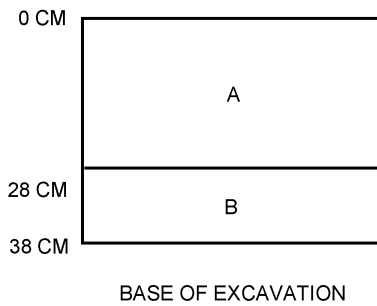


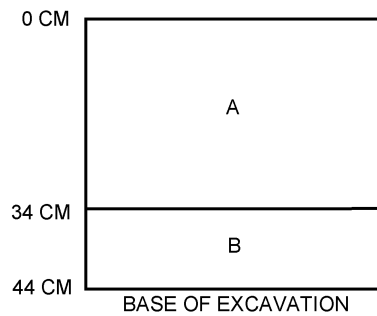
LOT 93 D

STP O-4  
(SECTION 1)



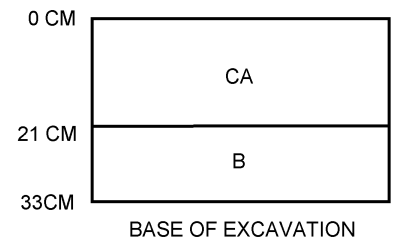
A – DARK YELLOWISH BROWN  
(10YR 4/3) SILT LOAM  
B – YELLOWISH BROWN (10YR 5/6)  
SILT CLAY

STP G-4  
(SECTION 2)



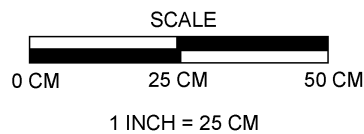
A – DARK YELLOWISH BROWN  
(10YR 4/3) SILT LOAM  
B – YELLOWISH BROWN (10YR 5/6)  
SILT CLAY

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)



BELL BEND NUCLEAR POWER PLANT  
UNISTAR NUCLEAR ENERGY, LLC.

DRWN: LMD  
CHECKED: BAM

DATE: 06/30/2010  
APPROVED: BAM

### **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

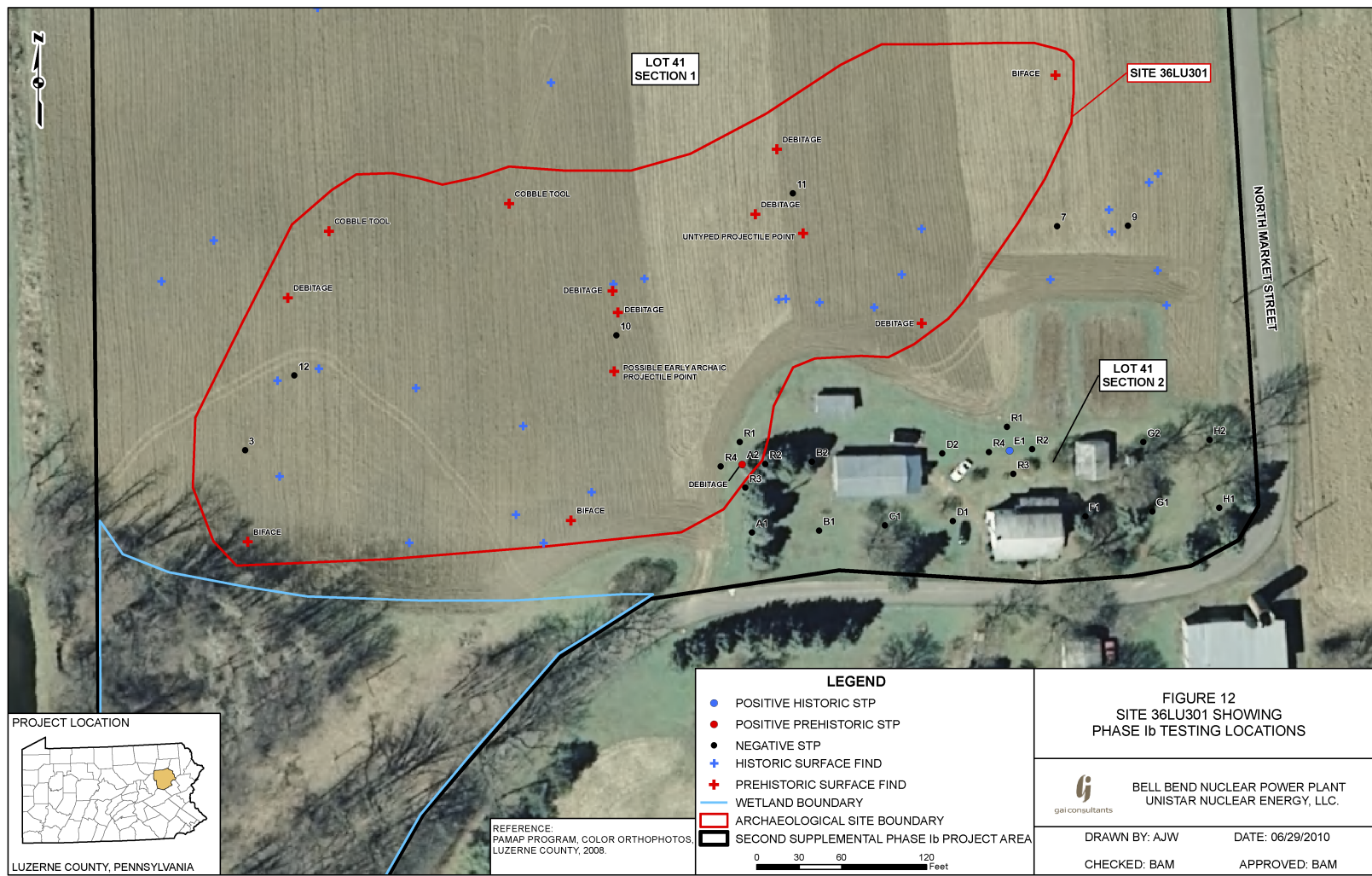
Site 36LU301 (GAI Site 12) consists of a low-density, dispersed prehistoric lithic scatter located on a broad upland flat approximately 91 meters (300 feet) north of Walker Run, in Lot 41, in the western portion of the project area (see Figure 2, Figure 12). A scatter of historic artifacts also occurs 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.



