

AN ARCHAEOLOGICAL SURVEY OF THE  
PROPOSED RECONSTRUCTION OF KY 7  
BETWEEN THE TOWNS OF WRIGLEY AND SANDY HOOK  
IN MORGAN AND ELLIOTT COUNTIES, KENTUCKY  
(ITEM NO. 9-228.00)



by  
*James Heideman*

---

*Prepared for*



---

*Prepared by*



Kentucky | West Virginia | Ohio  
Wyoming | Illinois | Indiana | Louisiana | Tennessee  
Utah | Virginia | Colorado



**AN ARCHAEOLOGICAL SURVEY OF THE  
PROPOSED RECONSTRUCTION OF KY 7  
BETWEEN THE TOWNS OF WRIGLEY AND SANDY HOOK  
IN MORGAN AND ELLIOTT COUNTIES, KENTUCKY  
(ITEM NO. 9-228.00)**

by

James Heideman

With contributions by Heather Barras, Brian G. DelCastello, RPA,  
Tanya A. Faberson, Ph. D., RPA, and Thomas McAlpine

*Prepared for*

Mitch Green

HMB Professional Engineers, Inc.  
3 HMB Circle, US 460  
Frankfort, Kentucky 40601  
(502) 695-9800  
rdutton@hmbpe.com

*Prepared by*

Cultural Resource Analysts, Inc.  
151 Walton Avenue  
Lexington, Kentucky 40508  
Phone: (859) 252-4737  
Fax: (859) 254-3747  
Email: cmniquette@crai-ky.com  
CRA Project No.: K15H008

---

Charles M. Niquette, RPA  
Co-Principal Investigator

---

Tanya A. Faberson, Ph. D., RPA  
Co-Principal Investigator

May 31, 2017

Lead Agency: Federal Highway Administration  
Kentucky Transportation Cabinet Item No. 9-228.00  
OSA Project Registration No.: FY16\_8676



# ABSTRACT

Between November, 2015, and January, 2016, Cultural Resource Analysts, Inc., personnel conducted an archaeological survey of the proposed reconstruction of KY 7 between the towns of Wrigley and Sandy Hook in Morgan and Elliott Counties, Kentucky (Item No. 9-228.00). The survey was conducted at the request of Mitch Green of HMB Professional Engineering, Inc., on behalf of the Kentucky Transportation Cabinet. All previously unsurveyed portions of the proposed right-of-way were surveyed for this project with the exception of approximately 13.69 ha (33.83 acres) for which landowner permission was not acquired for the survey. This work will have to be conducted after negotiations for acquisition are finalized. The length of the proposed reconstruction route is approximately 16.40 km (10.19 mi) and encompasses approximately 132 ha (325 acres). Under the current project approximately 117.83 ha (291.17 acres) were surveyed. Land use variability and associated surface conditions throughout the project area necessitated that field methods include both shovel testing and intensive pedestrian survey.

Prior to initiating field investigations, a records review was conducted at the Office of State Archaeology for a 2.0 km (1.2 mi) radius around the project area. The review indicated that nine previous professional archaeological surveys had been conducted within a 2 km radius of the project area. Twelve archaeological sites had been recorded in that area also. One previously recorded site (15E111) was partially located in the project area. The National Register of Historic Places status of Site 15E111 was not assessed when it was recorded in 1994; however, the Middle to Late Woodland components of this prehistoric open habitation without mounds were considered potentially significant.

The archaeological survey of the proposed project area resulted in revisiting previously recorded Site 15E111, the discovery of 10 previously unrecorded archaeological sites (15E176–15E181 and 15Mo174–15Mo177), and 5 isolated finds (IF1–IF5). When Site 15E111 was reexamined under the current project, only 1 flake was recovered and the portion of the site in the project area was noted to be highly disturbed. Therefore, it is recommended not eligible for inclusion in the National Register of Historic Places. The portions of the site outside the current project area are unassessed.

Newly recorded archaeological Sites 15E176 and 15E178 are prehistoric open habitations without mounds of unknown temporal affiliation, Sites 15E181 and 15Mo176 are historic farms/residences, Sites 15E177, 15E179, 15Mo174, and 15Mo175 are multicomponent, Site 15E180 is a historic cemetery, and Site 15Mo177 is a historic commercial property. Sites 15E176, 15E179, 15Mo174, 15Mo175, 15Mo176, and 15Mo177 are all recommended not eligible for inclusion in the National Register of Historic Places, and no further work is recommended. However, Sites 15E177, 15E178, and 15E181 all appear to extend outside the boundaries of the current project area and the portions that potentially extend outside the project area are not assessed for inclusion in the National Register of Historic Places. Site 15E180 is also recommended not eligible for inclusion in the National Register of Historic Places, but since it contains historic burials, it is recommended for avoidance. If the burials are unable to be avoided, they will have to be removed in accordance with Kentucky State Law. The five isolated finds (IF1–IF5) documented during field investigations are not recommended for inclusion in the National Register of Historic Places. In addition, five relatively small family cemeteries and two locations that may contain unmarked burials were noted either within or directly adjacent to the current project area. None of the portions of the cemeteries within the project area are known to contain historic burials; however, if the burials are unable to be avoided they will have to be removed in accordance with Kentucky State Law. The two areas that potentially contain burials were identified through communication with local residents. CRA recommends that these locations be avoided. For the location with the possible Civil War burials, if it cannot be avoided, documentary research to attempt to verify the existence of the burials is recommended. If the presence of such

burials is verified, additional archaeological work to evaluate their eligibility for the National Register of Historic Places is recommended. For the other area with potential graves, as it is doubtful that a small population of anonymous graves would be National Register of Historic Places eligible, it is recommended that KYTC's standard procedure of identification and relocation of graves in accordance with Kentucky State Law would be sufficient.

No archaeological sites listed in, or eligible for listing in, the National Register of Historic Places will be affected by the proposed construction activities of the current project. So long as all marked burials present in the project area are avoided or moved in accordance with Kentucky State Law, and the areas potentially containing unmarked burials are mechanically stripped with the stripping monitored by a qualified archaeologist, archaeological clearance is recommended. However, it is recommended that the parcels for which permission was not obtained be surveyed following property acquisition.

# TABLE OF CONTENTS

ABSTRACT.....	i
LIST OF FIGURES .....	iii
LIST OF TABLES.....	vi
I. INTRODUCTION .....	1
II. ENVIRONMENTAL SETTING.....	17
III. PREVIOUS RESEARCH AND CULTURAL OVERVIEW.....	36
IV. METHODS.....	58
V. MATERIALS RECOVERED .....	60
VI. RESULTS.....	98
VII. CONCLUSIONS, RECOMMENDATIONS, AND TREATMENT.....	181
REFERENCES CITED.....	183
APPENDIX A. LITHIC CODES .....	A-1
APPENDIX B. FLAKES.....	B-1
APPENDIX C. CORES AND TOOLS.....	C-1
APPENDIX D. HISTORIC MATERIALS RECOVERED .....	D-1
APPENDIX E. GRAVE MARKER FORMS.....	E-1

## LIST OF FIGURES

Figure 1. Map of Kentucky showing the location of Morgan and Elliott Counties.....	1
Figure 2a,b. Location of project area on topographic quadrangle.....	3
Figure 3a-e. Project area plan map. ....	7
Figure 4. The Eastern Kentucky Coal Field region. ....	18
Figure 5. Rivers that drain the Eastern Kentucky Coal Field region.....	19
Figure 6. Example of mountainous terrain in the project area, facing west.....	25
Figure 7. Example of intermittent drainage draw in the project area, facing north. ....	25
Figure 8. Example of bottomlands in the project area, facing east. ....	26
Figure 9. Example of residential disturbances in the project area, facing southeast. ....	26
Figure 10. Example of commercial disturbances in the project area, facing west-southwest. ....	27
Figure 11. Overview of geologic overhang in the project area, facing north. ....	27
Figure 12. Overview of Clevenger Cemetery, facing northwest. ....	28
Figure 13. Overview of Payton Cemetery, facing north-northeast. ....	28
Figure 14. Overview of Ratliff Cemetery, facing north-northwest.....	30
Figure 15. Overview of Smith Cemetery, facing north. ....	30
Figure 16. Overview of Clyde Dehart burial, facing east.....	31
Figure 17. Overview of potential Civil War burials in the project area, facing east-northeast. ....	31
Figure 18. Overview of possible burials just outside the project area, facing west. ....	32
Figure 19. Example of potential grave shaft located just outside the project area, facing west. ....	33

Figure 20. Potential stone burial marker located just outside the project area, facing west .....	34
Figure 21. Overview of stone culvert in the project area, facing south.....	35
Figure 22. Overview of stone culvert and stone retaining walls along old roadway in the project area, facing north.....	35
Figure 23. Section of the 1925 Oil and Gas Map of Elliott County, Kentucky, showing residential structure at Site 15EI79.....	42
Figure 24. Section of the 1929 Morehead 15-minute series topographic quadrangle, showing Sites 15Mo174 and 15Mo177.....	43
Figure 25. Section of the 1937 Highway and Transportation Map of Elliott County, Kentucky, showing Sites 15EI79.....	44
Figure 26. Section of the 1937 Highway and Transportation Map of Morgan County, Kentucky, showing Sites 15Mo174, 15Mo175, 15Mo176, and 15Mo177.....	45
Figure 27a. Section of the 1950 Sandy Hook 7.5-minute series topographic quadrangle, showing Sites 15EI77, 15EI79, 15EI81, and 15Mo176.....	46
Figure 27b. Section of the 1950 Sandy Hook 7.5-minute series topographic quadrangle, showing Sites 15EI77, 15EI79, 15EI81, and 15Mo176.....	47
Figure 28. Section of the 1953 Wrigley 7.5-minute series topographic quadrangle, showing Sites 15Mo174, 15Mo175, and 15Mo177.....	48
Figure 29. Generalized biface production model.....	68
Figure 30. Architectural and domestic materials recovered: (a) 9d pulled late fully machine-cut nail from 15EI79 STP 4, Zone I; (b) 12d pulled wire-drawn nail from 15Mo176 STP 1, Zone I; (c) plain whiteware plate rim from 15Mo175 STP 7, Zone I; (d) early-twentieth-century dark blue transfer-printed whiteware teacup body sherd from 15EI79 STP 12, Zone I; (e) decal-decorated porcelain sherd from 15Mo174 STP 7, Zone I; (f) Bristol-glazed cobalt-decorated mixing bowl body/base fragment from 15EI79 STP 13, Zone I; (g) embossed aqua BIM recessed-panel medicine bottle body from 15Mo175 STP 4, Zone I; (h) embossed clear ABM Drey square mason jar fragment from 15EI79 STP 13, Zone I; and (i) translucent peach press-molded Depression glass tableware body sherd from 15Mo174 STP 3, Zone I.....	79
Figure 31. Maintenance and subsistence, and personal group items recovered: (a) iron/steel machine-bolt from 15EI77 GSC 3; (b) 1942 penny from 15EI79 STP 7, Zone I; (c) hand-painted bisque porcelain doll part from 15Mo176 STP 2, Zone I; and (d) "Brushed Patch" Master Marble Company glass marble from 15Mo177 STP2, Zone I.....	93
Figure 32. Overview of previously recorded Site 15EI11, facing south-southeast.....	99
Figure 33. Overview of revisited portion of Site 15EI11, facing east-northeast.....	99
Figure 34. Schematic plan map of the updated portion of Site 15EI11.....	101
Figure 35. Representative soil profile from Site 15EI11.....	102
Figure 36. Overview of Site 15EI76, facing north-northwest.....	103
Figure 37. Schematic plan map of Site 15EI76.....	104
Figure 38. Representative soil profile from Site 15EI76.....	105
Figure 39. Overview of Site 15EI77, facing northwest.....	106
Figure 40. Schematic plan map of Site 15EI77.....	107
Figure 41. Representative soil profile from western half of Site 15EI77.....	108
Figure 42. Representative soil profile from eastern half of Site 15EI77.....	108
Figure 43. Overview of Site 15EI78, facing north.....	112
Figure 44. Schematic plan map of Site 15EI78.....	113
Figure 45. Representative soil profile from Site 15EI78.....	114
Figure 46. Overview of central (foreground) and western (background) portions of Site 15EI79, facing west...	116
Figure 47. Overview of eastern portion of Site 15EI79, facing east-northeast.....	117
Figure 48. Schematic plan map of Site 15EI79.....	119
Figure 49. Early-twentieth-century residential structure at Site 15EI79, facing west.....	121
Figure 50. Early- to mid-twentieth-century residential structure at Site 15EI79, facing northeast.....	121
Figure 51. Barn at Site 15EI79, facing northwest.....	122



Figure 52. Garage at Site 15EI79, facing northeast.....	122
Figure 53. Privy/shed at Site 15EI79, facing southwest.....	123
Figure 54. Log house and prefabricated shed to east of Site 15EI79, facing north.....	124
Figure 55. Overview of limestone block well at Site 15EI79.....	124
Figure 56. Representative soil profile from central portion of Site 15EI79. ....	125
Figure 57. Representative soil profile from Site western portion of site 15EI79. ....	125
Figure 58. Overview of Site 15EI80, facing south-southwest.....	129
Figure 59. Schematic plan map of Site 15EI80.....	130
Figure 60. Overview of Site 15EI81, facing north-northwest.....	134
Figure 61. Schematic plan map of Site 15EI81.....	135
Figure 62. Extant residential structure at Site 15EI81, facing east.....	136
Figure 63. Well house at Site 15EI81, facing north.....	136
Figure 64. Limestone block well at Site 15EI81.....	137
Figure 65. Possible remains of stone wall at Site 15EI81.....	137
Figure 66. Representative soil profile from Site 15EI81.....	138
Figure 67. Representative soil profile from STP 2 at Site 15EI81.....	138
Figure 68. Overview of Site 15Mo174, facing southeast.....	141
Figure 69. Schematic plan map of Site 15Mo174.....	142
Figure 70. Overview extant residential structure at Site 15Mo174, facing northeast.....	143
Figure 71. Overview of tobacco barn at Site 15Mo174, facing northwest.....	144
Figure 72. Overview well at Site 15Mo174, facing west-northwest.....	145
Figure 73. Overview of well house at Site 15Mo174, facing northeast.....	145
Figure 74. Representative soil profile 1 from Site 15Mo174.....	146
Figure 75. Representative soil profile 2 from Site 15Mo174.....	146
Figure 76. Overview of Site 15Mo175, facing north-northeast.....	150
Figure 77. Schematic plan map of Site 15Mo175.....	151
Figure 78. Barn present at Site 15Mo175, facing northeast.....	152
Figure 79. Western-most shed present at Site 15Mo175, facing northeast.....	152
Figure 80. Eastern-most shed present Site 15Mo175, facing southwest.....	153
Figure 81. Well house and cement-lined well present at Site 15Mo175, facing south-southwest.....	153
Figure 82. Modern mobile home is the location of the former residential structure present at Site 15Mo175, facing northeast.....	154
Figure 83. Representative soil profile from the southern and eastern portions of Site 15Mo175.....	155
Figure 84. Representative soil profile from the central portion of Site 15Mo175.....	155
Figure 85. Overview of Site 15Mo176, facing northeast.....	160
Figure 86. Schematic plan map of Site 15Mo176.....	161
Figure 87. Residential structure present at Site 15Mo176, facing north-northeast.....	162
Figure 88. Barn present at Site 15Mo176, facing northwest.....	162
Figure 89. Shed/outbuilding present at Site 15Mo176, facing northwest.....	163
Figure 90. Foundation remains present at Site 15Mo176, facing east-northeast.....	163
Figure 91. Concrete steps present at Site 15Mo176, facing east-northeast.....	164
Figure 92. Representative soil profile from Site 15Mo176.....	165
Figure 93. Soil profile for STP 4 from Site 15Mo176.....	165
Figure 94. Overview of Site 15Mo177, facing west.....	168
Figure 95. Schematic plan map of Site 15Mo177.....	169
Figure 96. Wrigley Mercantile building at Site 15Mo177, facing east-northeast.....	170
Figure 97. Cement pad at Site 15Mo177, facing southeast.....	171
Figure 98. Representative soil profile from Site 15Mo177.....	172

# LIST OF TABLES

Table 1. Summary of Selected Information for Previously Recorded Archaeological Sites in Morgan County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.....	39
Table 2. Summary of Selected Information for Previously Recorded Archaeological Sites in Elliott County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.....	40
Table 3. Summary of Lithic Artifacts by Site.....	61
Table 4. Summary of Geologic Formations Near Project Area. ....	62
Table 5. Summary of Raw Material by Reduction Stage.....	65
Table 6. Reduction Stages by Site.....	66
Table 7. Summary of Artifacts Recovered at 15EI76. ....	70
Table 8. Summary of Artifacts Recovered at 15EI77. ....	71
Table 9. Summary of Artifacts Recovered at 15EI78. ....	72
Table 10. Summary of Artifacts Recovered at 15Mo174.....	73
Table 11. Summary of Artifacts Recovered at 15Mo175.....	73
Table 12. Historic Artifacts Recovered According to Functional Group.....	75
Table 13. Summary of Architecture Group Items. ....	77
Table 14. Summary of Domestic Group Items. ....	80
Table 15. Summary of Furnishing, Maintenance and Subsistence, Personal, and Unidentified Group Items. ....	92
Table 16. Prehistoric Artifacts Recovered at Site 15EI76.....	105
Table 17. Artifacts Recovered from Site 15EI77. ....	109
Table 18. Ownership History for Site 15EI77. ....	110
Table 19. Prehistoric Artifacts Recovered from Site 15EI78. ....	115
Table 20. Historic Artifacts Recovered from Site 15EI79. ....	126
Table 21. Ownership History for Site 15EI79. ....	127
Table 22. Burials in Site 15EI80. ....	131
Table 23. Ownership History for Site 15EI80. ....	132
Table 24. Artifacts Recovered from Site 15EI81. ....	139
Table 25. Ownership History for Site 15EI81. ....	140
Table 26. Artifacts Recovered from Site 15Mo174.....	147
Table 27. Ownership History for Site 15Mo174.....	148
Table 28. Artifacts Recovered from Site 15Mo175.....	156
Table 29. Ownership History for Site 15Mo175.....	157
Table 30. Historic Artifacts Recovered from Site 15Mo176.....	166
Table 31. Ownership History for Site 15Mo176.....	166
Table 32. Artifacts Recovered from Site 15Mo177.....	172
Table 33. Ownership History for Site 15Mo177.....	173
Table 34. Remaining Unsurveyed Parcels and Landowners. ....	181
Table B-1. Flakes. ....	B-3
Table C-1. Cores and Tools. ....	C-3
Table D-1. Historic Materials Recovered. ....	D-3

# I. INTRODUCTION

Between November, 2015, and January 2016, Cultural Resource Analysts, Inc. (CRA), personnel conducted an archaeological survey of the proposed reconstruction of KY 7 between the towns of Wrigley and Sandy Hook in Morgan and Elliott Counties, Kentucky (Figures 1 and 2). The survey was conducted at the request of Mitch Green of HMB Professional Engineering, Inc., on behalf of the Kentucky Transportation Cabinet (KYTC) (Item No. 9-228.00) and only performed once landowner permission was obtained. James Heideman, Thomas McAlpine, Karen Taylor, and Marshall Wilson participated in the survey, which required approximately 400 person hours to complete. Office of State Archaeology (OSA) Geographic Information Systems (GIS) data requested by CRA on November 5, 2015, was returned on November 11, 2015. The results were researched by Heather Barras of CRA at the OSA between November 10 and 16, 2015. The OSA project registration number is FY16\_8676.



Figure 1. Map of Kentucky showing the location of Morgan and Elliott Counties.

## Background

The current project consists of an archaeological baseline survey for the proposed corridors and interchanges of the KY 7 reconstruction route in Morgan and Elliott Counties, Kentucky. The proposed corridor includes existing right-of-way (ROW) as well as new ROW for which survey will be required.

## Project Description

The purpose of the KY 7 reconstruction project is to correct current roadway

deficiencies and provide a safer roadway for motorists travelling along the portion of KY 7 from the south city limits of Sandy Hook, Elliott County, to KY 711 (Redwine Rd) at Wrigley, Morgan County (Figure 3). The project would improve system linkage between Sandy Hook and West Liberty. The existing stretch of KY 7 is a rural arterial characterized by narrow width, inadequate sight distance, poor clearance zone, and deficient horizontal and vertical curves.

The length of the proposed reconstruction route is approximately 16.40 km (10.19 mi), and encompasses approximately 132 ha (325 acres).

## Purpose of Study

This study was conducted to comply with Section 106 of the National Historic Preservation Act. This transportation project is federally funded, and therefore considered an undertaking subject to 106 review. Any state, county, or municipal lands in the project area were surveyed under OSA Kentucky Antiquities Act Permit Number 2015-44 pursuant to Kentucky Revised Statute (KRS) 164.720.

The purpose of this survey was to assess any potential effects the reconstruction of KY 7 might have on identified cultural resources. To do this, the following objectives were used:

- identify prehistoric and historic archaeological sites located within the project area;
- determine, to the extent possible, the age and cultural affiliation of sites;
- establish the vertical and horizontal boundaries of sites;
- establish the degree of site integrity and potential for intact cultural deposits to be present.

For the purposes of this assessment, a site was defined as “any location where human behavior has resulted in the deposition of artifacts, or other evidence of purposive behavior at least 50 years of age” (Sanders 2006:2). Cultural deposits less than 50 years of age were not considered sites in accordance with “Archeology and Historic Preservation: the Secretary of the Interior’s Standards and Guidelines” and were not assessed as part of this study (National Park Service 1983).

The following is a description of the project area, previous research and cultural history of the area, field and laboratory methods, materials recovered, and results of this study. It conforms to the *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2006). Cultural material, field notes, records, and site photographs will be curated with the William S. Webb Museum of Anthropology, University of Kentucky, in Lexington.

## Summary of Findings

Prior to initiating field investigations, a records review was conducted at the OSA for a 2.0 km (1.2 mi) radius around the entire 132 ha project area. The review indicated that nine previous professional archaeological surveys had been conducted within a 2 km radius of the project area. Twelve archaeological sites had been recorded in that area also. Portions of Site 15E111 were determined to be in the boundaries of the current project area.

