Addendum Report
Second Supplemental Phase Ib Cultural Resources Investigation
Power Block Relocation

Bell Bend Nuclear Power Plant

Luzerne County, Pennsylvania

ER 81-0658-079

Prepared for:

AREVA NP Inc.
and
UniStar Nuclear Energy, LLC

Prepared by:

Barbara A. Munford, M.A.
GAI Consultants Inc.
385 East Waterfront Drive
Homestead, Pennsylvania

GAI Project No. C100549.00

October 8, 2010

Note 1: Items in brackets have been redacted per agency request.

UniStar NUCLEAR

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Abstract

Between April and May 2010, GAI Consultants, Inc. (GAI) conducted Second Supplemental Phase Ib archaeological investigations of the Power Block Relocation area within the proposed Bell Bend Nuclear Power Plant (BBNPP), Luzerne County, Pennsylvania. This study was performed for AREVA NP Inc. (AREVA) on behalf of UniStar Nuclear Energy (UniStar). The project area represents the Upland Section of the Power Block Relocation area, totaling approximately 215 acres (87 hectares). The Upland Section encompasses the approximately 39-acre (15.8-hectare) previously-surveyed Switchyard 2 Parcel, which was excluded from investigations. The Phase Ib Area of Potential Effect (APE) consists of approximately 176 acres (71 acres) of uplands (excluding the previously-surveyed, 39-acre/71-hectare, Switchyard 2 parcel) adjacent to previously-surveyed portions of the BBNPP project area. Proposed construction activities are anticipated to include both temporary and permanent impacts (e.g., grading, fill, construction lay down, parking, buildings, and roadway construction) within portions of the supplemental project area.

GAI's Second Supplemental Phase Ib study included a background research review, Phase Ib field investigations, and laboratory analysis. Fieldwork consisted of the excavation of 1,358 shovel test pits and pedestrian ground survey of 14.95 acres (6.05 acres) of cultivated fields.

Phase Ib investigations produced 261 artifacts (246 historic artifacts and 15 prehistoric lithic artifacts) and resulted in the identification of two archaeological sites (Sites 36LU301 and 36LU302) and one prehistoric isolated find (IF 28) within the project area. Non-site historic artifact field scatters were also identified.

Based on Phase Ib results, GAI recommends that Site 36LU301, a possible Early Archaic prehistoric occupation, is potentially eligible for listing in the NRHP under Criterion D. GAI recommends site avoidance or Phase II investigations of this locality.

Site 36LU302, a mid-nineteenth through late twentieth century, heavily disturbed domestic site, is recommended as Not Eligible to the NRHP and no further work is recommended at this site. Prehistoric IF 28 (Lot 3) does not meet the minimum requirements to be considered a significant archaeological resource. Accordingly, no further archaeological investigations of this resource are recommended.

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I. Introduction and Project Overview

Project Summary

Between April and May 2010, GAI Consultants, Inc. (GAI) conducted Second Supplemental Phase Ib Cultural Resources Investigations of the Power Block Relocation area within the proposed Bell Bend Nuclear Power Plant (BBNPP), in Luzerne County, Pennsylvania, for AREVA NP Inc. (AREVA) on behalf of UniStar Nuclear Energy, LLC (UniStar). The overall BBNPP project area is located adjacent to the existing PPL Corporation's Susquehanna Steam Electric Station (SSES), west of the North Branch Susquehanna River and northeast of the town of Berwick, Pennsylvania (Figure 1). UniStar proposes the potential development of a nuclear power generation unit in this locality. As defined by AREVA, the Second Supplemental Phase Ib study area includes approximately 215 acres (87 hectares) of uplands bordering previously-surveyed portions of the BBNPP project area (Upland Section). UniStar and AREVA requested survey of this area due to a relocation of the proposed BBNPP power block. [An additional 9.8 acres (4.0 hectares) of new project areas in low terrace/floodplain settings (Floodplain Section) were identified by AREVA but were not included in the current study; survey of the Floodplain Section may be conducted, as necessary, once project impacts in this locality are finalized.] The purpose of this study was to determine the presence of unrecorded archaeological sites within new upland portions of the project area and to assess the potential eligibility of identified sites for listing in the National Register of Historic Places (NRHP).

The Second Supplemental project area consists of 13 lots, predominantly representing new project localities. It includes a series of nine lots north of the initial BBNPP project area (the Northern Section—Lots 54, 6, 6A, 6B, 7, 8, 31, 23, and 0), two lots to the west (the Western Section—Lots 3 and 41), and one lot to the south (Lot 93D), as well as the previously-surveyed Rail Spur Corridor, which was reevaluated due to a redefinition of proposed project impacts (Photographs 1 and 2). The project area identified by AREVA also encompasses the 39-acre (15.7 hectare) previously-surveyed Switchyard 2 parcel (located within portions of Lots 7, 8, 31, 23 and 0 in the Northern Section) which was excluded from further investigation. Accordingly, GAI conducted Second Supplemental Phase Ib investigations of an approximately 176-acre (71-hectares) area for the proposed BBNPP Power Block Relocation. Proposed construction activities will result in both temporary and permanent impacts (e.g., grading, fill, construction lay down, parking, buildings, and roadway construction) within portions of the supplemental project area.

Photograph 1. Western Section: Overview of Cultivated Field (Lot 41) West of North Market Street, Facing North

Photograph 2. Northern Section: Shovel Testing in Woodlands (Lot 6A), Facing East

This Second Supplemental Phase Ib survey represents the sixth cultural resources study of the proposed BBNPP project. GAI conducted Phase Ia cultural resources investigations (archaeological/geomorphological reconnaissance and architectural survey) of 1,271 acres (514 hectares) of potential project alternatives in two episodes—June 2007 and January 2008 (GAI 2007, Munford and Tuk 2008). A Phase Ib survey of the initial 639-acre (259-hectare) project area (West Alternative, Areas 6, 7, and 8, and Confers Lane Parcel) was performed between May and August 2008 (Munford et al. 2008). Supplemental Phase Ib survey of approximately 263 acres (106 hectares) of new project localities (Lots 4, 64, 93F, 95, 96, 97/97C, and 100) bordering the initial project area was conducted between August and November 2008 (Munford 2008). Phase Ib studies identified eleven archaeological sites, seven of which were determined to be potentially eligible for listing in the NRHP. GAI conducted Phase II National Register Evaluations of these seven sites between July and November 2009. Based on the results of this study, all seven sites are recommended as Not Eligible to the NRHP, under Criterion D. Architectural survey of the project area documented 52 architectural and historical resources within the project viewshed and recommended that seven resources are eligible or potentially-eligible for listing on the NRHP. The results of Phase I and II investigations have been presented in individual documents noted above and in a combined Draft Phase I/Phase II Technical Report (Munford et al. 2010), submitted to UniStar in June 2010.

Second Supplemental Phase Ib investigations (Power Block Relocation) were conducted in accordance with GAI's Scope of Work dated March 30, 2010. The scope of work was based on based on project mapping (Overall Re-Zoning Plan A-1, PPL, Salem Township, Luzerne County, Pennoni Associates, Inc., 6/2/09; and Conceptual Grading & Drainage Plan, Sheet 12, Bell Bend Nuclear Power Plant, UniStar Nuclear, Pennsylvania, Sargent & Lundy, 2/26/10) provided by Peter Gluckler (AREVA) on March 23 and 26, 2010. This addendum report presents the methods and results of Supplemental Phase Ib survey, provides recommendations on the potential National Register eligibility of identified sites, and recommendations on the need for further work. A BHP Report Summary Form for the project is presented in Appendix A.

Area of Potential Effect

The Area of Potential Effect (APE) for the current Phase Ib study consists of approximately 176-acres (71-hectares) of new or reevaluated project localities within the approximately 215-acre (87-hectare) Upland Section of the Second Supplemental Project Area. The project APE is defined as the footprints of Lots 54, 6, 6A, 6B, 7, 8, 31, 23, 0, 4, 31, 93D, and the Rail Spur Corridor, excluding the previously surveyed 39-acre (15.8-hectare) Switchyard 2 parcel.

Summary of Results

Supplemental Phase Ib fieldwork, conducted between April 27 and May 23, 2010, included pedestrian ground survey and the excavation of 1,358 shovel test pits (STPs) in portions of the project area considered to have a moderate to high archaeological potential to contain archaeological resources (Figure 2). Table 1 presents a summary of Second Supplemental Phase Ib survey results by testing area.

The Second Supplemental Phase Ib survey identified two archaeological sites (36LU301 and 36LU302) and one prehistoric Isolated Find (IF 28). No NRHP-eligible architectural resources are located within the study area. GAI's previous architectural survey documented one architectural resource (the Michaels Farm—155063/GAI-25) with the project footprint (Lot 41); this resource has been determined Not Eligible for listing in the NRHP (PHMC/BHP review letter dated March 17, 2010) (Appendix B) and requires no further work.

Based on the results of Phase Ib survey prehistoric Site 36LU301 (Lot 41) is recommended as potentially eligible for listing in the NRHP. Site avoidance or Phase II testing is recommended for this site. Historic-period Site 36LU302 (Lot 6B) is recommended as Not Eligible to the NRHP and no further work is recommended for this site. IF 28 (Lot 3) does not represent a significant archaeological resource and no further work was recommended at this locality. Pennsylvania Site Survey Forms for Sites 36LU301 and 36LU302 are provided in Appendix C. Artifact catalogs are presented in Appendix D.

Table 1. Summary of Second Supplemental Phase Ib Archaeological Survey Results

Lot	Acres	# STPs	Sites	Isolated Finds	Previously-Surveyed Architectural Resources in Project Footprint
WESTERN SECTION					
Lot 3	9.05	109	--	IF 28	--
Lot 41	18.99	33	36LU301	0	1**
Subtotal	**27.24**	**142**	**1**		
NORTHERN SECTION					
Lot 54	20.76	80	--	0	--
Lot 6	15.01	110	36LU302	0	--
Lot 6A	5.91	23	--		--
Lot 6B	0.45	29	36LU302		--
Lot 7	6.24*	4	--		--
Lot 8	6.99*	0	--	0	--
Lot 31	40.69*	274	--	0	--
Lot 23	20.75*	0	--	0	--
Lot 0	15.98*	0	--	0	--
Subtotal	**133.12***	**520**	**1**		--
Lot 93D	47.31	696	--	0	--
Rail Spur Corridor	6.98	0	--		--
TOTAL	**214.65***	**1,358**	**2**	**1**	**1****

* Encompasses portion of 39-acre Switchyard #2 (previously surveyed) which was excluded from further investigation;

**determined Not NRHP-eligible

Regulatory Guidelines

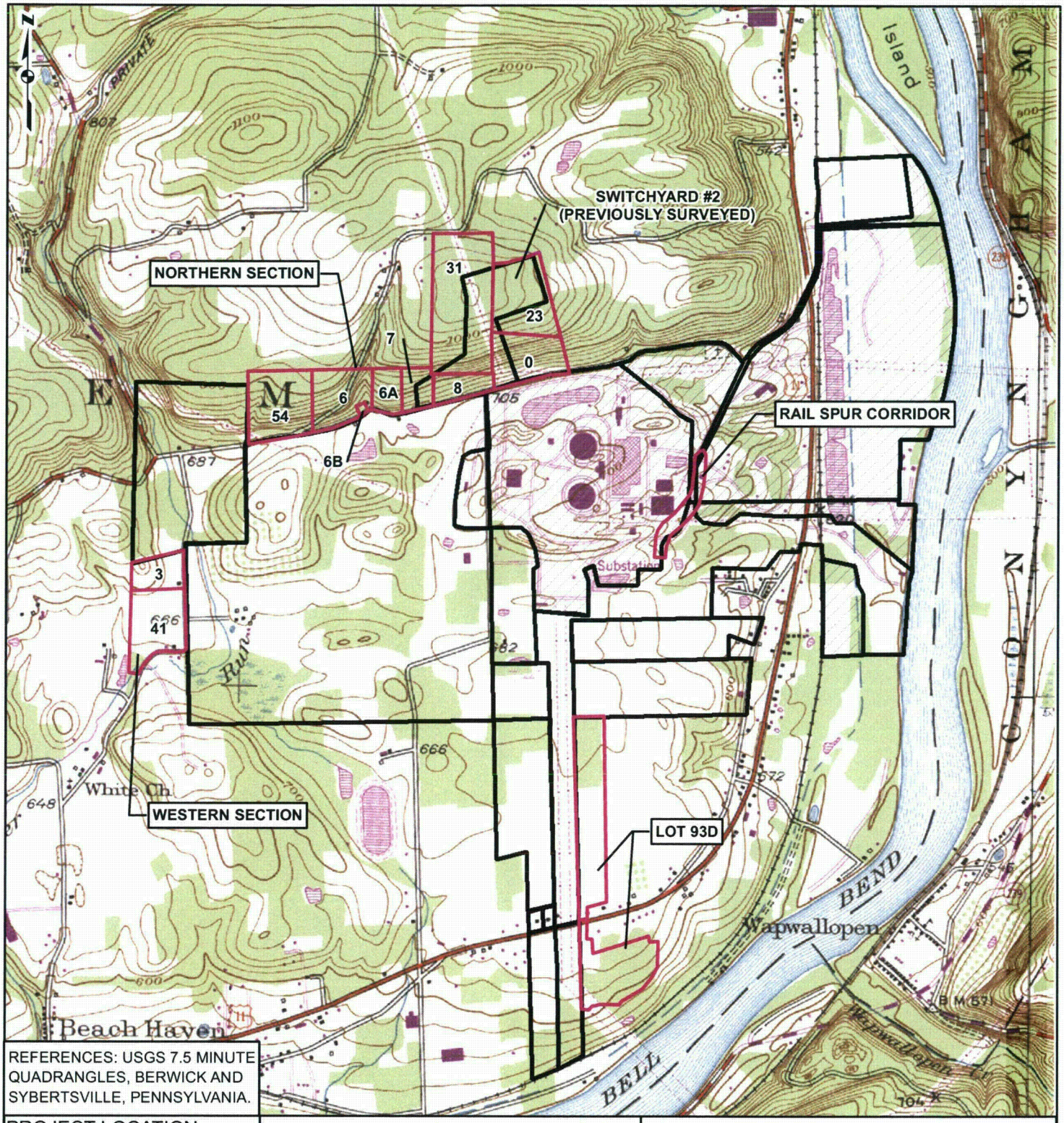
GAI's Cultural Resources Survey was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, guidelines developed by the Advisory Council on Historic Preservation, the amended *Procedures for the Protection of Historic and Cultural Properties* as set forth in 36 CFR 800, the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation*, and *Cultural Resource Management in Pennsylvania: Guidelines for Archaeological Investigations* (PHMC-BHP 1991).

Project Staff and Acknowledgements

Benjamin Resnick, M.A., RPA (Group Manager, Cultural Resources) was project manager for GAI's study. Barbara A. Munford, M.A. (Lead Archaeologist) served as project Principal Investigator and author of this management summary. Terry J. Newell (Archaeologist) supervised the archaeological fieldwork. Colleen Dugan (Archaeologist) performed historic artifact analysis and Doug Jeffries conducted analysis of prehistoric artifacts. Amanda Wasielewski prepared figures for this document.

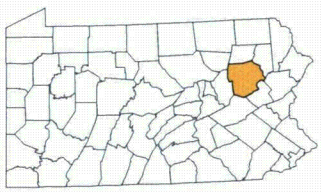
Peter Gluckler was AREVA's technical manager for the project.

Larry Peterson (AREVA) and Terry Solazzo (Constellation) served as on-site field coordinators for supplemental Phase Ib fieldwork and facilitated the field crew's daily access within the project area.



REFERENCES: USGS 7.5 MINUTE QUADRANGLES, BERWICK AND SYBERTSVILLE, PENNSYLVANIA.

PROJECT LOCATION



LUZERNE COUNTY, PENNSYLVANIA

LEGEND

- SECOND SUPPLEMENTAL PHASE Ib PROJECT AREA
- PREVIOUS PHASE Ib PROJECT AREA
- EXCLUDED AREA

0 1,000 2,000 4,000 Feet

FIGURE 1
SECOND SUPPLEMENTAL PHASE Ib PROJECT LOCATION

gai consultants

BELL BEND NUCLEAR POWER PLANT
UNISTAR NUCLEAR ENERGY, LLC.

DRAWN BY: AJW DATE: 06/30/2010
CHECKED: BAM APPROVED: BAM

Figure 2. Second Supplemental Phase Ib Project Area Showing Archaeological Potential and Testing Locations

REDACTED Figure 2
Second Supplemental Phase Ib
Project Area showing
Archaeological Potential and
Testing Locations.

II. Background, Setting, and Archaeological Potential

Summary of Previous Studies

GAI conducted a Phase Ia archaeological and geomorphological reconnaissance of approximately 760 acres (307.5 hectares) of potential project alternatives for green space/power plant development in June 2007 (GAI 2007). In January 2008, following selection of the preferred alternative, GAI performed Phase Ia investigations (archaeological and geomorphological reconnaissance and architectural survey) of an additional 511 acres (206.8 hectares) (Munford and Tuk 2008). In total, 1,271 acres (514.3 hectares) were investigated by Phase Ia survey.

Phase Ia background research identified 24 previously-recorded archaeological sites and five previously-recorded architectural resources within the project vicinity. Six of these sites (36LU15, 36LU16, 36LU48, 36LU49, 36LU50 and 36LU51) and one architectural resource (the North Branch Pennsylvania Canal/141573) were mapped within the Phase Ia project footprint. GAI's architectural survey recorded 52 architectural and historical resources within the proposed project viewshed. Ten of these surveyed resources were initially recommended eligible for NRHP listing. Phase Ia geomorphological and archaeological field reconnaissance, along with background research, defined localities of moderate to high archaeological potential (e.g., undisturbed, relatively level, well-drained areas), low archaeological potential (e.g., wetlands or slopes in excess of 15 percent) and disturbed/no potential within the project area. Systematic Phase Ib survey was recommended for areas of moderate to high potential. In a June 5, 2008, review of these studies (GAI 2007; Munford and Tuk 2008), the PHMC-BHP concurred with GAI's recommendations for additional Phase Ib archaeological fieldwork and requested further survey information for 22 of the 52 recorded architectural and historical resources.

