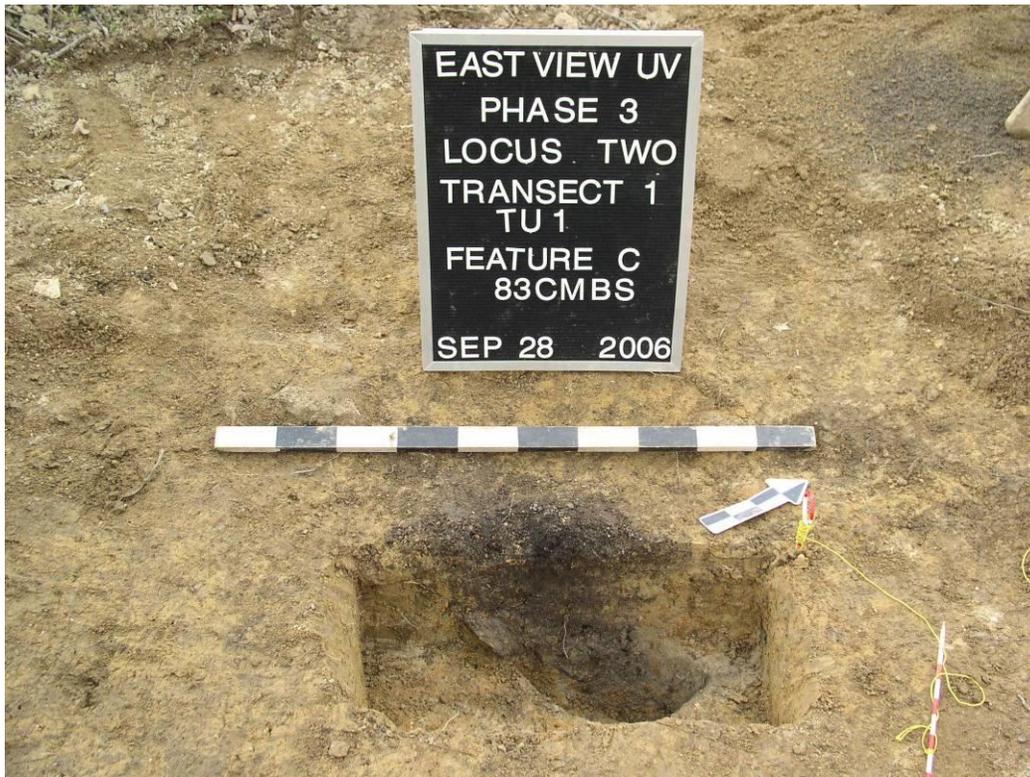
Photograph R: Facing east, historical drainage feature - Feature A, Locus 2, Transect 2, TU-1, prior to excavation.



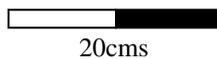
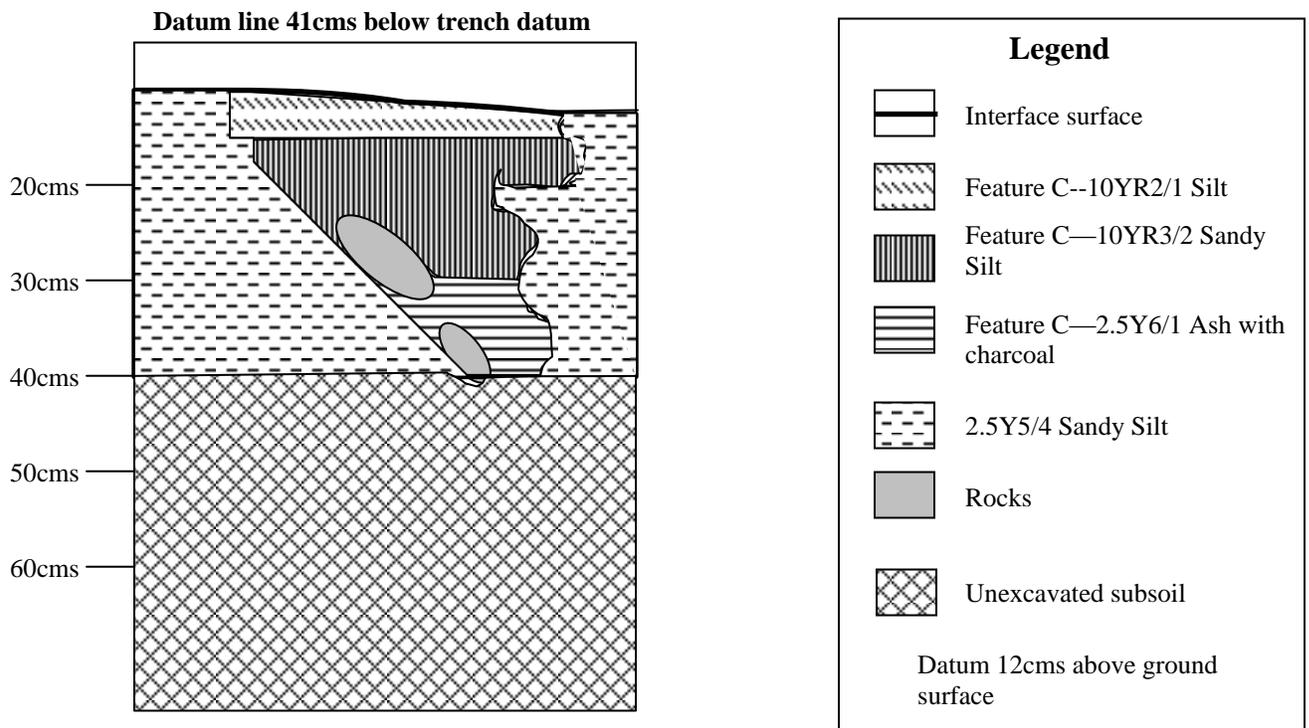
Photograph S: Facing east to east wall profile of Feature B, historic drainage feature, in Locus 2, Transect B, TU-1.