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



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



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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

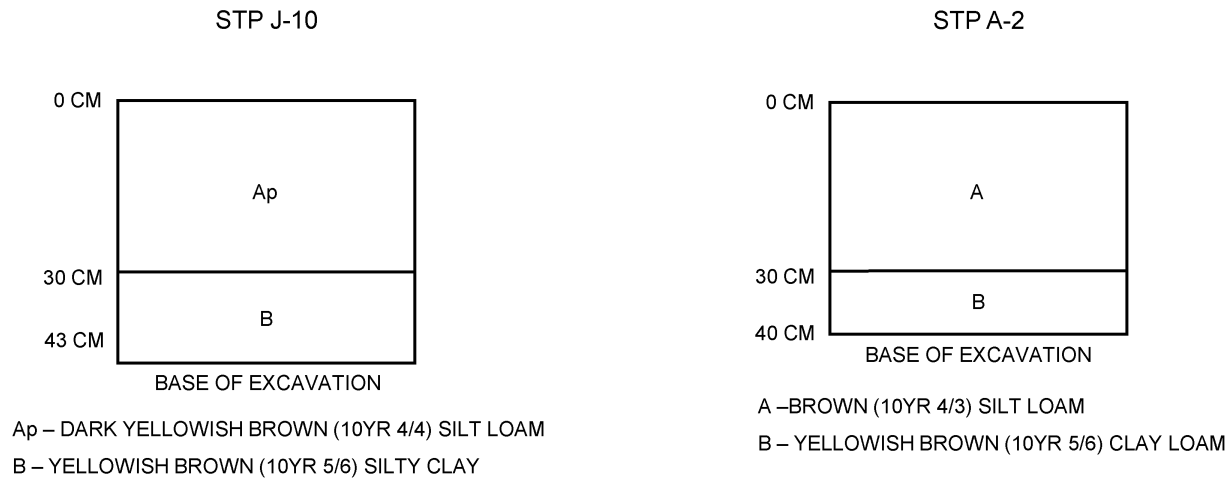


FIGURE 13. SITE 36LU301,  
REPRESENTATIVE SHOVEL TEST PROFILES (STPs J-10 AND A-2)