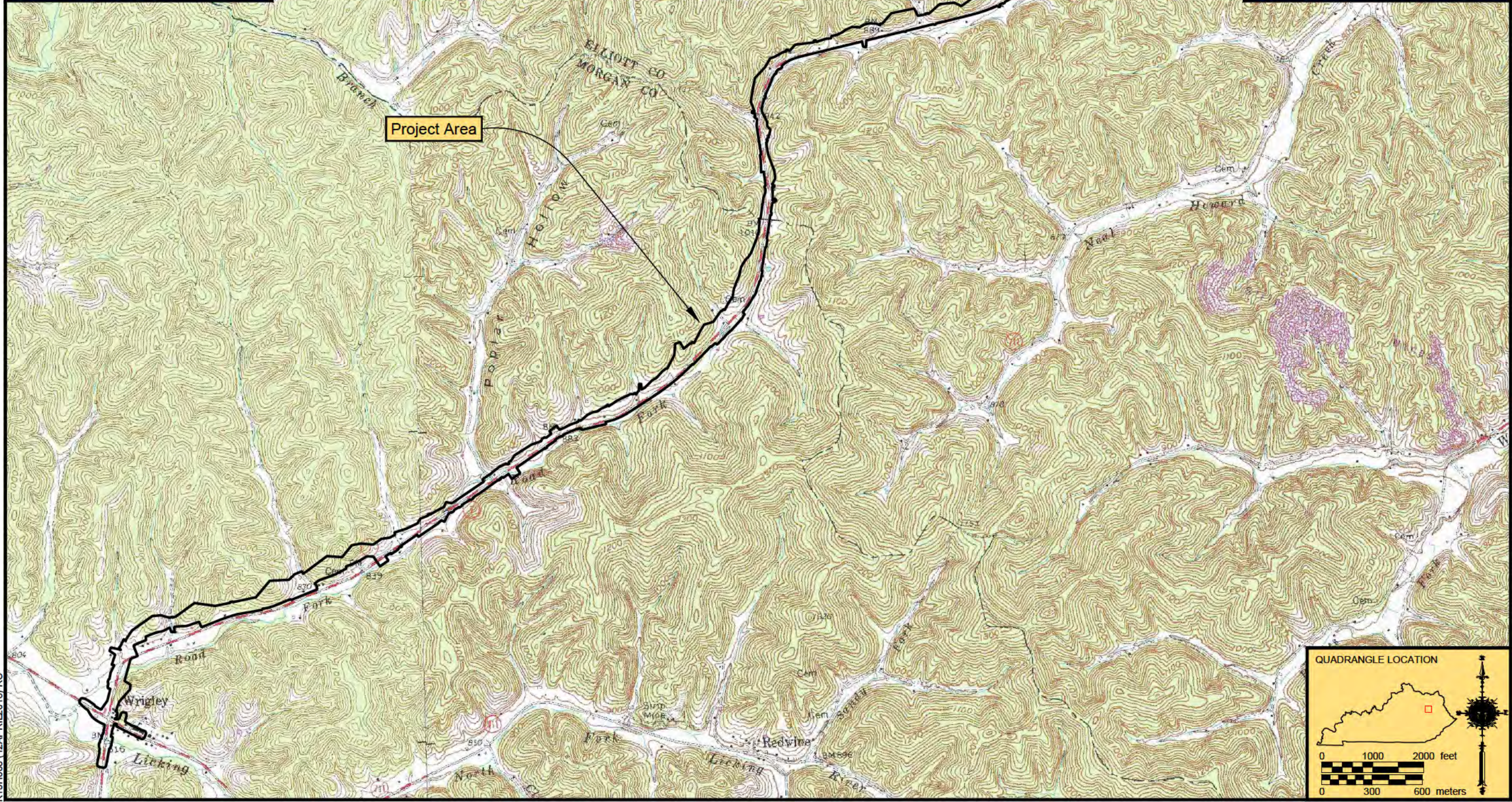
The archaeological survey of the proposed project area resulted in the documentation of previously recorded Site 15E111, and the discovery of 10 previously unrecorded archaeological sites (15E176–15E181 and 15Mo174–15Mo177). Site 15E111 is an Early to Late Woodland open habitation without mounds that was previously unassessed for inclusion in the National Register of Historic Places (NRHP). When reexamined under the current project, the portion of the site in the current project area was noted to be highly disturbed by construction activities associated with the adjacent commercial structures, and only one flake was recovered. Due to the high level of disturbance and paucity of artifacts recovered, the portion of Site 15E111 located in the current project area is recommended not eligible for inclusion in the NRHP. The portions of the site outside the current project area are unassessed for inclusion in the NRHP and evaluation would require additional work.

Newly recorded archaeological Site 15E176 is a prehistoric open habitation without mounds that consists of a low density lithic scatter. Site 15E177 is a multicomponent site

that consists of a prehistoric open habitation without mounds of unknown temporal affiliation and a historic material scatter possibly associated with the adjacent early to mid-twentieth-century farm/residence. However, the historic assemblage was composed primarily of ABM glass and possibly represents roadside garbage as all of the historic materials were recovered from the ground surface along the KY 7/KY 650 junction. Site 15E178 is a prehistoric open habitation without mounds of unknown temporal affiliation that consisted of a low density lithic scatter. Site 15E179 is a multicomponent site that consists of an early-twentieth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation. The historic component of the site included six extant structures and a limestone block well. The prehistoric component consisted of an extremely low-density lithic scatter. Site 15E180 is a historic cemetery that contains 22 burials with the earliest death date being 1895 and the most recent being 2007. Site 15E181 is a historic farm/residence that dates from the late nineteenth century to the mid-twentieth century and consists of a low density historic material scatter, an extant residential structure, a well house and limestone well, and the possible remains of a limestone wall. Site 15Mo174 is a multicomponent site that consists of an early twentieth-century to mid-to-late twentieth-century farm/residence and a prehistoric open habitation without mounds. The historic component consists of a low density historic material scatter, two structures, and two wells/well houses. The prehistoric component consists of a low density lithic scatter. Site 15Mo175 is a multicomponent site that consists of a late nineteenth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation. The historic component consists of a medium density historic material scatter, four historic structures, and a well.

Wrigley, KY 1977 (Revised 1993)  
USGS 7.5 minute series digital topographic  
quadrangle. Map J51, Governor's Office for  
Technology, Office of Geographic Information.

Sandy Hook, KY 1962 (Photorevised 1978)  
USGS 7.5 minute series digital topographic  
quadrangle. Map J52, Governor's Office for  
Technology, Office of Geographic Information.

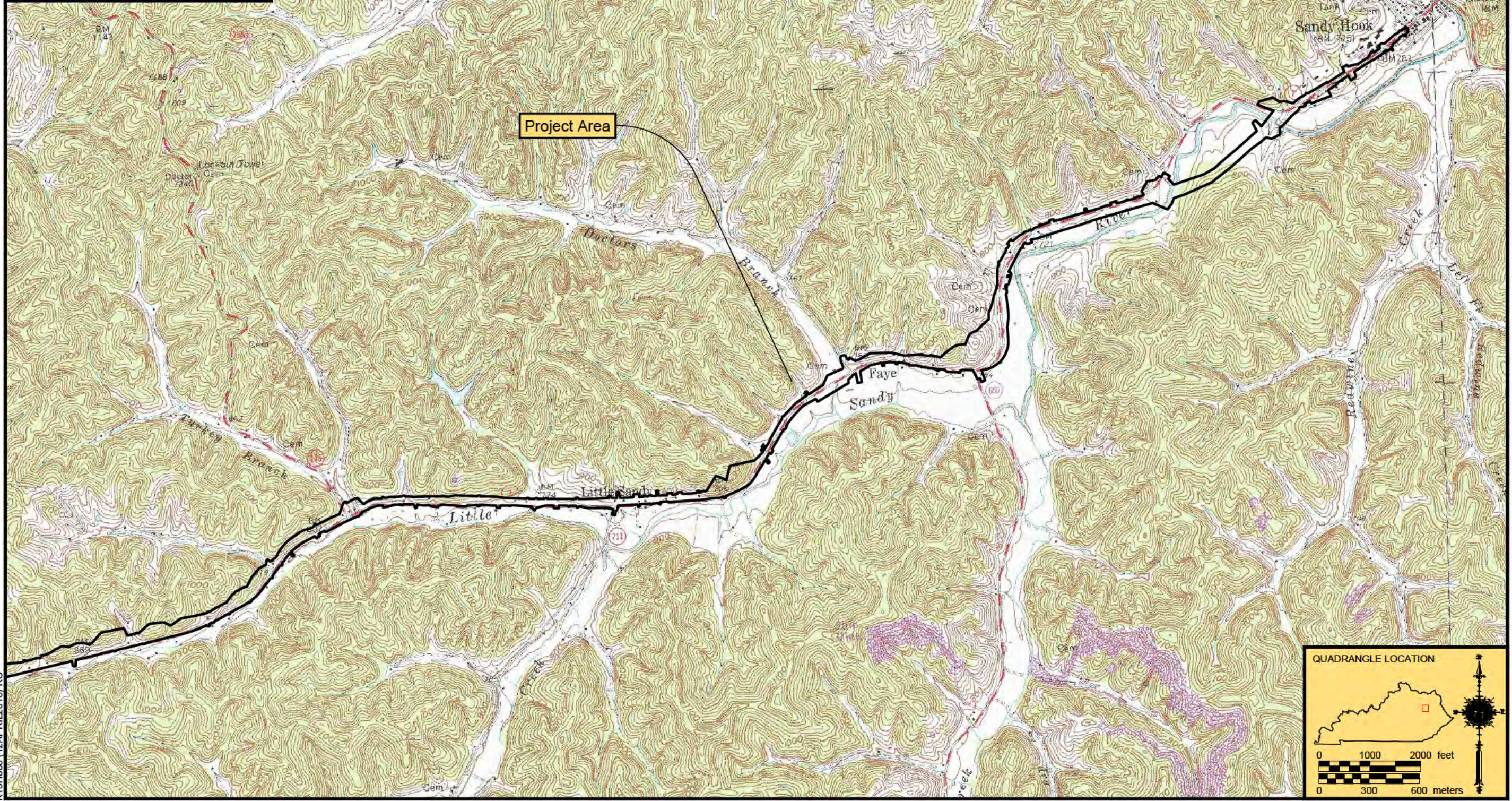


K15H008 (12APRIL2016) RC

Figure 2a. Location of project area on topographic quadrangle.



Sandy Hook, KY 1962 (Photorevised 1978)  
USGS 7.5 minute series digital topographic  
quadrangle. Map J52, Governor's Office for  
Technology, Office of Geographic Information.



K15H008 (12APRIL2016) RC

Figure 2b. Location of project area on topographic quadrangle.





K15H008 (12APRIL2016) RC

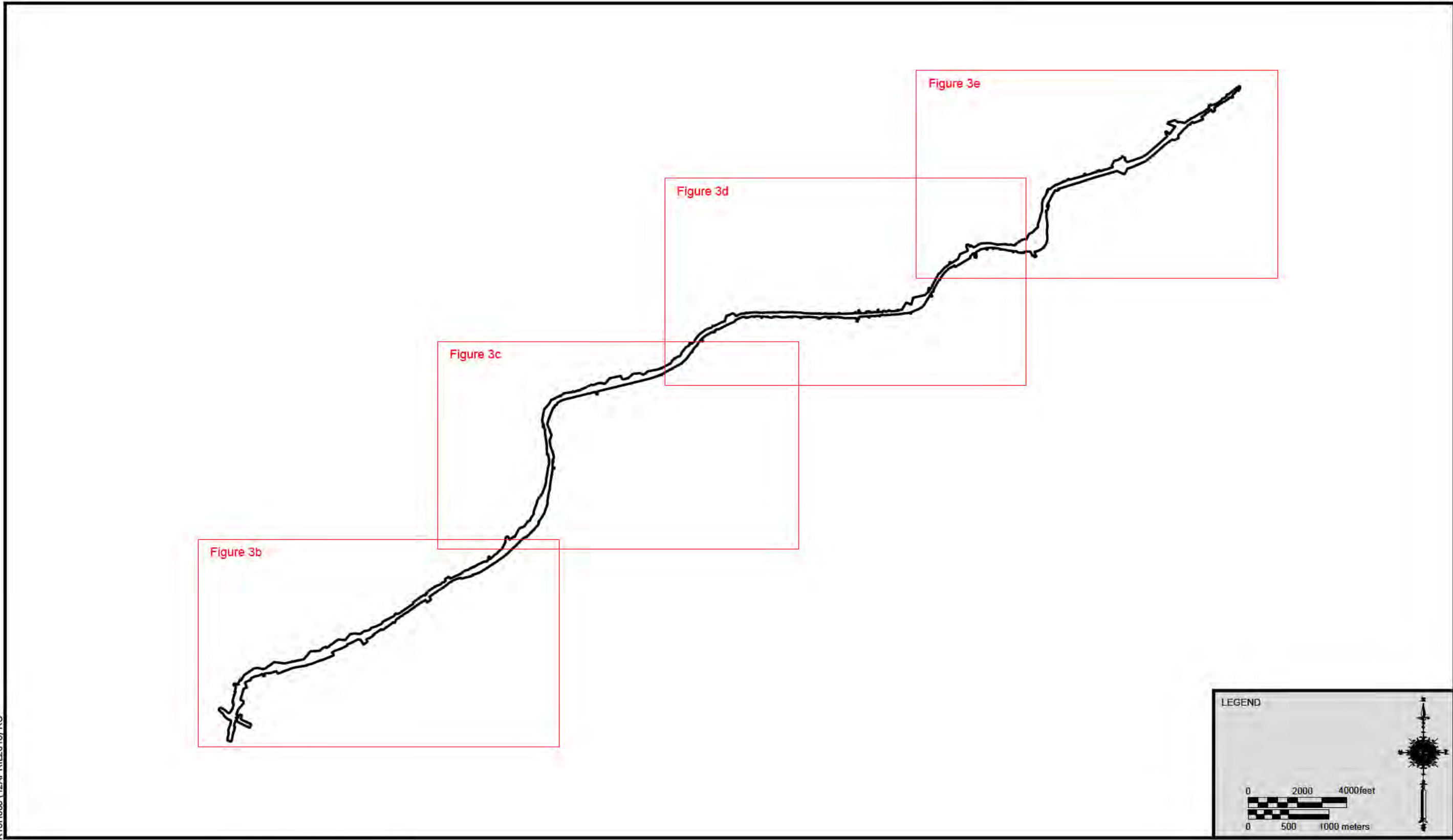
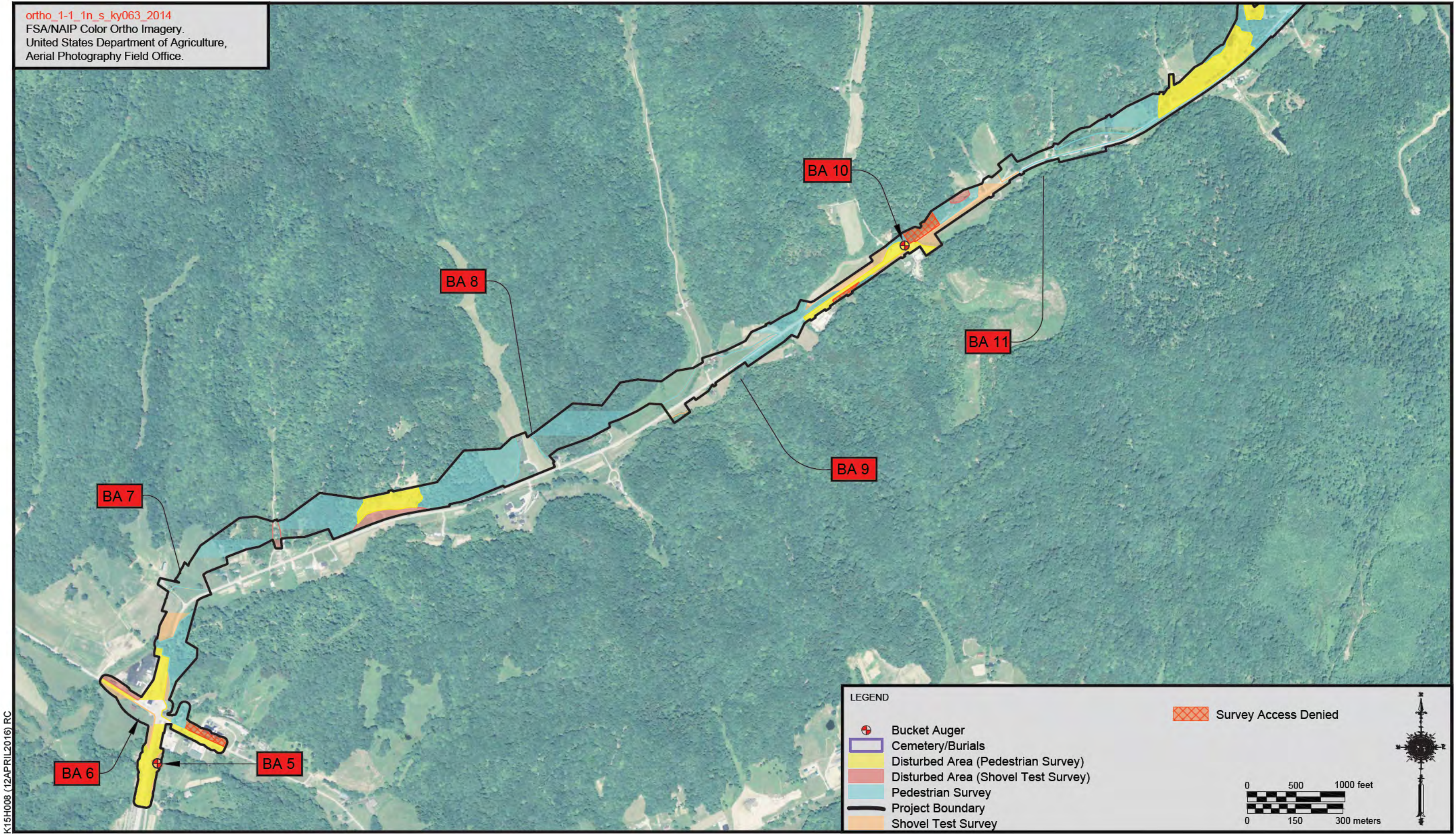


Figure 3a. Project area plan map (key).



ortho\_1-1\_1n\_s\_ky063\_2014  
FSA/NAIP Color Ortho Imagery.  
United States Department of Agriculture,  
Aerial Photography Field Office.



K15H008 (12APRIL2016) RC

Figure 3b. Project area plan map.



ortho\_1-1\_1n\_s\_ky063\_2014 2014  
FSA/NAIP Color Ortho Imagery.  
United States Department of Agriculture,  
Aerial Photography Field Office.

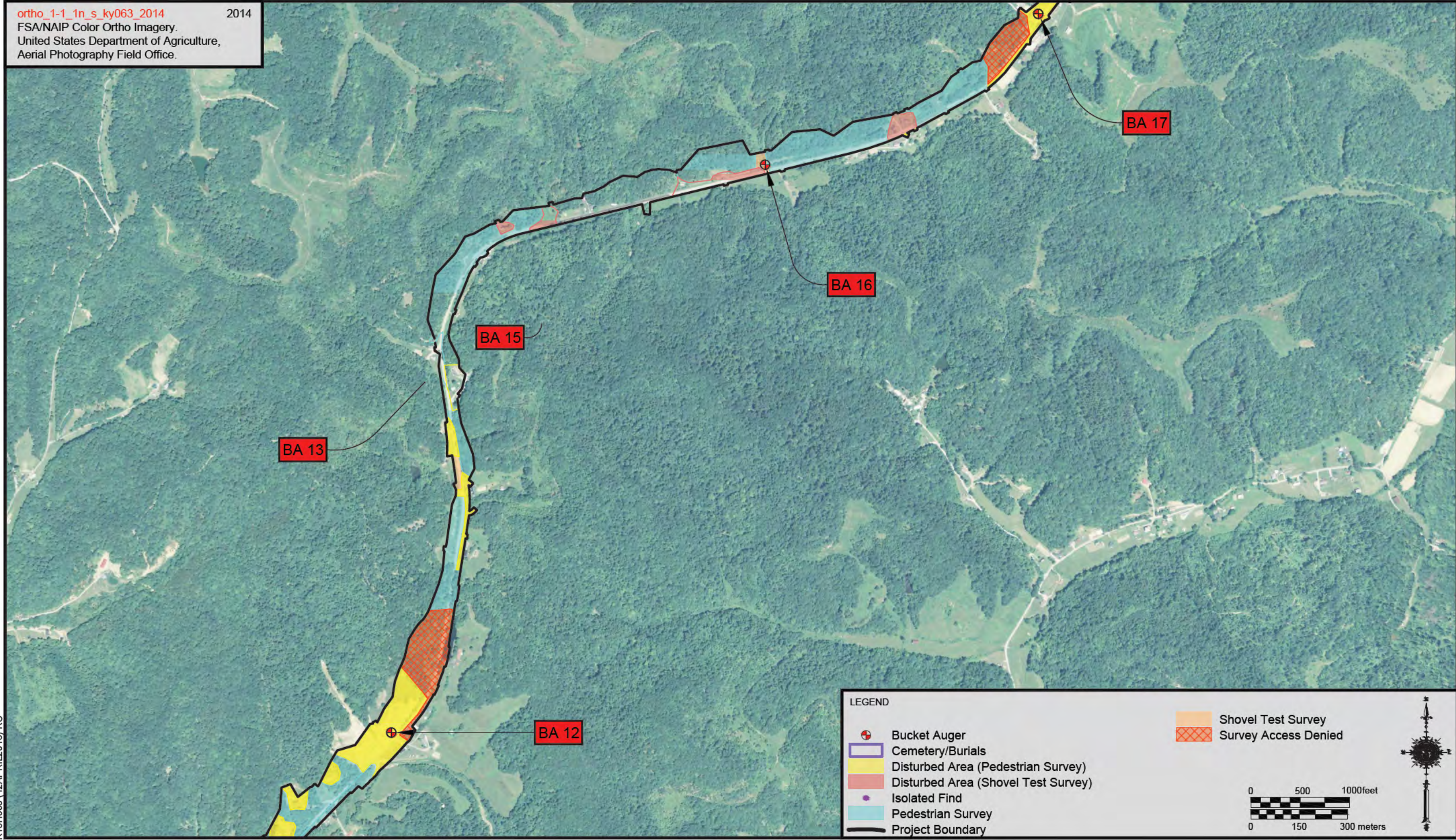


Figure 3c. Project area plan map.



ortho\_1-1\_1n\_s\_ky063\_2014 2014  
FSA/NAIP Color Ortho Imagery.  
United States Department of Agriculture,  
Aerial Photography Field Office.

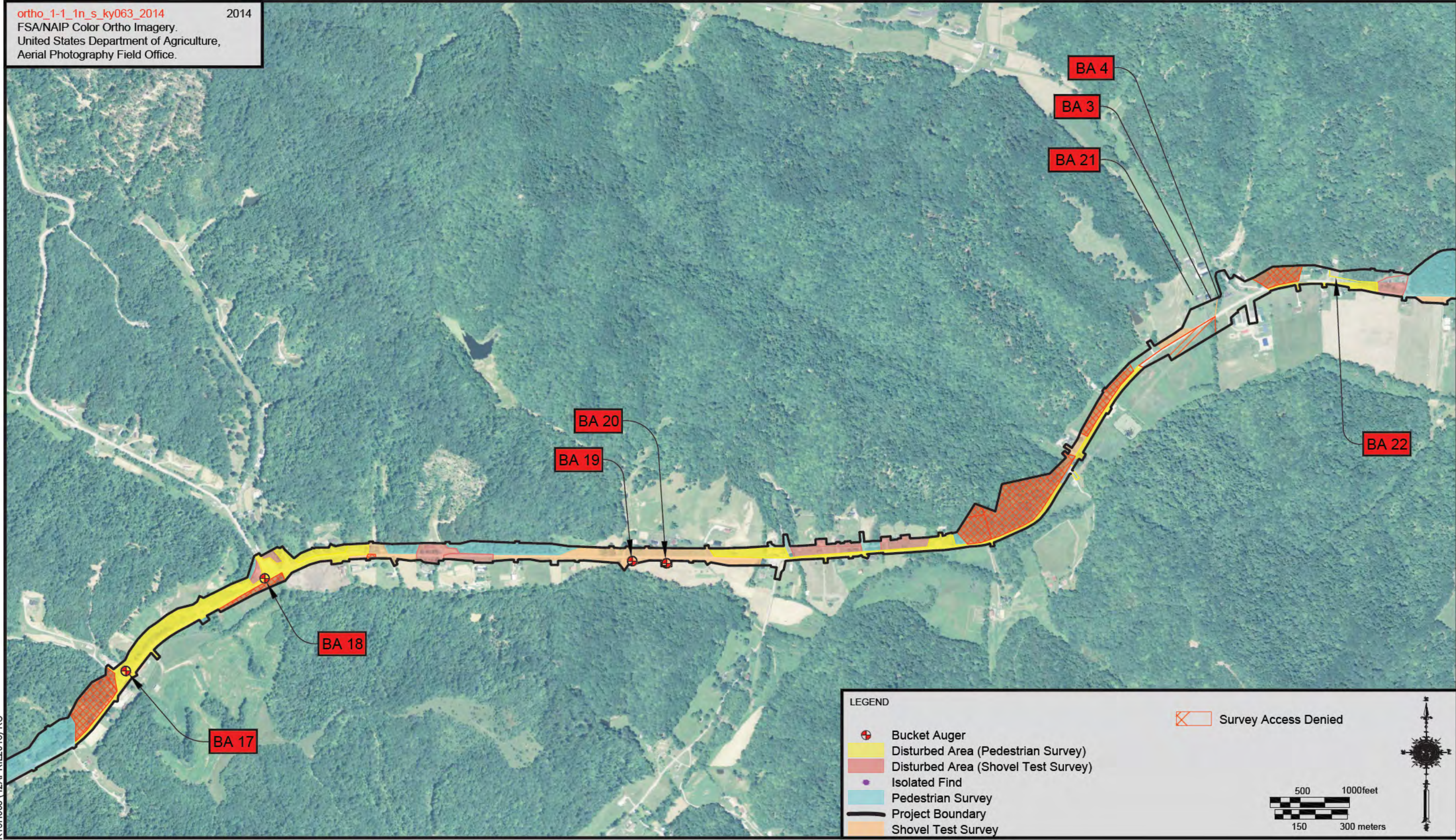


Figure 3d. Project area plan map.





ortho\_1-1\_1n\_s\_ky063\_2014  
FSA/NAIP Color Ortho Imagery.  
United States Department of Agriculture,  
Aerial Photography Field Office.