GAI conducted Phase Ib archaeological survey of a 639-acre (259-hectare) project (West Alternative, Area 6, Area 7, Area 8, the Confers Lane Parcel, and the proposed Switchyard 2 Transmission Line Corridor) between May and July 2008 (Munford et al. 2008). This work resulted in the identification of 11 archaeological sites (Sites 36LU278, 36LU279, 36LU280, 36LU281, 36LU282, 36LU283, 36LU284, 36LU285, 36LU286, 36LU287 and 36LU288) and 25 Isolated Finds. Seven of the sites (Sites 36LU279, 36LU280, 36LU281, 36LU283, 36LU285, 36LU286, and 36LU288) were recommended as potentially-eligible for listing in the NRHP and avoidance or Phase II testing was recommended for these localities. Supplemental architectural and historical survey collected additional information and provided completed PHRS forms for 22 of the 52 resources recorded during the initial survey.

Supplemental Phase Ib survey of 263 acres (106 hectares) acres of new project localities bordering the initial Phase Ib project area was conducted by GAI between August and November 2008 (Munford 2008). No archaeological sites were identified during this work and no further work was recommended.

Based on the Phase Ib results and SHPO concurrence (PHMC/BHP review letter dated March 23, 2009) (see Appendix B), and at the request of UniStar, GAI performed Phase II National Register Evaluations of the seven potentially-eligible archaeological sites (Sites 36LU279, 36LU280, 36LU281, 36LU283, 36LU285, 36LU286, and 36LU288). Fieldwork was conducted between July and November 2009. The results of Phase Ib and Phase II investigations have been provided in a combined Phase I/II Technical Report (Munford et al. 2010) which was submitted to UniStar for review in June 2010. Based on the results of Phase II testing, all seven sites are recommended as Not Eligible to the NRHP and no further

investigations are recommended. Three architectural resources have been determined NRHP eligible by the PHMC/BHP (North Branch Pennsylvania Canal/141673, Union Reformed and Lutheran Church/155049, and Woodcrest/155052) and four architectural resources are recommended as potentially eligible for listing in the NRHP (Stone Arch Bridge/155054, North Market Street Bridge/155055, Red Brick Studios/155064, and Wapwallopen Historic District/155070).

Project Setting

The BBNPP project area is located in Luzerne County, in the Susquehanna Lowland Section of the Ridge and Valley physiographic province (Sevon 2000). GAI's Phase I/II Technical Report (Munford et al. 2010) provides details regarding the overall project setting; the current document presents only a brief review.

The overall BBNPP project area is located on the inside edge of a large southwest curve in the North Branch Susquehanna River, referred to as Bell Bend (see Figure 1). US Route 11, which follows the curve of the river, crosses through the eastern and southern portions of the project area. The previously-surveyed 902-acre (365-hectare) Phase Ib project area encompassed upland settings west, south and east of the existing SSES facility, as well as more limited low terrace/floodplains along the west bank of the Susquehanna River. Beach Grove Road and North Market Street roughly mark the northern and western edges of the bulk of the previous study area.

The Second Supplemental Phase Ib (Power Block Relocation) project area encompasses new project localities within upland settings to the north, west and south of the previously-surveyed project area. It also includes one previously-surveyed locality (Rail Spur Corridor) which will be reevaluated due to redefinition of proposed project impacts and one previously-surveyed parcel (Switchyard 2) which was excluded from further investigations.

The project area occupies Late Illinoian to Wisconsin-aged, high glacial outwash terraces of the Susquehanna River (Bush 1981). These upland settings have no potential for deeply buried cultural resources. Any cultural resources in these areas are expected to be associated with the modern ground surface.

Current land use within the study area consists predominantly of woodlands, along with more limited areas of previously-cultivated fields, wetlands and residential use. Areas of disturbances associated with previous power plant construction were documented in the Rail Spur Corridor. Additional localized disturbances within the project area result from an existing transmission line corridor, roadway construction and ATV trails. At the time of GAI's Second Supplemental Phase Ib fieldwork, cultivated fields had been recently plowed and disked to provide good surface visibility.

Background Research Review

Based on a review of previously-conducted background research and the results of GAI's 2008 architectural survey of the initial BBNPP project area (provided in Munford and Tuk 2008 and Munford et al. 2010) the Second Supplemental Phase Ib APE contains one previously-recorded architectural resource (the Michaels Farm) and no previously-recorded archaeological sites. As presented in Table 2, the Michaels Farm (155063/GAI-25) was recommended as Not Eligible for listing in the NRHP. A description of this resource is provided in GAI's Phase Ia Technical Report (Munford and Tuk 2008) and Phase I/II Technical Report (Munford et al. 2010). In a March 17, 2010 review letter (see Appendix B), the PHMC/BHP concurred with GAI's recommendation and determined that the Michaels Farm is Not NRHP-eligible. No further investigation of this resource is required.

Table 2. Previously Recorded Architectural Resources within Project APE

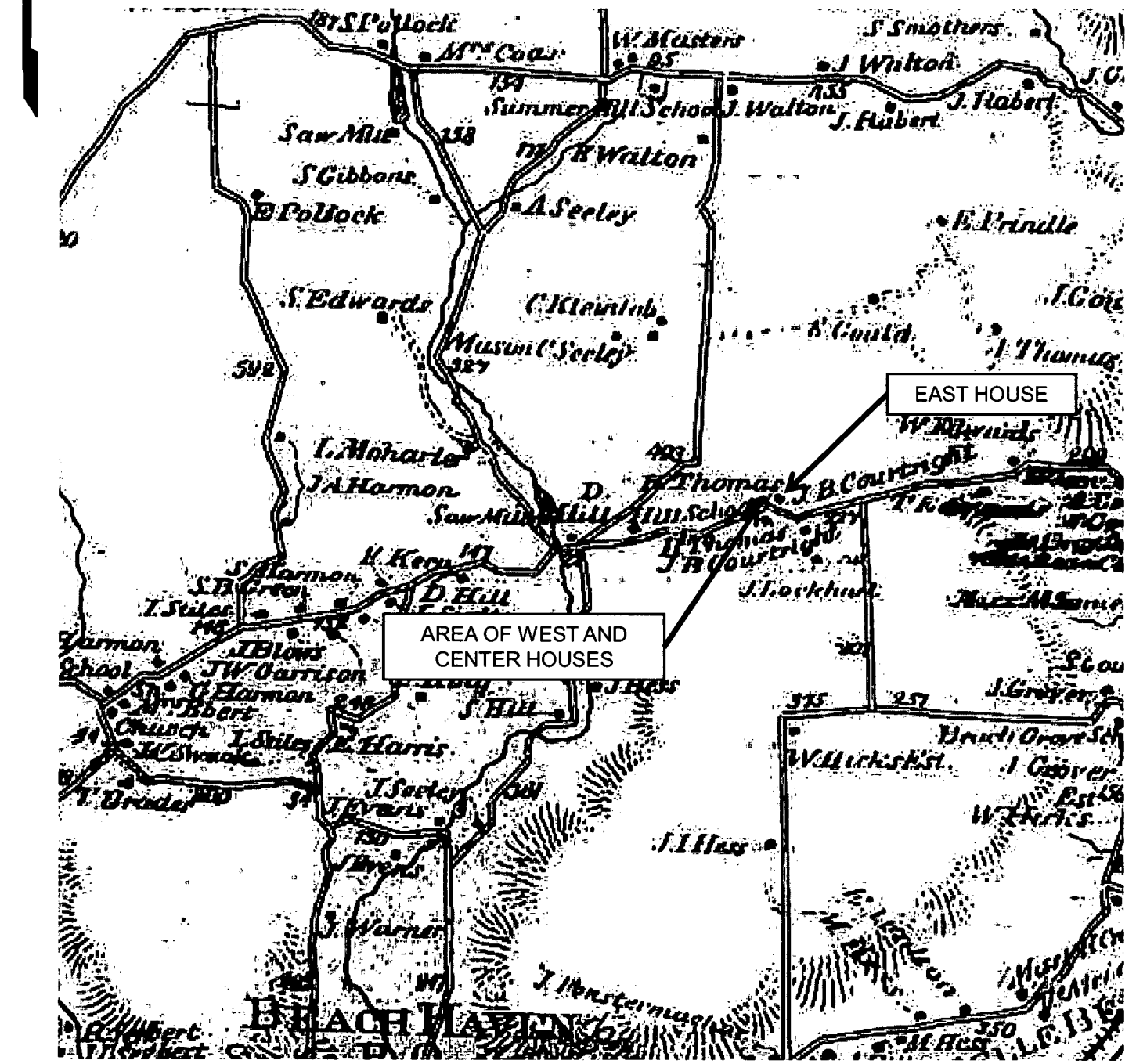
ID Number	Name	Address	Style and Type	Date	NRHP Eligibility	Location within APE
155063 (GAI-25)	Michaels Farm	4252 North Market Street, Salem Township	Frame Vernacular Farmstead	c.1880	Determined Not Eligible	Lot 41

A review of historic mapping documents the presence of former houses in the vicinity of Lot 6B and its surrounding area, along the north edge of Beach Grove Road, near a distinctive jog in the roadway associated with an intermittent drainage. In 1873 (Beers 1873), two to three structures are mapped in this locality—one east of the drainage (east house, labeled J.B Courtright) and one to two structures west of the drainage (labeled H. Thomas) (Figure 3). A 1939 aerial photograph of the area shows the two structures west of the drainage (west house and center house), but the east house is no longer standing. The west and center structures, both marked as houses, are also illustrated on the 1955 USGS Shickshinny Quadrangle (Figure 4). A 1959 aerial photograph depicts both structures, as well as a U-shaped band of trees surrounding the west structure (Figure 5). Although the imagery is less distinct, a 1969 aerial photograph of the area shows the tree boundary and also appears to include the westernmost structure. This data indicates structures in the vicinity of Lot 6B from 1873 through at least 1959, and likely through 1969. As discussed in Supplemental Phase Ib Results (below) Site 36LU302 was identified in the west house locality during the current study. The tree boundary shown in the 1959 and 1969 aerial photographs appears to represent a line of pine trees currently standing in this locality and spanning Lots 6B and Lot 6, Section 2 (see Figure 2).

Archaeological Potential

GAI evaluated archaeological potential within the Second Supplemental Phase Ib APE based on a review of project mapping, the results of previous background research, and observations and evaluations of adjacent parcels during previous field studies of the BBNPP project area (see Figure 2). Based on these data, undisturbed, relatively level, well-drained portions of the project area were considered to have a moderate to high potential for prehistoric and historic archaeological resources, requiring a Phase Ib archaeological survey to identify sites. Portions of the project area characterized by wetlands or slopes in excess of 15 percent were considered to have a low archaeological potential. These areas would not require systematic testing during Phase Ib investigations. Disturbed localities were determined to have no archaeological potential and were excluded from further investigation. Due to the upland setting of the project APE, archaeological sites were anticipated to be near-surface in nature. The project area has no potential for deeply buried sites.

GAI's March 30, 2010, scope of work estimated that the Upland Section of the Second Supplemental Phase Ib project area comprised approximately 215.3 acres (87 hectares) consisting of 110.4 acres (44.7 hectares) of moderate to high archaeological potential, 58.9 acres (23.8 hectares) of low potential, 7 acres (2.9 hectares) of disturbance/no potential, and 39 acres (15.8 hectares) excluded due to previous survey (Switchyard 2). Assessments of archaeological sensitivity were refined during the course of Phase Ib fieldwork based on detailed, on-the-ground field observations. Additionally, final calculations of lot sizes resulted in a slightly-reduced, 214.65-acre overall project area.



REFERENCE:
BEERS, 1873. PUBLISHED BY A. POMEROY, PHILADELPHIA.

FIGURE 3
PROJECT AREA AND VICINITY IN 1873 SHOWING STRUCTURES IN LOT 6B VICINITY

gai consultants

BELL BEND NUCLEAR POWER PLANT UNISTAR NUCLEAR ENERGY, LLC.

DRWN: AJW DATE: 07/07/2010
CHECKED: BAM APPROVED: BAM

Figure 4. Lot 6B and Vicinity in 1955

REDACTED Figure 4
Lot 6B and Vicinity in 1955

Figure 5. Lot 6B and Vicinity in 1959

REDACTED Figure 5
Lot 6B and Vicinity in 1959

III. Objectives and Methods

Objectives

The goals of GAI's Second Supplemental Phase Ib survey were to identify, delineate and evaluate the potential National Register eligibility of previously unrecorded historic and prehistoric sites in new portions of the project APE.

Field Methods

Supplemental Phase Ib archaeological fieldwork of the proposed power block relocation area was conducted between April 27 and May 23, 2010. As noted above, GAI's Second Supplemental Phase Ib Scope of Work (March 30, 2010) assumed a 215.3-acre (87-hectare) overall project area, encompassing the 39-acre (15.8-hectares) previously-surveyed Switchyard 2 parcel which would be excluded from further investigation. Of the remaining 176.3 acres (71 hectares), approximately 110.4 acres (44.7 hectares) were assumed to possess a moderate to high archaeological potential and would require systematic Phase Ib survey. GAI estimated that 29.4 acres of cultivated fields with good ground surface visibility would be evaluated by pedestrian ground survey and 81.0 acres of poor ground surface visibility (e.g., woodlands) would require shovel testing. Based on slight refinements in assessments of archaeological sensitivity and calculations of project size, GAI's Supplemental Phase Ib survey investigated 109.05 acres (44.1 hectares) of moderate to high archaeological potential within a 214.65-acre (87-hectare) overall project area. The identification of additional areas of poor ground surface visibility (i.e., fallow fields and lawn in Lot 3) reduced the area of pedestrian ground survey to 14.95 acres and increased the area of systematic shovel testing to 94.1 acres. Figure 2 presents the final assessments of archaeological sensitivity within the project APE.

The Second Supplemental Phase Ib APE consisted of 13 lots defined by AREVA: Lots 54, 6, 6A, 6B, 7, 8, 31, 23, 0, 3, 41, 93D, and the Rail Spur Corridor (see Figure 2). These lots varied from large wooded lots (e.g., Lots 93D and 31) to cultivated fields (e.g., Lot 41) and residential parcels (e.g., Lot 3, Section 2). The previously-surveyed 39-acre (15.8-hectare) Switchyard 2 parcel (excluded from further investigation) spanned portions of five lots (Lots 7, 8, 31, 23 and 0). The entire project APE was subject to a walkover survey to verify assessments of archaeological potential. GAI conducted systematic Phase Ib testing (pedestrian ground survey or subsurface shovel testing) within portions of nine of these lots (Lots 54, 6, 6A, 6B, 7, 31, 3, 41, and 93D; no testing was required in Lots 8, 23, 0 and the Rail Spur Corridor. Test Sections were numbered sequentially within each lot (i.e., Lot 41: Sections 1-2; Lot 93D: Sections 1-2) (see Figure 2).

Previously cultivated fields within the project APE (Lot 41, Section 1 only; n=14.95 acres) were plowed and disked prior to the start of archaeological fieldwork to provide good ground surface visibility. Phase Ib investigations within cultivated fields consisted of pedestrian ground survey. Archaeologists systematically walked the fields along transects spaced at 5-meter (16-foot) intervals. Prehistoric and historic artifacts observed on the ground surface were plotted on project maps and, due to their low-density, were point provenienced (rather than being collected within surface collection blocks). Judgmental shovel tests were excavated in select localities within the plowed and disked fields to document soil stratigraphy and assess the presence of subplowzone cultural deposits.

Due to poor ground surface visibility, Phase Ib survey within the remainder of the project's moderate to high archaeological potential localities (n=94.1 acres) consisted of systematic shovel testing. Systematic shovel test pits (STPs) were generally excavated at 15-meter (49

foot) intervals within transects spaced 15 meters (49 feet) apart. GAI archaeologists used a compass and tapes to establish transects and shovel test locations within each test section. Judgmental STPs were excavated in select areas to confirm the presence of cultural artifacts or disturbed soils. When a shovel test yielded artifacts, radial STPs were excavated at 5-meter (16-foot) intervals around the initial positive findspot to further investigate the locality. In areas of possible former structure locations, identified by cartographic research (i.e. Lot 6B and Lot 6A), shovel tests were excavated at 5-meter (16-foot) intervals. GAI excavated 1,358 STPs during supplemental Phase I fieldwork.

STPs measured 50 cm (20 in) in diameter and were hand-excavated in natural strata to at least 10 cm (4 in) into the subsoil and 10 cm (4 in) below the deepest artifact recovery. Excavated soils were screened through 0.6 cm (0.25-in) wire mesh for systematic artifact recovery. Recovered artifacts were bagged and labeled with appropriate provenience information. GAI archaeologists recorded results of individual STPs on standardized field forms, noting depths of soil horizons, soil texture and Munsell color, and the presence of artifacts. STP locations were recorded on project maps and were backfilled upon completion.

Identified archaeological resources were recorded on standardized forms, plotted on maps, and documented with photographs.

Laboratory Methods

Laboratory Processing

Cultural materials collected during the Second Supplemental Phase Ib survey were transported to GAI's Archaeological Laboratory in Homestead, Pennsylvania, for processing and analysis. These materials were processed in accordance with the *Curation Guidelines* of the Pennsylvania Historical and Museum Commission (2005).

The initial processing stage consisted of checking artifact bags against the field-generated Field Specimen Log to confirm that all collected materials were present. Artifacts were temporarily placed in numerical order according to Field Specimen Number (FS#), providing a basis for processing, analysis, and curation. Artifacts were then cleaned, generally with water and a soft brush. Metal artifacts and perishable items were cleaned by dry-brushing. Non-cultural materials (i.e. pebbles) included in the artifact samples were recorded and discarded during this stage of processing or in later stages, as they were recognized. Cultural materials were placed on artifact-drying racks to air dry.

When dry, the artifacts within each provenience were sorted into basic artifact classes (i.e., glass, ceramics, metal) and were re-bagged accordingly in clean, perforated, 4-mil polyethylene bags. Bags were labeled with provenience information using a permanent ink marker. An acid-free paper tag with complete provenience information was also placed inside each artifact bag.

Specimens large enough in size were then labeled with the site number and the appropriate field specimen number (FS#). Labels were written in permanent ink and coated with PVA. After washing and labeling, artifacts were subject to the appropriate laboratory analysis.

Methods of Historic/Modern Artifact Analysis

Historic/modern artifacts recovered during the Second Supplemental Phase Ib survey were subjected to identification and analysis using GAI's Historic Coding scheme. This multivariate classification system codes for significant attributes of various artifact classes. Artifact analysis was focused on the creation of an inventory of artifact classes and types to examine issues of chronology and function for each site containing historic/modern components. A variety of

analytical techniques was employed to synthesize artifact data including standard classification typologies developed by South (1977).