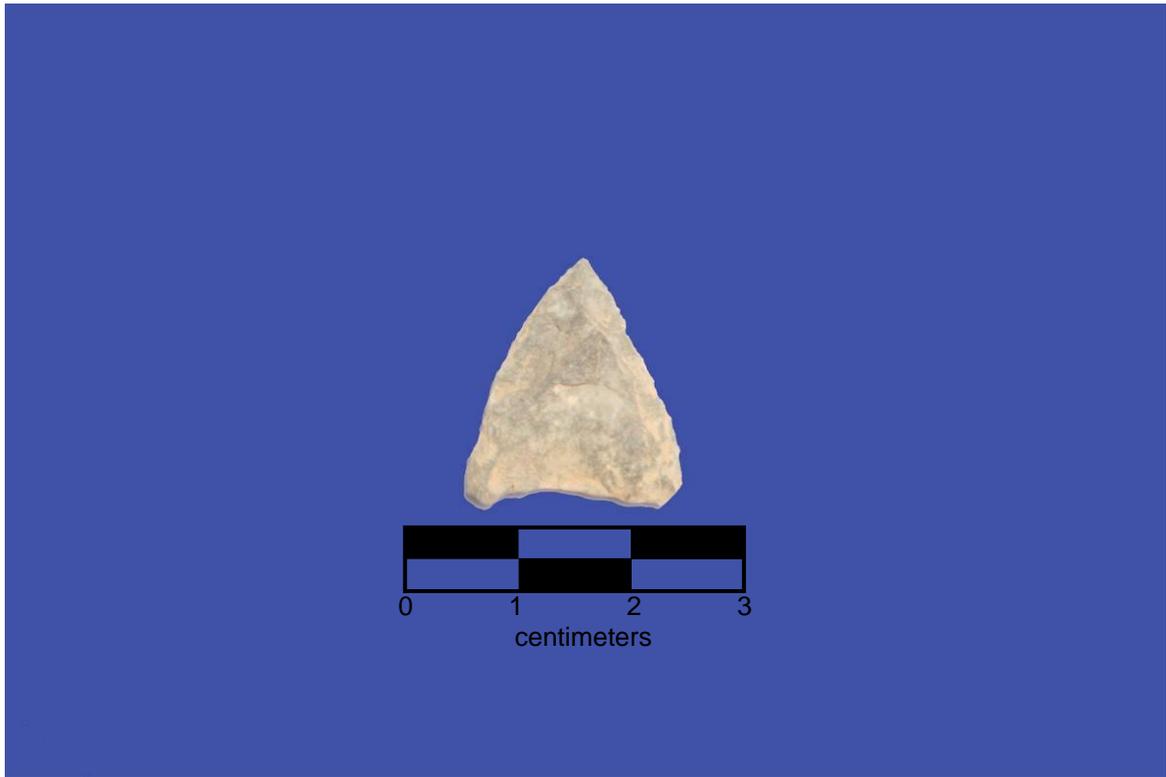


Photograph T: Facing south, Feature C (fire pit) in Locus 2, Transect 1, TU-1 prior to excavation.



Photograph U: Facing west to west wall profile of Feature C in Locus 2, with corresponding hand drawn profile.





Photograph V: Chert Levanna Point from Locus 1, EU 3.111 (S14W10).