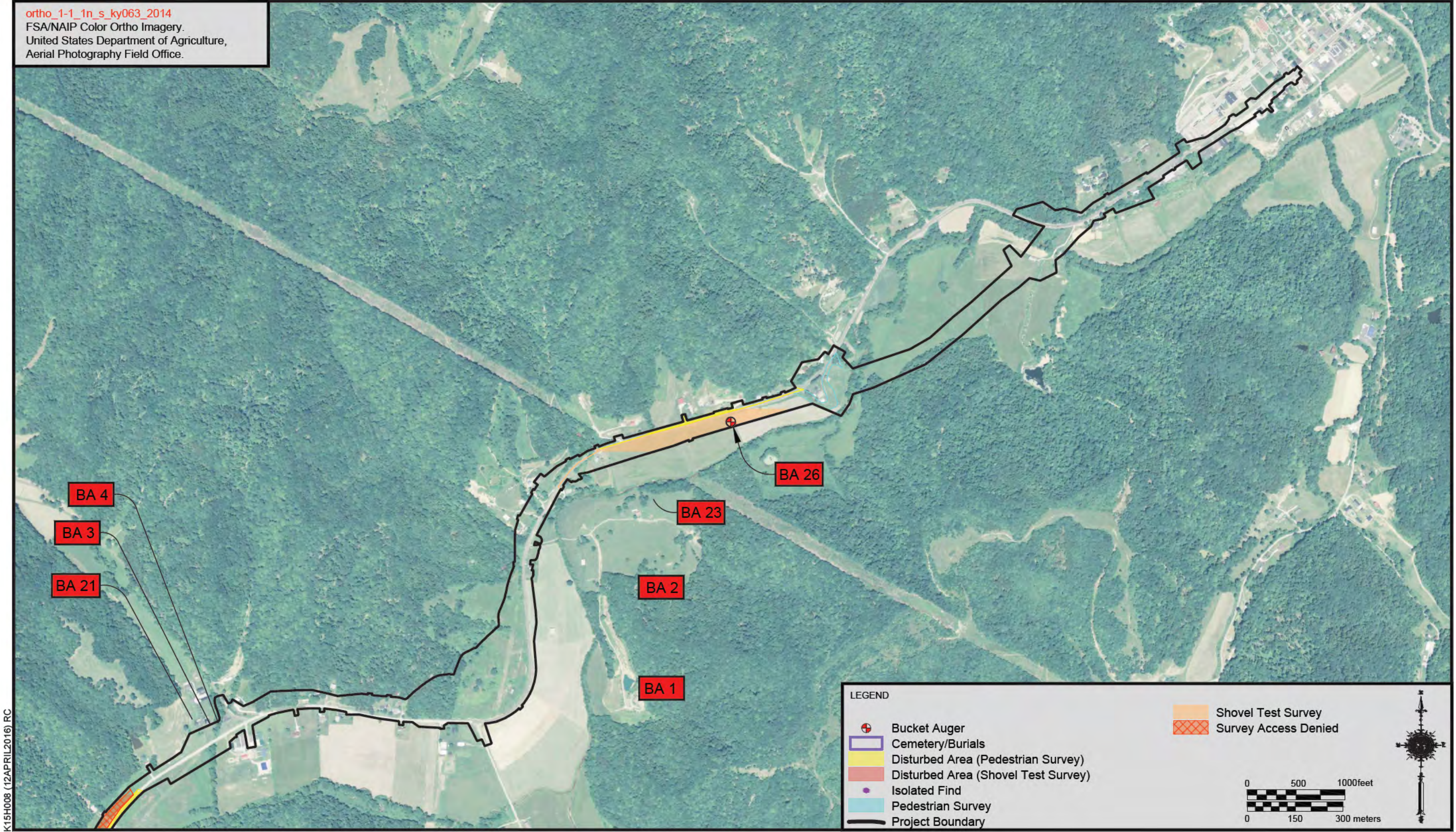


Figure 3e. Project area plan map.



The prehistoric component consists of a low density lithic scatter. Site 15Mo176 is a historic farm/residence that dates from the early- to mid-twentieth-century and consists of a low density historic material scatter, the foundation remains of a suspected outbuilding, and three extant historic structures. Site 15Mo177 consists of a small cultural material scatter associated with an early- to mid-twentieth-century commercial building formerly known as Wrigley Mercantile General Store. Sites 15E176, 15E179, 15Mo174, 15Mo175, 15Mo176, and 15Mo177 are all recommended not eligible for inclusion in the NRHP, and no further work is recommended. However, Sites 15E177, 15E178, and 15E181 all appear to extend outside the boundaries of the current project area. Therefore, they cannot be properly assessed for inclusion in the NRHP. Although the portions of Sites 15E177, 15E178, and 15E181 that are located in the current project area are recommended not eligible for inclusion in the NRHP, additional work would be required to assess the portions of those sites that are outside of the current project area for inclusion in the NRHP. Site 15E180 is also recommended not eligible for inclusion in the NRHP, but since it contains historic burials, it is recommended for avoidance. If the burials are unable to be avoided, they will have to be removed in accordance with Kentucky State Law.

The five isolated finds (IF1–IF5) documented during field investigations are not recommended for inclusion in the NRHP. In addition, five relatively small family cemeteries and two locations that may contain unmarked burials were noted either within or directly adjacent to the current project area. None of the portions of the cemeteries within the project area are known to contain historic burials; however, if the burials are unable to be avoided they will have to be removed in accordance with Kentucky State Law. The two areas that potentially contain burials were identified through communication with local residents. CRA recommends that these locations be avoided. For the location with the possible Civil War burials, if it cannot be

avoided, documentary research to attempt to verify the existence of the burials is recommended. If the presence of such burials is verified additional archaeological work to evaluate their eligibility for the NRHP is recommended. For the other area with potential graves, as it is doubtful that a small population of anonymous graves would be NRHP eligible, it is recommended that KYTC's standard procedure of identification and relocation of graves in accordance with Kentucky State Law would be sufficient.

No archaeological sites listed in, or eligible for listing in, the NRHP will be affected by the proposed construction activities of the current project. So long as all marked burials present in the project area are avoided or moved in accordance with Kentucky State Law, and the areas potentially containing unmarked burials are avoided or treated as outlined above, archaeological clearance is recommended. However, it is recommended that the parcels for which permission was not obtained be surveyed following property acquisition.

## II. ENVIRONMENTAL SETTING

This section of the report provides a description of the modern and prehistoric environment and considers those aspects of the environment that may have influenced the settlement choices of past peoples. Attributes of the physical environment also often guide the methods used to discover archaeological sites. Topography, bedrock geology, vegetation, hydrology, soils, lithic resources, and climate for the project area are discussed below.

The Eastern Kentucky Coal Field region (Figure 4) is a rugged and maturely dissected area that is underlain by sandstone, shale, and coal (Bladen 1973:23, 31; Pollack 2008a:16–18). There are 35 counties situated either entirely or partially within this region: Bell, Boyd, Breathitt, Carter, Clay, Elliott, Estill, Floyd, Greenup, Harlan, Jackson, Johnson,

Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, McCreary, Magoffin, Martin, Menifee, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley, and Wolfe Counties (Bladen 1973:23). Lewis and Rowan Counties in northeastern Kentucky encompass a portion of the Knobs, a wedge of the Mississippian Plateaus, and a portion of the Eastern Kentucky Coal Field. Rockcastle County is situated partially within the Knobs subregion, partially within the Mississippian Plateaus, and partially within the Eastern Kentucky Coal Field region. Pulaski and Wayne Counties are situated partially within the Mississippian Plateaus and partially within the Eastern Kentucky Coal Field regions. Finally, Estill and Powell Counties overlap portions of the Knobs and the Eastern Kentucky Coal Field as well.

This region holds the highest elevations in Kentucky, culminating with Black Mountain in Harlan County, which has an estimated elevation of over 1,250 m (4,100 ft) above mean sea level (AMSL) (Bladen 1973:23; Schwendeman 1979:27). The region is

bordered to the west and north by the Pottsville Escarpment and to the east and south by the state lines of West Virginia and Virginia, respectively. Ridge crests and valley bottoms are typically very narrow, and the majority of the terrain is steeply sloped.

The Big Sandy, Cumberland, Kentucky, Licking, Little Sandy, and Ohio Rivers and their tributaries, along with Tygarts Creek, drain the Eastern Kentucky Coal Field region (Figure 5). Locally, the major river valleys are very wide, and most of the human habitation is on the floodplains and low terraces (Newell 2001). High terraces are remnants of earlier valley bottoms.

The Eastern Kentucky Coal Field is located in the Mixed Mesophytic Forest region, which is described as the most complex and oldest association of the Deciduous Forest Formation (Braun 2001:39). Mixed mesophytic refers to a climax association in which dominance is shared by a number of species, and the dominant trees are beech, tuliptree, basswood, sugar maple, chestnut, sweet buckeye, red oak, white oak, and hemlock (Braun 2001:40).

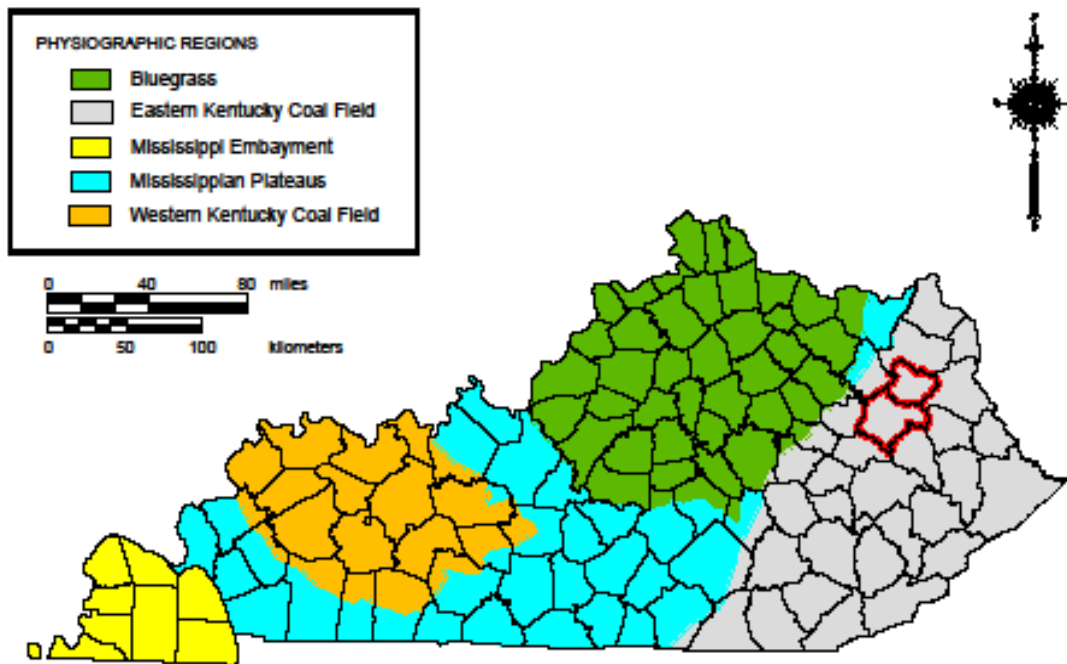


Figure 4. The Eastern Kentucky Coal Field region.

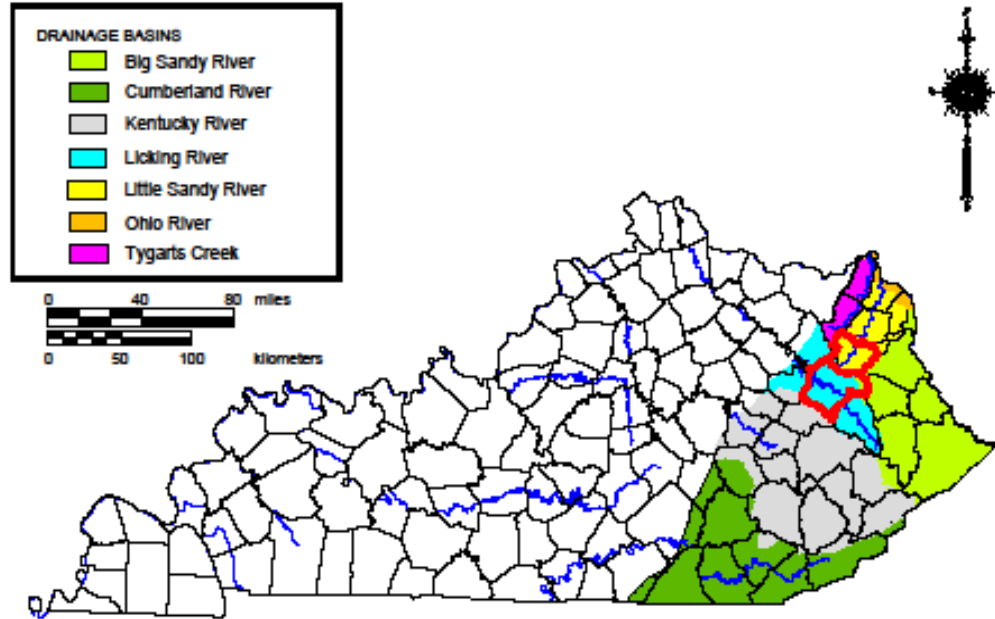


Figure 5. Rivers that drain the Eastern Kentucky Coal Field region.

Historically, ridgetops contained various pines (black, white, and yellow) and chestnut, and slopes were typically covered in hemlock and rhododendron (Davis 1924:19). Originally, the valleys were heavily forested with oak, hickory, walnut, yellow poplar, and beech, but by the early 1920s, the forest had been almost entirely removed (Davis 1924:25). In the modern Eastern Kentucky Coal Field region, north and east slopes are dominated by white basswood, while beech and oaks are dominant on south and west slopes. Modern ravines are often dominated by hemlock and rhododendron, but magnolia is also generally abundant. The uppermost slopes and ridges contain oak-chestnut and oak-hickory communities (Braun 2001:91–92).

## Soils of the Eastern Kentucky Coal Field

The Eastern Kentucky Coal Field region is predominantly mapped as the Ultisols order of soils. Ultisols formed in completely weathered colluvium or residuum of the underlying bedrock, which in eastern Kentucky is predominantly shale, siltstone, and sandstone, and they occurred on Late Pleistocene or older surfaces. They are found on nearly level to

very steep landforms. These soils display a light-colored or thin or low organic-carbon content, grayish-colored surface horizon and a clay-enriched subsoil. They are relatively infertile due to being strongly leached. Ultisols are typically red to yellow in color, resulting from the accumulation of iron and aluminum oxides. They are not characterized by any specific soil temperature, and they exhibit all but aridic soil moisture regimes (Soil Survey Staff 1999:721–726). Ultisols may contain buried and intact archaeological deposits as a result of colluvium, depending upon the landform on which they formed (e.g., footslope vs. bench), but most cultural deposits contained in these soils will be on or near the surface.

The region is predominantly mapped as the Udults suborder of soils, which are the more or less freely-drained and humus-poor Ultisols found in areas with well-distributed rainfall and that form in humid climates. Udults are thought to have developed under forest vegetation, but some developed under a savanna associated with, or influenced by, human activity. Many are cultivated with the addition of nutrient amendments or by allowing a fallow period following very few years of use. Udults can exhibit a compacted

zone, or fragipan, in or below the clay-enriched subsoil (Soil Survey Staff 1999).

Portions of the Eastern Kentucky Coal Field that are predominantly mapped as Inceptisols occur to a lesser extent. Inceptisols developed in silty, acid alluvium during the Late Pleistocene or Holocene time periods on nearly level to steep surfaces. Inceptisols may contain deeply buried and intact archaeological deposits, depending upon the landform on which they formed (e.g., sideslope vs. alluvial terrace). Inceptisols exhibit a thick, dark-colored surface horizon rich in organic matter and a weakly developed subsurface horizon with evidence of weathering and sometimes of gleying (Soil Survey Staff 1999:489–493).

When Inceptisols are the predominantly mapped soil order, they are typically mapped as the Udepts suborder of soils, which are mainly the more or less freely drained Inceptisols in areas with well-distributed to excessive rainfall. In the areas where rainfall was excessive, the soils formed in older deposits. Most of the soils are thought to have developed under forest vegetation, but some supported shrubs or grasses. Most of the soils have either a thinner or thicker but leached surface horizon and a weakly developed subsoil or B-horizon. Some also have a sulfuric acid-enhanced horizon, which commonly occurs as a result of artificial drainage, surface mining, or other earthmoving activities. Some also exhibit a cemented zone subsurface, such as a duripan, and some have a compacted zone, such as a fragipan (Soil Survey Staff 1999).

There are also smaller areas predominantly mapped as Entisols in the region. Entisols are sandy soils that formed very recently in unconsolidated parent material and have not been in place long enough for pedogenic processes to form distinctive horizons aside from an A-horizon. They are located on steep, actively eroding slopes or on floodplains or glacial outwash plains that frequently receive new deposits of alluvium. They do not have a compacted zone, such as a fragipan, and do not have

accumulated clays or aluminum or iron oxides, but they may be sodium enriched (Soil Survey Staff 1999:389–391). Because of their young age, Entisols rarely contain buried and intact prehistoric archaeological deposits.

Several suborders dominate the Entisol order. They include the Aquepts, Orthents, and Psamment suborders. Aquepts are found along margins of lakes or along streams where the water table is at or near the surface for much of the year. Many Aquepts have bluish or grayish colors and redoximorphic features caused by alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Most Aquepts support vegetation that tolerates permanent or periodic wetness. Orthents are located on recent erosional surfaces that are the result of geologic erosional processes or are caused by mining, cultivation, or other factors. The upper horizons have been either truncated or completely removed. Some are in areas of recent loamy or fine eolian deposits, in areas of glacial deposits, or in areas of debris from recent landslides and mudflows. Orthents occur in any climate and under any vegetation. Finally, Psamment are very sandy soils formed in poorly graded (well sorted) sands on shifting or stabilized sand dunes, in cover sands, in sandy parent materials that were sorted in an earlier geologic cycle, or in material weathered from sandstone or granitic bedrock. They are generally found on outwash plains, lake plains, natural levees, or beaches, and they generally exhibit a wide range of vegetation (Soil Survey Staff 1999).

## Lithic Resources

Chert resources in the Eastern Kentucky Coal Field region are somewhat localized, and many portions of the region are devoid of chert resources. Chert is more common along the western border of the region. The vast majority of the area is underlain by Pennsylvanian-age sandstone, shale, and siltstone deposits (United States Geological Survey [USGS] 2011). Breathitt chert primarily outcrops in the central portion of the region in the area of Breathitt County. Breathitt chert can also be found in portions of

Knott, Magoffin, Owsley, and Perry Counties. Minor sources also occur in Bell, Leslie, and Harlan Counties. Brush Creek chert can be found in the northeastern portion of the region in Boyd, Carter, and Lawrence Counties. Mississippian-age Newman limestone, containing Newman chert, is found in outcrops along the northwestern and southeastern edges of the region. Ste. Genevieve and St. Louis cherts of the same age are found along the western edge of the region, predominantly in Clinton, Estill, Menifee, Powell, and Wayne Counties. Mississippian-age Fort Payne, Monteagle, and Bangor cherts are found in sandstone or limestone outcrops, mostly in the southern counties. Finally, there are several Ordovician and Cambrian Formations along the Kentucky-Virginia-Tennessee border in Harlan and Bell Counties that contain chert. The Ordovician Formations are noted as containing olive-black to black chert, referred to as Poteet or Chickamauga chert. Lower Ordovician and upper Cambrian Formations contain Knox chert. Although often of small size, the chert is a high quality material.

## **Prehistoric and Historic Climate**

Climatic conditions during the period of human occupation in the region (Late Pleistocene and Holocene ages) can be described as a series of transitions in temperature, rainfall, and seasonal patterns that created a wide range of ecological variation, altering the survival strategies of human populations (Anderson 2001; Niquette and Donham 1985:6–8; Shane et al. 2001). The landscape during the Pleistocene was quite different from that of today. Much of the mid-continent consisted of periglacial tundra dominated by boreal conifer and jack-pine forests. Eastern North America was populated by a variety of faunal species, including megafaunal taxa such as mastodon, mammoth, saber-toothed tiger, and Pleistocene horse, as well as by modern taxa such as white-tailed deer, raccoon, and rabbit.

The Wisconsinan glacial maximum occurred approximately 21,400 years B.P.

(Anderson 2001; Delcourt and Delcourt 1987). By 15,000 B.P., following the Wisconsinan glacial maximum, a general warming trend and concomitant glacial retreat had set in (Anderson 2001; Shane 1994). Towards the end of the Pleistocene and after 14,000 B.P., the boreal forest gave way to a mixed conifer/northern hardwoods forest complex. In the Early Holocene and by 10,000 B.P., southern Indiana was probably on the northern fringes of expanding deciduous forests (Delcourt and Delcourt 1987:92–98). Pollen records from the Gallipolis Lock and Dam on the Ohio River near Putnam County, West Virginia, reveal that all the important arboreal taxa of mixed mesophytic forest had arrived in the region by 9000–8500 B.P. (Fredlund 1989:23). Similarly, Reidhead (1984:421) indicates that the generalized hardwood forests were well established in southeastern Indiana and southwest Ohio by circa 8200 B.P.

Prior to approximately 13,450 B.P., climatic conditions were harsh, but capable of supporting human populations (Adovasio et al. 1998; McAvoy and McAvoy 1997). Populations were probably small, scattered, and not reproductively viable (Anderson 2001). The Inter-Allerød Cold Period (circa 13,450–12,900 B.P.) brought about the dispersal of Native Americans across the continent. This period was followed by the rapid onset of a cooling event known as the Younger Dryas (circa 12,900–11,650 B.P.) during which megafauna species became extinct, vegetation changed dramatically, and temperature fluctuated markedly. It was also a period of noticeable settlement shift that marked the appearance of a variety of subregional cultures across eastern North America (Anderson 2001).

In a recent review, Meeks and Anderson (2012:111) described the Pleistocene/Holocene transition as “a period of tremendous environmental dynamism coincident with the Younger Dryas event.” The Younger Dryas represents one of the largest abrupt climate changes that has occurred within the past 100,000 years. The onset of the Younger Dryas appears to have been a relatively rapid event that may have

been driven by a freshwater influx into the North Atlantic as a result of catastrophic outbursts of glacial lakes. “The net effect of these outbursts of freshwater was a reduction in sea surface salinity, which altered the thermohaline conveyor belt; effectively slowing ocean circulation of warmer water (heat) to the north and bringing cold conditions” (Meeks and Anderson 2012:111; though see Meltzer and Bar-Yosef 2012:251–252 for a critique of this view). This resulted in significantly lower temperatures during this time. The Younger Dryas ended approximately 1,300 years later over a several decade period. The onset of the Younger Dryas coincides with the end of Clovis and the advent of more geographically circumscribed cultural traditions.

Pollen records for the Younger Dryas indicate that vegetation shifts were sometimes abrupt and characterized by oscillations. These shifts were not uniform over the entire southeast and indicate that a variety of factors were at play. At Jackson Pond in Kentucky (Wilkins et al. 1991), for example, several pronounced reciprocal oscillations occurred in a large number of spruce and oak. According to Meeks and Anderson, “these oscillations reflect shifts between boreal/deciduous forest ecotones associated with cool/wet and cool/dry conditions, respectively” (2012:113).