<p>SCALE</p> <p>0 CM      25 CM      50 CM</p> <p>1 INCH = 25 CM</p>		<p>BELL BEND NUCLEAR POWER PLANT UNISTAR NUCLEAR ENERGY, LLC.</p>
<p>DRWN: LMD CHECKED: BAM</p>		<p>DATE: 06/30/2010 APPROVED: BAM</p>

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%
<b>TOTAL</b>	<b>5</b>	<b>2</b>	<b>7</b>	<b>14</b>	<b>100.0%</b>

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 argillitedebitage 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%
<b>TOTAL</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>100.0%</b>

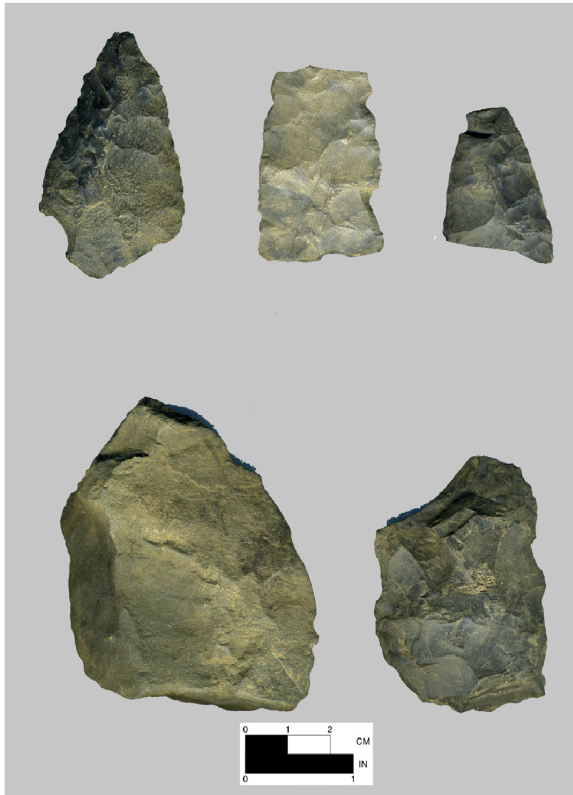
The sample of five bifaces includes two projectile points, one late stage biface, one middle stage biface and one early stage specimen (Table 6, Photograph 23). Both projectile points (FS 2 and 18) are made from Shriver/Helderberg chert. FS 2 represents a possible Early Archaic MacCorkle-like specimen; 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%
<b>TOTAL</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>7</b>	<b>100.0%</b>

### 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	%
<b>Activities</b>	<b>Toys</b>	<b>Car</b>	<b>1</b>	<b>4.76%</b>
Architecture	Brick, Block	brick fragment	1	4.76%
	Window Glass	window glass	1	4.76%
<b>Architecture Total</b>			<b>2</b>	<b>9.52%</b>
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%
<b>Kitchen Total</b>			<b>18</b>	<b>85.71%</b>
<b>TOTAL</b>			<b>21</b>	<b>100.00%</b>



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*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 19<sup>th</sup> and 20<sup>th</sup> 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.