Once washed, artifacts were sorted into major material classes including ceramics, glass, and metal. The materials were then subjected to a preliminary analysis, which included a basic description of artifacts by material class, functional group, and relevant attributes. Included among the recorded attributes, as applicable, are type, beginning and end dates of production, form, motif/decoration, color, manufacturing technique, functional group, base, finish, embossment, maker's mark/manufacturer, material, bore diameter, and pattern class and subclass (South 1977:95-96). Artifact dating was based on the identification of maker's marks, diagnostic-manufacturing methods, such as bottle mold seams, bottle pontil marks, ceramic bodies and glazes, and known dates of production.

Coded data, using unique codes for each artifact description, were entered into the Access database. This database was subsequently converted into the Excel computer program for purposes of data manipulation and table generation.

Historic ceramic analysis focused on identifying ware and type categories, decorative attributes, and maker's marks, in order to interpret site chronology. Whenever possible, each provenience was assigned dates based on a Mean Ceramic Dates (MCD) and Terminus Post Quem (TPQ) date. Attributes recorded during the ceramic analysis include count, ware, type, form, motif, colors, percent complete, and functional group for each artifact or group of artifacts. Maker's marks were described in detail and dated, when possible.

Glass artifacts, much like ceramics, were tabulated according to major groups (e.g., bottle glass, window glass, lamp glass, tableware, tumblers) and then separated into functional categories whenever possible. Dating information was based on the identification of diagnostic technological attributes (e.g., mold seams and evidence of snap-case manufacture) in addition to identifiable bottle embossments. Attributes recorded for glass artifacts include manufacturing technique, decoration, finish type, base type, color, and functional group. The beginning and end dates for datable attributes were determined. Maker's marks and embossments were described and dated, when possible.

Other historic/modern artifact classes include architectural debris (e.g., bricks, nails, window glass, etc.), clothing (type and materials identified when possible) and miscellaneous small finds. Where appropriate, attributes such as character, wear, decoration, and material were recorded for these artifacts.

Methods of Prehistoric Lithic Analysis

The analytical approach for stone tools and debris employed here can be described as techno-morphological; that is, lithic artifact classes and types were based on key morphological attributes, which are linked to or indicative of particular stone tool production (reduction) strategies.

Following initial artifact processing, GAI's Lithic Analyst divided lithic artifacts from each provenience into general classes (i.e., debitage, bifaces, unifaces, cores, cobble tools, groundstone, FCR) and then subdivided them into specific artifact types (i.e., early-stage biface, late-stage biface, projectile point) for that particular class. Artifacts were then examined and appropriate attributes were recorded. The surfaces and edges of artifacts were examined with the unaided eye and with a 10x hand lens, where appropriate, to discern evidence of retouch and/or utilization.

Lithic raw material type was recorded for all artifacts. These lithic raw material types were defined on the basis of macroscopic characteristics, including color, texture, hardness, and inclusions

(Luedtke 1992). Where possible using conservative standards and based on the above macroscopic criteria, nonlocal (i.e. excluding cobble quartz and quartzite) lithic raw material types were attributed to known geological sources based on published sources (e.g., Stewart 1984) and by reference to GAI's lithic reference collection.

All lithic tools were examined at a detailed analysis level that recorded temporal/stylistic, functional, and technological variables as well as lithic raw material type. These variables included artifact class, artifact type, condition of specimen, presence/type of cortex, weight, and metric dimensions (when complete). Further artifact-specific observations (e.g., heat damage, refit, unique characteristics) were noted where appropriate. Diagnostic projectile points, important in assessing the age of prehistoric components, were to be identified though a comparison with standard typologies established for the eastern United States (Justice 1987; Broyles 1971; Coe 1964). Additional variables of point type and temporal affiliation were to be recorded for diagnostic points.

Lithic debitage was classified using a typology designed to detect differences in lithic reduction practices and early vs. late-stage reduction (e.g., decortication flake, bipolar reduction flake, early reduction flake, biface thinning flake). Other attributes recorded on debitage included raw material, presence and type of cortex (as indicators of primary or secondary geologic source), weight and size grade.

Information recorded during lithic analysis was entered on analysis sheets as a series of codes, unique to each variable. The codes were then entered into Access, a relational database. For the purposes of data analysis and manipulation, this database was subsequently converted to the Excel computer program for data manipulation and table generation.

IV. Supplemental Phase Ib Results

GAI's Phase Ib survey of the supplemental BBNPP project area involved the excavation of 1,358 STPs and pedestrian ground survey (surface collection) of 14.95 acres (6.05 hectares) of previously cultivated fields. These investigations identified two archaeological sites (prehistoric Site 36LU301 and historic-period Site 36LU302) and one prehistoric Isolated Find (IF 28), as well as the recovery of a scatter of non-site historic specimens found almost exclusively on the surface of cultivated fields. A total of 261 artifacts were recovered, including 15 prehistoric lithics and 246 historic artifacts. Table 3 presents a summary of Supplemental Phase Ib survey results by testing location. A brief description of testing results within each lot is provided below.

Table 3. Summary of Second Supplemental Phase Ib Survey Results by Testing Location

Testing Location	# STPs	#Positive STPs	Pedestrian Survey	Sites	IFs
LOT 93D					
Section 1	445	--	--	--	--
Section 2	251	1*	--	--	--
Lot 93D Subtotal	**696**	**1**	**--**	**--**	**--**
NORTHERN SECTION					
Lot 54	80	--	--	--	--
Lot 6					
Section 1	87	--		--	
Section 2	23	3		36LU302	
Subtotal	**110**	**3**			
Lot 6A					
Section 1	11	--	--	--	--
Section 2	12	1*	--	--	--
Subtotal	**23**	**1**			
Lot 6B	29	9	--	36LU302	--
Lot 7	4	--	--	--	--
Lot 31					
Section 1	217	--	--	--	--
Section 2	57	--	--	--	--
Subtotal	**274**				
Lot 8	0	--	--	--	--
Lot 23	0	--	--	--	--
Lot 0	0	--	--	--	--
Northern Subtotal	**520**	**14**	**--**	**1 site**	**--**
WESTERN SECTION					
Lot 3					
Section 1	34	--	--	--	--
Section 2	75	1	--	--	IF 28
Subtotal	**109**	**1**	**--**	**--**	**1 IF**
Lot 41					
Section 1	12	1*	X	36LU301	--
Section 2	21	2*	--	36LU301	--
Subtotal	**33**	3	**--**	**1 site**	**--**
Western Subtotal	**142**	**4**	**1 lot**	**1 site**	**1 IF**
Rail Spur Corridor	**0**	--	--	--	--
TOTAL	**1,358**	**19**	**1 lot**	**2 sites**	**1 IF**

*non site historic artifact(s) from one STP

Northern Section (Lots 54, 6, 6A, 6B, 7, 8, 31, 23 and 0)

The Northern Section of the Second Supplemental project area is composed of a series of nine contiguous lots bordering the north edge of Beach Grove Road, opposite the previously-surveyed BBNPP West Alternative (see Figure 2). This portion of the project area includes the Switchyard 2 parcel, surveyed during BBNPP initial Phase Ib investigations in 2008 (Munford et al. 2008, Munford et al. 2010) and, accordingly, excluded from the current study.

Lot 54

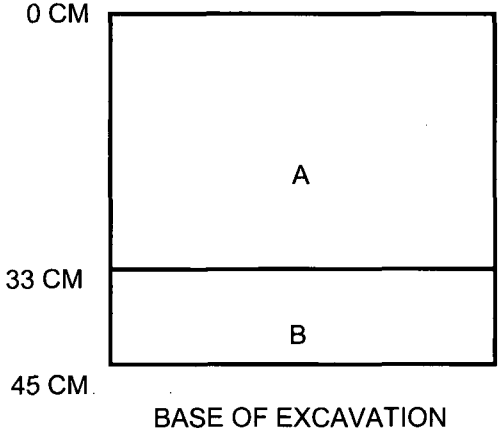
Lot 54, the westernmost parcel in the Northern Section, lies north of Beach Grove Road, above its intersection with Thomas Road (see Figure 1). An intermittent drainage (marked as a wetland area) flows southwesterly through its western portion. Lot 54 consists primarily of a steeply sloping wooded hillside, with a wooded upland flat occurring in its northern one-third (Photograph 3). The northern edge of the parcel is marked by a low, stone, boundary wall. Phase Ib shovel testing was conducted within the wooded upland flat at the northern edge of the lot (see Figure 2). The southern two-thirds of the lot were steeply sloping and were not subject to systematic subsurface shovel testing.

Photograph 3. Lot 54: Wooded Upland Flat in Northern Portion of Parcel, Facing West

Eighty STPs were excavated at 15-meter intervals in this locality. Shovel tests exposed an A-B soil horizon sequence (Figure 6). As described for STP F-3, the 33-cm-thick dark yellowish-brown A horizon superimposed a yellowish-brown silt loam B horizon. No cultural materials were produced during shovel testing. However, a single historic artifact (FS 24-fragment of a gray, salt-glazed stoneware jug) was recovered from the ground surface near STP A13 in the northeast corner of the lot. This stoneware fragment is not temporally diagnostic and no additional artifacts were observed in the vicinity. This artifact is considered a casual discard; it does not represent an historic period archaeological site.

LOT 54

STP F-3



BASE OF EXCAVATION

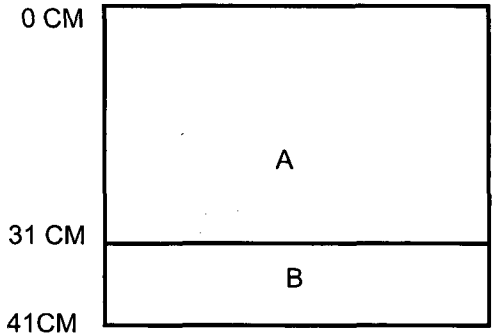
A –DARK YELLOWISH BROWN (10YR 3/4) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT LOAM

LOT 6

(SECTION 1)

STP C-1



BASE OF EXCAVATION

A –BROWN (10YR 4/3) SILT LOAM

B –LIGHT YELLOWISH BROWN (10YR 6/4) CLAY LOAM

FIGURE 6. LOT 54 AND LOT 6,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs F-3 AND C-1)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

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Lot 6

Lot 6 consists of a wooded parcel bordering the north edge of Beach Grove Road, immediately east of Lot 54 (see Figure 1). Thomas Road extends northeast/southwest through Lot 6 and an intermittent drainage is located along its eastern edge. A low stone wall, continuing eastward from Lot 54, bounds the northern edge of this lot. As with Lot 54, the majority of this parcel consists of a steep hillside that was excluded from subsurface testing due to slopes in excess of 15 percent (see Figure 2). Systematic shovel testing was conducted in two sections (Sections 1 and 2) within Lot 6. Section 1 consists of an area of relatively level upland flat in the lot's northwest portion (Photograph 4). Section 2 is located adjacent to the east edge of Lot 6B, a small parcel situated within the southeast corner of Lot 6, bordering Beach Grove Road (see Lot 6B below). The area of Lot 6, Section 2 was investigated as part of Lot 6B during Phase Ib fieldwork. Site 36LU302 was identified in this area and Lot 6, Section 2 was defined as a separate section after mapping indicated that the site boundary extends east (outside) of the Lot 6B parcel boundary.

Photograph 4. Lot 6: Wooded Upland Flat in Northwest Portion of Parcel, Facing Northwest

GAI excavated 87 shovel tests in Lot 6, Section 1. Shovel testing revealed an A-B soil horizon sequence (see Figure 6). As documented for STP C-1, the profile consisted of a 31-cm-thick brown silt loam A horizon above a light yellowish-brown B horizon. No cultural materials were recovered.

Testing of Lot 6, Section 2 (initially included as part of Lot 6B) consisted of the excavation of 23 shovel tests at 5-meter intervals to investigate the mapped location of a former structure (see Lot 6B and Site 36LU302 descriptions below) (see Figures 3, 4 and 5). As noted above, Phase Ib investigations identified historic-period Site 36LU302 in this locality. Lot 6, Section 2 includes the western portion of a former yard area, bounded by a line of pine trees. Four of the 23 STPs excavated in this section produced historic artifacts. Additionally, Feature 1 (a flagstone patio located north of the line of pine trees) was identified near the Lot 6, Section 2/Lot 6B boundary.

Lot 6A

Lot 6A is a wooded parcel located north of Beach Grove Road, between Lots 6 and 7. This lot consists largely of steep hillsides that were excluded from subsurface testing (see Figure 1). Shovel testing was conducted in two small sections (Sections 1 and 2) (see Figure 2). Section 1 comprises a small portion of relatively-level upland flat, located in the northeast corner of the lot (Photograph 5). Section 2 represents the approximate location of a former house depicted on an 1873 map (see Figure 3, east house) near the southwest corner of the lot near Beach Grove Road, east of an intermittent drainage. This house does not appear on later historic mapping of

the area (see Figures 4 and 5). Due to slopes generally in excess of 15 percent, the Section 2 vicinity was assessed as having a low archaeological potential.

Section 1 was investigated by the excavation of 11 shovel test pits at 15-meter intervals across the wooded upland flat. Shovel tests exposed an A-B soil horizon sequence. Typically, the A horizon consisted of a 26-cm-thick brown silt loam and the B horizon was a yellowish-brown silt loam (Figure 5). No cultural materials were recovered.

Photograph 5. Lot 6A, Section 1: Shovel Testing on Wooded Upland Flat in Northeast Corner of Lot, Facing West

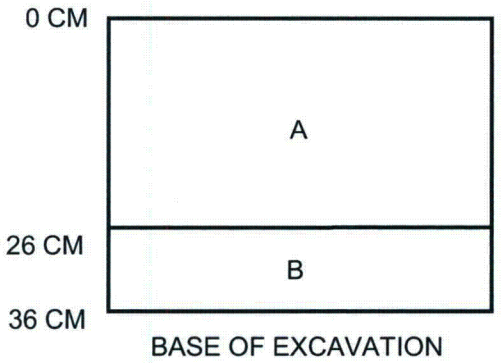
GAI's surface walkover of Section 2 revealed no evidence of a structure foundation or cellar hole in the mapped location of the former structure. A pile of pile of cobbles was observed on the surface of the wooded slope, approximately 38 meters (125 feet) north of Beach Grove Road and 60 meters (197 feet) east of the intermittent drainage (Photograph 6). These cobbles do not represent a foundation, although it is possible that they might be associated with removal/demolition of the former structure. GAI excavated 12 STPs at 5-meter intervals on the wooded slope in the vicinity of the former structure. Shovel testing encountered no evidence of structural foundations or other cultural features. Shovel test profiles consisted of an A-B soil horizon sequence. Of the 12 shovel tests excavated, one positive shovel test (STP A1) yielded seven artifacts from the A horizon. These artifacts include two amber beer bottle fragments, four clear container glass fragments, and one sherd of plain whiteware. These materials likely represent twentieth-century discards. No artifacts or structure foundations associated with a nineteenth century domestic occupation were identified in this locality.

Photograph 6. Lot 6A, Section 2: Cobble Pile on Wooded Hillslope, Facing South

LOT 6 A

(SECTION 1)

STP A-1

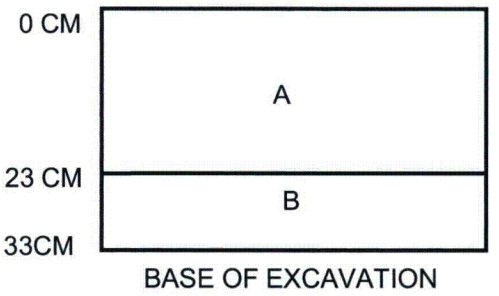


A –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT LOAM

LOT 7

STP A-2



A –DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

B –YELLOWISH BROWN (10YR 5/6) CLAY LOAM

FIGURE 7. LOT 6A AND LOT 7
REPRESENTATIVE SHOVEL TEST PROFILES (STPs A-1 AND A-2)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

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Lot 6B

Lot 6B is a small (0.45-acre) wooded parcel fronting the north side of Beach Grove Road within the southeast corner of Lot 6 (see Figures 1 and 2). An intermittent drainage lies approximately 15 meters (49 feet) to its east. Lot 6B includes the mapped location of a former structure (or structures) as illustrated on the maps dating to 1873 through at least 1959 (see Figures 3, 4 and 5). Site 36LU285, a mid-nineteenth to twentieth century domestic site, is situated directly opposite Beach Grove Road; this site was investigated during GAI's previous Phase Ib and Phase II studies, and recommended Not Eligible to the NRHP. Lot 6B comprises a heavily wooded hillslope, with thick underbrush and numerous treefalls. Most notable in this wooded locality is a U-shaped formation of large pine trees that extends upslope from Beach Grove Road and likely marks the eastern, western, and northern edges of a former yard. According to project mapping provided by AREVA (see Figure 2), Lot 6B encompasses the eastern half of this yard area while the western half lies in the adjacent Lot 6 (Section 2). During fieldwork, all investigations conducted within this yard area were recorded as Lot 6B; the western portion of the yard area was designated as Lot 6, Section 2 following the completion of field investigations (see Lot 6 above).

GAI conducted close interval shovel testing (at 5-meter intervals) from the western line of pine trees eastward to the intermittent drainage, to investigate the area of the former structure. Phase Ib investigations identified an historic period archaeological site (Site 36LU302) represented by an historic artifact scatter and two features—flagstone patio and ash pit/dump. The flagstone patio (Feature 1) is located in the area defined as Lot 6, Section 2; the ash pit/dump (Feature 2) is located within Lot 6B. No remains of a structure foundation or cellar hole were identified. See Site 36LU302 description below.

Lot 7

Lot 7 is a wooded parcel located north of Beach Grove Road (see Figure 1). The western portion of Lot 7 lies within the previously-surveyed Switchyard 2 parcel; due to slopes in excess of 15 percent no subsurface testing was conducted within this area during GAI's initial 2008 Phase Ib survey (Munford et al. 2008, Munford et al. 2010). The remainder of Lot 7 consists largely of steep hillsides, which were excluded from subsurface testing during the current study. One line of four shovel tests was excavated at the edge of an upland flat at the northern margin of this lot (see Figure 2, Photograph 7).

Shovel testing in Lot 7 exposed an A-B soil horizon sequence, consisting of a 23-cm-thick dark yellowish-brown silt loam A horizon and a yellowish-brown clay loam B horizon (see Figure 7). No cultural materials were recovered.

Photograph 7. Lot 7: Wooded Upland Flat in Northwest Corner of Lot, Facing West

Lot 8

Lot 64 is a small wooded lot situated north of Beach Grove Road, directly north of its intersection with Confers Lane (see Figures 1 and 2). The entire lot is located within the area of the previously-surveyed Switchyard 2. It consists of steep slopes that were excluded from subsurface testing during GAI's 2008 initial Phase Ib survey. The area was documented with photographs (Photograph 8); no shovel testing was required.