Meeks and Anderson (2012:126–130) define five population events for the Paleoindian–Early Holocene transition. Population Event 1 (circa 15,000–13,800 cal. B.P.) is a pre-Clovis occupation that exhibits a slow rise in population. This event may represent the initial colonization of the southeast region and may represent the basis of later Clovis occupation or a failed migration (Meeks and Anderson 2012:129). Population Event 2 represents an apparent 600 year gap between Events 1 and 3. Population Event 3 (circa 13,200–12,800 cal. B.P.) occurred just prior to, and extended into, the Younger Dryas event. This event represents the “first unequivocal evidence for widespread human occupation across the southeastern United States” (Meeks and Anderson 2012:129). Event 3 coincided with the Clovis occupation

in the region. A marked decline in the population is posited for Population Event 4 (12,800–11,900 cal. B.P.). This equates with the early to middle Younger Dryas and relates to a post-Clovis occupation of the region. Meeks and Anderson (2012:129) see a fragmentation of the regional Clovis culture at this time along with “the development of geographically circumscribed subregional, cultural traditions in the southeastern United States.” A marked increase in population density is posited between 11,900 and 11,200 cal. B.P. This coincides with the late portion of the Younger Dryas and the early portion of the Holocene. Population Event 5 is represented by this time frame. Early Side Notched and Dalton are seen during this time.

During the Early Holocene, rapid increases in boreal plant species occurred on the Allegheny Plateau in response to the retreat of the Laurentide ice sheet from the continental United States (Maxwell and Davis 1972:517–519; Whitehead 1973:624). At lower elevations, deciduous species were returning after having migrated to southern Mississippi Valley refugia during the Wisconsinan advances (Delcourt and Delcourt 1981:147). The climate during the Early Holocene was still considerably cooler than the modern climate, and based on species extant at that time in upper altitude zones of the Allegheny Plateau, conditions would have been similar to the Canadian boreal forest region of today (Maxwell and Davis 1972:515–516). Conditions at lower elevations were less severe and favored the transition from boreal to mixed mesophytic species. At Cheek Bend Cave in the Nashville Basin, an assemblage of small animals from the Late Pleistocene confirms the environmental changes that took place during the Pleistocene to Holocene transition and the resulting extinction of Pleistocene megafauna and establishment of modern fauna in this area (Klippel and Parmalee 1982).

Traditionally, Middle Holocene (circa 8000–5000 B.P., also referred to as the Hypsithermal) climate conditions were thought to be consistently dryer and warmer than the present (Delcourt 1979:271; Klippel



and Parmalee 1982; Wright 1968). The influx of westerly winds contributed to periods of severe moisture stress in the Prairie Peninsula and to an eastward advance of prairie vegetation (Wright 1968). More recent research (Anderson 2001; Shane et al. 2001:32–33) suggests that the Middle Holocene was marked by considerable local climatic variability. Paleoclimatic data indicate that the period was marked by more pronounced seasonality characterized by warmer summers and cooler winters.

The earliest distinguishable Late Holocene climatic episode began circa 5000 B.P. and ended around 2800 B.P. This Sub-Boreal episode is associated with the establishment of essentially modern deciduous forest communities in the southern highlands and increased precipitation across most of the mid-continental United States (Delcourt 1979:271; Maxwell and Davis 1972:517–519; Shane et al. 2001; Warren and O'Brien 1982:73). Changes in local and extra-local forests after approximately 4800 B.P. may also have been the result of anthropogenic influences. Fredlund (1989:23) reports that the Gallipolis pollen record showed increasing local disturbance of the vegetation from circa 4800 B.P. to the present, a disturbance that may have been associated with the development and expansion of horticultural activity. Based on a study of pollen and wood charcoal from the Cliff Palace Pond in Jackson County, Kentucky, Delcourt and Delcourt (1997:35–36) recorded the replacement of a red cedar-dominated forest with a forest dominated by fire-tolerant taxa (oaks and chestnuts) around 3000 B.P. The change is associated with increased local wildfires (both natural and culturally augmented) and coincided with increases in cultural utilization of upland (mountain) forests.

Beginning around 2800 B.P., generally warm conditions, probably similar to those of the twentieth century, prevailed during the Sub-Atlantic and Post-Sub-Atlantic climatic episodes, with the exception of the Neo-Boreal sub-episode, or Little Ice Age (circa 700–100 B.P.), which was coldest from circa 400 until its end. Despite the prevailing trend, brief

temperature and moisture variations occurred during this period. Some of these fluctuations have been associated with adaptive shifts in Midwestern prehistoric subsistence and settlement systems (Baerreis et al. 1976; Griffin 1961; Struever and Vickery 1973; Warren and O'Brien 1982).

Studies of historic weather patterns and tree-ring data by Fritts et al. (1979) indicate that twentieth-century climatological averages were “unusually mild” when compared to seventeenth- to nineteenth-century trends (the time period used for comparison represents the coldest period of the Neo-Boreal [400–100 B.P.], or the Little Ice Age) (Fritts et al. 1979:18). The study suggested that winters were generally colder, weather anomalies were more common, and unusually severe winters were more frequent between A.D. 1602 and A.D. 1900 than after A.D. 1900. The effects of the Neo-Boreal sub-episode, which ended during the mid- to late nineteenth century, have not been studied in detail for this region. It appears that the area experienced smaller temperature decreases during the late Neo-Boreal than did the upper Midwest and northern Plains (Fritts et al. 1979), so it follows that related changes in extant vegetation would be more difficult to detect.

## Modern Climate

The modern climate of Kentucky is moderate in character and temperature, and precipitation levels fluctuate widely. The prevailing winds are westerly, and most storms cross the state in a west to east pattern. Low pressure storms that originate in the Gulf of Mexico and move in a northeasterly direction across Kentucky contribute the majority of the precipitation received by the state. Warm, moist, tropical air masses from the Gulf predominate during the summer months and contribute to the high humidity levels experienced throughout the state. As storms move through the state, occasional hot and cold periods of short duration may be experienced. During the spring and fall, storm systems tend to be less severe and less frequent, resulting in less radical extremes in temperature and rainfall (Anderson 1975).

## Description of the Project Area

The current project consists of the reconstruction of KY 7 between the towns of Wrigley and Sandy Hook in Morgan and Elliott Counties, Kentucky (see Figure 3). The approximately 16.40 km long proposed reconstruction route generally follows the existing roadway and/or closely parallels it. In total the project area encompasses approximately 132 ha.

Elevations in the project area ranged from approximately 219 m (720 ft) above mean sea level (AMSL) on floodplains of the Little Sandy River to approximately 341 m (1,120 ft) AMSL on the uplands to north of KY 7. The Little Sandy River, the Licking River, and their tributaries drain the project area.

The majority of the project area consisted of mountainous terrain that was steep and rugged (Figure 6). In some portions of the project area the terrain presented slopes above 100 percent. Uplands were often dissected by draws and hollows associated with intermittent drainages and/or permanent streams (Figure 7). Vegetation in upland settings was generally composed of a deciduous tree overstory while the understory was composed of a mix of grass, weeds, brush, and briars.

Bottomlands were present in the project area along Road Fork and the Little Sandy River and their tributaries (Figure 8). Vegetation in bottomland settings was generally composed of a mixture of grass, weeds, brush, and briars. Forested areas were also common in these settings. Many of the bottomlands in the project area were used for agricultural purposes in the past; however, few agricultural fields were encountered during the current survey.

Ground surface visibility (GSV) throughout the majority of the project area was generally low, obscured by grass, weeds, brush, briars, and/or leaf litter. On average GSV was less than 10 percent throughout the project area. In some portions of the project area that exhibited high levels of erosion or were used as

agricultural fields, GSV was over 90 percent. A wide variety of disturbances were noted throughout the project area. The most common were those related to residential and commercial construction and the construction/maintenance of roadways (Figures 9 and 10). Other noted disturbances in the project area included overhead power lines and power line poles, demolition, livestock grazing, stock dams, and disturbances related to agricultural activities.

One geological overhang was encountered in the project area during field investigations (Figure 11). The overhang was located on a hillside along an unnamed intermittent tributary of the Little Sandy River on the north side of KY 7 approximately 6.2 km (3.9 mi) northeast of the town of Wrigley in Elliott County (see Figure 3). Five shovel tests were conducted in the overhang and all were negative for cultural materials.

The project area clips a small portion of the northwestern boundary of Clevenger Cemetery (Figure 12). It was previously recorded by CRA personnel as cultural historic Site 116 (MO 512) (Spurlock et al. 2015). This small family cemetery, which is not depicted on any historic maps, is located on the north side of KY 7 approximately .4 km (.2 mi) northeast of the town of Wrigley in Morgan County (see Figure 3). A barbed wire fence forms the northern and western boundaries for the cemetery. It contains nine marked burials for members of the Clevenger and Dehart families. The earliest death date noted in the cemetery is 1963 and the most recent is 2013. None of the burials are present in the small portion of Clevenger Cemetery located within the current project area, and therefore will not be affected.

Payton Cemetery, another small family cemetery, is located within the current project area (Figure 13). It was previously recorded by CRA personal as cultural historic Site 113 (MO 509) (Spurlock et al. 2015). The cemetery, which is not depicted on any historic maps, is located on a ridge spur approximately .6 km (.4 mi) northeast of the town of Wrigley on the north side of KY 7 in Morgan County (see Figure 3).



**Figure 6. Example of mountainous terrain in the project area, facing west.**



**Figure 7. Example of intermittent drainage draw in the project area, facing north.**



Figure 8. Example of bottomlands in the project area, facing east.



Figure 9. Example of residential disturbances in the project area, facing southeast.



Figure 10. Example of commercial disturbances in the project area, facing west-southwest.



Figure 11. Overview of geologic overhang in the project area, facing north.



Figure 12. Overview of Clevenger Cemetery, facing northwest.



Figure 13. Overview of Payton Cemetery, facing north-northeast.

Three marked burials were present in the cemetery and only included members of the Payton family. The earliest death date noted is 1972 and the most recent is 2014. The burials in this cemetery will have to be moved in accordance with Kentucky state law as they will be impacted by the current project.

Ratliff Cemetery is located in the current project area and contains three burials for members of the Ratliff family (Figure 14). The cemetery is located on a hillside on the north side of KY 7 approximately .7 km (.4 mi) northeast of the town of Wrigley in Morgan County (see Figure 3). The earliest death date in the cemetery is 1988 and the most recent is 2007. Since the burials in Ratliff Cemetery will be affected by the current project, they will have to be moved in accordance with Kentucky state law.

A small portion of the southern corner of Smith Cemetery is located within the current project area (Figure 15). It was previously recorded by CRA personnel as cultural historic Site 94 (MO 490) (Spurlock et al 2015). The first depiction of the cemetery is on the 1962 Sandy Hook quadrangle. It is located on the north side of KY 7 approximately .68 km (.42 mi) southwest of the Elliott County Line (see Figure 3). A chain link fence forms the northern and western boundaries for the cemetery, which contains approximately 32 marked burials. The earliest death date noted in the cemetery is 1938 and the most recent is 2013. None of the burials will be affected by the current project since the small portion of Smith Cemetery located within the project area contains no burials.

A lone burial for Clyde Dehart was located in the project area (Figure 16). The burial is located on a hillside on the north side of KY 7 approximately 3.6 km (2.2 mi) northeast of the town of Wrigley in Morgan County. The death date for Clyde Dehart is 1988, and based on a conversation with Darrell Dehart, a relative of Clyde, there is an additional unmarked burial on the hillside in the vicinity of Clyde's burial (personal communication 2016). Although no evidence for the additional unmarked burial was noted,

the entire area will be affected by the current project. Therefore, the Clyde Dehart burial and any other potential burials in the vicinity will need to be moved in accordance with Kentucky State Law.



Figure 14. Overview of Ratliff Cemetery, facing north-northwest.



Figure 15. Overview of Smith Cemetery, facing north.





Figure 16. Overview of Clyde Dehart burial, facing east.



Figure 17.



**Figure 18. Overview of possible burials just outside the project area, facing west.**



Figure 19. Example of potential grave shaft located just outside the project area, facing west.



Figure 20. Potential stone burial marker located just outside the project area, facing west.

In addition to the two potential shafts and stone marker, several pieces of decorative glass were found that may be associated with flower vases. Although it is unclear if the location actually contains burials, it should be avoided by construction activities as a precaution. Nevertheless, as it is doubtful that a small population of anonymous graves would be NRHP eligible, it is recommended that KYTC's standard procedure of identification and relocation of graves in accordance with Kentucky State Law would be sufficient.

A stone culvert was located in the project area on the north side of KY 7 on the western outskirts of downtown Sandy Hook (Figure 21). The bridge was previously recorded by CRA personnel as cultural historic Site 133 (EL 150) (Spurlock et al. 2015). The culvert appears to be constructed of dry-laid rough fieldstones. It provides a narrow roadway over a small intermittent tributary of the Little Sandy River. A dry-laid stone retaining wall lines the south side of the roadway and has been diminished as a result of erosion and neglect (Figure 22).

Chert resources for the region have been previously discussed. For a more detailed analysis of chert resources see the Lithic Analysis section of this report.

Approximately 28 soil series have been defined in the project area. These include: Allegheny, Bethesda, Blairton, Caneycreek, Chagrin, Cotaco, Cruze, Ezel, Fairpoint, Fedscreek, Fiveblock, Gilpin, Grigsby, Handshoe, Hazleton, Helechawa, Holly, Kaymine, Latham, Lobdell, Marrowbone, Matewan, Orrville, Ramsey, Rowdy, Shelocta, Stokly, and Udorthents. A number of these soil series occur as a part of a soil complex. Soil complexes defined within the project area include: Blairton-Cruze-Marrowbone, Gilpin-Ezel-Cotaco, Gilpin-Latham-Marrowbone, Gilpin-Ramsey, Gilpin-Shelocta, Gilpin-Urban land, Latham-Shelocta-Gilpin, Morrowbone-Blairton-Matewan, Shelocta-Gilpin, Shelocta-Grigsby-Orrville, Shelocta-Handshoe-Fedscreek, Shelocta-Helechawa-Hazleton, and Udorthents-Urban land. The soil series are classified by the amount of time it has taken them to form and the landscape position they are found on (Birkeland 1984; Soil Survey Staff 1999). This information can provide a relative age of the soils and can express the potential for buried archaeological deposits within them (Stafford 2004). The soil order and group classifications for each soil series are used to assist with determining this potential.



**Figure 21. Overview of stone culvert in the project area, facing south.**



**Figure 22. Overview of stone culvert and stone retaining walls along old roadway in the project area, facing north.**

The Allegheny (mesic Typic Hapludults), Blairton (mesic Aquic Hapludults), Caneycreek (mesic Aquic Fragiudults), Cotaco (mesic Aquic Hapludults), Cruze (mesic Aquic Hapludults), Ezel (mesic Typic Hapludults), Gilpin (mesic Typic Hapludults), Latham (mesic Aquic Hapludults), and Shelocta (mesic Typic Hapludults) soil series are classified as Ultisols, which are found on landforms that formed during the late Pleistocene or earlier (Soil Survey Staff 1999:721–726). Furthermore, the Wellston soil series is an Alfisol, which is found on landforms that formed during the late Pleistocene or earlier (Soil Survey Staff 1999:163–165). Archaeological deposits would only be found on or very near the ground surface on landforms mapped with these Ultisols and Alfisols.

The Chagrin (mesic Dystric Fluventic Eutrudepts), Feds creek (mesic Typic Dystrudepts), Grigsby (mesic Dystric Fluventic Eutrudepts), Handshoe (mesic Typic Dystrudepts), Hazleton (mesic Typic Dystrudepts), Helechawa (mesic Typic Dystrudepts), Holly (mesic Fluvaquentic Endoaquepts), Lobdell (mesic Fluvaquentic Eutrudepts), Marrowbone (mesic Typic Dystrudepts), Matewan (mesic Typic Dystrudepts), Orrville (mesic Fluventic Endoaquepts), and Ramsey (mesic Lithic Dystrudepts) soil series are classified as Inceptisols that are found on landforms that formed during the late Pleistocene or Holocene time periods (Soil Survey Staff 1999:489–493). These may have deeply buried and intact archaeological deposits, depending upon the landform on which they formed (e.g., sideslope vs. alluvial terrace).

The Bethesda (mesic Typic Udorthents), Fairpoint (mesic Typic Udorthents), Fiveblock (mesic Typic Udorthents), Kaymine (mesic Typic Udorthents), and Stokly (mesic Aeric Fluvaquents) soil series and Udorthents are classified as Entisols, which formed very recently in unconsolidated parent material, such as sandy or recent water-deposited sediments or disturbed soil and rock material, and has not been in place long enough for pedogenic processes to form distinctive

horizons except an A horizon (Soil Survey Staff 1999:389–391). Because of their recent age, Entisols rarely have buried and intact prehistoric archaeological deposits.

Shovel probes conducted in Morgan County along floodplains of Road Fork and its tributaries were most similar to the expected Rowdy Series loam. A typical profile had a surface layer of dark yellowish brown (10YR 4/4) fine grain loam to silt loam that went to an approximately depth of 20 cm (8 in) below ground surface (bgs). This was followed by a yellowish brown (10YR 5/4) loam to silty clay loam that was often gravelly.

The Shelocta-Grigsby-Orrville complex is mapped for most of the floodplains in Elliott County. Shovel probes conducted along the floodplains of the Little Sandy River in Elliott County were most similar to the Grigsby series soils. A typical soil profile in these areas exhibited a surface layer of brown (10YR 4/3) to dark yellowish brown (10YR 4/4) fine sandy loam to depths ranging from less than 20 cm (8 in) bgs to nearly 50 cm (20 in) bgs. The subsoil most often consisted of a light olive brown (2.5YR 5/3–5/6) sandy clay loam.

Sediments observed in shovel probes on upland settings throughout the project area generally conformed to the description for Marrowbone series soil. Profiles generally exhibited a thin layer of humus that extended approximately 3 cm (1 in) bgs. This was followed a brown (10YR 4/3) fine grain sandy loam with common roots to an average depth of approximately 15 cm (6 in) bgs. The subsoil often consisted of a brown (7.5YR 4/4) loam.

### III. PREVIOUS RESEARCH AND CULTURAL OVERVIEW

Prior to initiating fieldwork, a search of records maintained by the NRHP (available online at: <http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome>) and the OSA (FY16\_8676) was conducted to: 1) determine

if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a context for any archaeological resources recovered within the project area. A search of the NRHP records indicated that no archaeological sites listed in the NRHP were situated within the current project area or within a 2 km radius of the project area. The OSA file search was conducted between November 11 and 16, 2015. The work at OSA consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 2 km radius of the project footprint. To further characterize the archaeological resources in the general area, the OSA archaeological site database for the county was reviewed and synthesized. The review of professional survey reports and archaeological site data in the county provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. The results are discussed below.

OSA records revealed that nine previous professional archaeological surveys have been conducted within a 2 km radius of the project area. Twelve archaeological sites have been recorded in this area also. One of these sites partially falls within the boundaries of the current project area (15E11).

The records search revealed that 8 of the 12 sites in the file search area (15E19, 15E110, 15E112–15E116, and 15Mo121) are historic farm/residences. One site (15E11) is a prehistoric open habitation without mounds. One site (15E17) is a multicomponent prehistoric open habitation without mounds and historic isolated find. The remaining two sites (15E118 and 15E119) are historic cemeteries. The 2 km radius included areas within the USGS Sandy Hook (1962 [Photorevised 1978]) and Wrigley (1977 [Revised 1993]), Kentucky, quadrangles.

## Previous Archaeological Surveys

On December 19, 1977, Arrow Enterprises personnel completed an archaeological survey of a proposed low income, multi-family housing site development in Elliott County, Kentucky (Schock and Weis 1977). At the request of Elliott County Judge, David Blair, 7.1 ha (17.5 acres) were investigated with pedestrian survey supplemented with .6 m by 1.5 m (2.0 ft by 5.0 ft) test units. Three isolated prehistoric flakes were recovered during the project. No archaeological sites were documented, and no further work was recommended.

On September 30, 1978, Arrow Enterprises completed an archaeological survey of a proposed housing subdivision in Sandy Hook, Elliott County, Kentucky (Schock 1978). At the request of Frontier Housing, Inc., 4.9 ha (12.0 acres) were investigated via pedestrian survey. No archaeological sites were identified, and project clearance was recommended.

On May 20, 1993, Cultural Horizons, Inc., personnel completed an archaeological survey for the proposed construction of an electrical substation in Elliott County, Kentucky (Stallings and Ross-Stallings 1993). In total, .8 ha (2.0 acres) was investigated via screened shovel testing at the request of East Kentucky Power Cooperative, and one archaeological site (15E19) was identified during the survey. Site 15E19 was a late-nineteenth- to early-twentieth-century historic farm/residence or possible historic dump. Cultural materials were limited to the plow zone. The site was considered ineligible for NRHP inclusion, and no further work was recommended.

On November 19, 1993, KYTC personnel completed an archaeological survey of the proposed New West Liberty – Wrigley Road from Kenall Hill Road to KY 7 at Wrigley, Morgan County, Kentucky (Item No. 10-271.00) (Hixon 1994). A total of 11.77 ha (29.09 acres) were investigated by pedestrian survey supplemented with shovel testing. One

archaeological site (15Mo121) was identified during the survey. Site 15Mo121 was a historic farm/residence dating to the first half of the twentieth century with a sparse cultural material scatter collected from the plow zone. The site was considered ineligible for NRHP inclusion, and project clearance was recommended.

On February 28, 1994, CRA personnel completed an archaeological survey of the proposed North Wood Apartments project area in the town of Sandy Hook, Elliott County, Kentucky (Hand 1994). At the request of North Wood Associates of Sandy Hook, Kentucky, Ltd., approximately 1.0 ha (2.5 acres) were investigated via pedestrian survey supplemented with shovel testing. One archaeological site (15E110) was documented during the survey. Site 15E110 was a mid-twentieth-century farm/residence represented by rough cut sandstone foundation stones and a water well. Cultural materials recovered from the site were sparse, and no evidence of intact features and/or subsurface features was encountered. The site was considered ineligible for NRHP inclusion, and no further work was recommended.

On March 30, 1994, University of Kentucky's Program for Cultural Resource Assessment completed an archaeological survey of 6.1 ha (15.0 acres) for a proposed industrial park and associated water storage tank and water line in Elliott County, Kentucky (Sussenbach 1994). The survey was conducted at the request of Curd and Associates, Inc., and field methods consisted of pedestrian survey, sediment coring, and shovel probing. One archaeological site (15E111) was documented during the survey. Site 15E111 was a relatively large prehistoric open habitation without mounds. The site contained three areas of concentration and diagnostic artifacts indicated Late Archaic, Early Woodland, Middle Woodland, and Late Woodland occupations for the site. Additional archaeological investigations were recommended to assess the potential eligibility of the site.

From September 22 to 25 and December 9 to 11, 1998, UK's Program for Archaeological Research conducted an archaeological survey of three alternate routes for a proposed realignment of KY 7 from Sandy Hook to 1.0 km (.6 mi) south of KY 557 in Elliott County, Kentucky (Davis 1999). The survey was conducted at the request of Bernardin, Lochmueller and Associates, Inc., on behalf of the KYTC. An area of unspecified size was investigated via pedestrian survey supplemented with screened shovel testing. Eight archaeological sites (15E112–15E119) and one prehistoric isolated find were documented during the survey.

Sites 15E112–15E116 were historic farm/residences. Site 15E117 was a multicomponent prehistoric open habitation without mounds of indeterminate temporal affiliation and historic isolated find. Sites 15E118 and 15E119 were both historic cemeteries. None of the sites were considered eligible for NRHP inclusion, and project clearance was recommended (Davis 1999).

On December 10, 2010, Wilbur Smith Associates personnel completed an archaeological survey of a proposed cell tower location east of the community of Sandy Hook in Elliott County, Kentucky (Daugherty 2010). At the request of Dynamic Environmental Associates, Inc., .16 ha (.39 acre) was investigated via pedestrian survey supplemented with screened shovel testing. No archaeological sites were encountered during the survey, and no further archaeological work was recommended.

On January 27 and February 6, 7, and 20, 2013, Kurt Fiegel conducted an archaeological survey of a proposed contour-auger mine in Elliott County, Kentucky (Fiegel 2013). The survey was conducted at the request of Jerry Carver of ECSI, LLC, on behalf of Redbud Mining, LLC (Permit Application No. 832-0065 NW). A total of 96.34 ha (238.05 acres) were investigated by pedestrian survey supplemented with screened shovel testing. No archaeological sites were identified, and project clearance was recommended.