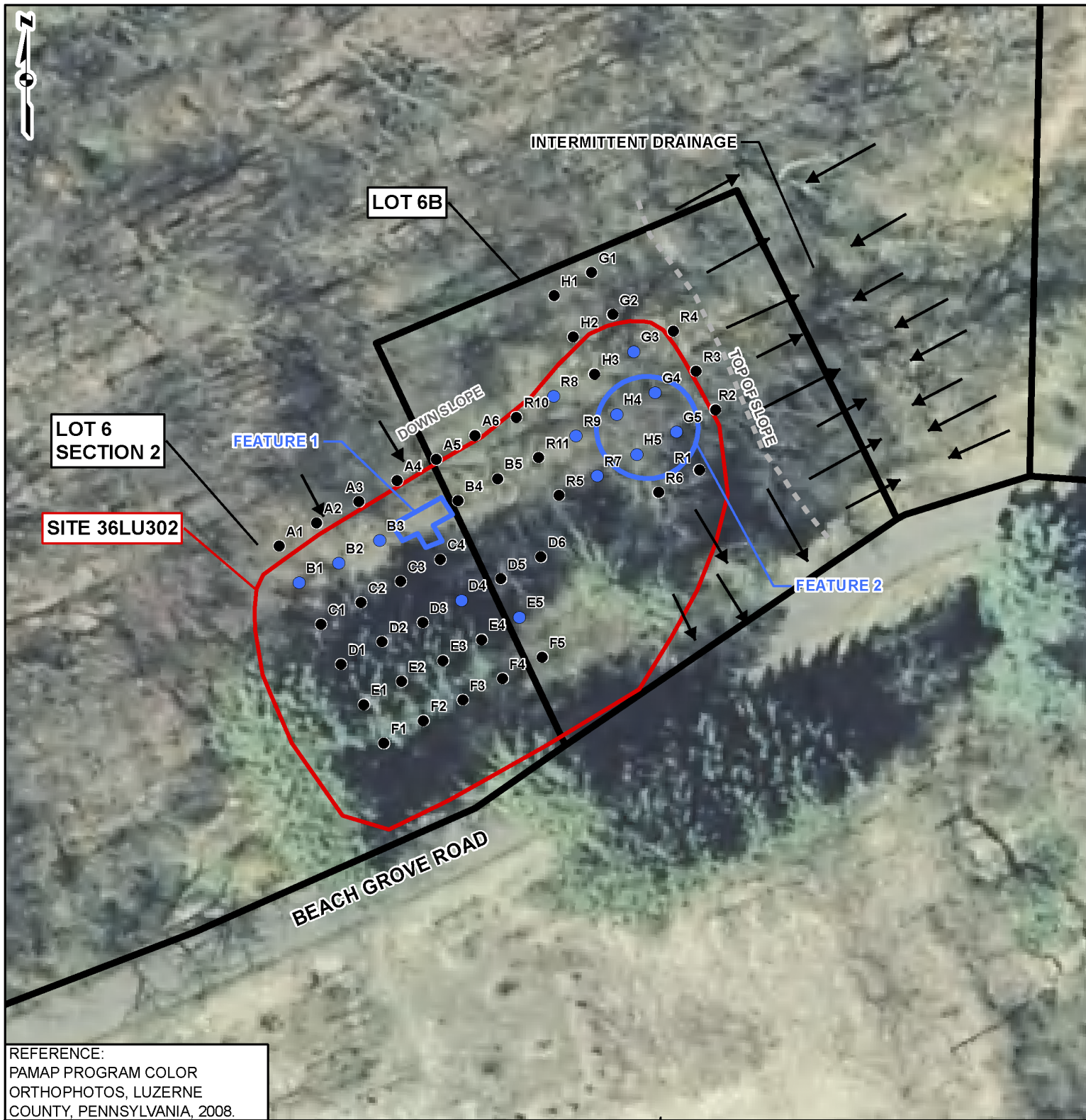


**Photograph 25. Site 36LU302: View of Site Area from South Side of Beach Grove Road, showing Large Pine Trees, Facing Northeast**

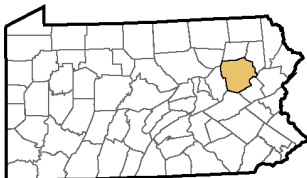


**Photograph 26. Site 36LU302: Wooded Hillside showing Row of Pine Trees near North Edge of Site in Vicinity of Feature 1, Facing Northeast**





#### PROJECT LOCATION



#### LEGEND

- POSITIVE HISTORIC STP
- NEGATIVE STP
- SLOPE DIRECTION
- - - TOP OF SLOPE
- FEATURE LOCATION
- ARCHAEOLOGICAL SITE BOUNDARY
- SECOND SUPPLEMENTAL PHASE Ib PROJECT AREA

0 25 50 100 Feet

**FIGURE 14**  
**SITE 36LU302 SHOWING**  
**PHASE Ib TESTING LOCATIONS**



**BELL BEND NUCLEAR POWER PLANT**  
**UNISTAR NUCLEAR ENERGY, LLC.**

**DRAWN BY: AJW**  
**CHECKED: BAM**

**DATE: 06/29/2010**  
**APPROVED: BAM**

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 soil 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 excavation 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.