Photograph 8. Lot 8: Steep Wooded Hillslope Above Beach Grove Road, Facing South

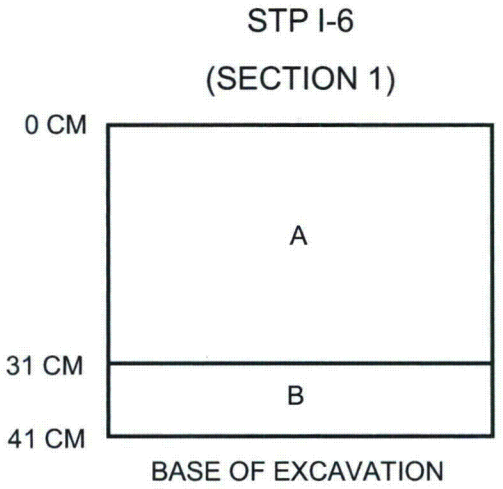
Lot 31

Lot 31 is a large wooded lot situated immediately north of Lot 8 and bounded by Thomas Road to the north, Lot 23 to the east (see Figure 1). The southern one-third of this parcel consists of a steep hillslope, while the northern two-thirds occupy a relatively flat wooded upland. A northwest/southeast oriented transmission corridor cuts through the eastern portion of this parcel. The southeastern portion of Lot 31 was included in the previously-surveyed Switchyard 2 area and the relatively level portions were shovel testing during the 2008 initial Phase Ib investigations; no cultural resources were identified during this prior testing.

The remaining moderate to high potential portions of Lot 31 were subject to 15-meter interval shovel testing as part of the current supplemental Phase Ib survey. Two test sections were defined within this lot: Section 1 to the west of the transmission line (Photograph 9), and the smaller Section 2 to its east (see Figure 2). A residence is located in the northeast corner of Section 2. This residential property occupies a steep slope and has been disturbed by landscaping activities; accordingly, this property was excluded from shovel testing. GAI excavated 274 shovel tests within Lot 31 (217 STPs in Section 1 and 57 STPs in Section 2). Shovel test profiles typically consisted of an A-B soil horizon sequence including an approximately 29-31-cm-thick brown silt loam A horizon and a yellowish-brown sandy clay loam to silt loam B horizon (Figure 8). Shovel testing produced no cultural materials.

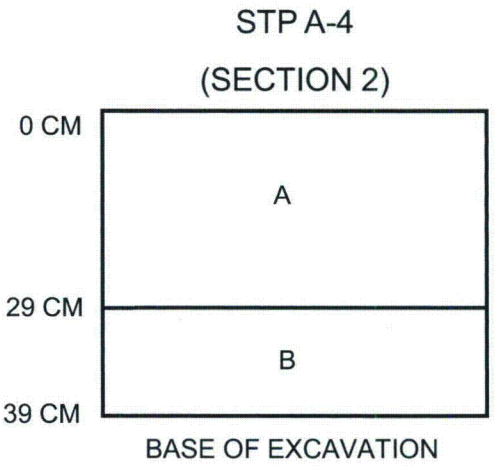
Photograph 9. Lot 31, Section 1: Wooded Upland Flat, Facing East

LOT 31



A –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SANDY CLAY LOAM



A –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT LOAM

FIGURE 8. LOT 31,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs I-6 AND A-4)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

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Lot 23

Lot 23 is located in the northeast corner of the Northern Section and is bounded by Lot 31 to the west and Lot 0 to the south (see Figures 1 and 2). The northern two-thirds of this lot occupy a wooded upland flat located within the previously-surveyed Switchyard 2 parcel. Shovel testing was conducted of this area during initial Phase Ib investigations in 2008. No cultural resources were recovered during this prior testing.

The southern one-third of Lot 23 consists of a steeply sloping hillside that was excluded from subsurface testing (Photograph 10). This lot was documented with photographs; no shovel testing was required.

Photograph 10. Lot 23: Steep Wooded Hillslope, Facing Northeast

Lot 0

Lot 0 is located north of Beach Grove Road, opposite the existing SSES facility, at the eastern edge of the project area's Northern Section (see Figures 1 and 2). The western edge of this lot, consisting of an existing northwest/southeast trending transmission line corridor, was included within the previously-surveyed Switchyard 2 parcel; the remainder of Lot 0 comprises a steeply sloping hillside that was excluded from subsurface testing (Photograph 11). In addition to transmission line disturbances, a narrow cut and fill area was documented along the edge of Beach Grove Road with this lot. This area was documented with photographs; no shovel testing was required.

Photograph 11. Lot 0: Transmission Corridor on Steep Hillslope North of Beach Grove Road, Facing West

Western Section (Lots 3 and 41)

The Western Section of the Second Supplemental Phase Ib APE includes two lots, situated west of North Market, opposite the previously-surveyed BBNPP West Alternative.

Lot 3

Lot 3, the northernmost parcel within the Western Section, is located on an upland flat bordered by North Market Street to the west, previously-surveyed Lot 4 to the north, and Lot 41 to the south (see Figure 1). A residential property lies within the eastern portion of this lot, along North Market Street.

Phase Ib investigations defined two testing sections (Sections 1 and 2) within Lot 3, separated by a narrow grassy slope that was excluded from subsurface testing (see Figure 2). Section 1, located in the higher-elevation western half of Lot 3, consists of a fallow field vegetated in high grass and bounded by trees; a patch of trees also occurs in the center of this section (Photograph 12). Section 2 represents the residential property in the eastern portion of Lot 3 (Photograph 13). This property includes a house and garage, in the southeast corner, and a shed, in the west central portion. Vegetation consists of a lawn adjacent to the house and low grass throughout the remainder of the section. A wetland is delineated in the northeastern corner of the Section 2.

Shovel testing was conducted at 15-meter intervals throughout Sections 1 and 2. Shovel test profiles typically consisted of an A or Ap horizon above a B horizon. As described for STP C-3 (Section 1) and STP G-8 (Section 2), the A/Ap horizon was a 28-33 cm-thick brown silt loam while the B horizon was a yellowish-brown clay loam to silt loam (Figure 9). Shovel testing identified one prehistoric isolated find (IF 28) in Section 2. IF 28 consists of one flake fragment made from Shriver/Helderberg chert and recovered from STP G8 (A horizon), in the northwest portion of Section 2. Radial shovel tests excavated at 5-meter intervals around STP G-8 yielded no additional artifacts.

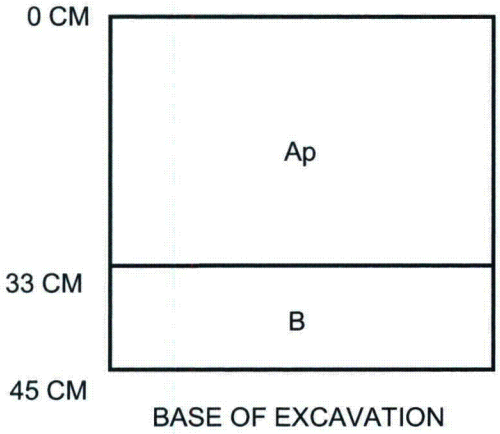
Photograph 12. Lot 3, Section 1: Fallow Field, Facing South

Photograph 13. Lot 3, Section 2: Open Grassy Field with Shed and Residence in Background, North Market Street to Left, Facing Southeast

LOT 3

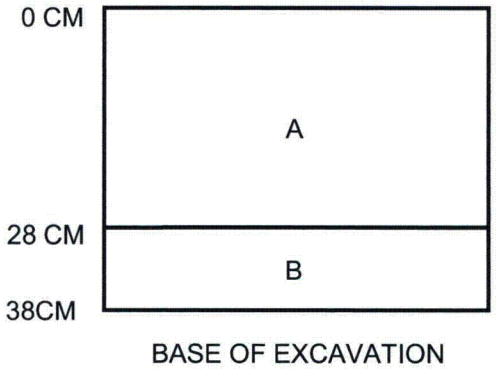
STP C-3

(SECTION 1)



STP G-8

(SECTION 2)



Ap –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) CLAY LOAM

A –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT LOAM

FIGURE 9. LOT 3,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs C-3 AND G-8)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

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Lot 41

Lot 41, the southern of the two parcels comprising the Western Section, occupies a broad upland flat north of Walker Run, bounded in general by North Market Street to the south and west and Lot 3 to the north (see Figures 1 and 2). A man-made pond is situated to its southwest. The large majority of this lot consists of a cultivated field. A farmstead, the Michaels Farm (155063/GAI-25) (Photograph 14), recorded during GAI's previous architectural survey, lies within the southeast corner of Lot 41, inside a sharp right-angle bend in North Market Street. This property has been determined Not Eligible for listing in the NRHP (PHMC/BHP review letter, March 17, 2010) (see Appendix B). A wooded wetland is delineated in the southwest corner of the parcel, adjacent to the pond. Walker Run cuts through the southwestern tip of Lot 41 to empty into the pond.

Photograph 14. Lot 41, Section 2: Michaels Farm from North Market Street, Facing Southwest

GAI defined two testing areas within Lot 41—Section 1, the cultivated field, and Section 2, the farmyard. Section 1 was investigated by pedestrian survey along transects spaced at 5-meter interval (Photograph 15). Judgmental shovel tests (n=12) were excavated in scattered localities within the field to evaluate soil profiles. Shovel testing in Section 1 exposed an Ap-B soil horizon sequence. As described for judgmental STP J-2, soils consist of an approximately 31-cm-thick dark yellowish-brown silt loam Ap horizon and a yellowish-brown silty clay B horizon (Figure 10).

Photograph 15. Lot 41, Section 1: View of Cultivated Field from Edge of North Market Street, showing Michaels Farm in Distance, Facing Southwest

Phase Ib survey of Section 2 consisted of systematic shovel testing at 15-meter intervals throughout the farmyard (Photograph 16). Twenty-one STPs were excavated within this section. Shovel testing in Section 1 revealed an A-B horizon soil sequence. As documented for STP D-1, the typical soil profile in Section 2 consisted of a 26-cm-thick dark yellowish-brown silt loam A horizon and a yellowish-brown silty clay B horizon (see Figure 10).

Photograph 16. Lot 41, Section 2: Michaels Farm,* showing *Lawn, Residence in Background and Outbuilding to Left, Facing East

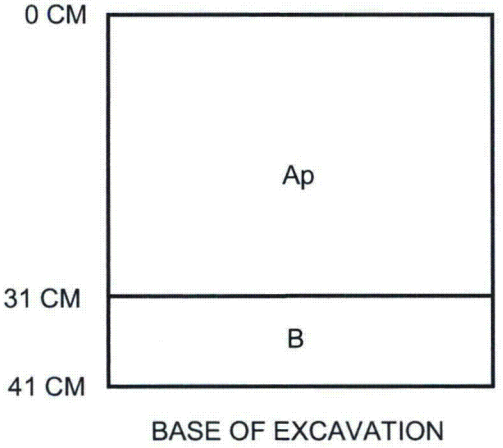
Phase Ib investigations in Lot 41 identified one prehistoric archaeological site (Site 36LU301), represented by a low-density prehistoric lithic scatter, located across the southern portion of the field (Section 1) and extending into the northern edge of the farmyard (Section 2). Site 36LU301 is described below.

A scatter of non-site historic artifacts (*n*=31), representing field scatter and yard debris associated with cultivation and occupation of the property were recovered the ground surface and in one shovel test (STP E1—A horizon) near the northern boundary of the farmyard. These artifacts consist of primarily of kitchen-related ceramics (plain whiteware, handpainted whiteware, redware and stoneware) and bottle/container glass as well as electric insulators, window glass and a piece of chain link (see Appendix D).

LOT 41

STP J-2

(SECTION 1)

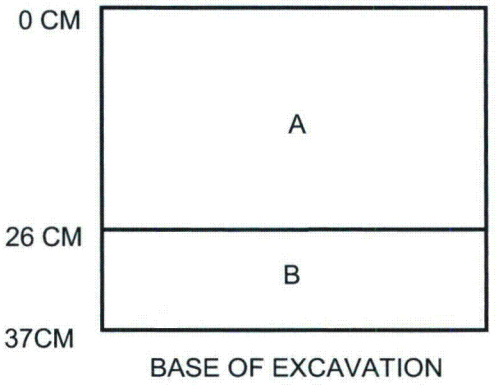


Ap – DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILTY CLAY

STP D-1

(SECTION 2)



A – DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILTY CLAY

FIGURE 10. LOT 41,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs J-2 AND D-1)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

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Lot 93D

Lot 93D consists of a narrow linear parcel located on a wooded upland south of the existing SSES facility (see Figures 1 and 2). It lies immediately east of a transmission corridor (designated Area 6 and Lot 93F) that was examined during previous Phase Ib investigations. US Route 11 cuts through the southern portion of Lot 93D. The lot skirts a residential property that borders the north edge of this roadway. The entire area of Lot 93D was considered to have a moderate to high archaeological potential. Supplemental Phase Ib survey in this locality consisted of systematic shovel testing. GAI defined two testing localities within Lot 93D: Section 1, located north of US Route 11 and Section 2, situated to the south of the road.

Section 1 is bounded to the east and north by a low stone wall for its entire length (Photograph 17). Shovel test profiles and shallow furrows observed on the ground surface suggest that this locality has been previously cultivated. GAI excavated 445 15-meter interval shovel tests in this section. The typical STP profile, as described for STP O-4, consisted of a 28-cm-thick dark yellowish-brown silt loam A horizon above a yellowish-brown silty clay B horizon (Figure 11). Shovel testing in Section yielded not cultural materials.

Photograph 17. Lot 93D, Section 1: Overview of Woodland, Facing North

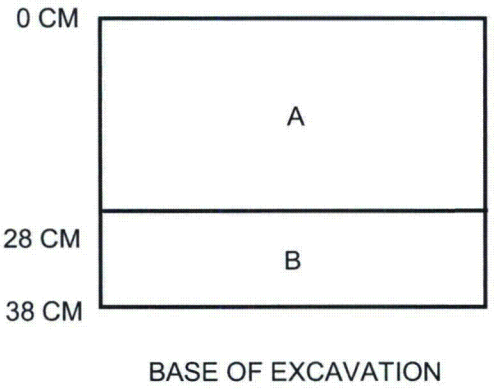
Section 2 is a wooded parcel located south of US Route 11 and behind a series of residential properties bordering the roadway (Photograph 18). A field lies to its east and a steep slope to its south. This locality is relatively level, with a slight slope towards its southern edge. Disturbances associated with the existing transmission corridor and ATV trails were observed primarily in the northwestern corner. GAI excavated 251 shovel tests within Section 2. As recorded for STP G-4, shovel test profiles generally consisted of an approximately 34-cm-thick dark yellowish-brown silt loam A horizon and a yellowish-brown silt clay B horizon (see Figure 11). In areas of disturbance (e.g., STP D-1) the A horizon has been removed and the profile consists of a CA-B soil horizon sequence. Of the 251 STPs excavated, one positive shovel test (STP C4) located in the northwest corner, produced two historic artifacts from the A horizon. These artifacts include one window glass fragment and one piece of chain link. They were concluded to represent yard scatter associated with the adjacent residential property. They do not represent an historic period archaeological site.

Photograph 18. Lot 93D, Section 2: Shovel Testing in Woodland, Facing West

LOT 93 D

STP O-4

(SECTION 1)

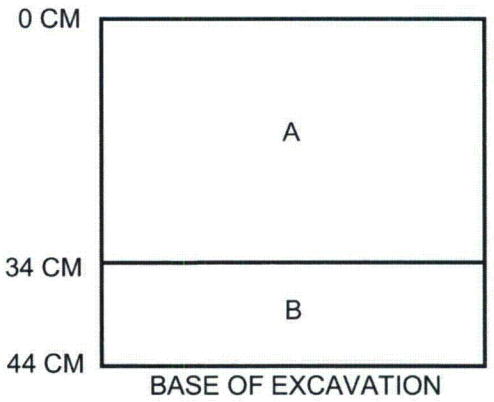


A – DARK YELLOWISH BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT CLAY

STP G-4

(SECTION 2)

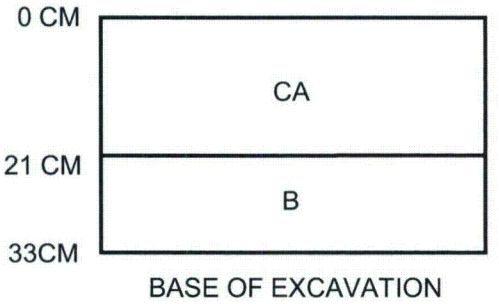


A – DARK YELLOWISH BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT CLAY

STP D-2

(SECTION 2)



CA – DARK BROWN (10YR 3/3) SILT LOAM WITH 70% GRAVEL

B – YELLOWISH BROWN (10YR 5/6) SANDY LOAM

FIGURE 11. LOT 93 D,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs O-4, C-4, AND D-2)

SCALE

1 INCH = 25 CM

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Rail Spur Corridor

The rail spur corridor is located along the eastern edge of the fenced SSES facility (see Figures 1 and 2). This locality was investigated as part of the initial BBNPP Phase Ib project area (May through August 2000) and was determined to be disturbed. Due to a revision in proposed project impacts, it was reevaluated during the current supplemental Phase Ib survey. The entire area has been previously disturbed by construction of buildings, parking areas, and rail lines associated with the plant (Photograph 19). This disturbed locality was concluded to have no archaeological potential. The rail spur corridor was documented with photographs; no subsurface survey was conducted in this area.

Photograph 19. Rail Spur Corridor: Existing Railway Tracks and Surrounding Disturbance Associated with SSES Facility, Facing South

Site 36LU301 (GAI Site 12)

Location: Lot 41, Section 1
Site Type: Possible Early Archaic Prehistoric
Site Size: 80 x 200 meters (262 x 656 feet)
Recommendations: Potentially NRHP Eligible/ Avoidance or Phase II

Site 36LU301 (GAI Site 12) consists of a low-density, dispersed prehistoric lithic scatter located on a broad upland flat approximately 91 meters (300 feet) north of Walker Run, in Lot 41, in the western portion of the project area (see Figure 2, Figure 12). A scatter of historic artifacts also occurs within the site boundary. Site 36LU301 has dimensions of 80 x 200 meters (262 x 656 feet) and lies at an elevation of 660 feet above mean sea level (amsl). It occupies the southern end of a cultivated field and the northern edge of a farmyard, northwest of a right-angle bend in North Market Street (Photographs 20 and 21). It is bounded, in general, by North Market Street to the east and a fallow field to the west. To its south, a wooded wetland area and the Michaels Farm (including a house, two garages and two sheds) lie between the cultivated field and North Market Street. The Michaels Farm (155063/GAI-25) was recorded during GAI's previous architectural survey; it dates to circa 1880 and has been determined Not Eligible to the NRHP. Walker Run, located opposite North Market Street, flows westward into a man-made pond at the southwest corner of the field, and then continues in a southwestward direction. Wetlands flank this stream both to the south of Site 36LU301 and further southeast, within the previously-surveyed BBNPP West Alternative.