## Archaeological Site Data

According to available data, 158 archaeological sites have been recorded in Morgan County (Table 1). The site data indicate that just over half of the archaeological sites recorded in Morgan County consist of prehistoric open habitations without mounds (n = 83; 52.53 percent). Prehistoric rockshelters (n = 41; 25.95 percent) and historic farms/residences (n = 21; 13.29 percent) are also commonly recorded site types in the county. Other site types in the county include cemetery, stone mound, undetermined, other, and isolated find.

**Table 1. Summary of Selected Information for Previously Recorded Archaeological Sites in Morgan County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type:	N	%
Cemetery	3	1.9
Historic Farm/Residence	21	13.3
Isolated Find	1	0.63
Open Habitation without Mounds	83	52.5
Other	3	1.9
Rockshelter	41	26
Stone Mound	5	3.16
Undetermined	1	0.63
<b>Total</b>	<b>158</b>	<b>100</b>
Time Periods Represented	N	%
Paleoindian	1	0.53
Archaic	11	5.85
Woodland	25	13.3
Late Prehistoric	9	4.79
Indeterminate Prehistoric	108	57.5
Historic	34	18.1
<b>Total</b>	<b>188*</b>	<b>100</b>
Landform	N	%
Dissected Uplands	34	21.5
Floodplain	77	48.7
Hillside	31	19.6
Terrace	13	8.23
Undissected Uplands	1	0.63
Unspecified	2	1.27
<b>Total</b>	<b>158</b>	<b>100</b>

*\*One site may represent more than one time period.*

The landform locations of sites recorded in Morgan County were examined to determine the likelihood of encountering sites on similar landforms to those in the project area. The majority of sites in Morgan County are located on floodplains (n = 77; 48.7 percent). Sites also are commonly recorded on dissected uplands (n = 34; 21.52 percent),

hillsides (n = 31; 19.62 percent), and terraces (n = 13; 8.23 percent) in Morgan County. The current project area is primarily situated on floodplains, hillsides, and uplands in Morgan County. The overwhelming majority of sites that have been recorded on floodplains in Morgan County are prehistoric open habitations without mounds (n = 63; 81.82 percent). A variety of site types have been recorded on undissected uplands in the county. These include prehistoric open habitations without mounds (n = 12; 35.29 percent), prehistoric rockshelters (n = 7; 20.59 percent), historic farms/residences (n = 6; 17.65 percent), and stone mounds (n = 5; 14.71). On hillsides, prehistoric rockshelters (n = 25; 80.65 percent) are the dominant site type recorded. Historic farms/residences (n = 8; 61.54 percent) and prehistoric open habitations without mounds (n = 4; 30.77 percent) have been recorded on terraces in Morgan County.

According to available data, 70 archaeological sites have been recorded in Elliott County (Table 2). The most commonly recorded site types in Elliott County are prehistoric rockshelters (n = 26; 37.14 percent), prehistoric open habitations without mounds (n = 22; 31.43 percent), and historic farms/residences (n = 15; 21.43 percent). Other site types recorded in the county include cemetery, petroglyph/pictograph, and quarry.

Upon examining the landform locations of sites recorded in Elliott County, it was determined that hillsides (n = 25; 35.71 percent) and dissected uplands (n = 16; 22.86 percent) were the most likely to contain archaeological sites. Sites were also commonly recorded on terraces (n = 12; 17.14) and floodplains (n = 10; 14.29 percent) in the county. As in Morgan County, the project area is primarily situated on floodplains, hillsides, and uplands in Elliott County. On floodplains in the county, the most common site types are prehistoric open habitations without mounds (n = 6; 60 percent) and rockshelters (n = 3; 30 percent). The vast majority of sites recorded on hillsides are prehistoric rockshelters (n = 20; 80 percent).

**Table 2. Summary of Selected Information for Previously Recorded Archaeological Sites in Elliott County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type	N	%
Cemetery	5	7.14
Historic Farm/Residence	15	21.4
Open Habitation without Mounds	22	31.4
Petroglyph/Pictograph	1	1.43
Quarry	1	1.43
Rockshelter	26	37.1
<b>Total</b>	<b>70</b>	<b>100</b>
Time Periods Represented	N	%
Archaic	4	4.44
Woodland	4	4.44
Late Prehistoric	7	7.78
Indeterminate Prehistoric	49	54.4
Historic	28	31.1
<b>Total</b>	<b>90*</b>	<b>100</b>
Landform	N	%
Dissected Uplands	16	22.9
Floodplain	10	14.3
Hillside	25	35.7
Other	7	10
Terrace	12	17.1
<b>Total</b>	<b>70</b>	<b>100</b>

\*One site may represent more than one time period.

On dissected uplands in the county, historic farms/residences (n = 6; 37.5 percent) and cemeteries (n = 4; 25 percent) make up more than half of the recorded sites.

## Map Data

In addition to the file search, a review of available maps was initiated to help identify potential historic properties (structures) or historic archaeological site locations within the proposed project area. The following maps were reviewed.

1880 Map of Morgan and Johnson Counties and Parts of Magoffin, Floyd, and Martin (Kentucky Geological Survey);

1925 Oil and Gas Map of Elliott County, Kentucky (A.B. Williams);

1928 (reprinted 1950) Reconnaissance Structural Map of Elliott County, Kentucky (Robinson et al.);

1929 Morehead, Kentucky, 15-minute series topographic quadrangle (USGS);

1935 Morehead, Kentucky, 15-minute series topographic quadrangle (USGS);

1937a Highway and Transportation Map of Elliott County, Kentucky (Kentucky Department of Highways [KDOH]);

1937b Highway and Transportation Map of Morgan County, Kentucky (KDOH);

1950 Sandy Hook, Kentucky, 7.5-minute series topographic quadrangle (USGS);

1951a General Highway Map of Elliott County, Kentucky (Kentucky State Highway Department [KSHD]);

1951b General Highway Map of Morgan County, Kentucky (KSHD);

1953 Wrigley, Kentucky, 7.5-minute series topographic quadrangle (USGS);

1959 General Highway Map of Elliott County, Kentucky (KDOH);

1962 (photorevised 1978) Sandy Hook, Kentucky, 7.5-minute series topographic quadrangle (USGS);

1977 (Revised 1993) Wrigley, Kentucky, 7.5-minute series topographic quadrangle (USGS).

The historic maps indicated a large number of historic structures either located within or directly adjacent to the current project area. Interestingly, the 1880 county map only depicts two structures in the general vicinity of the project area in the location of the future town of Wrigley.

The 1925 Oil and Gas Map of Elliott County depicts at least 10 residential structures in or directly adjacent to the current project area (Figure 23). The early-twentieth-century residential structure associated with newly recorded Site 15E179 is first depicted on this map along the north side of KY 7. The 1935 (reprinted 1950) Reconnaissance Structural Map of Elliott County also depicts a structure at Site 15E179, and generally shows the same distribution of historic structures as on the 1925 oil and gas map.

When the 1929 Morehead quadrangle map was examined, it was noted to depict a number of historic structures, primarily focused in the town of Wrigley (Figure 24). The configuration of the roads passing through the town greatly differs from the way they appeared on the 1880 county map. The

Morehead and North Fork Railroad is depicted passing through Wrigley on this map generally trending west-northwest–east-southeast. This railroad caused the spawn of structures in the town as well as in surrounding areas. The residential structure associated with Site 15Mo174 and the commercial building associated with Site 15Mo177 are each depicted on this map. The distribution of structures and configuration of roads remained virtually the same on the 1935 Morehead quadrangle.

The 1937 Elliott County highway map depicted a large number of historic structures within or directly adjacent to the current project area (Figure 25). Included in the collection of structures depicted on the map are three historic structures associated with Site 15E179 on the north side of KY 7. The 1937 Morgan County highway map also depicts a number of structures within or directly adjacent to the project area (Figure 26). Again, the structures are in highest density in and around the town of Wrigley; however, by that time the Morehead and North Fork Railroad had been removed and replaced with what is now KY 711. The map also depicts the historic structures associated with Sites 15Mo174, 15Mo175, 15Mo176, and 15Mo177. All of the sites except Site 15Mo177 are depicted on the north side of KY 7. Site 15Mo177 is depicted to the northeast of the intersection of KY 7 and KY 711.

The 1950 Sandy Hook quadrangle depicts eight historic structures associated with Sites 15E177, 15E179, 15E181, and 15Mo176 (Figure 27). A residential structure and barn depicted on the south side of KY 7 to the west of KY 650 are located directly adjacent to the east of the boundary of Site 15E177. Although the association of the structures to the site is unconfirmed, it is possible the historic material scatter found at the site came from the occupants of the residential structure. Three residential structures and a barn/outbuilding are depicted on the north side of KY 7 in the location of Site 15E179. A residential structure associated with Site 15E181 is located on the southeast side of KY 7 along the west bank of the Little Sandy

River. A single residential structure associated with Site 15Mo176 is present on the north side of KY 7 along an intermittent drainage of Road Fork.

An examination of the 1953 Wrigley quadrangle noted the depiction of four historic structures in association with Site 15Mo174, 15Mo175, and 15Mo177 (Figure 28). A residential structure and barn/outbuilding are depicted on the north side of KY 7 to the east of an unnamed tributary of Road Fork in the location of Site 15Mo174. The extant barn present at Site 15Mo175 is depicted on the north side of KY 7 along an unnamed tributary of Road Fork. The Wrigley Mercantile General Store (Site 15Mo177) is depicted to the northeast of the intersection of KY 7 and KY 711.

In summary, residential structures associated with archaeological Sites 15E177, 15E179, 15E181, 15Mo174, 15Mo175, 15Mo176, and 15Mo177 were depicted on historic maps. Both the residential structure and barn potentially associated with Site 15E177 are extant. All of the historic structures associated with Site 15E179 are extant with the exception of one of the three residential structures. As mentioned previously, the residential structure depicted in the location of Site 15E181 is extant. None of the historic structures depicted in the location of Site 15Mo174 are extant; however, the 1977 (Revised 1993) Wrigley quadrangle depicts the currently extant residential structure and barn at the site. The barn depicted at Site 15Mo175 is extant. Similarly, the residential structure depicted at Site 15Mo176 is extant, as well as the Wrigley Mercantile building depicted at Site 15Mo177.

## Survey Predictions

Considering the known distribution of sites in the county, the available information on site types recorded, and the nature of the present project area, certain predictions were possible regarding the kinds of sites that might be encountered within the project area.

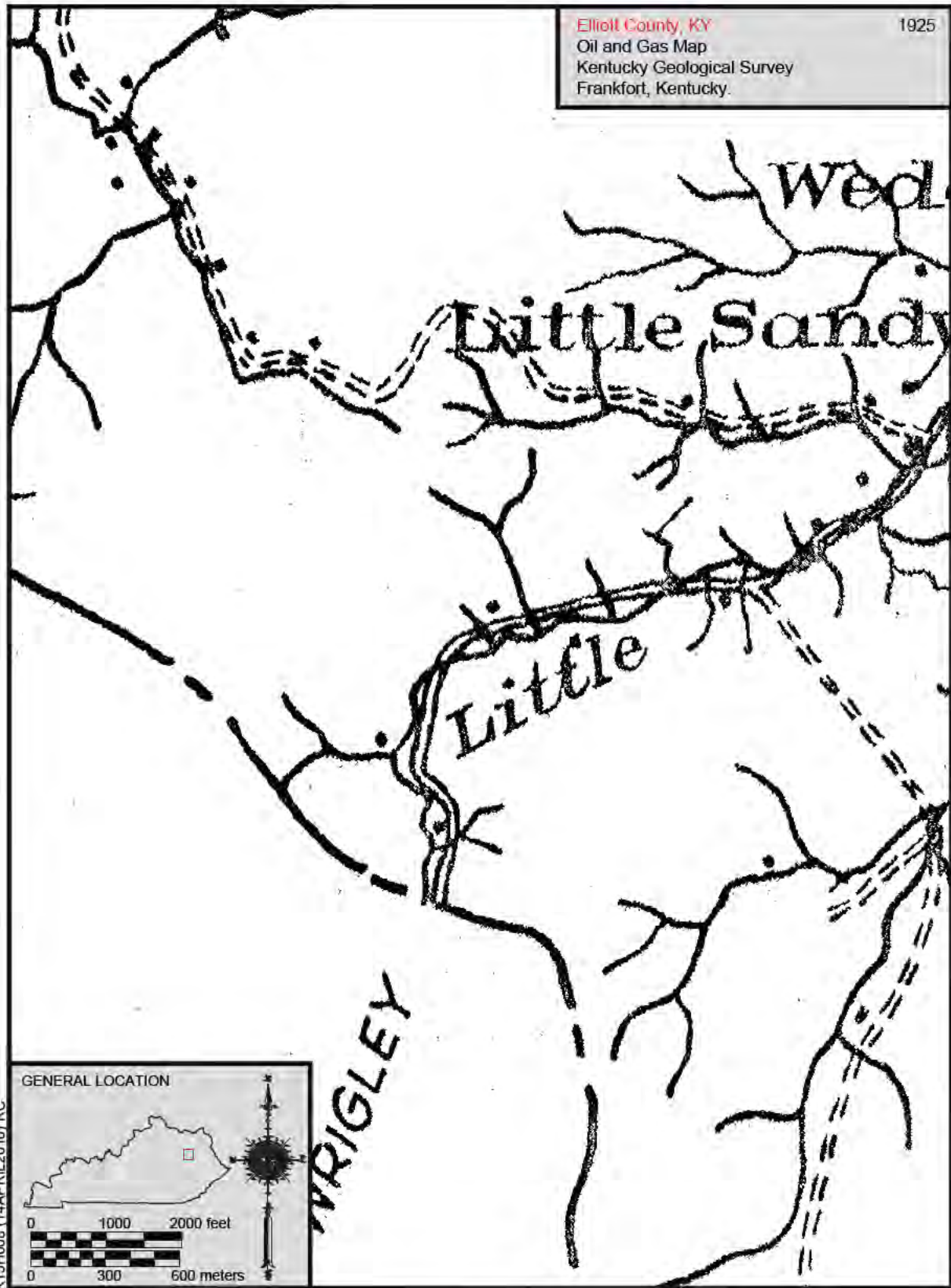


Figure 23. Section of the 1925 Oil and Gas Map of Elliott County, Kentucky, showing residential structure at Site 15EI79.

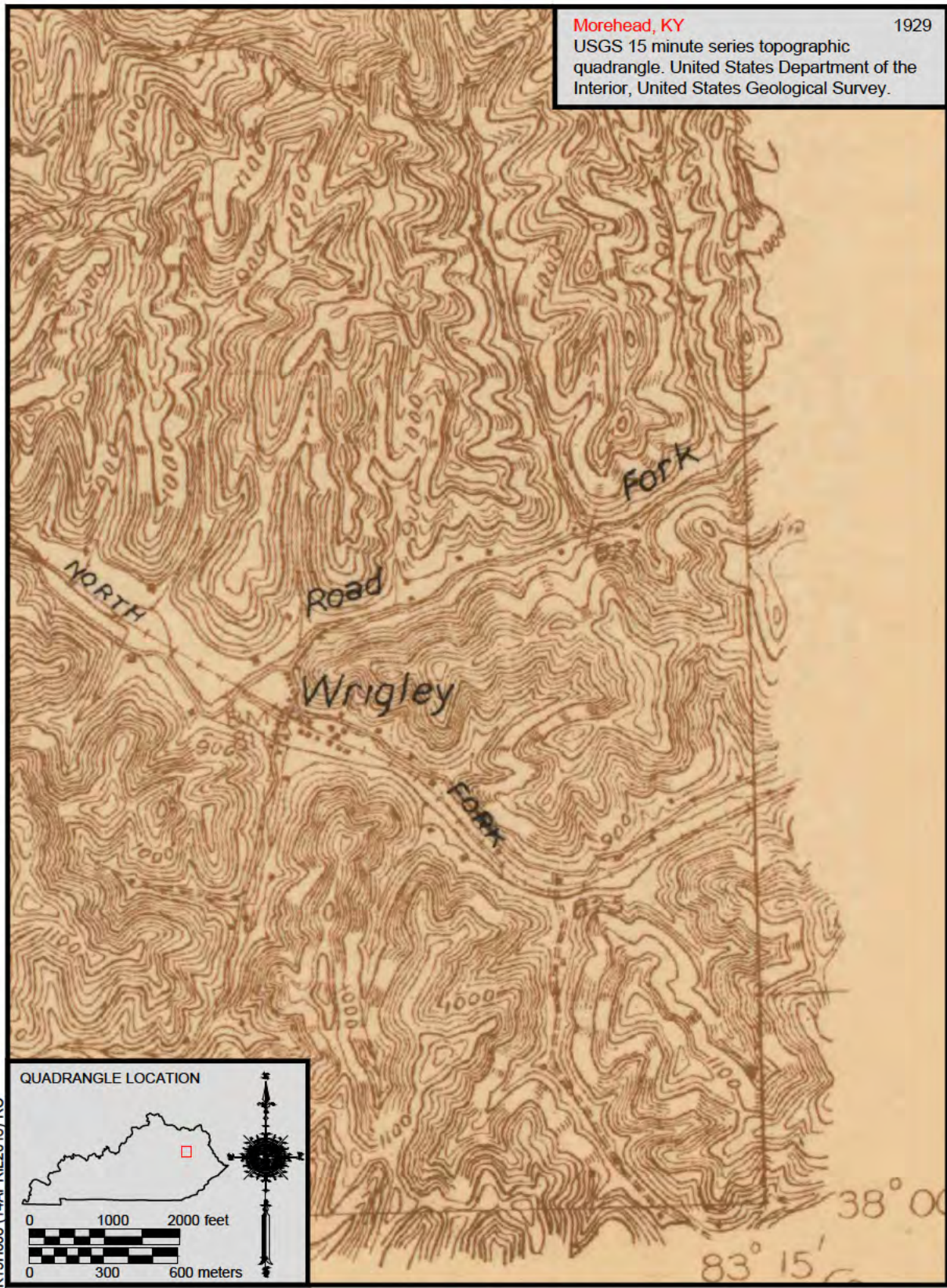


Figure 24. Section of the 1929 Morehead 15-minute series topographic quadrangle, showing Sites 15Mo174 and 15Mo177.

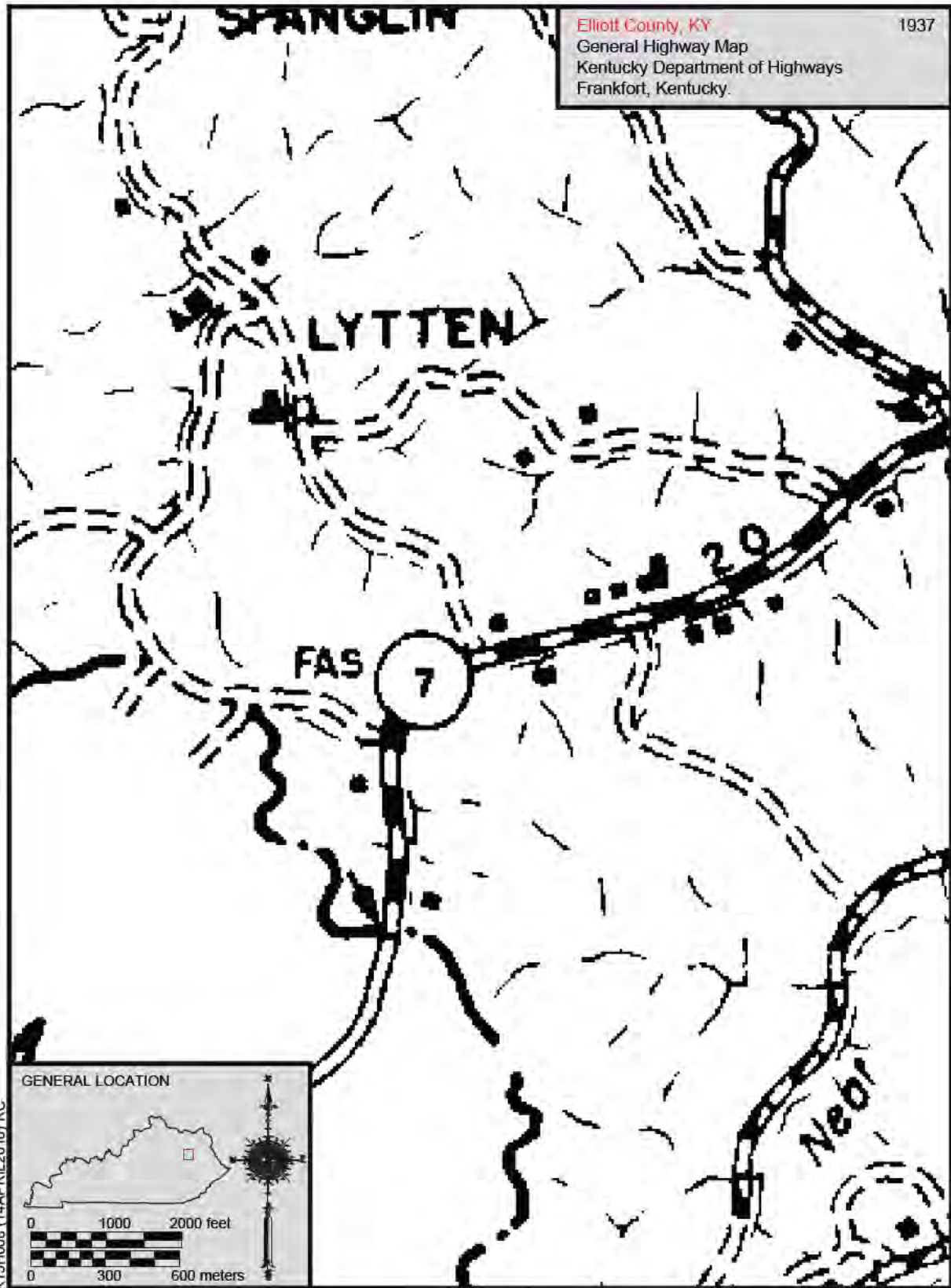


Figure 25. Section of the 1937 Highway and Transportation Map of Elliott County, Kentucky, showing Sites 15E179.

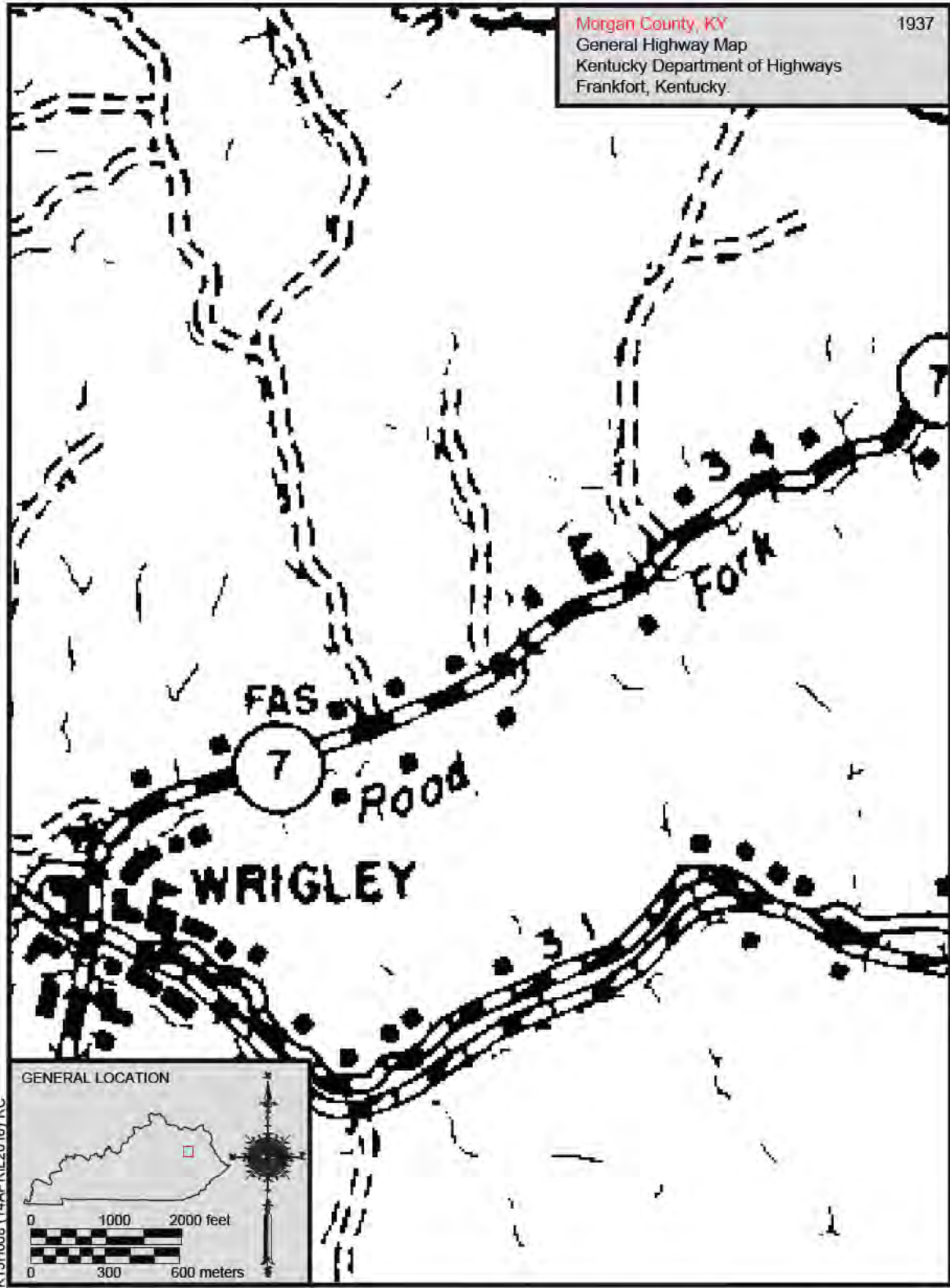


Figure 25. Section of the 1937 Highway and Transportation Map of Elliott County, Kentucky, showing Sites 15E179.