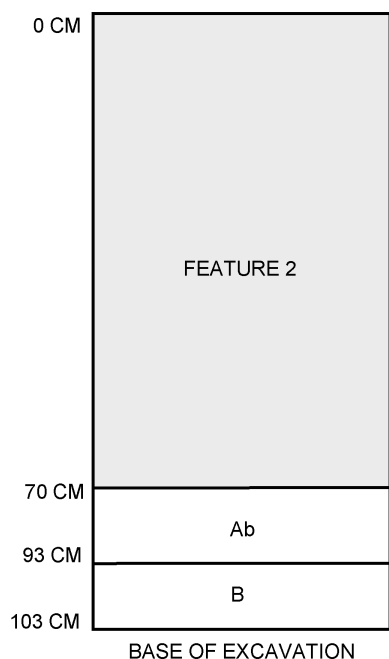
Stratigraphically, the sample of 185 artifacts was recovered predominantly from Feature 2 (47 percent) and from near-surface contexts (i.e. surface and A horizon) (30 percent) (Table 9). As noted above, the artifacts (approximately 23 percent) found in the A/CA horizon were all recovered from an over-thickened (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
<b>TOTAL</b>	<b>185</b>	<b>100.0</b>

SITE 36LU302

STP H-4

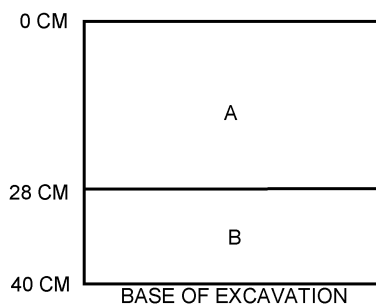


FEATURE 2 –BROWN (10YR 4/3) SILT LOAM WITH ASH AND COAL SLAG

Ab –BROWN (10YR 4/3) SILT LOAM

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

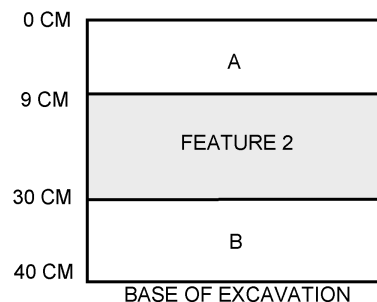
STP D-4



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

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

STP G-4

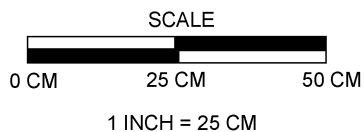


A – DARK YELLOWISH BROWN (10YR 4/4) SILT LOAM

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)



**gai consultants**  
BELL BEND NUCLEAR POWER PLANT  
UNISTAR NUCLEAR ENERGY, LLC.  
DRWN: LMD  
CHECKED: BAM  
DATE: 06/30/2010  
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**