[*REDACTED Photograph 20*]

Photograph 20. Site 36LU301: Overview of Cultivated Field, showing Michaels Farmstead in Background to Right, Facing East

[*REDACTED Photograph 21*]

Photograph 21. Site 36LU301: Southeast Corner of Cultivated Field and Michaels Farm, Facing Southwest

Figure 12. Site 36LU301 Showing Phase Ib Testing Locations

REDACTED Figure 12
Site 36Lu301 showing Phase Ib
Testing Locations

Site 36LU301 was identified during Phase Ib survey of the cultivated field (Lot 41, Section 1). GAI's investigations of this field included pedestrian ground survey, as well as judgmental shovel testing to document stratigraphy and the depth of cultural deposits. GAI conducted pedestrian survey of the field along transects spaced at 5-meter (16-foot) intervals (Photograph 22). Observed surface artifacts were marked with pin flags. Due to the dispersed nature of the artifact scatter, individual surface artifacts were plotted on a site map and collected individually, rather than being collected within a surface collection block. Twelve judgmental shovel tests were excavated in dispersed localities within the field, with four of these (STPs 3, 10, 11, and 12) occurring within the site boundary (see Figure 12). All four of these shovel tests were negative. The farmyard area south of the field was subject to systematic shovel testing along transects spaced at 15-meter (49-foot) intervals (see Figure 12).

Photograph 22. Site 36LU301: Pedestrian Ground Survey of Cultivated Field (Lot 41, Section 1), Facing South

Phase Ib investigations yielded a dispersed low-density surface scatter of 13 prehistoric lithics, as well as a scatter of 21 historic specimens, across the southern end of the field. Systematic shovel testing within the farmyard yielded one additional prehistoric artifact from a single positive STP (STP A-2, A horizon), located at the northern edge of the yard (see Figure 12). Radial shovel tests excavated around this initial findspot produced no additional artifacts.

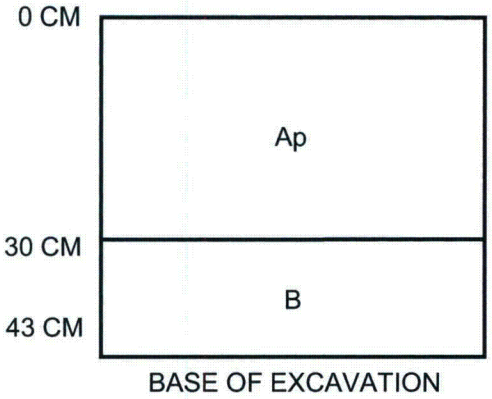
Shovel testing revealed an Ap-B soil horizon sequence within the cultivated field (Lot 41, Section 1). As described for STP 10 the profile consists of a 30-cm-thick dark yellowish-brown silt loam plowzone above a brownish-yellow silty clay B horizon (Figure 13). Shovel testing in the farmyard (Lot 41, Section 2) exposed an A-B soil horizon sequence. The profile of positive STP A-2 included a 30-cm-thick brown silt loam A horizon and a yellowish-brown clay loam B horizon. All but one of the prehistoric artifacts were found on the surface of the cultivated field; the single prehistoric lithic recovered during shovel testing occurred in an A horizon. No cultural features were identified.

Prehistoric Artifact Analysis

The 14 prehistoric lithic recovered from the site consist of 5 bifaces, 7 debitage and 2 cobble tools (hammerstones/pecking stones). This assemblage represents a very high tool to debitage ratio (1:1), suggesting that lithic reduction activities were not the primary activity at the site. Lithic analysis identified four raw material types in the assemblage, including Onondaga chert, Shriver/Helderberg chert, argillite and sandstone (Table 4). Sandstone was used exclusively for the two cobble tools. Among the chipped stone assemblage, Shriver/Helderberg chert was the most common raw material, accounting for six artifacts, including three of the five bifaces.

SITE 36LU301

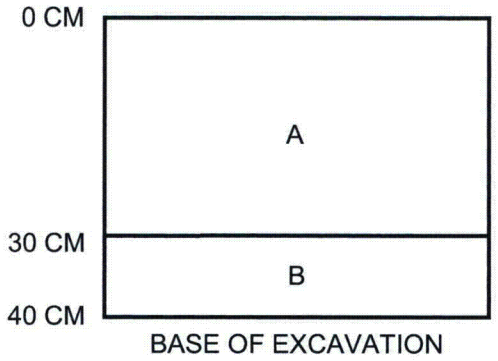
STP J-10



Ap – DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILTY CLAY

STP A-2



A –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) CLAY LOAM

FIGURE 13. SITE 36LU301,
REPRESENTATIVE SHOVEL TEST PROFILES (STPs J-10 AND A-2)

SCALE

1 INCH = 25 CM

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Table 4. Site 36LU301: Crosstabulation of Artifact Type by Lithic Raw Material

Lithic Raw Material	Biface	Cobble Tool	Debitage	Total	%
Argillite	1		3	4	28.6%
Onondaga chert	1		1	2	14.3%
Sandstone		2		2	14.3%
Shriver/Helderberg chert	3		3	6	42.9%
TOTAL	**5**	**2**	**7**	**14**	**100.0%**

Shriver/Helderberg chert and Onondaga chert are both locally-available raw materials. Primary outcrops of Shriver/Helderberg occur in the project vicinity, while Onondaga chert (which outcrops in New York) is available as secondary cobble deposits in streambeds. An analysis of cortical surfaces indicates that Shriver/Helderberg artifacts include one specimen with block cortex and one specimen with cobble cortex (Table 5). This suggests both primary and secondary sources for this raw material. One argillite debitage also retains cortex, which was indeterminate as to type.

Table 5. Site 36LU301: Crosstabulation of Cortex Type by Lithic Raw Material

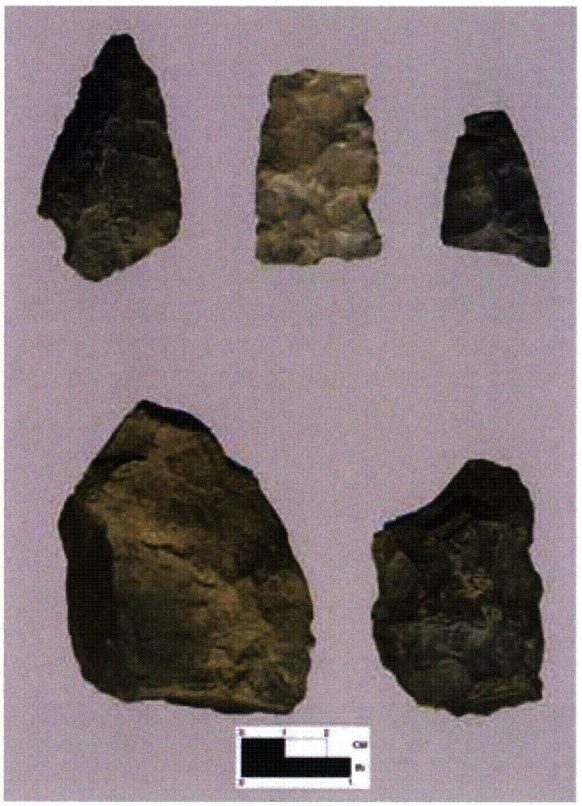
Lithic Raw Material	Absent	Block	Cobble	Indeterminate	Total	%
Argillite	3			1	4	33.3%
Onondaga chert	2				2	16.7%
Shriver/Helderberg chert	4	1	1		6	50.0%
TOTAL	**9**	**1**	**1**	**1**	**12**	**100.0%**

The sample of five bifaces includes two projectile points, one late stage biface, one middle stage biface and one early stage specimen (Table 6, Photograph 23). Both projectile points (FS 2 and 18) are made from Shriver/Helderberg chert. FS 2 represents a possible Early Archaic MacCorkle-like specimen; due to a broken basal lobe, this point cannot be clearly identified as to type. Its distal end has been reworked, resulting in slightly constricted margins near the tip. FS 10 is an untyped medial fragment of a projectile point. This broken specimen exhibits a diagonal snap at its proximal end and a possible impact snap with a hinge fracture at its distal end.

Table 6. Site 36LU301: Summary of Lithic Tools

FS#	Location	Soil Horizon	Wt (g)	Lithic Raw Material	Artifact Type	Cortex	Condition	L (mm)	W (mm)	Th (mm)	Comments
2	SC #15	surface	16.21	Shriver/Helderberg	Projectile Point	Absent	broken	58.4	35.5	7.9	Possible EA MacCorkle-like
10	SC #29	surface	7.31	Shriver/Helderberg	Projectile Point	Absent	medial		25	7.8	Untyped
18	SC #51	surface	10.56	Onondaga	Late-Stage Biface	Absent	medial		29.3	6	
4	SC #20	surface	37.2	Shriver/Helderberg	Middle-Stage Biface	Absent	broken		42.2	13.4	
8	SC #27	surface	117.14	Argillite	Early-Stage Biface	Absent	broken		60.3	19.7	Utilized
6	SC #24	surface	670.13	Sandstone	Hammerstone		whole	89.5	83	67.7	Utilized
7	SC #25	surface	617.29	Sandstone	Hammerstone		whole	85.7	84.8	61.3	Utilized

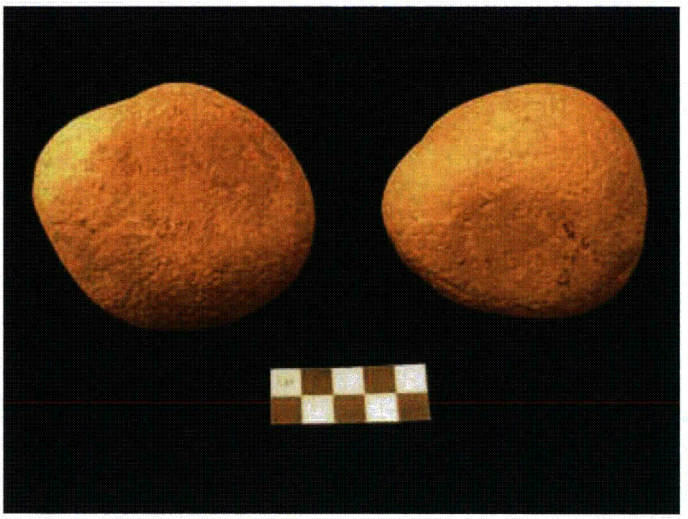
The single late stage biface (FS 18), made from an Onondaga chert flake, is a medial fragment that is snapped at both ends. The middle-stage biface (FS 4) is a broken specimen manufactured from Shriver/Helderberg chert. The single early-stage biface (FS 8), made from argillite, is also a broken specimen. This biface fragment exhibits usewear along one flaked margin, suggesting that after being broken early in the manufacturing process it was used for various cutting or scraping tasks.



Photograph 23. Site 36LU301: Bifaces

Top—Possible Early Archaic MacCorkle-like Projectile Point (FS 2), Late Stage Biface (FS 18), Untyped Projectile Point (FS 10); Bottom—Early Stage Biface (FS 8), Middle Stage Biface (FS 4)

Both hammerstones/pecking stones (FS 6 and 7) were made from sandstone cobbles and are very similar in size and shape (see Table 6, Photograph 24). FS 6 exhibits battering/pecking damage in a localized area on its high point. FS 7 also has battering/pecking along its high point and along the margins to either side. These cobble tools were both recovered from the northwest corner of the site, approximately 40 meters (131 feet) apart. Such tools could have been used for a variety of percussive tasks, such as chipped stone tool manufacture, initial shaping of ground stone tools, or food processing.



Photograph 24. Site 36LU301: Hammerstones (FS 6 and FS 7)

Flake type analysis indicates that the sample of seven lithic debitage recovered from the site includes 2 biface reduction flakes, 2 decortication flakes and 3 flake fragments (Table 7). The biface reduction flakes represent late stage lithic reduction for biface manufacture and/or resharpening. The decortication flakes are characteristic of early stage lithic reduction activities. Flake fragments are not associated with a particular stage of reduction. Although results may be skewed by the small sample size, based on this flake type distribution, prehistoric occupants likely conducted limited early and late stage lithic reduction at Site 36LU301.

Table 7. Site 36LU301: Crosstabulation of Flake Type by Lithic Raw Material

Lithic Raw Material	Biface Reduction	Decortication Flakes	Flake Fragments	Total	%
Argillite	1		2	3	42.9%
Onondaga chert	1			1	14.3%
Shriver/Helderberg chert		2	1	3	42.9%
TOTAL	**2**	**2**	**3**	**7**	**100.0%**

Historic Artifact Analysis

A low-density dispersed scatter of 21 historic artifacts was recovered within the boundaries of prehistoric Site 36LU301; additional historic artifacts were found in the field outside the site boundaries. The sample of 21 historic artifacts consists predominantly of kitchen-related specimens (86 percent) with a low frequency of architectural debris and activities-related artifacts (Table 8). These artifacts include 14 historic ceramics (9 redware, 4 whiteware, and 1 ironstone sherds), 4 bottle/container glass fragments, 1 brick, 1 window glass and 1 toy car. The assemblage includes eight temporally diagnostic specimens (olive bottle glass, plain whiteware, spongeware whiteware, and plain ironstone). Of these, only one spongeware whiteware sherd (1830-1871) dates to the mid- to late-nineteenth century; date ranges for the remaining temporally diagnostic artifacts extend to the present.

No structural remains were identified within the site boundary during fieldwork and historic map review revealed no structures within area of the cultivated field, north of the Michaels Farm. This sample of historic artifacts is concluded to represent field scatter associated with cultivation of this property; they do not constitute an historic period archaeological site.

Table 8. Site 36LU301: Historic Artifact Pattern Analysis

Class	Sub-Class	Ware Type/Object	Total	%
Activities	**Toys**	**Car**	**1**	**4.76%**
Architecture	Brick, Block	brick fragment	1	4.76%
	Window Glass	window glass	1	4.76%
		Architecture Total	**2**	**9.52%**
Kitchen	Bottles/Jars	wine bottle	3	14.29%
		container glass	1	4.76%
	Ceramics	ironstone, plain	1	4.76%
		redware	9	42.85%
		whiteware, plain	3	14.29%
		whiteware, spongeware	1	4.76%
		Kitchen Total	**18**	**85.71%**
		TOTAL	**21**	**100.00%**

Site 36LU301 Recommendations

Site 36LU301 represents the remains of a possible Early Archaic occupation in an upland field north of Walker Run; the site area also includes a field scatter of 19th and 20th century kitchen and architectural debris. The site consists of a low-density (n=14), dispersed prehistoric lithic artifact scatter with dimensions of 80 x 200 meters (262x656 feet). Of the 14 lithics recovered, all but one was found on the surface of a cultivated field; one artifact was found in an A horizon within the adjacent farmyard. Although artifact density is low, the site contains a fairly wide range of artifact types and a very high tool to debitage ratio (7 tools and 7 debitage). Tools include 1 possible Early Archaic Maccorkle-like projectile point, 1 untyped point, 3 unfinished bifaces, 2 hammerstones/pecking stones). Based on the results of Phase Ib survey, this site may represent the remains of one or more small, brief campsites. Activities included limited early through late-stage lithic reduction, cutting/scraping activities, and percussive tasks such as chipped stone tool manufacture, pecked stone shaping, or food processing. The integrity of this site is good, with disturbances limited to cultivation, and possibly limited farmstead-related disturbances (along the southern edge of the site). The site's location, on an upland flat adjacent to Walker Run and associated wetlands, would have provided numerous resources for prehistoric inhabitants. Based on its integrity, range of recovered types, and resource-rich setting, Site 36LU301 has the potential to yield diagnostic artifacts and, possibly, intact prehistoric features. Few prehistoric sites have been identified in upland settings within the project vicinity. Accordingly, GAI concludes that Site 36LU301 has a potential to contribute important information on the prehistoric utilization of this area. GAI recommends that Site 36LU301 is potentially eligible for listing in the NRHP under Criterion D. Accordingly, GAI recommends either site avoidance or Phase II testing to conclusively evaluate the NRHP eligibility of this site.

Site 36LU302 (GAI Site 13)

Location: Lot 6B and Lot 6
Site Type: Mid Nineteenth through Late Twentieth Century Domestic Site (Heavily Disturbed)
Site Size: 40 x 60 meters (131 x 197 feet)
Recommendations: Not NRHP Eligible/ No Further Work

Site 36LU302 (GAI Site 13) represents the remains of a mid-nineteenth through late twentieth century domestic site on a wooded hillslope north of Beach Grove Road. It is located in Lot 6B, and a portion of the surrounding Lot 6, within the Northern Section of the project area (see Figures 1 and 2). An intermittent drainage lies immediately east of the site. Site 36LU285, a mid-nineteenth to twentieth century domestic site is situated immediately to the south of Site 36LU302, opposite Beach Grove Road; Site 36LU285 was investigated during GAI's Phase Ib and II study and recommended Not Eligible to the NRHP. Based on cartographic review, two former houses was located in the vicinity of Site 36LU302 as early as 1873 and were still standing in 1959, and perhaps in 1969 and later (see west and center houses on Figures 3, 4 and 5). Another structure (east house) was mapped just east of the drainage, near the Lot 6/Lot 6A boundary, on the 1873 map (see Figure 3). Lines of large pine trees, forming a U-shape on the hillslope north of Beach Grove Road, likely mark the north, east, and west edges of a former yard fronting the roadway in this locality (Figure 14, Photographs 25 and 26). Based on historic mapping, this tree line was present as early as 1959 (see Figure 5). Site 36LU302 lies at an elevation of 730 feet amsl and has dimensions of 40 x 60 meters (131 x 197 feet), extending eastward from the western line of pine trees to an intermittent drainage. Disturbances within the site area include removal of the former structure and road construction along its southern edge.