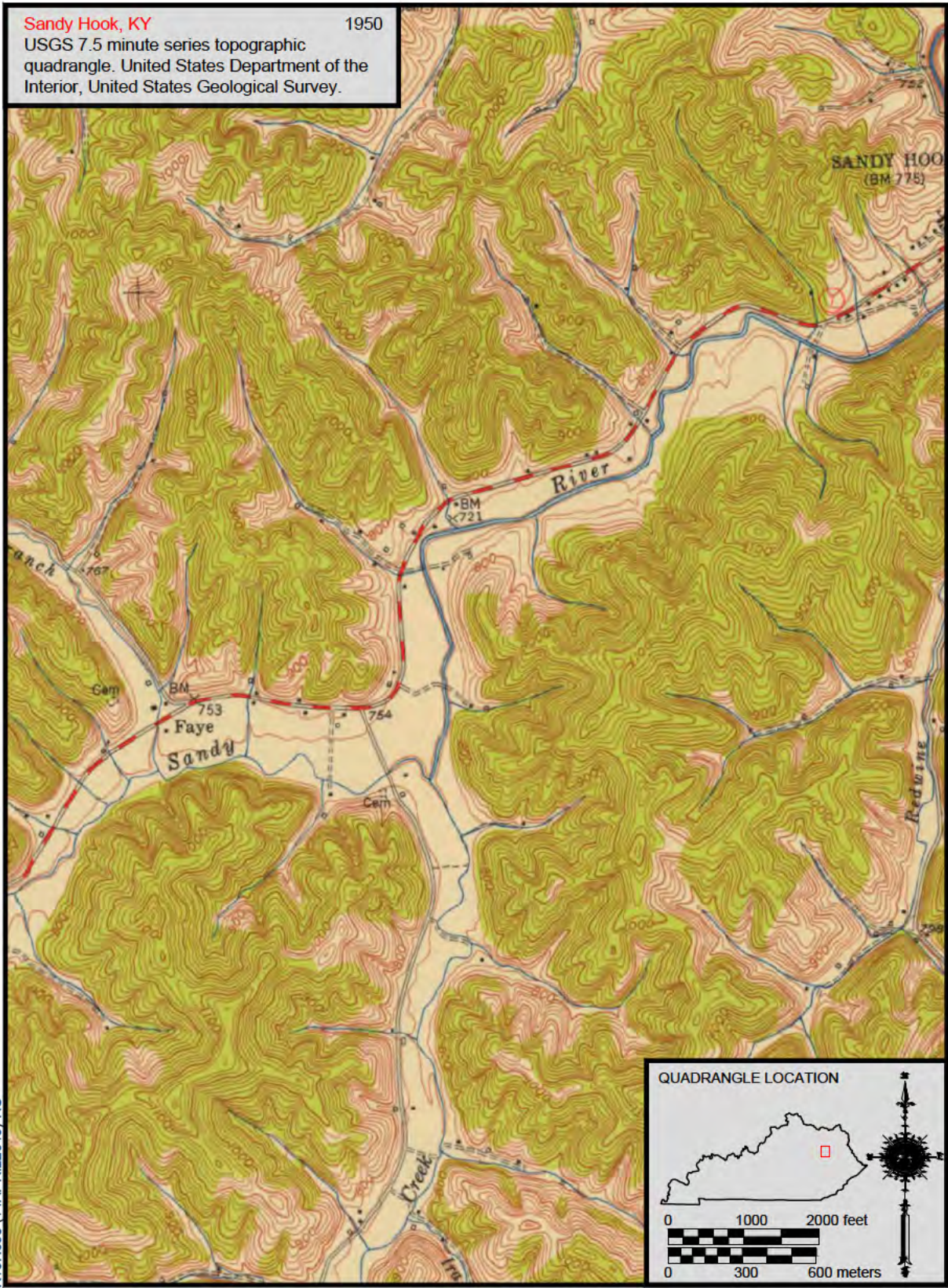


Figure 27a. Section of the 1950 Sandy Hook 7.5-minute series topographic quadrangle, showing Sites 15E177, 15E179, 15E181, and 15Mo176.



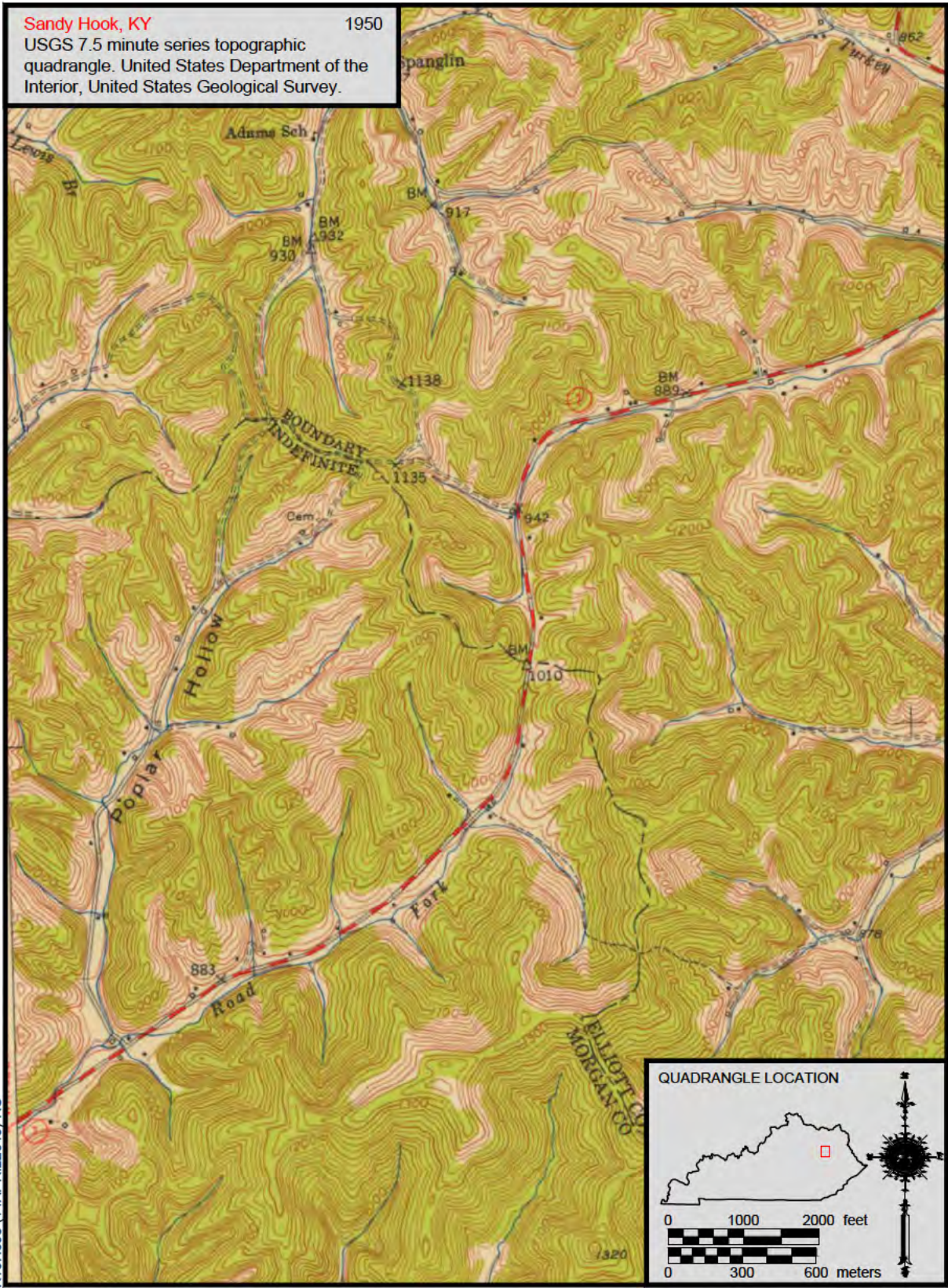


Figure 27b. Section of the 1950 Sandy Hook 7.5-minute series topographic quadrangle, showing Sites 15E177, 15E179, 15E181, and 15Mo176.

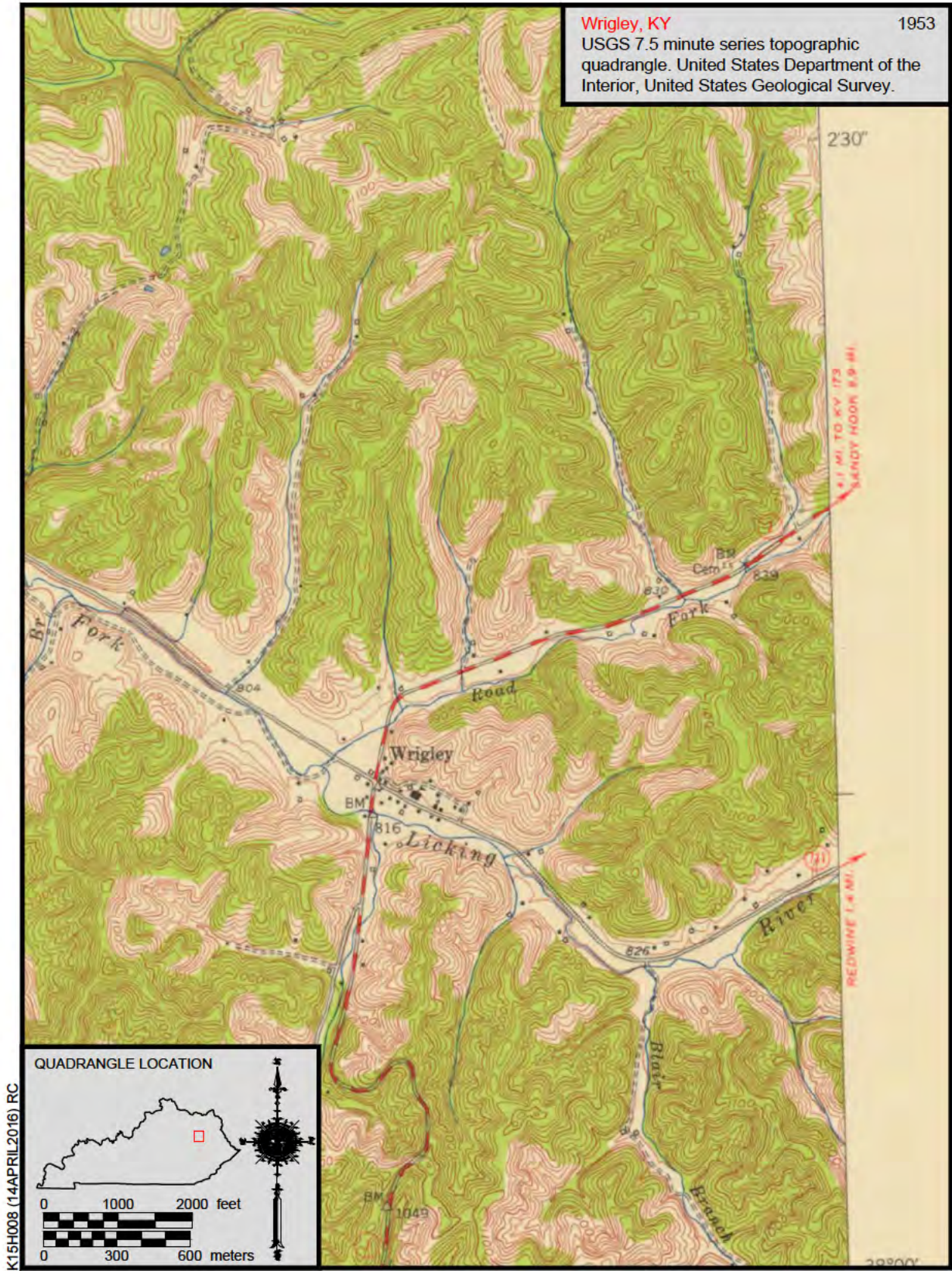


Figure 28. Section of the 1953 Wrigley 7.5-minute series topographic quadrangle, showing Sites 15Mo174, 15Mo175, and 15Mo177.

Prehistoric open habitation sites were the primary site types expected, but historic residences, cemeteries, and prehistoric rockshelters were also considered a possibility.

## **Cultural Overview**

### **Early Human Occupation (Before 11,050 B.C.)**

The timing and actual entry point of the first humans into North America are still topics for debate. The general consensus remains that humans entered North America from Asia via the Bering Strait. Waters and Stafford (2013:557) summarized the currently available data and conclude that the First Americans originated in Central Asia and started entering the New World circa 16,000 B.P. Clovis developed later and was a New World construct.

Several sites in the southeastern United States have been suggested as pre-Clovis candidates. Among these are the Cactus Hill site in southeast Virginia (McAvoy and McAvoy 1997; Wagner and McAvoy 2004), the Topper site in South Carolina (Chandler 2001; Goodyear 1999; Goodyear and Steffy 2003), and the Debra L. Friedkin site in Texas (Waters et al. 2011). Despite the evidence of pre-Clovis occupations in many areas, to date, no definitive pre-Clovis occupations or materials have been found in Kentucky (Maggard and Stackelbeck 2008:114).

### **The Paleoindian Period (11,050–8000 B.C.)**

The Paleoindian period is the earliest cultural period conclusively documented in Kentucky. The arrival of humans in the region was probably linked to the movements of the Pleistocene glaciers. During the Paleoindian period, the last of these glacial advances and retreats, called the Greatlakean Stadial (post-9900 B.C.), occurred.

Distinctive lanceolate, often fluted, hafted bifaces called “Clovis” are the hallmark of the early part of the Paleoindian period (Maggard

and Stackelbeck 2008). Unifacially and bifacially chipped tools, such as knives, scrapers, spokeshaves, drills, gravers, and endscrapers with spurs, have also been recovered. Archaeologists infer that artifacts and tools of wood, bone, and shell were also used, although they were rarely preserved. While a number of archaeologists have argued that Paleoindians were predominately big game hunters (e.g., Bonnicksen et al. 1987; Kelly and Todd 1988; Stoltman and Baerreis 1983), more recent review of the topic (Meltzer 1993) concluded that there is no widespread evidence for the specialized hunting of big game species (i.e., megafauna). Several authors (e.g., Davis 1993; Dincauze 1993; Meltzer 1993) now argue that the Paleoindian diet was more generalized and relied on a number of faunal and floral species. Megafauna would have been taken when encountered, but not to the exclusion of other species. Such indications of exploitation of megafauna in Kentucky are present at the Adams mastodon site in Harrison County, Kentucky. Here, the remains of a single mastodon with cut marks on the bones were found in association with large limestone slabs. The configuration of the skeletal remains, in addition to the above evidence, has been interpreted as representative of a possible butchering site (Duffield and Boisvert 1983; Walters 1988).

According to Freeman et al. (1996:402), most Paleoindian sites in Kentucky “represent short, ephemeral occupations that occur in shallow, deflated, or severely disturbed deposits” and larger sites are in “areas that provide high-quality lithic raw material, or topographic features or resources that would have attracted and concentrated game.” Away from lithic source areas, for example, larger sites often “occur in association with ponded or slow-moving water, at stream confluences and fords, along major game trails, and at mineral springs” (Freeman et al. 1996:402).

With the retreat of the glaciers, the Transitional Paleoindian/Early Archaic sites of the Dalton culture are slightly more numerous than the earlier Paleoindian sites. Sites dating to this period show many resemblances to

those with Paleoindian material (i.e., lanceolate projectile point knives, uniface tools) and those reflecting Early Archaic lifeways (i.e., more diverse subsistence, the introduction of many bifacial tool forms, and several types of sites). Morse (1973) has described two basic kinds of Dalton sites: base settlements and butchering camps. In addition, the first systematic use of rockshelters is seen during the Dalton period (Walthall 1998). Hunting remained important; however, there is evidence for the use of wild plants (fruits and nuts) as a dietary supplement during Dalton times.

## **The Archaic Period (8000–1000 B.C.)**

The Archaic period includes a long span of time during which important cultural changes took place. These manifestations probably occurred in response to environmental changes that took place at the close of the Pleistocene epoch (Anderson 2001). The Archaic period is customarily divided into three subperiods: Early (8000–6000 B.C.), Middle (6000–4000 B.C.), and Late (4000–1000 B.C.).

### ***Early Archaic (8000–6000 B.C.)***

Except for the adoption of new hafted biface styles, Early Archaic tool kits are nearly identical to Paleoindian. The fact that these hafted biface styles are found over a very large area suggests that little regional subsistence diversity occurred during the Early Archaic subperiod. Subsistence strategies are thought to have been similar to those employed by Paleoindian peoples, although a greater variety of game was hunted. The scarcity of tools associated with the preparation of plant foods and fishing in the early part of the Archaic period indicates that hunting was probably still the major subsistence activity (Dragoo 1976:11). Archaeological investigations at a number of deeply buried sites in the Southeast, such as the Longworth-Gick site near Louisville, Kentucky (Collins 1979), have provided important information about Archaic lifeways and their changes through time.

### ***Middle Archaic (6000–4000 B.C.)***

The climate during the Middle Archaic subperiod was dryer and warmer than the modern environment. Increasing regionalization of artifact assemblages, with the addition of new artifact classes and hafted biface styles, implies the development of extensive resource exploitation strategies. The Middle Archaic is marked by the introduction of groundstone artifacts manufactured through pecking, grinding, and polishing. A number of these groundstone tools (e.g., manos, mortars and pestles, and nutting stones) are interpreted as plant food processing artifacts and indicate an increasing utilization of plant foods during the Middle Archaic subperiod (Jefferies 2008:203–206).

New hafted biface styles appeared during this subperiod. Stemmed, side-notched, and corner-notched points and a variety of bone tools, including antler hafted bifaces, fishhooks, and gouges, suggest an improved efficiency in exploiting local resources. Middle Archaic sites tend to contain larger accumulations of materials than those of earlier periods, “suggesting increasing group size and either increased sedentism or carefully scheduled seasonal reoccupation of selected locations” (Cohen 1977:191). Chapman (1975) has suggested that hafted bifaces were probably used in conjunction with the atlatl, a device that increases the distance and accuracy of a spear throw. The recovery in Middle Archaic contexts of bone and groundstone objects (bannerstones) interpreted as atlatl weights tends to support his suggestion (cf., Neuman 1967:36–53). Certain classes of chipped stone tool artifacts, such as scrapers, unifaces, drills, and gouges, indicate a continuation of their importance from the Paleoindian period.

### ***Late Archaic (4000–1000 B.C.)***

The Late Archaic subperiod was a time of continued cultural expansion and growing complexity. Dragoo (1976:12–15) has discussed several Late Archaic traditions for the Eastern Woodlands. Their distinctiveness stems from varied regional responses reflected

in material culture. Straight-stemmed, basal-notched, or contracted-base hafted bifaces characterize the Late Archaic subperiod. Judging from the greater number of Late Archaic sites that have been recorded, an increase in population can be postulated. In some cases, evidence of longer and more intensive site occupation suggests extended habitation within an area.

Population increase and, in some parts of Kentucky, evidence of an increase in mortuary ceremonialism have led some to suggest that a more complex social organization was developing in some areas of the eastern United States. Along the Green River in west-central Kentucky, large shell-mound sites, such as Chiggerville (Webb and Haag 1939), Indian Knoll (Webb 1946), and Carlston Annis (Webb 1950), contain hundreds of human burials and evidence of complex mortuary practices and a rich ceremonial life. The development of interregional trading networks is indicated by the recovery of copper, marine shell, and other nonlocal artifacts from Late Archaic burials (Winters 1968), which testify to the growing complexity of burial ritual and the interaction of many groups (Dragoo 1976:17).

The appearance of cultigens in Late Archaic contexts has been interpreted as evidence of early plant domestication and of use of these plants as subsistence resources. Early cultigens have been documented at such sites as Koster in central Illinois (Brown 1977:168), the Carlston Annis and Bowles sites along the Green River in west-central Kentucky (Marquardt and Watson 1976:17), and Cloudsplitter shelter in Menifee County (Cowan et al. 1981). Two plant complexes were domesticated towards the end of the Archaic: non-native plants (e.g., squash and gourd) and native plants (e.g., chenopodium, marsh elder, sunflower) (Struever and Vickery 1973). Watson (1985) views these plants as two different groups of cultigens—the East Mexican Agricultural Complex and the Eastern United States Agricultural Complex. The first includes squash (*Cucurbita pepo*), bottle gourd (*Legenaria siceraria*), and maize (*Zea mays*). The latter includes sunflower

(*Helianthus annuus*), sumpweed (*Iva annua*), chenopod (*Chenopodium* sp.), maygrass (*Phalaris* sp.), and knotweed (*Polygonum* sp.). Watson, like Struever and Vickery (1973), suggests that corn, squash, and bottle gourd were domesticated in Mexico and imported into the eastern United States by way of the Gulf of Mexico before being transported up the Mississippi River and its tributaries. Cowan et al. (1981:71), however, suggest that squash may “have evolved in situ from some distinctive North American stock” (Cowan et al. 1981:71). This interpretation seems to be substantiated by more recent investigations conducted throughout the Southeast and Midwest.

A number of hafted biface styles are considered terminal Late Archaic and appear in the Early Woodland subperiod (i.e., from approximately 2000 to 500 B.C.). They usually have been found in contexts without Woodland pottery, a situation that leads archaeologists to place them in the Late Archaic rather than the Early Woodland subperiod, which may not be the case.

## **The Woodland Period (1000 B.C.–A.D. 1000)**

Over the two millennia of the Woodland period, cultures in the region sharply diverged from their Archaic beginnings. Kentucky shared in this development, which produced in burial mounds and earthwork enclosures some of the more notable prehistoric monuments in the area. Alongside this development came the intensification of plant domestication, the introduction and spread of pottery—first used as specialized containers and later used more widely—and the intensification of trade with distant regions of the Midwest for exotic materials used in personal life, including burial offerings (Applegate 2008).

The Woodland period, like the preceding Archaic period, is divided into three subperiods: Early Woodland (1000–300 B.C.), Middle Woodland (300 B.C.–A.D. 400), and Late Woodland (A.D. 400–1000) (Applegate 2008). Overall, and despite its distinctive features, the period witnessed a continuation

and elaboration of many technologies and cultural practices that had begun during the Late Archaic subperiod. Woodland peoples became increasingly dependent on the cultivation of native plant foods, which allowed for a more sedentary lifestyle. Yet, with the exception of the latter part of the Late Woodland subperiod, subsistence practices remained similar to those of the Archaic period (i.e., a combination of hunting, plant food gathering, and fishing in a seasonal round exploitation pattern). But it is within the Woodland period that highly visible site types, such as mounds and enclosures, were constructed (Applegate 2008).