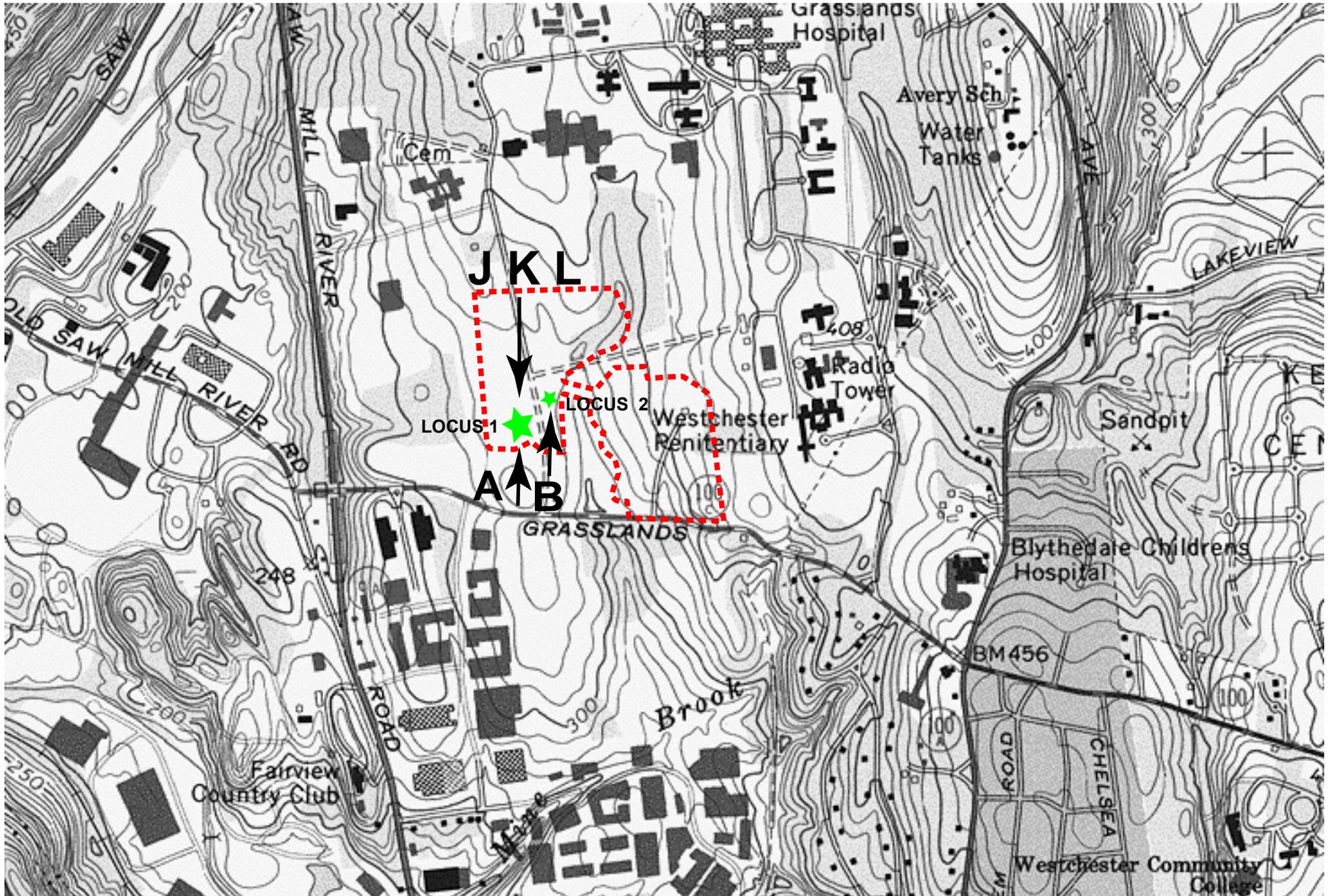
Photograph W: Quartz Late-Stage Biface that was possibly a Levanna point in process from Locus 1, ST 3.79 (N0E9).



Photograph X: Olive quartzite knife recovered from Locus 1 EU 3.41 (N18E3) at left; dark gray banded quartzite knife recovered from Locus 1 EU 3.134 (S21W7) at right.



Photograph Y: Olive gray chert stemmed point with notched base and missing basal tang from Locus 1 EU 3.86 (S2W10.5).



MN ↗ TN
14°

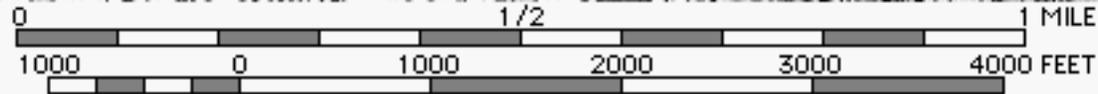


PHOTO KEY