Photograph 25. Site 36LU302: View of Site Area from South Side of Beach Grove Road, showing Large Pine Trees, Facing Northeast

Photograph 26. Site 36LU302: Wooded Hillside showing Row of Pine Trees near North Edge of Site in Vicinity of Feature 1, Facing Northeast

Figure 14. Site 36LU302 Showing Phase Ib Testing Locations

REDACTED Figure 14
Site 36Lu302 showing Phase Ib Testing Locations

Phase Ib investigations consisted of close-interval shovel testing, feature investigation and mapping. GAI excavated shovel tests at 5-meter (16-foot) intervals along transects spaced 5 meters (16-feet) apart within the site vicinity, except where prevented by tree falls or steep slopes. Of the 52 shovel test pits (STPs) excavated, 13 STPs were positive, yielding a total of 185 historic artifacts. Phase Ib investigations also identified two historic features: Feature 1—a flagstone patio located at the northern edge of the site along the tree line; and Feature 2—an ash/refuse pit in the northeast corner of the site, east of the line of trees. No evidence of a structure foundation or cellar hole was identified despite close interval testing and a pedestrian reconnaissance of the area.

Artifacts were concentrated in two loci: the area of Feature 2 in the eastern portion of the site, east of the line of pine trees, and in a scatter of artifacts in the northwestern portion of the site. Of the twenty shovel tests excavated within the area bounded by pine trees only two were positive (n=4 artifacts). Three positive STPs were located in a transect north of the northern pine tree line. Eight positive STPs were identified between the eastern tree line and the intermittent drainage, approximately 40 meters (131 feet) to the east.

Shovel testing revealed an A-B soil horizon sequence across the majority of the site. The silt loam A horizon is typically 23-37 cm thick and overlies a silty clay loam B horizon (Figure 15, STP D4). The four shovel tests located in the northeast corner of the site exposed variable profiles associated with Feature 2. In STPs H-4 and H-5 the Feature 2 fill (composed of brown silt loam with ash and coal slag) varies from 2 to 70 cm thick and overlies an Ab-B soi horizon sequence (see Figure 15, H-4). In STP G4, the original A horizon has been removed and the feature fill superimposes the B horizon, with a modern A horizon formed at the ground surface (A-feature fill-B horizon soil sequence) (see Figure 15, STP G4). In STP G5, located immediately downslope from STP G-4, an overthickened A horizon/CA deposit extends to 60 cm below surface, where excation was halted by rock; this deposit is likely associated with Feature 2. The variability in soil profiles encountered in the area of Feature 2 suggests multiple dumping episodes of ash refuse in this portion of the site.

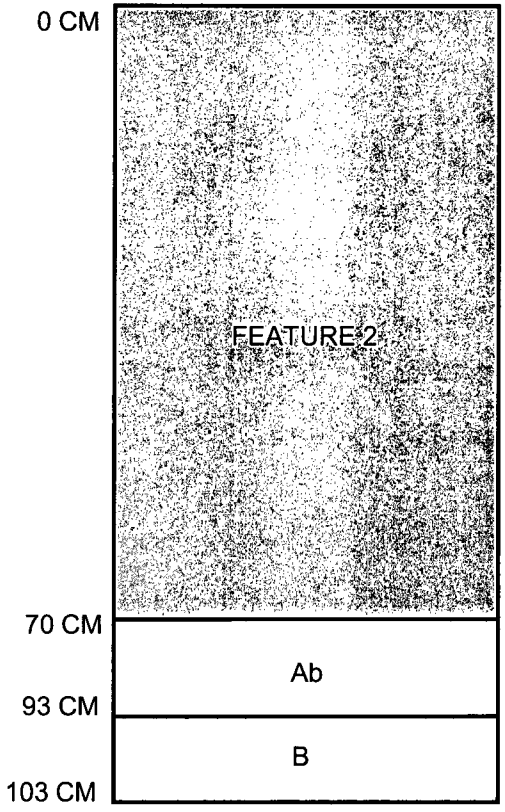
Stratigraphically, the sample of 185 artifacts was recovered predominantly from Feature 2 (47 percent) and from near-surface contexts (i.e. surface and A horizon) (30 percent) (Table 9). As noted above, the artifacts (approximately 23 percent) found in the A/CA horizon were all recovered from an over-thickened (60-cm thick) surface horizon in STP G5, which may also be associated with Feature 2. A single artifact was found in an Ab horizon (70-93 cm below surface) below Feature 2 fill (STP H4).

Table 9. Site 36LU302: Stratigraphic Distribution of Historic Artifacts

Soil Horizon	Artifact Count	%
Surface	11	6.0
A	44	23.8
Ab	1	0.5
A/CA/Feature 2	42	22.7
Feature 2	87	47.0
TOTAL	**185**	**100.0**

SITE 36LU302

STP H-4

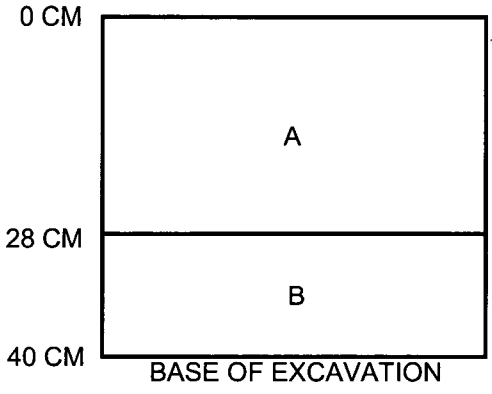


FEATURE 2 –BROWN (10YR 4/3) SILT LOAM WITH ASH AND COAL SLAG

Ab –BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) CLAY LOAM

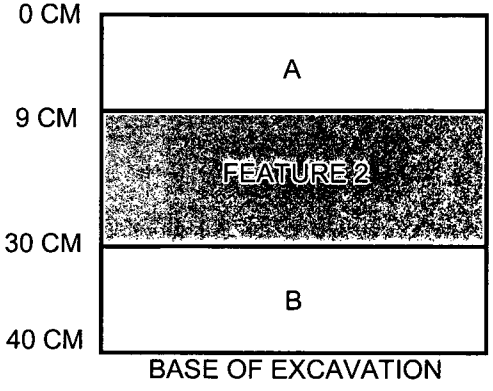
STP D-4



A – DARK YELLOWISH BROWN (10YR 4/3) SILT LOAM

B – YELLOWISH BROWN (10YR 5/6) SILT CLAY

STP G-4



A – DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

FEATURE 2 –BROWN (10YR 4/3) SILT LOAM WITH ASH AND COAL SLAG

B – YELLOWISH BROWN (10YR 5/6) SILT CLAY

FIGURE 15. SITE 36LU302, REPRESENTATIVE SHOVEL TEST PROFILES (STPs D-4, G-4, AND H-4)

SCALE

0 CM 25 CM 50 CM

1 INCH = 25 CM

gai consultants

BELL BEND NUCLEAR POWER PLANT
UNISTAR NUCLEAR ENERGY, LLC.

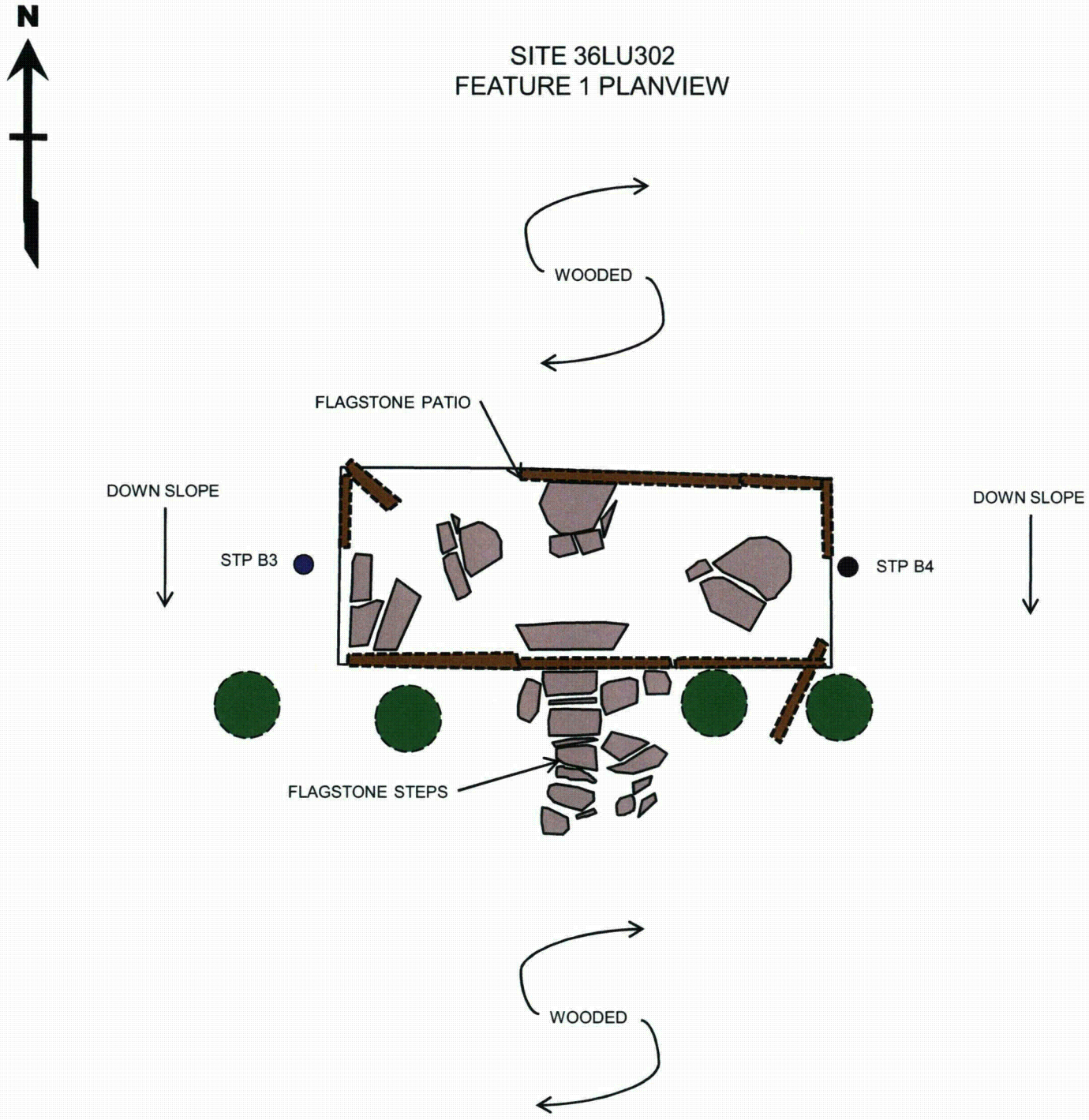
DRWN: LMD DATE: 06/30/2010
CHECKED: BAM APPROVED:BAM

Feature 1 (flagstone patio) is located north of (upslope from) the line of pine trees marking the northern edge of the former yard (see Figure 14, Photograph 27). The hillslope here has been leveled to install the patio and soil and leaf litter obscured much of the feature when it was initially observed. The patio measures 6x2.5 meters (19.7 x 8.2-feet) and consists of drylaid flagstones bordered by landscaping railroad ties (Figure 16). Approximately five flagstone steps extend downslope from this feature towards the area of the former yard.

Photograph 27. Site 36LU301: Feature 1 (Flagstone Patio), Facing East

Feature 2 (ash/refuse pit) was encountered in four shovel test pits, located in the northeast corner of the site, between the eastern line of pine trees and the intermittent drainage. This feature measures approximately 10 meters (33 feet) in diameter and varies in thickness from 2 to 70 cm (see Figure 14, Photograph 28). The feature fill consists of a brown silt loam containing ash and coal slag. As described above, stratigraphically, the Feature 2 fill either overlies an A-B soil horizon sequence, or it directly superimposes the B horizon (with a cap of recent A horizon a the surface). This feature represents variable episodes of ash/refuse dumping east of the former house and yard area.

Photograph 28. Site 36LU302: Partially-Excavated STP G-4 showing Feature 2 Fill (Ash Pit/Dump), Facing North



LEGEND

- DRY-LAID FLAGSTONE AREA
- ROTTED WOOD TIMBER
- PINE TREE
- POSITIVE HISTORIC STP
- NEGATIVE STP

SCALE

0 METER 2 METERS 4 METERS

FIGURE 16
SITE 36LU302: FEATURE 1
PLANVIEW

gaiconsultants

BELLBEND NUCLEAR POWER PLANT
UNISTAR NUCLEAR ENERGY, LLC.

DRWN: AJW DATE: 06/29/2010
CHECKED: BAM APPROVED: BAM

Of the185 artifacts recovered from Site 36LU302, over three-quarters (78 percent; *n*=145) is composed of kitchen-related bottle glass and ceramics (Table 10). Architectural debris (mostly window glass and nails) represents 10 percent (*n*=19) of the assemblage, while the remainder consists of low frequencies of activity-related and other materials.

The sample of kitchen glass (*n*=81) includes green, clear and amber bottle glass, clear and light container glass, light blue jar glass, and clear decorative table glass. The ceramic assemblage (*n*=59) consists largely of plain and shell-edged whiteware, with smaller quantities of redware, stoneware, ironstone and porcelain. Architectural materials include window glass (*n*=10) and nail fragments (5 wire and 1 indeterminate), along with individual specimens of ceramic tile, mortar and shingles. Activities-related artifacts are represented by tin can fragments, bleach bottles, ceramic pipe fragments, pieces of wire, a film canister and a toy gun. The Site 36LU302 pattern analysis is not characteristic of the remains of a domestic site, which would typically include higher percentage of architectural debris.

Although a structure is mapped in this general area as early as 1873 and is still standing in 1959 (see Figure 5), the types of artifacts, quantity of material, and spatial distribution of the material culture is more reflective of a house site where the buildings and the upper portion of the A horizon have been removed. Shovel testing, however, revealed an A-B soil horizon sequence throughout the bulk of the site (exclusive of the Feature 2 vicinity).

Table 10. Site 36LU302: Pattern Analysis, Historic Artifacts

Class	Sub-Class	Ware Type/Object	Count	%
Activities	Activities-Other	bleach bottle	2	1.1%
		ceramic pipe	2	1.1%
		film canister lid	1	0.5%
	Cans/Tins	can fragments	5	2.7%
	Toys	toy gun	1	0.5%
	Machine Parts/Hardware	wire	2	1.1%
		Activities Total	**13**	**7.0%**
Architecture	Flooring Materials	ceramic tile	1	0.5%
	Mortar, Cement	mortar fragment	1	0.5%
	Roofing Materials	shingle	1	0.5%
	Window Glass	window glass	10	5.4%
	Nails, Spikes, Etc.	nail, indeterminate	1	0.5%
		nail, wire	5	2.7%
		Architecture Total	**19**	**10.3%**
Arms	**Ammunition**	**shotgun shell**	**1**	**0.5%**
Clothing	**Clothing Fasteners**	**zipper**	**1**	**0.5%**
Kitchen	Bottles/Jars	bottle glass	42	22.7%
		container glass	24	13.0%
		jar glass	2	1.1%
	Ceramics	hardpaste porcelain, plain	1	0.5%
		ironstone, plain	4	2.2%
		redware, brown glaze	9	4.9%
		stoneware, buff	4	2.2%
		whiteware, plain	27	14.6%
		whiteware, shell edge	14	7.6%

Class	Sub-Class	Ware Type/Object	Count	%
	Decorative Table Glass	Press molded hollowware	13	7.0%
	Kitchen Related-Other	bottle caps	5	2.7%
		Kitchen Total	**145**	**78.4%**
Unidentifiable	Indeterminate	metal	3	1.6%
		rubber	3	1.6%
		Unidentifiable Total	**6**	**3.2%**
		TOTAL	**185**	**100.0%**

Of the 87 artifacts clearly recovered from Feature 2 (ash dump), over three quarters (77 percent) consisted of kitchen-related specimens (e.g., bottle glass, ceramics, and table glass) (Table 11). Lower quantities of activities-related materials and architectural debris were also found. These materials represent a mix of mid- to late-nineteenth artifacts (e.g., shell edge whiteware sherd) through late-twentieth century artifacts (e.g., toy gun, wire nails, stippled amber bottle glass). This artifact distribution suggests that Feature 2 represents the location of a mid-nineteenth through late twentieth century refuse and trash dump. Artifacts found in Feature 2 occur in a mixed context and artifacts from different temporal periods cannot be separated stratigraphically.

Table 11. Site 36LU302: Feature 2, Pattern Analysis, Historic Artifacts

Class	Sub-Class	Ware Type/Object	Count	%
Activities	Cans/Tins	can fragments	5	5.75%
	Commercial Pharmaceutical	bleach bottle	2	2.30%
	MachineParts/Hardware	wire	1	1.15%
	Toys	toy gun	1	1.15%
		Activities Total	**9**	**10.34%**
Architecture	Mortar, Cement	mortar fragment	1	1.15%
	Nails,Spikes, Etc.	nail, wire	4	4.60%
		Architecture Total	**5**	**5.75%**
Kitchen	Bottles/Jars	bottle glass	33	37.93%
		container glass	5	5.75%
	Ceramics	whiteware, shell edge	14	16.09%
		redware, brown glaze	2	2.30%
	Decorative Table Glass	glass hollowware	8	9.20%
	Kitchen Related-Other	bottle caps	5	5.75%
		Kitchen Total	**67**	**77.01%**
Unidentifiable	**Indeterminate**	**metal**	**6**	**6.9%**
		TOTAL	**87**	**100.00%**

The artifact assemblage from Site 36LU302 contains 68 temporally diagnostic specimens (Table 12). The majority of these artifacts are ceramics (*n*=45), including plain whiteware, shell edge whiteware, and ironstone. Press molded decorative table glass, bottle glass, bleach bottle fragments and wire nails constitute the remainder of the temporally diagnostic artifacts. Shell edge whiteware sherds (*n*=14) are the only specimens dating to the nineteenth century.

Redware, which was produced for centuries, was not in common usage during the late-nineteenth or twentieth century due to the known health hazards associated with the lead glaze used on this ware type. The date range for the other artifacts extends to 1950 or to the present. This artifact assemblage suggests a mid-nineteenth through twentieth century date for the site.