### *Early Woodland (1000–300 B.C.)*

The Early Woodland subperiod is taxonomically separated from the preceding Late Archaic subperiod by the presence of pottery. Pottery vessels possibly first appear in central and eastern Kentucky around 1000–800 B.C. (Creasman 1995; Creasman et al. 1996) and certainly by circa 600 B.C. (Creasman 1995; Creasman et al. 1996; Niquette 1989:124). Ceramic trends in this region of Kentucky generally follow the patterns of technological evolution and elaboration observed elsewhere in the Midwest and Northeast. Most sherds recovered from Early Woodland sites in the region are small and fragmentary. These are generally thick and coarsely tempered. Cordmarked, plain, and fabric impressed surface treatments are common (Applegate 2008:343). In contrast, Kerr (1995) recovered a relatively thin and well-made Early Woodland ceramic from the Main site in Bell County, Kentucky. The pottery is densely tempered with crushed quartzite, and the exterior surface is either plain or cordmarked. Early Woodland sites are most easily recognized by a collection of related stemmed hafted biface types. Plant domestication is evident, with squash, gourd, sunflower, maygrass, sumpweed, and giant ragweed being recovered from Early Woodland sites (Cowan 1985), although their use and cultivation had intensified from the Late Archaic subperiod.

Separate ritual (individual burials, earthen enclosures, and burial mounds) and domestic sites, each with distinctive, possibly regional, characteristics, also appear during this time (Clay 1991, 1998, 2002). Widely scattered domestic sites have been identified on the floodplains along all the major watercourses across Kentucky (Cole et al. 1951; Creasman 1995; Creasman et al. 1996) and in the adjacent uplands (Adovasio 1982; Mocas 1988; Stokes and Shields 1999). Characteristic features of the sites are deep, probable storage pits. There is some evidence for the presence of both permanent and temporary domestic structures (Cole et al. 1951:Plate XXa; Creasman 1995).

In the mountainous region of Kentucky, a rise in the use of natural rockshelters as habitation sites is noticed and may reflect the growing importance of plant cultivation during Early Woodland times. Caves were also extensively used for domestic, extractive (mining of gypsum, mirabilite, and epsomite), and ritualistic (burial and art) purposes during this subperiod, just as they were during the previous Late Archaic subperiod.

### *Middle Woodland (300 B.C.–A.D. 400)*

The Middle Woodland subperiod is known by its burial mounds, except along the lower Ohio River and in the interior Mississippi Embayment. Major mound excavations have given archaeologists a detailed picture of burial customs during this period (Clay 1986, 1998). Although we have considerable excavated evidence for burial customs, the settlement system is not well understood (Clay 1998:13–19). Those responsible for the mounds may have been widely dispersed throughout the region in relatively small groups. Seen in this light, the elaborate burial sites (the burial mounds) offered essential foci for scattered groups to meet and interact. There were also small, circular enclosures, called ceremonial circles, and hilltop enclosures. Still, daily domestic sites are very poorly understood, although examples dating to the time period have been found (Kerr and Creasman 1995) and off-mound domestic areas have been identified

adjacent to the mounds (Clay 1983). Small open-air domestic sites are increasingly being discovered and investigated (Kerr and Creasman 1995; Niquette and Boedy 1986; Niquette et al. 1987). Although hunting was important in the Middle Woodland subperiod, finds from rockshelters suggest that manipulation of native plants, by this time domesticated, intensified. Despite this change, the additional food supply did not create significant changes in the way people lived (Railey 1996).

For the most part, early Middle Woodland ceramics tend to have plain exterior surfaces, except in the Mississippi Embayment, where fabric marking persists, and the hafted bifaces consist of Adena and other similar stemmed forms (Applegate 2008; Niquette 1989). Late Middle Woodland pots are commonly cordmarked or plain, but small numbers of Hopewellian style simple stamped or checked stamped sherds from this period are also known (Webb 1942). Crosshatched rims and cord-impressed decoration were added to the earlier fabric-impressed surfaces. Late Middle Woodland hafted bifaces are weakly shouldered, expanded, or shallow side-notched forms. Alongside these other changes, a decline in the building of burial mounds was seen during the Middle Woodland (Applegate 2008).

Middle Woodland peoples continued the technologies developed in the Archaic and Early Woodland subperiods; however, there were changes as well. A chert bladelet industry developed exclusively during the Middle Woodland period. It produced small and sharp chert tools that were used in fine work. In addition, exotic materials—copper, mica, and on rare occasions, obsidian—were obtained through trade from distant sources. These artifacts are typically known from mortuary sites in Kentucky (Applegate 2008:352).

### *Late Woodland (A.D. 400–1000)*

After circa A.D. 400, earthen burial mounds went out of style in the region. The construction and use of earthen or stone enclosures also ceases by approximately A.D.

500. Simpler communal burial sites, generally involving stone constructions or coverings, became widespread, perhaps as a replacement for the mounds (Brown 1981; Clay 1984). The nature of human settlement also changed. Evidence from sites of the subperiod indicates that Native-American groups often returned repeatedly to the same location or congregated in larger groups. However, the possible lack of permanent shelter at these sites suggests that the use of these places was sporadic, possibly seasonal, perhaps still related to certain group ceremonies (Clay 2002:174–182). Rockshelters continued to be used during this subperiod as short-term habitations or temporary hunting locales.

The economy continued to emphasize hunting, gathering, and the utilization of a variety of locally domesticated plants. While maize (i.e., corn) was introduced in the region during the Middle Woodland period, it did not become an important part of the diet until around A.D. 800. The importance of maize is more pronounced in the western portions of Kentucky at this time.

Like the Middle Woodland subperiod, the Late Woodland subperiod is often divided into early and late subdivisions. Early Late Woodland ceramic assemblages are generally cordmarked and are similar to late Middle Woodland assemblages; however, there is usually a lack of Hopewellian style decorated ceramics. Ceramics consist mainly of subconical and subglobular cordmarked jars (Applegate 2008:345–346). Early Late Woodland hafted bifaces are typically expanding stem or crude side-notched forms.

The late Late Woodland subperiod saw increased regional variability in ceramic styles, subsistence strategies, and social organization (Applegate 2008), although there are distinct continuities expressed in settlement organization (Clay 2002). Ceramics exhibit cordmarked and now some plain surface treatments; some vessels have angular shoulders; and rims display special treatments, like collars, carinations, and castellations. In the lower Ohio River valley and far western Kentucky, necks of vessels exhibit zoned,

incised, geometric designs; pan-shaped vessels are present; and red slipping occurs, but only rarely. Late Late Woodland projectile point forms include corner-notched, side-notched, and large triangular forms. Small triangular projectile points appear in artifact assemblages by A.D. 800 and may represent the first appearance of the bow and arrow.

## **Late Prehistoric Period (A.D. 1000–1650)**

In addition to an increase in cultural integration and cultural complexity, the Late Prehistoric period witnessed a rapidly growing dependence upon horticulture in the subsistence activities of native populations. Cultural materials assigned to the Late Prehistoric period include pottery that incorporated mussel shell as tempering material and small triangular projectile points. Some of the pottery is also much more elaborately decorated, has special attributes such as the addition of handles, and increasingly new vessels forms are introduced.

The Late Prehistoric period in far western Kentucky has been associated with Mississippian cultures easily recognized in the Mississippi and Illinois River valleys, although Mississippian influences were seen in a much larger geographic area (Pollack 2008b). The Mississippian period was characterized by chiefdoms and intensive agriculture. Maize (*Zea mays*), beans (*Phaseolus vulgaris*), and squash (*Cucurbita* sp.) were the principal crops. Nevertheless, hunting and gathering continued to be important (Smith 1978).

Settlements were arranged in a hierarchical manner, were fortified, contained substructure mounds that were either for ceremonial purposes or dwellings for the elite, and were occupied year-round. Mississippian structures were built using wattle and daub construction, and the wall posts were set in trenches. Although there were continuously occupied villages in the settlement system, much of the Mississippian population lived in smaller hamlets and farmsteads scattered up and down the major rivers and secondary

streams (Smith 1978). The Upper Cumberland region contains several Mississippian mound centers and smaller hamlets or farmsteads (Pollack 2008b:684–694).

In the middle Ohio River area, a culture with a similar level of development has been called Fort Ancient (Henderson 2008). Subsistence practices of this culture also focused on the cultivation of maize, beans, and squash. This was supplemented with hunting, fishing, and wild plant collecting. Many Fort Ancient villages were circular or elliptical and “exhibit[ed] distinct activity areas that encircle a central plaza: domestic/habitation, storage/trash disposal, and mortuary” (Henderson 2008:745). Some, but not all, of these circular villages were surrounded by a palisade. Unlike Mississippian sites, however, Fort Ancient sites lack large ceremonial centers and earthworks, although some had burial mounds. Large village sites are usually situated in valley bottoms along the main stems of the region’s larger drainages. On the other hand, smaller sites tend to be located throughout tributary drainages and are thought to represent seasonal camps and resource procurement activity stations. Again, rockshelters continued to be used as short-term habitation sites during this subperiod, or at least as temporary hunting locales.

## **Protohistoric and Historic Period (A.D. 1650–1800s)**

At the beginning of the seventeenth century A.D., Kentucky was populated by several sedentary Native-American cultural groups (Schwartz 1967). However, the Beaver Wars of the mid-seventeenth century had almost completely disrupted and uprooted these groups by about 1680 (Hunt 1940). Even prior to the Beaver Wars, Native-American residential populations were affected by European diseases and technology through indirect contact with Europeans from the eastern seaboard. Afterwards, the area was used primarily as hunting land, and later the use of the region was reshaped in the wake of shifting fur trade patterns. Resident aboriginal groups were increasingly being displaced by



newly arriving Native-American groups as a result of this shifting pattern (Hunter 1978:588).

In the early eighteenth century, Native-American tribes, who we can identify as the Shawnee, were present in most areas of Kentucky, having been pushed westward from the east (i.e., from the Susquehanna drainage of Pennsylvania) by the expansion of European settlement (McConnell 1992:21). Other established tribes in Kentucky at the time include the Cherokee in the Upper Cumberland River valley area and the Chickasaw in the Lower Tennessee and Cumberland River valleys and far western Kentucky. Conflicts between these and other groups in the region lasted through the War of 1812. They were a part of the conflict between the French and British and later the British and the new American colonies (Hammack 1992:928–929; McBride and McBride 2008; O'Donnell 1992:815).

The first Europeans to visit Kentucky included explorers, trappers, traders, and surveyors. It was in the 1750s, when the English Crown attempted to colonize the Ohio Valley, that the first organized attempt to settle Kentucky occurred. This attempt stimulated the formation of land companies that sent surveyors into the area (McBride and McBride 2008:909). One of these, the Ohio Land Company, sent a surveyor into Kentucky in 1751. The French and Indian War that erupted in 1754 disrupted this early exploration (Talbert 1992:689).

In 1763, England's King George III set aside the land west of the Appalachians for Indians and English fur traders and closed the area to permanent settlement. His decree was ignored, however, and further colonial exploration and development could not be stopped. One man who took advantage of the commercial expansion westward was Daniel Boone. Boone first explored Kentucky in 1767, and by 1769, he had explored much of the Red and Kentucky River valleys. Harrodsburg was established soon after in 1774, followed by Boonesboro in 1775. The western movement of the American frontier

pushed the Native Americans further and further west, and Kentucky was one of the places where they decided to take a stand. In response, Governor Dunmore (of Virginia) waged two large campaigns in the Ohio Valley (later known as Dunmore's War), and the Native Americans were defeated. Dunmore's War opened Kentucky for settlement, although some hostilities continued after this time (Nickell 1992a:96–98; Stone 1992:571).

## History of Morgan County

In 1776, the Virginia General Assembly had created Kentucky County from its western lands. The newly created Kentucky County had approximately the same boundaries as the state of Kentucky does today. This county in 1780 was divided into three separate counties (Fayette, Lincoln, and Jefferson), which would collectively become the District of Kentucky in 1783 (Hammon 1992:495). Then, in 1792, the Kentucky District would dissipate in favor of the Commonwealth of Kentucky, and the counties that comprised the district would eventually be divided and subdivided into the 120 counties that presently make up Kentucky.

Morgan County is located in the foothills section of the Appalachian Mountains cultural landscape. Located in the eastern portion of the state, the county is bordered by Rowan and Elliott Counties to the north, Lawrence and Johnson Counties to the east, Magoffin and Wolfe Counties to the south, and Menifee County to the west. Formed in 1822 out of portions of Floyd and Bath Counties, Morgan County is the seventy-third Kentucky county in order of formation. The county was named for General Daniel Morgan, a hero of the Revolutionary War. West Liberty is the county seat (Nickell 1992b:652).

The area now embraced by Morgan County was sparsely settled throughout the first half of the nineteenth century. Surveyors were in the area as early as 1787, but Morgan County was not settled until Daniel Williams moved from Mt. Sterling to the upper Licking River in 1804. He constructed his house on the site that is now West Liberty. Other settlers followed Williams, including Peter Amyx,

who owned thousands of acres throughout the Kentucky mountains, and Gardner Hopkins, who served under George Rogers Clark. Edmund Wells settled near Daniel Williams in 1814, and he later constructed a grist mill at West Liberty (Hudson 1992:3; Johnson 1974:59; Stacy and Nickell 1972:106).

When Morgan County was created in 1822 it covered nearly 790 sq mi of the Kentucky mountains, and it continued to gain territory throughout the antebellum period until it embraced 930 sq mi in 1854. By 1860, it had been reduced to 640 sq mi after Rowan and Magoffin Counties had been created. Despite covering such a large area, the county's population remained low. In 1830, eight years following the county's creation, it contained only 2,857 inhabitants. In 1840, it had 4,603 inhabitants, and population reached 7,620 in 1850. By 1860, the county's population had grown to 9,237 inhabitants (Long 1995:338–345).

Morgan County had very few enslaved persons or slaveholders in its population. In 1840, it contained only 61 slaves making up 1.3 percent of the population. By 1850, the number of slaves increased to 187, but only made up 2.4 percent of the total. In 1860, the county contained 170 slaves and 81 free African Americans, making up 2.7 percent of the population. Morgan's slave population was consistent with its neighboring counties and many other mountain counties (Collins 1882:261; Lucas 1992:xx).

The Civil War sharply divided Morgan County. Many in the county perceived the war on an entirely local scale and called it the "Democrat and Republican War." The issues of slaver and states' rights were simplified to which party defended them. The eastern portion of the county, which was predominantly Republican, was loyal to the Union, while the more Democrat western section sided with the Confederacy (Johnson 1974:94–95).

The isolation of the mountains proved to be a crucible in which the personal and proximate nature of the issues festered into violence. Home Guards, loyal to the Union,

led by Captain Edd Brown, tried to discourage Southern sympathies in the county and recruited soldiers into their para-military band. Young men suspected of being Rebels were often called out of their houses and gunned down by Captain Brown. The Confederacy matched Brown's atrocities with their own guerilla force led by a native of West Liberty, John T. Williams. Their forces clashed in hard fought skirmishes at Paint and Moon (Johnson 1974:95–97).

The worst guerilla leader in Morgan County was Sid Cook. After alluding Union forces during John Hunt Morgan's daring Ohio Raid, he crossed the Ohio by clinging to the tail of his horse while it swam the river. Cook formed a guerilla force in Morgan County during the latter years of the war and terrorized families living in the Paint and Elkfork area (Johnson 1974:98).

Morgan County was predominantly agricultural throughout the nineteenth century. Farmers raised corn in fertile coves on the southern sides of the hills once they cleared the timber. Morgan farmers produced 368,000 bushels of corn in 1880, making it the county's primary crop. Hogs and cattle were also raised in the county (Hudson 1992:4; Johnson 1974:9–10).

The county's population continued to increase throughout the last half of the nineteenth century. In 1870, the population was 5,975 inhabitants, but it increased by 41.5 percent to 8,455 inhabitants in 1880. Population increased another 33 percent to 11,249 inhabitants in 1890, and the county had 12,792 inhabitants by 1900.

The start of the twentieth century brought sweeping changes to Morgan County. In 1901, the Ohio and Kentucky Railroad (O&K) extended a line into Morgan County from Jackson in Breathitt County. It was built to transport coal and timber out of the region. The line was built through Adele, Cannel City, Malone, and Index, and by 1912, it reached West Liberty and the Licking River. The O&K prospered for the first quarter of the century and for a time was leased to the Louisville and Nashville Railroad, but the waning coal and

timber industries brought decline to the railroad. A flood damaged much of its line in 1927, and it made its last run in 1933 (Johnson 1974:17–18, 74).

In 1914, the Morehead and North Fork Railroad extended a line into Morgan County to the Middle Fork of Elkfork Creek near Fairview. The railroad also extended to Rush Branch, and it built wooden tramways even further into the hills. The railroad hauled primarily cannel coal, which was mined in the area, and it provided limited passenger service (Johnson 1974:18).

The Lenox Sawmill was a catalyst for the early-twentieth-century timber boom in Morgan County. It was a band sawmill constructed in 1917 at the mouth of Straight Creek. Lenox also constructed booms extending into Elkfork to catch logs being harvested further upstream. As the company expanded it had to provide housing for its workers, and the camp evolved into the town of Lenox. Within a couple of decades much of the timber had been cut, and the industry faded (Johnson 1974:12–13).

The booming coal and timber industries brought rapid population growth to Morgan County during the first two decades of the twentieth century. Between 1900 and 1920, population increased 29.1 percent to 16,518 inhabitants. Throughout the rest of the century the county experienced periods of decline and growth. By 1930, the population decreased to 15,130 inhabitants, but by 1940, it increased again to 16,827 inhabitants. Over the next three decades, the population decreased by 40.4 percent, reaching 10,019 inhabitants in 1970. It increased to 12,013 by 1980, but dropped to 11,648 by 1990.

## History of Elliott County

In 1776, the Virginia General Assembly had created Kentucky County from its western lands. The newly created Kentucky County had approximately the same boundaries as the state of Kentucky does today. This county in 1780 was divided into three separate counties (Fayette, Lincoln, and Jefferson), which would collectively become the District of Kentucky

in 1783 (Hammon 1992:495). Then, in 1792, the Kentucky District would dissipate in favor of the Commonwealth of Kentucky, and the counties that comprised the district would eventually be divided and subdivided into the 120 counties that presently make up Kentucky.

Elliott County is located in the foothills section of the Appalachian Mountains cultural landscape. Located in the eastern portion of the state, the county is bordered by Carter County to the north, Lawrence County to the east, Morgan County to the south, and Rowan County to the west. Formed in 1869 from portions of Morgan, Lawrence, and Carter Counties, Elliott County is the 114th county in order of formation. The county was named for John Milton Elliot, a legislator and leader of the Democratic Party. Sandy Hook, formerly called Martinsburg, is the county seat (Rennick 1984:264).

The area of the Little Sandy Valley, now occupied by Elliott County, was sparsely settled during the antebellum period. Families from the mountains of Virginia and North Carolina filtered into the area during the early part of the nineteenth century. Generally, they were subsistence farmers, although a small trading center developed along the Little Sandy in the 1820s known as Sandy Hook (Mason 1992:292; Rennick 1984:264).

The Civil War defined nineteenth century Elliott County. No major battles were fought in the county, but men stirred by the angst of the war perpetrated violence against the guilty and the guiltless in the Little Sandy Valley throughout the war. In 1861, Captain James K. Hunter raised a company of men from the area, and they marched to Prestonsburg to join the Confederate army. Not every enlistment was as regular as those organized by Hunter; many men resorted to guerilla tactics to support their cause (Elliott County History Book Committee [ECHBC] 1985:10).

In late 1861, Confederate Captain John T. Ratcliffe established a recruiting camp at a sharp bend in the Little Sandy River known as Crackers Bend near present day Newfoundland. Secessionists from the foothills region assembled at the camp, which

was known as Camp Dixie, and often conducted raids into the surrounding countryside. Their activity raised the concern of unionists in Grayson in neighboring Carter County, so the army dispatched a detachment of the Fourteenth Kentucky Volunteers, commanded by Lieutenant Colonel Joseph R. Brown, to the Little Sandy Valley to protect its inhabitants. On January 27, 1862, Brown led his troopers against the rebels at Camp Dixie and chased them away with the help of a union regiment from western Virginia (ECHBC 1985:10).

Although Brown's raid was successful, once the Union troops left the area, the Confederates quickly re-established the camp. It served as a base of operations for their cavalry and guerillas throughout the remainder of the war. Guerilla attacks perpetrated by both combatants terrorized the Little Sandy region throughout the war, and it was a popular foraging area for both cavalries (ECHBC 1985:10–11; Mason 1992:292).

In 1877, bandits burned a large portion of Sandy Hook, and in 1879, they perpetrated a vicious crime wave throughout the fledgling county. In 1880, a group of prominent Elliott County citizens assembled an anonymous group of vigilantes to eradicate the criminals from the region. Using tactics not unlike those of their enemy, the vigilantes, known as Regulators, spread their own brand of terror over the county (ECHBC 1992:6).

Like most eastern Kentucky counties, logging was Elliott's first substantial industry. Companies cut timber along the Little Sandy and its tributaries, and rafts of logs floated down stream to sawmills that cut them for market. Population growth responded accordingly. Eight months after the county's creation, it had only 4,433 inhabitants on the 1870 census. By 1880, the population was at 6,567 inhabitants, and over the next decade, it increased 40.3 percent to 9,214 inhabitants in 1890. By the end of the nineteenth century, the county's population reached 10,387 inhabitants, the largest total population to date.

In 1884, Albert Rogers Crandall discovered an outcropping of igneous rock in

northeastern Elliott County he thought may have contained diamonds. The rock was a geologic formation known as a kimberlite pipe. In May 1902, A.Q. Millar organized the Kentucky Diamond Mining and Development Company in Minneapolis, Minnesota. On May 31, John Ratcliff, working with Millar, purchased partial mineral rights to 1,430 acres of land in Elliott County. In 1905, Kentucky Diamond starting shipping mining equipment from the railhead at Willard, Kentucky, to their crudely equipped mines near Stephens, Kentucky. The mine never yielded a single diamond, and by the end of the decade, the company was dissolved (ECHBC 1985:19, 1992:15–16).

As the timber resources of the county were depleted, many inhabitants left the county, usually to follow the logging companies to other states. Agriculture remained the primary means of family income, but in comparison to other counties in Kentucky at the time, it was largely unproductive. In 1997, Elliott County farms produced a total of \$4.9 million worth of crops and livestock, which ranked ninety-eighth among Kentucky's 120 counties (Kentucky Agricultural Statistics Service 1998: 118; Mason 1992:292).

The twentieth century ushered in a long period of population decline in Elliott County. By 1910, the population had decreased to 9,814 inhabitants, and over the next two decades, it further decreased by 23 percent to 7,571 inhabitants by 1930. After rebounding to 8,713 inhabitants in 1940, the population continued to decline after World War II. Population decreased to 7,085 by 1950, and by 1970, it had decreased by 16.2 percent to 5,933 inhabitants, the county's lowest total since the 1880 census. In 1980, the county had 6,908 inhabitants, but by 1990 the population had again declined to 6,455 inhabitants.

## IV. METHODS

This section describes the methods used during the survey. Site-specific field methods are discussed in further detail in the

Site Description section of this report. Laboratory methods specific to the individual analyses are discussed in the specific analysis sections of this report.

## Field Methods

The proposed project area was determined by maps provided by the client and by an iPad Mini tablet coupled with a Garmin GLO Bluetooth global positioning system (GPS) receiver capable of real-time 2–3 m horizontal accuracy in the field. GPS Kit HD software was used to record points in the field in Universal Transverse Mercator (UTM) Zone 17 north coordinate system, WGS 84 datum. GPS positions given in this report are in NAD83. Landowner permission was requested prior to initiating fieldwork on all parcels of land within the proposed ROW.

Two small portions of the project area totaling 1.3 ha were previously surveyed. One portion (.8 ha [2.0 acres]) was located along KY 7 just south the intersection of KY 711 in Morgan County near the town of Wrigley (Hixon 1994). The other portion (.5 ha [1.2 acres]) is located on the south side of KY 7 near the KY 650 junction just east of Doctors Branch a tributary of the Little Sandy River in Elliott County (Sussenbach 1994). All of the previously surveyed portions of the project area were subjected to intensive pedestrian inventory supplemented by systematic screened shovel testing during the current survey.