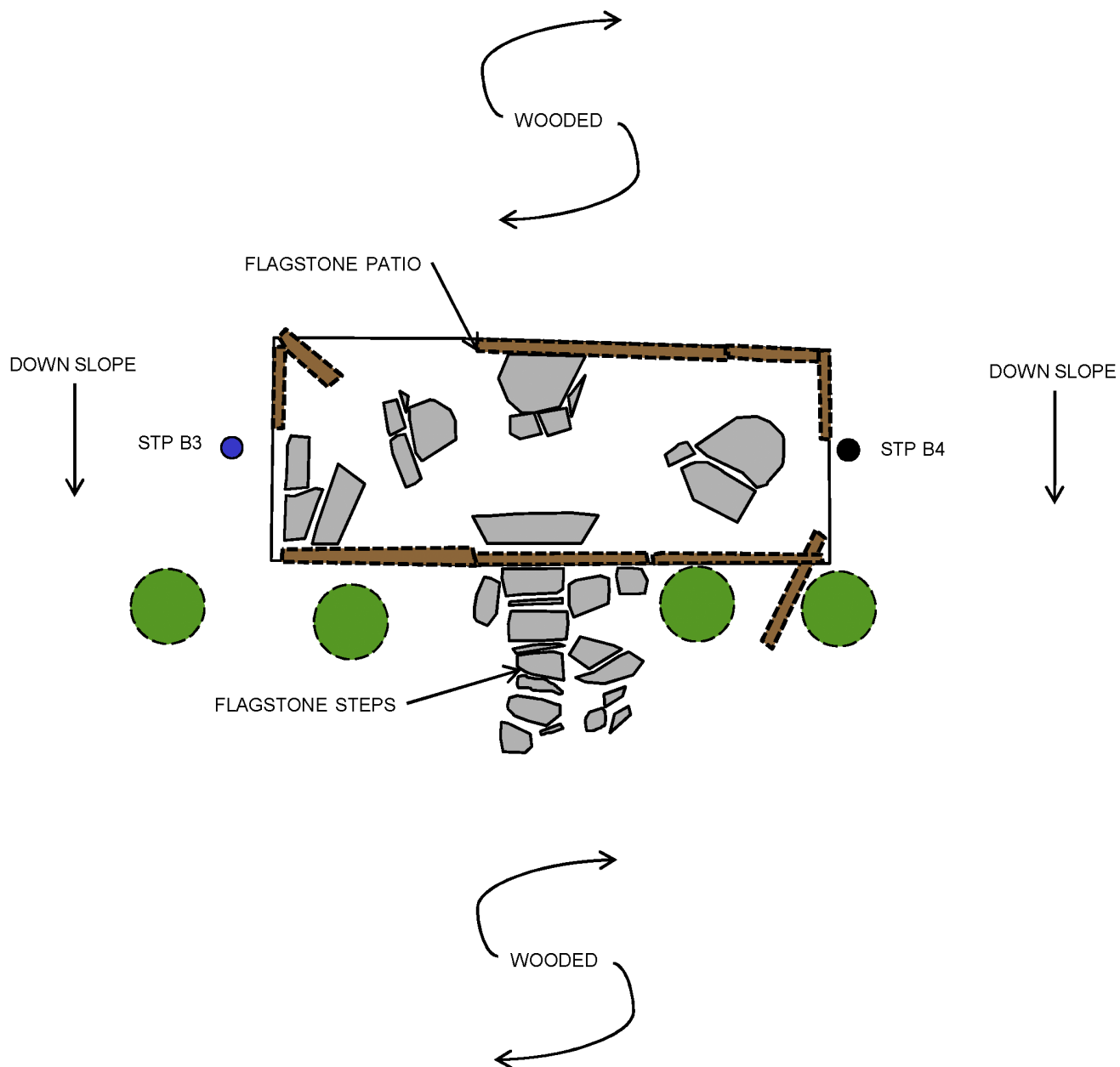
Feature 2 (ash/refuse pit) was encountered in four shovel test pits, located in the northeast corner of the site, between the eastern line of pine trees and the intermittent drainage. This feature measures approximately 10 meters (33 feet) in diameter and varies in thickness from 2 to 70 cm (see Figure 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 at 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**



SITE 36LU302  
FEATURE 1 PLANVIEW



LEGEND

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

SCALE



FIGURE 16  
SITE 36LU302: FEATURE 1  
PLANVIEW



BELLBEND NUCLEAR POWER PLANT  
UNISTAR NUCLEAR ENERGY, LLC.

DRWN: AJW  
CHECKED: BAM

DATE: 06/29/2010  
APPROVED: BAM

Of the 185 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%
<b>Kitchen Total</b>			<b>145</b>	<b>78.4%</b>
Unidentifiable	Indeterminate	metal	3	1.6%
		rubber	3	1.6%
<b>Unidentifiable Total</b>			<b>6</b>	<b>3.2%</b>
<b>TOTAL</b>			<b>185</b>	<b>100.0%</b>

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%
<b>Activities Total</b>			<b>9</b>	<b>10.34%</b>
Architecture	Mortar, Cement	mortar fragment	1	1.15%
	Nails, Spikes, Etc.	nail, wire	4	4.60%
<b>Architecture Total</b>			<b>5</b>	<b>5.75%</b>
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%
<b>Kitchen Total</b>			<b>67</b>	<b>77.01%</b>
Unidentifiable	Indeterminate	metal	6	6.9%
<b>TOTAL</b>			<b>87</b>	<b>100.00%</b>

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
<b>Total Diagnostic Artifacts</b>				<b>68</b>		
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.