Table 12. Site 36LU302: Dating Analysis, Historic Artifacts

Ware Type/Object	Decor/ Manufact	Motif; Embossment; Makers Mark	Reference	Count	Beg Date	End Date
nail, wire			Nelson 1968; IMAC 1984	5	1880	2010
bleach bottle	stippled	"Clorox	Busch 1983	2	1939	2010
bottle glass	stippled		Busch 1983	2	1939	2010
bottle glass		Anchor Hocking	Toulouse 1971	1	1938	2010
glass hollowware	press molded		Schroy 2001	13	1820	1950
ironstone, plain			Wetherbee 1980	4	1840	2010
whiteware, plain			Price 1979; Noel Hume 1980	27	1830	2010
whiteware, shell edge	sponge décor	fleur de lis stamp on int rim;"Ivory Porcelain" indet mark	Lofstrum et al. 1982; Miller & Hunter 1990	14	1830	1891
			Total Diagnostic Artifacts	**68**		
Mean Date	1907.2					
TPQ	1939					

In summary, cartographic evidence indicates the presence of a domestic structure at Site 36LU302 from 1873 to at least 1955. The Phase Ib artifact assemblage has a general mid-nineteenth to twentieth century temporal affiliation. Phase Ib survey revealed no evidence of a structure foundation despite close interval testing and repeated pedestrian reconnaissance of the site vicinity. The paucity of artifacts suggests that after the house was demolished, the associated debris was removed. This scenario conflicts with the soil stratigraphy, which indicates an A-B soil horizon sequence across most of the site. However, disturbance or removal of the upper portion of the soil profile is supported by general low artifact density and the fact that the recovered artifact assemblage has a lower percentage of architecture-related artifacts than anticipated at a domestic site. Based on the available evidence, this site has been heavily disturbed

Site 36LU302 Recommendations

Based on the results of Phase Ib investigations, Site 36LU302 represents the disturbed remains of a mid nineteenth to twentieth century domestic occupation, located near the base of hillslope north of Beach Grove Road. Phase Ib fieldwork identified two cultural features (Feature 1—a flagstone patio and Feature 2—an ash dump) and an associated low-density historic artifact assemblage (n=185) in proximity to a U-shaped border of pine trees, likely marking a former property boundary or yard area. The majority of the artifacts were recovered from disturbed soils in the area of Feature 2, east of the line of trees. Although historic map research indicates a structure in this locality from 1873 through at least 1955, no evidence of a structure foundation or cellar hole was identified. The lack of structural remains and the associated low density of artifacts suggest that the structure was demolished and the debris and upper portion of the soil profile was removed. Accordingly, the integrity of this site is concluded to be poor.

Based on the site's reduced integrity, lack of structural remains, and mixed mid-nineteenth through twentieth century artifact assemblage, GAI concludes that the potential for Site 36LU302 to contribute important information on the prehistoric utilization of this area is low. GAI recommends that Site 36LU302 is Not Eligible to the National Register under Criterion D. No further archaeological investigations are recommended for this site.

V. Summary and Recommendations

GAI conducted Second Supplemental Phase Ib archaeological investigations (Power Block Relocation) at the Bell Bend Nuclear Power Plant (BBNPP), Luzerne County, Pennsylvania, for AREVA on behalf of UniStar. Supplemental Phase Ib fieldwork, performed between April 27 and May 23, 2010, investigated approximately 109.05 acres (44.1 hectares) of moderate to high archaeological potential within the approximately 176-acre (71 hectare) project APE; 39 acres (15.8 hectares) of the overall approximately 215-acre (87-hectare) Second Supplemental Phase Ib project area had been previously-surveyed and were excluded from further investigation. Phase Ib fieldwork consisted of the excavation of 1,358 shovel test pits and pedestrian ground survey of 14.95 acres (6.05 acres) of cultivated fields.

The Supplemental Phase Ib survey identified two archaeological sites (prehistoric Site 36LU301 and historic period Site 36LU302) and one prehistoric isolated find (IF 28) within the project area. These resources yielded 221 artifacts (206 historic artifacts and 15 prehistoric lithic artifacts). Shovel testing and pedestrian ground survey also produced 40 historic artifacts representing non-site field scatters.

Based on Phase Ib results, GAI recommends that prehistoric Site 36LU301 (Lot 41, Sections 1 and 2) is potentially eligible for listing in the NRHP under Criterion D. GAI recommends site avoidance or Phase II investigations of this locality.

Historic-period Site 36LU302 (Lot 6B) is recommended as Not Eligible to the NRHP and no further work is recommended at this site.

Prehistoric IF 28 (Lot 3) does not meet the minimum requirements to be considered a significant archaeological resource. Accordingly, no further archaeological investigations of this resource are recommended.

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APPENDIX A
BHP REPORT SUMMARY FORM

Pennsylvania Historical & Museum Commission
Bureau for Historic Preservation • State Historic Preservation Office

Archaeological Report Summary Form

ER# _____

DATE 10/11/2010

PROJECT CHECKLIST: Please fill out a copy of this checklist and include it with your initial report submission,(including with management summaries or draft reports). This form may be downloaded and expanded as needed, but please do not eliminate any fields.

1. **Report Title** Addendum Report, Second Supplemental Phase Ib Cultural Resources Investigation, Bell Bend Nuclear Power Plant, Luzerne County, Pennsylvania, Prepared for AREVA NP Inc. and UniStar Nuclear Development, LLC, by GAI Consultants, Inc. Homestead, Pennsylvania.
2. **PI** Barbara A. Munford (☒ MA, ☐ PhD) **/Firm** or Institution GAI Consultants, Inc.
3. **Report Date** (Month/Day/Year) October 8, 2010
4. **Number of Pages** ~50 + appendices
5. **Agency Name** NRC Federal ☒ State ☐
6. **Project Area County/Municipality** (list all)

County	Municipality
Luzerne	Salem Township

7. **Project Area Drainage(s)**, (list all)

Sub-basin	Watershed
Central Susquehanna (Number 5)	Toby-Wapwallopen Creek (B) Nescopeck Creek (D)

8. **Project Area Physiographic Zone(s)** (list All) (Use DCNR Map 13 compiled by W.D. Sevon, Fourth Edition, 2000.)

Physiographic Zone
Ridge and Valley Province, Susquehanna Lowlands Section

Archaeological Report Summary Form

ER# _____

DATE 10/11/2010

9. **Report Type** (some reports are combinations, check as many as apply to this report)

- ☐ Phase IA/Sensitivity Study
- ☒ Phase I
- ☐ Phase II
- ☐ Phase III
- ☐ Historic Structures
- ☐ Geomorphology
- ☐ Determination of Effects
- ☐ Other _____

10. **Total Project Area** 71 hectares

11. **Low Probability/Disturbed Areas** 27 hectares = 38 % of project area

12. **Phase I Methods used for total project** (check as many as apply)

☒ shovel tests, ☐ controlled test units/deep tests,
☒ surface survey, ☐ informant interview, ☒ other:

13. **Total Number of Sites** Encountered/Phase I two (2)

Total Sites Tested/Phase II

Total Sites Excavated/Phase III _____

14. Updated PASS Information:

Please complete an updated PASS form **for each site** reported by this report. Updated forms need only include the new information and the site number and name.

15. PASS Site Specific Information:

In addition, the following pages must also be completed **for each site**. Complete only the portions that pertain to the current report. If the report is a stand-alone Phase II, you do not need to fill in the Phase I methods, since they should have been included in the summary form for the previous report.

15. PASS Site Specific Information

Please complete the following **for each site** reported by this report.

PASS NUMBER 36LU301

A. Phase I Methods (how the site was located - check as many as apply)

☐ shovel tests, ☐ controlled test units/deep tests,
☒ surface survey, ☐ informant interview, ☒ other: judgmental shovel test pits

B. Phase II Methods

☐ controlled surface collection
☐ controlled excavation w. screening of plowzone, > 5 units
☐ mechanical stripping of plowzone (_____%)
☐ deep excavation units
☐ remote sensing
☐ other _____

square meters of site tested: _____ sq. m
% of site area tested: _____ %

C. Phase III Methods

☐ controlled surface collection
☐ controlled excavation w. screening of plowzone, > 5 units
☐ mechanical stripping of plowzone _____%
☐ deep excavation
☐ block excavations
☐ remote sensing
☐ environmental reconstruction (soils, floral, pollen)
☐ dietary reconstruction (floral, faunal)
☐ intensive lithic analysis (functional)
☐ intensive lithic analysis (technological)
☐ raw material sourcing
☐ ceramic analysis (seriation)
☐ ceramic analysis (functional)
☐ blood residue
☐ other _____

square meters of site tested: _____ sq. m
% of site area tested: _____ %

Recommendations (normally completed only after Phase II)**:**

-- NR Eligibility recommendation
☐ eligible, ☐ ineligible, ☐ undetermined

-- reasons for determination (check as many as apply; expand as needed)

☐ eligible: Criterion A. Explain _____
☐ eligible: Criterion B. Explain _____
☐ eligible: Criterion C. Explain _____
☐ eligible: Criterion D:
- ☐ settlement patterning (intersite patterning)
- ☐ intrasite artifact patterning
- ☐ features
- ☐ radiocarbon dating
- ☐ organic preservation
- ☐ evidence of culture change through time
  - ☐ stratified ☐ temporally discrete clusters
- ☐ burials/human remains
- ☐ technological
- ☐ economics
- ☐ ethnicity
- ☐ dietary
- ☐ other(specify): _____

☐ ineligible
- ☐ disturbed
- ☐ ephemeral occupation
- ☐ redundant information
- ☐ undatable
- ☐ other (specify):

E. Artifacts/Collections

☒ will be donated to the State Museum of Pennsylvania
- ☐ gift agreement from private owner enclosed

- or -

- ☐ transfer of responsibility from State Agency enclosed
- ☐ election of repository from Federal Agency enclosed
- ☒ artifacts washed/marked/cataloged following State Museum guidelines

-- collection will be submitted by _____(date)

☐ will be donated to other approved repository **(this option must be negotiated with the BHP and State Museum or stated as stipulation in MOA)**

☐ curation agreement enclosed

☐ artifacts washed/marked/cataloged following host guidelines

-- collection will be submitted by _____(date)

☐ will be retained by land owner (☐ whole or ☐ partial collection)

☐ expanded documentation enclosed for items retained

☐ proof enclosed that owner was notified of the option to donate the collection to the State Museum and chose to retain the collection:

☐ letter from owner indicating desire to retain collection

- or -

☐ agency or representative discussed donation option with owner on _____(date)

- and -

☐ copy of letter and certified letter receipt indicating that the owner was offered this option in writing.

15. PASS Site Specific Information

Please complete the following **for each site** reported by this report.

PASS NUMBER 36LU302

A. Phase I Methods (how the site was located - check as many as apply)

☒ shovel tests, ☐ controlled test units/deep tests,
☐ surface survey, ☐ informant interview, ☐ other:

B. Phase II Methods

☐ controlled surface collection
☐ controlled excavation w. screening of plowzone, > 5 units
☐ mechanical stripping of plowzone (_____%)
☐ deep excavation units
☐ remote sensing
☐ other

square meters of site tested: ___ sq. m
% of site area tested: __ %

C. Phase III Methods

☐ controlled surface collection
☐ controlled excavation w. screening of plowzone, > 5 units
☐ mechanical stripping of plowzone _____%
☐ deep excavation
☐ block excavations
☐ remote sensing
☐ environmental reconstruction (soils, floral, pollen)
☐ dietary reconstruction (floral, faunal)
☐ intensive lithic analysis (functional)
☐ intensive lithic analysis (technological)
☐ raw material sourcing
☐ ceramic analysis (seriation)
☐ ceramic analysis (functional)
☐ blood residue
☐ other _____

square meters of site tested: _____ sq. m
% of site area tested: _____ %

Recommendations (normally completed only after Phase II):

-- NR Eligibility recommendation
☐ eligible, ☒ ineligible, ☐ undetermined

-- reasons for determination (check as many as apply; expand as needed)

☐ eligible: Criterion A. Explain _____
☐ eligible: Criterion B. Explain _____
☐ eligible: Criterion C. Explain _____
☐ eligible: Criterion D:
- ☐ settlement patterning (intersite patterning)
- ☐ intrasite artifact patterning
- ☐ features
- ☐ radiocarbon dating
- ☐ organic preservation
- ☐ evidence of culture change through time
  - ☐ stratified ☐ temporally discrete clusters
- ☐ burials/human remains
- ☐ technological
- ☐ economics
- ☐ ethnicity
- ☐ dietary
- ☐ other(specify): _____

☒ ineligible
- ☒ disturbed
- ☐ ephemeral occupation
- ☐ redundant information
- ☐ undatable
- ☒ other (specify): no structural remains; former house foundation removed

E. Artifacts/Collections

☒ will be donated to the State Museum of Pennsylvania
- ☐ gift agreement from private owner enclosed

- or -

- ☐ transfer of responsibility from State Agency enclosed
- ☐ election of repository from Federal Agency enclosed
- ☒ artifacts washed/marked/cataloged following State Museum guidelines

-- collection will be submitted by _____(date)

☐ will be donated to other approved repository **(this option must be negotiated with the BHP and State Museum or stated as stipulation in MOA)**

☐ curation agreement enclosed

☐ artifacts washed/marked/cataloged following host guidelines

-- collection will be submitted by _____(date)

☐ will be retained by land owner (☐ whole or ☐ partial collection)

☐ expanded documentation enclosed for items retained

☐ proof enclosed that owner was notified of the option to donate the collection to the State Museum and chose to retain the collection:

☐ letter from owner indicating desire to retain collection

- or -

☐ agency or representative discussed donation option with owner on _____(date)

- and -

☐ copy of letter and certified letter receipt indicating that the owner was offered this option in writing.

APPENDIX B
PROJECT CORRESPONDENCE

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

23 March 2009

T. L. Harpster
PPL Bell Bend, LLC
38 Bomboy Lane, Suite 2
Berwick, PA 18603

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER# 81-0658-079-Q
Management Summary, Supplemental Phase Ib Cultural Resources Investigation, 263 Acres of Additional Project Area Bell Bend Nuclear Power Plant, Salem Township, Luzerne County, Pennsylvania

Dear Mr. Harpster:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

This report meets our standards and specifications as outlined in *Cultural Resource Management in Pennsylvania: Guidelines for Archaeological Investigations* (BHP 1991) and the Secretary of the Interior's Guidelines for Archaeological Documentation. This report documents archaeological survey of an additional 263 acres added to the original 630 acres reported in the previous Phase Ib Management Summary. No archaeological sites were found as a result of this survey and we agree with the recommendations that no further archaeological work is necessary within this area. We look forward to working with you further in this matter.

If you need further information in this matter please consult Steven McDougal at (717) 772-0923.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology & Protection

cc: B. Munford, GAI Consultants
S. Imboden, NRC

DCM/srm

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

cc: JNT
BAM
BR
CF
MPK

March 17, 2010

TO EXPEDITE REVIEW USE BHP REFERENCE NUMBER

Hannah L. Cole
GAI Consultants, Inc.
385 E. Waterfront Drive
Homestead, PA 15120-5005

Re: ER 81-0658-079-U
NRC: Bell Bend Power Plant Phase IB Investigations Management Summary: Historic Resources
Conyngham, Nescopeck, Salem Townships, Luzerne County

Dear Ms. Cole:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

We concur with the findings of the agency that the following resources are eligible for the National Register of Historic Places.

1. United Reformed & Lutheran Church (Old River Church), Conyngham Township, Luzerne County: This church is an excellent example of the Federal style of architecture and meets National Register criterion C.
2. Woodcrest, 3209 SR 239, Conyngham Township, Luzerne County: This farms is is eligible for its local agricultural significance and meets National Register criterion A. It may also be eligible under criterion C, for it architectural significance, however, information and photographs of its interior would need to be submitted to evaluate for this criterion.

We disagree with the findings of the agency concerning the eligibility of the following resource. In our opinion, this resource is eligible for the National Register of Historic Places.

3. North Branch of the Pennsylvania Railroad, Salem Township, Luzerne County: This intact section of the canal reflects the ~~significance~~ of the canal in the mid to late 19th century and therefore is eligible under National Register criterion A.

We concur with the findings of the agency that the following properties are not eligible for the National Register of Historic Places. Based on the information supplied they are not historically or architecturally significant.

4. Thrash Farm, 783 Berwick-Hazleton Highway, Nescopeck Township, Luzerne County
5. Fortner Farm, 212 E. Cherry Road, Nescopeck Township, Luzerne County
6. Croll Farm, 811 River Road, Nescopeck Township, Luzerne County
7. Raber Farm, 950 Berwick-Hazleton Highway, Nescopeck Township, Luzerne County
8. Michaels Farm, 4252 N. Market Street, Salem Township, Luzerne County
9. Heller Farm, 4210 N. Market Street, Salem Township, Luzerne County
10. Valley View Farm, Salem Township, Luzerne County
11. Susquehanna & Tioga Turnpike, Salem Township, Luzerne County
12. Jameson Farm, 62 Kiliti Road, Salem Township, Luzerne County

We disagree with the findings of the agency concerning the National Register eligibility of the following resources. In our opinion, these railroads are not eligible.

13. Pennsylvania & Sunbury Line of the Delaware and Hudson Railroad, Nescopeck Township, Luzerne County: This line was a connection between major Railroad lines of the Pennsylvania Railroad. While Sunbury, Wilkes-Barre and Hazleton Were all major economic centers at the time, it does not make this spur Significant nor played a significant role in the transportation of anthracite coal.

14. The Bloomsburg Division of the Delaware, Lackawanna and Western Railroad, Salem Township, Luzerne County: Based on the information provided the Significance of this section of the DL& W is unproven. It does not appear to have provided significant competition to other railroad lines or to have been an important carrier in relation to other railroads.

We are unable to complete our review of the following resources until additional information is submitted.

15. Stone Arch Bridge/North Market Street Bridge, Salem Township, Luzerne County: Please supply the correct length measurement of this bridge (see attached guidance for measuring bridges). The submission states that there are only 3 intact stone arch bridges in the county. Our on-line Geographical Information Submission shows that there are over 50 stone arch bridges. Please evaluate this bridge in the context of the bridge survey.

16. Wapwallopen Historic District (potential), Conyngham Township, Luzerne County: Please contact our agency to schedule a site visit to verify the presence and boundaries of a historic district.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

Andrea L. MacDonald, Chief
Division of Preservation Services

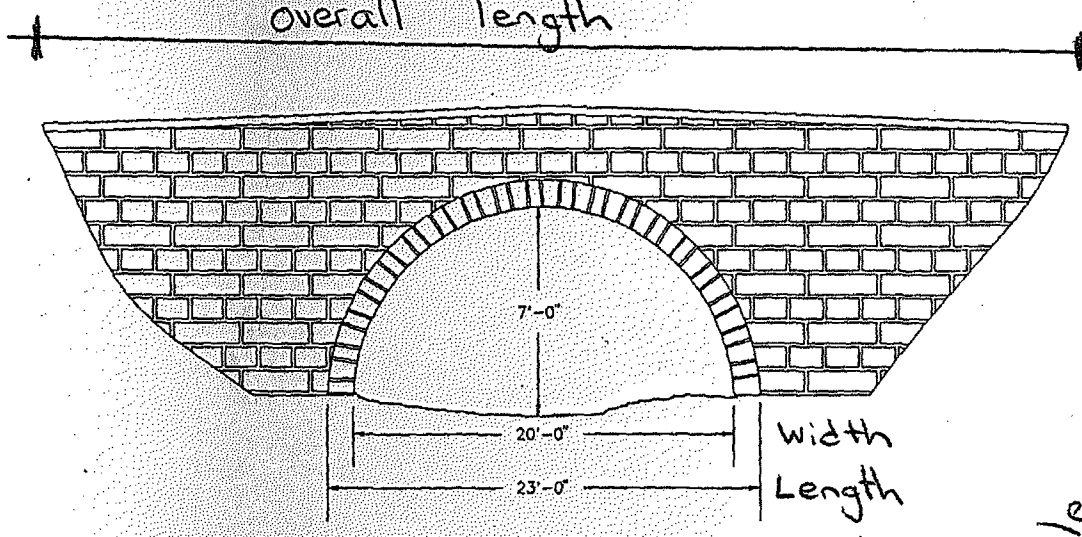
Enclosure
AM/smz

Enclosure for Bridge Measurements

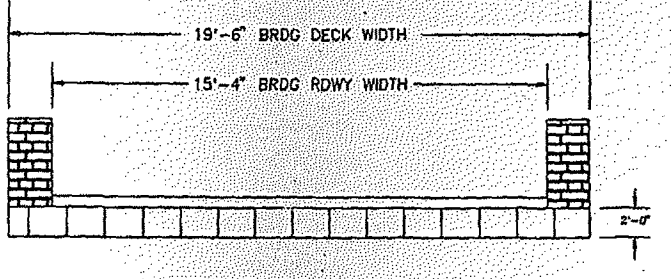
40 7420 04866 2502

Stone Arch Bridge (GAI-06) & North Market St Bridge (GAI-07), Salem Twp, Luzerne Co

Example for Bridge Measuring



ELEVATION



SECTION "A-A"

LUZERNE COUNTY
ROAD AND BRIDGE DEPARTMENT

BRIDGE # 42502
NEW COLUMBUS BOROUGH

DRAWN	CHECKED	DWG
GAS	JJB	2/2
SCALE NOTED	DATE AUGUST-94	

APPENDIX C

PENNSYLVANIA ARCHAEOLOGICAL SITE SURVEY FORMS

REDACTED Appendix C
Pennsylvania Archaeological Site
Survey Forms

APPENDIX D
ARTIFACT CATALOGS

Site 36LU301
Lithic Artifact Catalog

Fs	Area	Loc/Station	Stp	Strat	Soil Hz	Elev	Count	Weight	Material Type	Class	Type	Cortex	Condition	Length	Width	Thickness
1	Lot 41 section1	surface collection 13		surface	surface		1	1.11	Shriver/Helderberg	Debitage	Decortication Flakes	Cobble				
2	Lot 41 section1	surface collection 15		surface	surface		1	16.21	Shriver/Helderberg	Biface	Projectile Points	Absent	broken	58.4	35.5	7.9
4	Lot 41 section1	surface collection 20		surface	surface		1	37.2	Shriver/Helderberg	Biface	Middle-Stage Bifaces	Absent	broken		42.2	13.4
5	Lot 41 section1	surface collection 23		surface	surface		1	8.61	Argillite	Debitage	Flake Fragments	Indeterminate				
6	Lot 41 section1	surface collection 24		surface	surface		1	670.13	Sandstone	Cobble Tool	Hammerstones		whole	89.5	83	67.7
7	Lot 41 section1	surface collection 25		surface	surface		1	617.29	Sandstone	Cobble Tool	Hammerstones		whole	85.7	84.8	61.3
8	Lot 41 section1	surface collection 27		surface	surface		1	117.14	Argillite	Biface	Early-Stage Bifaces	Absent	broken		60.3	19.7
9	Lot 41 section1	surface collection 28		surface	surface		1	3.11	Argillite	Debitage	Biface Reduction	Absent				
10	Lot 41 section1	surface collection 29		surface	surface		1	7.31	Shriver/Helderberg	Biface	Projectile Points	Absent	medial		25	7.8
11	Lot 41 section1	surface collection 43		surface	surface		1	0.65	Argillite	Debitage	Flake Fragments	Absent				
15	Lot 41 section1	surface collection 47		surface	surface		1	0.26	Shriver/Helderberg	Debitage	Flake Fragments	Absent				
16	Lot 41 section1	surface collection 48		surface	surface		1	2.64	Shriver/Helderberg	Debitage	Decortication Flakes	Block				
18	Lot 41 section1	surface collection 51		surface	surface		1	10.56	Onondaga	Biface	Late-Stage Bifaces	Absent	medial		29.3	6
35	Lot 41 section 2		A2	1	Ap	0-30	1	0.38	Onondaga	Debitage	Biface Reduction	Absent				
							14	TOTAL								

Site 36LU301
Historic Artifact Catalog

Fs	Area	Loc/Station	Strat	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
19	Lot 41 section1	surface collection 6	surface	1	Car	solid body car with moving wheels.	green	"Tootsie Toy Made in USA"	toy car			
20	Lot 41 section1	surface collection 7	surface	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
21	Lot 41 section1	surface collection 8	surface	1	container glass		clear		container			
22	Lot 41 section1	surface collection 9	surface	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
22	Lot 41 section1	surface collection 9	surface	1	ironstone, plain				indeterminate form	1840	2010	Wetherbee 1980
23	Lot 41 section1	surface collection 10	surface	2	redware, brown glaze		unglazed ext; brown, light int		indeterminate form			
24	Lot 41 section1	surface collection 11	surface	1	window glass		clear					
25	Lot 41 section1	surface collection 12	surface	1	brick fragment							
26	Lot 41 section1	surface collection 14	surface	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
27	Lot 41 section1	surface collection 17	surface	1	redware, brown glaze		unglazed ext; brown, dark int		indeterminate form			
27	Lot 41 section1	surface collection 17	surface	1	redware, brown glaze		unglazed ext; brown, medium int		indeterminate form			
28	Lot 41 section1	surface collection 18	surface	1	redware, clear glaze		unglazed ext; clear int		indeterminate form			
29	Lot 41 section1	surface collection 19	surface	1	redware, brown glaze		unglazed ext; brown, medium int		indeterminate form			
30	Lot 41 section1	surface collection 37	surface	1	redware, brown glaze		unglazed ext; brown, light int		indeterminate form			
30	Lot 41 section1	surface collection 37	surface	1	redware, unglazed							
30	Lot 41 section1	surface collection 37	surface	1	redware, unglazed	rolled rim						
31	Lot 41 section1	surface collection 50	surface	1	alcohol bottle		olive		bottle	1730	1870	IMAC 1984

Site 36LU301
Historic Artifact Catalog

Fs	Area	Loc/Station	Strat	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
32	Lot 41 section1	surface collection 52	surface	1	whiteware, spongeware		blue, medium		indeterminate form	1830	1871	Robacker & Robacker 1978
33	Lot 41 section1	surface collection 53	surface	1	alcohol bottle		olive		bottle	1730	1870	IMAC 1984
34	Lot 41 section1	surface collection 54	surface	1	alcohol bottle		olive		bottle	1730	1870	IMAC 1984
				21	TOTAL							

Site 36LU302
Historic Artifact Catalog

Fs	Area	Stp	Tu	Fea	Strat	Soil Hz	Elev	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
1	Lot 6B	B1	0		1	A	0-27	2	ceramic pipe							
2	Lot 6B	B2	0		1	A	0-26	1	wire							
3	Lot 6B	B3	0		1	A	0-27	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
4	Lot 6B	D4	0		1	A	0-28	1	container glass		clear		container			
4	Lot 6B	D4	0		1	A	0-28	1	stoneware, buff		brown, dark int; cream, ext		indeterminate form			
5	Lot 6B	E5	0		1	A	0-25	1	ceramic tile		white					
5	Lot 6B	E5	0		1	A	0-25	1	shingle							
6	Lot 6B	G3	0		1	A	0-26	2	whiteware, plain		ivory		indeterminate form	1830	2010	Price 1979; Noel Hume 1980
7	Lot 6B	G4	0	2	2	Feat 2	9-30	1	toy gun							
7	Lot 6B	G4	0	2	2	Feat 2	9-30	8	bottle glass		emerald green		bottle			
7	Lot 6B	G4	0	2	2	Feat 2	9-30	5	container glass		clear		container			
7	Lot 6B	G4	0	2	2	Feat 2	9-30	14	whiteware, shell edge	sponge decoration	ivory; green, light; black	fleur de lis is stamped on the interior rim of the plate' "Ivory Porcelain" and indeterminate makers mark	plate	1830	1891	Lofstrum et al. 1982; Miller & Hunter 1990
7	Lot 6B	G4	0	2	2	Feat 2	9-30	2	nail, wire					1880	2010	Nelson 1968; IMAC 1984
8	Lot 6B	G5	0		1	A/CA	0-60	9	window glass		clear					
8	Lot 6B	G5	0		1	A/CA	0-60	8	container glass		blue, light		container			
8	Lot 6B	G5	0		1	A/CA	0-60	2	jar glass	ground rim	blue, light		jar			
8	Lot 6B	G5	0		1	A/CA	0-60	2	container glass		blue, light		container			
8	Lot 6B	G5	0		1	A/CA	0-60	3	redware, brown glaze	P rolled rim	brown, medium int; unglazed ext		crock			
8	Lot 6B	G5	0		1	A/CA	0-60	1	redware, brown glaze		brown, medium int; chip ext		indeterminate form			
8	Lot 6B	G5	0		1	A/CA	0-60	2	stoneware, buff	hand painted	white & cobalt int & ext	floral motif	crock			
8	Lot 6B	G5	0		1	A/CA	0-60	1	redware, brown glaze		brown, medium int; brown, light ext		indeterminate form			
8	Lot 6B	G5	0		1	A/CA	0-60	1	stoneware, buff	salt glazed ext; wash int	tan int & ext		indeterminate form			
8	Lot 6B	G5	0		1	A/CA	0-60	1	hardpaste porcelain, plain	molded		indeterminate motif	indeterminate form			

Site 36LU302
Historic Artifact Catalog

Fs	Area	Stp	Tu	Fea	Strat	Soil Hz	Elev	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
8	Lot 6B	G5	0		1	A/CA	0-60	1	nail, wire					1880	2010	Nelson 1968; IMAC 1984
8	Lot 6B	G5	0		1	A/CA	0-60	6	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
8	Lot 6B	G5	0		1	A/CA	0-60	5	glass hollowware	press molded	clear		container	1820	Ca 1950	Schroy 2001
9	Lot 6B	H4	0	2	1	Feat 2	0-70	5	can fragments							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	1	wire							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	1	mortar fragment							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	3	bottle glass		clear		bottle			
9	Lot 6B	H4	0	2	1	Feat 2	0-70	8	bottle glass		clear		bottle			
9	Lot 6B	H4	0	2	1	Feat 2	0-70	6	bottle glass		amber		bottle			
9	Lot 6B	H4	0	2	1	Feat 2	0-70	2	bottle glass	embossed	amber	" 1F 37 4"	bottle			
9	Lot 6B	H4	0	2	1	Feat 2	0-70	3	bottle glass		clear		bottle			
9	Lot 6B	H4	0	2	1	Feat 2	0-70	5	bottle caps							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	3	rubber							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	2	metal							
9	Lot 6B	H4	0	2	1	Feat 2	0-70	2	bleach bottle	embossed, stippled	amber	"Clorox	bottle	1939	2010	Busch 1983
9	Lot 6B	H4	0	2	1	Feat 2	0-70	2	bottle glass	stippled	amber		bottle	1939	2010	Busch 1983
9	Lot 6B	H4	0	2	1	Feat 2	0-70	2	nail, wire					1880	2010	Nelson 1968; IMAC 1984
9	Lot 6B	H4	0	2	1	Feat 2	0-70	3	glass hollowware	press molded	clear	dot and diamond motif	container	1820	Ca 1950	Schroy 2001
9	Lot 6B	H4	0	2	1	Feat 2	0-70	4	glass hollowware	press molded	clear	dot and diamond motif	container	1820	Ca 1950	Schroy 2001
9	Lot 6B	H4	0	2	1	Feat 2	0-70	1	glass hollowware	press molded	clear	diamond motif	container	1820	Ca 1950	Schroy 2001
9	Lot 6B	H4	0	2	1	Feat 2	0-70	1	bottle glass		clear	Anchor Hocking	bottle	1938	2010	Toulouse 1971
10	Lot 6B	H5	0		1	Feat 2/A	0-42	2	redware, brown glaze		brown, dark int; unglazed ext		indeterminate form			
10	Lot 6B	H5	0		1	Feat 2/A	0-42	1	metal							
11	Lot 6B	retest 7	0		1	A	0-73	1	zipper			"scovill"				
11	Lot 6B	retest 7	0		1	A	0-73	8	container glass		blue, light		container			
11	Lot 6B	retest 7	0		1	A	0-73	2	whiteware, plain	scalloped, molded		scroll pattern	plate	1830	2010	Price 1979; Noel Hume 1980

Site 36LU302
Historic Artifact Catalog

Fs	Area	Stp	Tu	Fea	Strat	Soil Hz	Elev	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
11	Lot 6B	retest 7	0		1	A	0-73	4	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
11	Lot 6B	retest 7	0		1	A	0-73	8	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
11	Lot 6B	retest 7	0		1	A	0-73	3	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
11	Lot 6B	retest 7	0		1	A	0-73	3	ironstone, plain				indeterminate form	1840	2010	Wetherbee 1980
12	Lot 6B	H4	0		2	Ab	70-39	1	nail, indeterminate							
13	Lot 6B	retest 9	0		1	A	0-57	1	window glass		clear					
13	Lot 6B	retest 9	0		1	A	0-57	2	redware, brown glaze		brown, medium chip		indeterminate form			
13	Lot 6B	retest 9	0		1	A	0-57	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; noel Hume 1980
13	Lot 6B	retest 9	0		1	A	0-57	1	ironstone, plain				indeterminate form	1840	2010	Wetherbee 1980
14	Lot 6B		0		Surface	Surface		1	film canister lid		gray, light					
14	Lot 6B		0		Surface	Surface		1	shotgun shell			"Winchester 12 GA AA" "AA 2 3/4 - 1 1/8 Light"				
14	Lot 6B		0		Surface	Surface		9	bottle glass		green, light					
								185	TOTAL							

Isolated Finds

IF#	Area	Stp	Strat	Elev	Count	Weight	Material Type	Class	Type	Cortex
28	Lot 3	G8	1	0-28	1	0.2	Shriver/Helderberg	Debitage	Flake Fragments	Absent

Non-site
Historic Artifact Catalog

Fs	Area	Stp	Strat	Elev	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
1	Lot 93D Section 2	C4	I	0-34	1	chain link							
1	Lot 93D Section 2	C4	I	0-34	1	window glass		clear					
2	Lot 41 Section 1		surface		1	outdoor electric insulator		aqua, dark	"6"				
3	Lot 41 Section 1		surface		1	redware, brown glaze		unglazed ext; brown, medium int		indeterminate form			
4	Lot 41 Section 1		surface		1	redware, brown glaze		unglazed ext; brown, dark int		indeterminate form			
4	Lot 41 Section 1		surface		1	redware, brown glaze		brown, dark int & ext		indeterminate form			
5	Lot 41 Section 1		surface		1	whiteware, handpainted		green, light; black	floral motif int	indeterminate form	1840	1860	Lofstrum et al 1982; Majewski & Obrien 1984
6	Lot 41 Section 1		surface		1	whiteware, handpainted		blue, light; red	indeterminate motif	indeterminate form	1840	1860	Lofstrum et al 1982; Majewski & Obrien 1984
7	Lot 41 Section 1		surface		1	redware, brown glaze		chipped ext; brown, dark int		indeterminate form			
8	Lot 41 Section 1		surface		1	redware, brown glaze		chipped ext; brown, dark int		indeterminate form			
9	Lot 41 Section 1		surface		1	container glass		clear		container			
10	Lot 41 Section 1		surface		1	container glass	embossed	clear	"..MA.."	container			
11	Lot 41 Section 1		surface		1	whiteware, plain		ivory		indeterminate form	1830	2010	Price 1979; Noel Hume 1980
12	Lot 41 Section 1		surface		1	stoneware, buff; brown glaze		brown, medium int & ext		indeterminate form			
13	Lot 41 Section 1		surface		1	hard paste porcelain	handpainted	purple, light; black	indeterminate motif	indeterminate form			
14	Lot 41 Section 1		surface		1	bottle glass		blue, light		bottle			
15	Lot 41 Section 1		surface		1	indoor electric insulator		clear					
16	Lot 41 Section 1		surface		1	redware, clear glaze		unglazed ext; clear int		indeterminate form			
17	Lot 41 Section 1		surface		1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
18	Lot 41 Section 1		surface		1	bottle glass		blue, light		bottle			
19	Lot 41 Section 1		surface		1	disc		white					

Non-site
Historic Artifact Catalog

Fs	Area	Stp	Strat	Elev	Count	Ware Type/Object	Decor/Manuf Tech	Color	Motif; Emb; Marks	Form	Beg Date	End Date	Reference
20	Lot 41 Section 1		surface		1	container glass		clear		container			
21	Lot 41 Section 1	5	1	0-30	3	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
23	Lot 41 Section 2	E1	1	0-28	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
23	Lot 41 Section 2	E1	1	0-28	2	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
23	Lot 41 Section 2	E1	1	0-28	2	container glass		clear		container			
23	Lot 41 Section 2	E1	1	0-28	1	stoneware, buff; saltglaze		gray, light ext; brown, dark int		indeterminate form			
24	Lot 54 Section 1		surface		1	stoneware, gray; saltglazed	stamped	gray saltglaze & cobalt ext; brown, dark int	"Cowd..."	jug			
25	Lot 6A section 2	A1	1	0-26	2	beer bottle		amber		bottle			
25	Lot 6A section 2	A1	1	0-26	1	whiteware, plain				indeterminate form	1830	2010	Price 1979; Noel Hume 1980
25	Lot 6A section 2	A1	1	0-26	4	container glass		clear		container			
26	Lot 41 Section 1		surface		1	redware, brown glaze		unglazed ext; brown, medium int		indeterminate form			
					40	TOTAL							