Intensive pedestrian survey was conducted over large portions of the project due to steep sloping terrain, exceptional ground surface visibility (GSV), and/or high disturbance levels. The pedestrian survey was conducted by walking parallel transects, spaced no more than 20 m (66 ft) apart, along natural contours. Steep sideslopes were inspected for natural benches and overhangs. Dirt roads and all exposed areas were walked and visually examined for indications of cultural material and features.

Rock outcrops identified throughout the project area were inspected for culturally derived bedrock mortars, pitted stones,

petroglyphs, and pictographs that have been known to be associated with such features, which would make them sites; however, none were found.

Shovel testing at 20 m (66 ft) intervals was conducted in all portions of the project area except those that: 1) were on landforms with a slope greater than 15 percent; 2) had greater than 50 percent GSV; and/or 3) were previously surveyed. In all cases, shovel tests measured not less than 35 cm in diameter and extended well into subsoil. All fill removed from the tests was screened through .25 inch mesh hardware cloth, and the sidewalls and bottoms were examined for cultural material and features. All artifacts recovered from shovel tests were bagged by shovel test number and level.

Bucket augering was also employed for this project, but not as a site discovery method. The main goal was to determine the depositional characteristics of the sediments in the area, in order to determine the potential for buried archaeological materials. The examination of buried deposits for archaeological sites is best conducted with a deep testing program consisting of close interval (5–10 m) systematic bucket augering, systematic backhoe trenching, or both. Subsurface investigation of complex depositional environments should be done in consultation with a geomorphologist or geoarchaeologist. Such investigation was beyond the scope of the current project.

A total of 28 bucket augers (BAs) were conducted during the current survey in areas known to contain alluvial soils in order to determine the possibility of buried deposits (see Figure 3). A hand-operated bucket auger with a 4 inch opening was used to excavate the augers. Sediments were removed in approximately 10 cm (4 in) levels. All soil was screened through .25 inch mesh hardware cloth. The presence of charcoal and general soil characteristics (texture, Munsell colors, etc.) were recorded by individual level. The lone artifact recovered (IF5) was bagged and recorded by level. Detailed descriptions of

each bucket auger is presented in the Bucket Augers section of this report.

General surface collections (GSC) were made at two sites (15E177 and 15Mo176) in order to sample the artifacts noted to be present on the ground surface. Shovel testing was used to supplement GSCs at both sites.

## Laboratory Methods

All cultural material recovered from the project was transported to CRA for processing and analysis. Initial processing of the recovered artifacts involved washing all artifacts, sorting the artifacts into the major material classes (i.e., historic and lithic) for further analysis, and assigning catalog numbers. Catalog numbers consisted of the site number and a unique number for each provenience lot or diagnostic specimen. Each prehistoric modified implement (e.g., biface) received a unique catalog number. Historic artifacts received a unique catalog number for each material group and class by provenience. Non-diagnostic material, such as flake debris, was cataloged by provenience lot where all flakes in the same provenience received the same number.

The methods, specifics, and results of subsequent analysis are discussed in each of the specific analysis sections of this report. All cultural materials, field notes, records, and site photographs will be curated at the University of Kentucky's William S. Webb Museum of Anthropology.

## V. MATERIALS RECOVERED

Prehistoric materials were recovered from Sites 15E111, 15E176–15E179, and 15Mo174–15Mo175. Historic materials were recovered from Sites 15Mo174–15Mo177, 15E177, and 15E179. The assemblages from each site are described below. In addition, an inventory of materials recovered from the sites listed by provenience is presented in the individual site descriptions section of this report.

## Lithic Analysis

*Brian G. DelCastello, RPA*

The current archaeological survey identified prehistoric lithic artifacts at seven archaeological sites (15E111, 15E176–15E179, and 15Mo174–15Mo175) and four isolated finds (IF1–IF4). The purpose of the following analysis was to provide an inventory of the recovered materials and an assessment of the likely temporal, spatial, and behavioral factors involved in the formation of the lithic assemblage. Analysis of the recovered lithic artifacts included flake debris analysis and technological analysis of the modified implements. The assemblages recovered from each of these archaeological resources will be described and analyzed in the following sections.

## Laboratory Methods

Lithic materials recovered from each of the sites were processed in three steps prior to analysis. The first step was to sort material into several general artifact categories (i.e., flake debris, cores, and modified implements). The second step consisted of recording attributes of these artifacts into a computer-coding format. The final step was to enter all artifact codes into a Microsoft Access® database, where data could later be manipulated.

A paradigmatic classification system (Dunnell 1971:70–76) was used to code lithic artifacts for analysis. In this form of classification, dimensions, or mutually exclusive features, are recorded for each artifact. Within each dimension are several possible attribute states. Artifact classes can then be formed by the intersection of these attribute states (Dunnell 1971:73). The scale of investigation and the determination of the classes examined are guided by the questions being asked of the data. This form of analysis is preferred over typological formats for the following reasons:

- 1) Lithic reduction is a dynamic process; therefore, forcing lithic material into static “types” is counterproductive to actually

understanding prehistoric lithic technologies.

- 2) No *a priori* assumptions are necessary concerning the meaning of classes, as is common in typological formats.
- 3) Mutually exclusive classes are formed.
- 4) Analysis is possible at various levels of detail.
- 5) Classification does not obscure artifact variability (i.e., functional, stylistic, technological, and morphological) to the extent that typologies do.
- 6) Classification allows several different analytical techniques to be used to support or reject hypotheses generated of the data.

A total of 58 lithic artifacts weighing approximately 123.4 g were recovered from the 11 archaeological resources. Table 3 summarizes the lithic artifacts recovered during the investigations. Appendices A–C provide details of the various lithic artifacts. Appendix A provides the codes used in the current analysis. Appendices B and C detail the flakes and cores/modified implements, respectively.

## Raw Materials

Raw material type was determined based on parent geological formation when possible. An Indeterminate category was used for flakes that could not be assigned confidently to a parent geological formation. Determination of raw material type was made using published descriptions and by comparisons with a sample collection of locally occurring chert

housed at CRA. Flakes smaller than .25 inch were counted and weighed, and no additional attributes were recorded. Raw material type was not assessed for these flakes, as they often exhibit no diagnostic characteristics that can be used to confidently identify a raw material type. In addition, .25 inch screens were used in the field; therefore, flake debris smaller than .25 inch is probably underrepresented in the lithic sample.

The examination of raw materials used in flaked stone manufacture is important for several reasons. As Binford (1979:260) notes, variability in the proportions of raw material at a site is a function of the scale of the habitat exploited from that location. It is recognized, however, that the proportions of raw materials recovered from a site likely represent only the minimal extent of a group’s annual range (Ingbar 1994). The distribution and quality of raw materials are important factors that condition their use (Andrefsky 1994). A number of raw materials may be sufficient for flaked stone tool production; however, “certain materials may be chosen over others because of differences in mechanical efficiency at hand” (Beck and Jones 1990:284). Similarly, Terry et al. (2009) found that raw material type tended to significantly vary with regard to different tool forms during the Upper Paleolithic in the Transbaikal region of Siberia. Based on their experiments (Terry et al. 2009) determined that lithic raw material types can be important for different functions and need to be considered in scenarios of technological organization.

**Table 3. Summary of Lithic Artifacts by Site.**

Site	Biface	Core	Flakes	TOTAL
15EI11			1 (2.4 g)	1 (2.4 g)
15EI77		1 (28.3 g)	18 (19.9 g)	19 (48.2 g)
15EI76			8 (10.7 g)	8 (10.7 g)
15EI78	1 (2.1 g)		9 (21.4 g)	10 (23.5 g)
15EI79			2 (15.2 g)	2 (15.2 g)
15Mo174			5 (7.1 g)	5 (7.1 g)
15M0175			6 (7 g)	6 (7 g)
IF1			3 (0.6 g)	3 (0.6 g)
IF2	1 (4.5 g)		(g)	1 (4.5 g)
IF3			1 (0.3 g)	1 (0.3 g)
IF4			2 (3.9 g)	2 (3.9 g)
TOTAL	2 (6.6 g)	1 (28.3 g)	55 (88.5 g)	58 (123.4 g)

\* Flake category includes all flakes (including both smaller and larger than .25 inch flakes)

Prior to the analysis, an examination of the local and regional geology was conducted in order to ascertain the presence of toolstone suitable for the manufacture of lithic tools (Table 4). The local geology was examined through an inquiry of the local geologic topographic quadrangles (Englund and Delaney 1966; Hosterman et al. 1961). An examination was also conducted of the adjacent quadrangles, although these quadrangles are not included in the table.

The region surrounding the project area is considered moderately chert-rich. While chert sources have not been identified within the project area, multiple chert sources were noted on the various geologic mapping. These source areas are primarily situated to the west, although small isolated sources were noted to the east and southeast. Based on the geologic composition of the surrounding region, at least four individual chert-bearing geologic formations have been mapped in the vicinity of the project area (see Table 4). While the quality and usability of these resources were not confirmed during the current investigations, it is presumed that much of these formations do contain some degree of usable tool stone.

Of the various chert-bearing formations present within the region, chert originating from at least three formations have been identified in the combined lithic assemblage. These resources predominantly consisted of Newman (n = 27), while other raw materials

that were not well represented among the various assemblages included Oolitic Newman (n = 9), Ste. Genevieve (n = 2), Chalcedony (n = 2), and 1 piece of Breathitt, Haney, and Burnt. Additionally, 4 pieces of Indeterminate chert were also identified in the current analysis. Eleven flakes smaller than .25 inch were also identified, although these latter artifacts were too small for adequate identification.

The following paragraphs describe the physical characteristics of each of the raw materials identified in the artifact assemblages.

### *Newman Chert*

Newman chert is highly variable, and exposures of Newman Limestone are scattered over a wide area of northeastern Kentucky (Gatus 1985; Vento 1982). Two varieties of Newman that have been described as different chert types are Paoli and Haney. Paoli chert typically exhibits a semi-vitreous to vitreous luster and is generally medium to fine-grained. It is brownish red to medium red, light tan, and/or bluish white. It typically occurs as cannonball nodules and occasionally has concentric banding (Gatus 1985). Gatus (1985) describes the “Haney” variety of Newman as having a semi-vitreous to vitreous luster. It is generally a medium to fine-grained chert that is light tan to light medium blue. It is sometimes very oolitic and may have small fossil fragment inclusions (Vento 1982:712).

**Table 4. Summary of Geologic Formations near Project Area.**

Quadrangle	Age	Formation	Chert	Raw Material
Sandy Hook	Mississippian	Newman Limestone	Yes	Newman
Sandy Hook	Pennsylvanian	Lee	Yes	Quartz
Sandy Hook	Pennsylvanian	Breathitt	Yes	Siderite
Sandy Hook	Pennsylvanian	Breathitt	No	-
Sandy Hook	Pennsylvanian	Breathitt	Yes	Quartz
Sandy Hook	Quaternary	Alluvium	No	-
Wrigley	Mississippian	Warsaw(?)	No	-
Wrigley	Pennsylvanian	Breathitt	No	-
Wrigley	Mississippian	Brodhead	No	-
Wrigley	Mississippian	Haney Limestone	No	-
Wrigley	Pennsylvanian	Lee	No	-
Wrigley	Mississippian	Pennington(?)	No	-
Wrigley	Mississippian	Beech Creek Limestone	No	-
Wrigley	Mississippian	St. Louis Limestone	No	-
Wrigley	Quaternary	Alluvium	No	-
Wrigley	Mississippian	Reelsville Limestone	Yes	Newman



Haney occurs as beds and nodules in the Newman Formation in eastern Kentucky, particularly in Carter and Elliott Counties (Gatus 1985). The comparative collection at CRA includes samples of this chert obtained from the Red River Gorge area in southern Menifee County.

The two varieties of Newman chert overlap, both in geographic distribution and in visual characteristics. This analysis did not differentiate between Paoli and Haney per se, but oolitic Newman is distinctive enough to be treated as a separate material type, and it was differentiated from all other forms of Newman. It has been referred to as “Haney” chert, but Haney can be non-oolitic as well, so in this analysis this chert was classified as “oolitic Newman” rather than Haney. The non-oolitic varieties of Newman chert were classified simply as “Newman.”

### ***Breathitt Chert***

Breathitt chert is present within various members subsumed in the Breathitt Formation, a widely occurring Lower/Middle Pennsylvanian bedrock formation with exposures throughout eastern Kentucky (Gatus 1980; Vento 1982). Breathitt chert appears to be similar to the “Flint Ridge” (Morse 1931, in Vento 1982:713–714). The primary source areas for this variable lithic raw material occur in Breathitt County, although Breathitt chert is known to occur in Magoffin and Floyd Counties, Kentucky (Vento 1982:713–716). In this portion of the state, Breathitt chert commonly occurs as either beds or as concentrations. It is typically identified in bedrock exposures and as stream residuum throughout the region.

Based on macroscopic appearances, this geological chert type is widely variable in terms of both color and texture. It is generally a fine-grained to coarse-grained chert that varies in color, occurring in blue, grey, red, black, and olive. A green sheen is commonly present on gray, olive, and blue specimens. Gatus (1980) describes Breathitt chert as having a medium to earthy luster. Inclusions are commonly composed of either fossil

fragments (typically sponge spicules) or of various minerals, including pyrite and calcite.

### ***Chalcedony***

The parent geologic formation(s) for this raw material resource is uncertain as this resource was not identified in any of the nearby 7.5-minute geologic quadrangles. Chalcedony typically has a dull, waxy luster, and is semi-translucent. It is generally milky white in color. It ranged from a homogenous white throughout to being semi-translucent with white patches. Its geological origin is unknown although several Mississippian formations in central Kentucky contain chalcedony, including Ste. Genevieve, and Salem/Warsaw formations (Milliken 1979; Smith and Siewers 2004). This material is most likely procured non-locally.

### ***Ste. Genevieve Chert***

Ste. Genevieve chert typically occurs as either nodules or tabular blocks (Gatus 1980). Based on macroscopic appearances, this geological chert type is widely variable in terms of both color and texture. Colors usually range from light to medium blue, gray, and black, to olive gray to yellowish gray. Concentric bands are common in this chert type (Gatus 1980). Textures can vary from medium-grained to fine-grained, with the former being more common of the bedded variety of this chert type (Gatus 1978, 1980). Ste. Genevieve is characterized as having a moderate luster. Inclusions typically include chalcedony and calcite along with lighter blue mottles (often occurring near large crystal inclusions). This raw material does not appear to have local source areas within the adjacent geologic quadrangles. Ste. Genevieve occurs as nodules or tabular blocks and can be procured from exposures of the Mississippian Ste. Genevieve Limestone formation in the Eastern Knobs, south-central and western Kentucky (Gatus 1980).

### ***Indeterminate Chert***

The Indeterminate chert type category includes those remaining specimens that could not be readily identified as belonging to

another known chert type. This category may include unknown varieties of known chert types or those that occur outside of the region and were unfamiliar to the author. The vast majority of pieces within this category are specimens that have atypical macroscopic characteristics that placed them in this unknown category.

### *Burnt Chert*

The Burnt category was utilized for those specimens that were so severely damaged by heat that accurate identification of raw material was not possible. This category was utilized for lithic artifacts when raw material could not be determined due to thermal damage; but when, in the case of flake debris, flake morphology could still be determined. Thus, if a piece of chert has been subjected to thermal alteration and was still identifiable to a known chert type, then it was classified as the known chert type and was further listed as thermally altered or thermally damaged.

### **Flake Debris Analysis**

Flake debris is defined here as lithic waste that exhibits evidence of intentional removal from a parent piece, but no evidence of further modification. Flake debris is a useful indicator of prehistoric activities because it is ubiquitous on most sites, exhibits evidence of the stage of manufacture during which it was produced, and unlike modified implements, was usually deposited where it was generated. The flake debris analysis provides information concerning prehistoric lithic technology and, in conjunction with other analyses, aids in determining site use.

The analysis of flake debris involved the recording of several attributes, including flake size, weight, raw material type, presence of cortex, and probable stage of lithic reduction during which the flake was produced. Reduction stage follows Magne's (1985) definitions and was determined by the number of facets on the platform or the number of flake scars on the dorsal surface. Early stage reduction is defined as core reduction, middle stage as the first half of tool production, and late stage as the second half of tool production

and subsequent maintenance. For flakes that retain platforms, zero to one facet on the platform indicates early stage, two facets indicate middle stage, and three or more facets indicate late stage. Biface thinning is a specialized form of late stage reduction. A biface thinning flake is defined as a flake with a lipped platform having three or more facets. For non-platform bearing flakes, dorsal flake scars were counted instead of platform facets; zero to one dorsal flake scars indicate early stage, two scars middle stage, and three or more flake scars late stage. Stage of reduction was not determined for blocky debris or flakes smaller than .25 inch.

For the flake debris analysis presented here, a series of attribute dimensions were recorded for each flake larger than .25 inch: size-grade, weight, portion, platform configuration, cortex cover, cortex type, reduction stage, raw material, and thermal alteration. Several attribute states were possible within each dimension. In addition, flakes were assigned to a reduction stage based on the work of Magne (1985; Magne and Pokotylo 1981).

Size-grade was determined by passing flakes through a series of nested wire screens of the following sizes: 2.54 cm (1 in), 1.9 cm (.75 in), 1.27 cm (.5 in), .64 cm (.25 in), and .37 cm (.125 in). Standard geologic sieves were used for all size grading. All flakes were hand manipulated through the screen. If a flake could fit through the mesh in any direction, it was included with the size below. All flakes larger than .25 inch were examined for the above attributes. Flakes smaller than .25 inch were not subjected to detailed analysis because of the difficulty of determining material type and reduction stage for such small flakes. Also, screens with .25 inch mesh were used in the field, so flakes smaller than .25 inches would be underrepresented in the lithic sample. Therefore, these small flakes were examined to confirm that they were actual flakes then counted and weighed only.

Flakes larger than .25 inch were assigned to four reduction stages based on the presence

of certain attributes. Magne (1985; also see Magne and Pokotylo 1981), building on the work of Collins (1975), used discriminant function analyses to determine the best variable for separating flakes produced by experimental reduction into four stages. In Magne's (1985) scheme, early stage reduction is viewed as all core reduction, middle stage reduction is viewed as the first part of the manufacture of tools, and late stage reduction is viewed as the completion and maintenance of tools. Biface thinning is considered a special form of late stage reduction. For platform bearing flakes, platform facet count was determined to be the best single attribute. Dorsal scar count was determined to be the best single attribute for non-platform bearing flakes. Magne (1985:120) determined that for platform bearing flakes, zero to one facets indicated early stage, two facets middle stage, and three or more facets late stage. In addition, flakes with lipped platforms and three or more facets were the result of biface thinning. For non-platform bearing flakes, zero to one scar indicated early stage reduction, two scars middle stage, and three or more scars late stage.

Appendix B provides a detailed summary of the flake debris assemblages.

### *Results of Analysis*

Nondiagnostic flake debris made up the bulk of the analyzed lithic assemblage. A total of 55 flakes weighing approximately 88.5 g were recovered during the current investigations (Appendix B). This total includes 44 flakes (86.9 g) larger than .25 inch and 11 flakes smaller than .25 inch (1.6 g). Of the 44 flakes larger than .25 inch, 2 (5.6 g) were classified as blocky debris. No pieces of thermal shatter were identified in the assemblage.

Materials smaller than .25 inch in size were counted and weighed with no further attributes recorded. These items, however, were examined for the presence of tool fragments, none of which were found in any of the assemblages. None of the recovered lithic materials were subjected to micro-wear analysis.

Based on the analysis of the various site assemblages, it appears that the various lithic reduction activities were focused on a narrow range of raw material resources (Table 5). Excluding the four Indeterminate chert flakes, approximately two-thirds (n = 27) of the larger than .25 inch flakes were manufactured from Newman chert. This particular raw material has been identified in geologic sources to the west at distances of approximately 20 km (12 mi). Oolitic Newman chert is the second most commonly identified raw material (n = 9), accounting for approximately 25 percent of the total assemblage. This raw material also has an approximately similar spatial extent as does Newman chert. The remaining raw materials comprise much smaller proportions of the overall assemblage, accounting for less than 5 percent of the assemblage per raw material (see Table 5).

**Table 5. Summary of Raw Material by Reduction Stage.**

Site	Raw Material	Stage	Count	Wt
15E111	Oolitic Newman	Late	1	2.4
15E176	Newman	Blocky	1	4.1
15E176	Newman	Early	1	1.1
15E176	Newman	Middle	1	3.3
15E176	Newman	Late	1	0.5
15E176	Oolitic Newman	Late	1	0.6
15E176	Ste. Genevieve	Late	1	0.8
15E177	Oolitic Newman	Blocky	1	1.5
15E177	Newman	Early	2	3
15E177	Oolitic Newman	Early	1	3.1
15E177	Indeterminate	Middle	1	0.5
15E177	Newman	Middle	3	6.5
15E177	Newman	Late	3	2.9
15E177	Oolitic Newman	Late	2	1.7
15E178	Chalcedony	Early	1	18.3
15E178	Indeterminate	Early	1	0.4
15E178	Newman	Early	1	0.6
15E178	Newman	Middle	3	1.1
15E178	Indeterminate	Late	1	0.6
15E179	Newman	Early	2	15.2
15Mo174	Newman	Early	1	0.3
15Mo174	Oolitic Newman	Early	1	2.6
15Mo174	Oolitic Newman	Late	1	1
15Mo174	Newman	Middle	1	3.1
15M0175	Chalcedony	Early	1	5.4
15M0175	Newman	Early	1	0.2
15M0175	Oolitic Newman	Early	1	0.2
15M0175	Newman	Middle	1	0.3
15M0175	Newman	Late	2	0.9
IF1	Newman	Early	1	0.4
IF1	Indeterminate	Late	1	0.1
IF3	Newman	Middle	1	0.3
IF4	Newman	Middle	1	2.5
IF4	Breathitt	Late	1	1.4

Based on the various assemblages, it appears that a select few raw material resources were procured and utilized by the prehistoric inhabitants of the various sites (and IFs). As inferred from Table 5, only five individual raw materials were identified in the various assemblages. Most of these resources were readily available to the west, outside of the project area. The sole exception is the presence of a single flake of Breathitt chert. This particular raw material is known to occur in the eastern extent of both Morgan and Elliott Counties at distances of 5 km (3 mi) and greater. Only one flake of this lower-grade raw material was identified.

While several eastern chert resources were relatively close to the project area, the higher quality sources, particularly both varieties of Newman chert, were being sought out by the inhabitants of the various sites. It is possible that the higher quality of the western resources would have fulfilled the technological requirements of the site inhabitants to a better extent than the lower quality resources to the east. Alternatively, the presence of Newman chert may relate to the movements of the peoples from the west, rather than solely on technological needs.

Of the flakes larger than .25 inch, 41 could be assigned to an established reduction stage (see Tables 5 and 6). As noted in the tables, all reduction stages were represented among the various assemblages. Unfortunately, none of the individual assemblages possessed sample sizes large enough for adequate analysis and interpretation. Some general trends can be ascertained from the data; however, any discussions of reduction stage analysis along

with the subsequent behavioral interpretations should only be viewed in generalized terms given the small sample sizes.

Each of the reduction stages are roughly equally represented (see Table 6). Both early and late stages are equally represented (n = 15) while middle stage activities represented by 11 flakes. When taken as a whole, it appears that all forms of lithic reduction activities had been taken place by the various site inhabitants. No particular stage of manufacture played a major role in these activities.

## Modified Implements and Cores

Modified implements are defined as flaked stone artifacts that have evidence of intentional modification or use as tools (i.e., more than byproducts of lithic reduction). Cores are defined as nodules or blocks of lithic raw material that have flake scars (previous flake removals) across at least one face from use as a source of tool stone. Eight attribute dimensions were recorded for all modified implements and cores, and seven additional dimensions and cluster associations were recorded for all hafted bifaces (e.g., classes 204-3.2, 204-4.2, 204-5.2, 204-4.5). Metric attributes were recorded for all artifacts that were complete enough to allow it. Modified implement and core classes were formed by the intersection of attribute states (Dunnell 1971). For this analysis, generalized modified classes were defined by the intersection of attributes from dimensions one through three. For example, class 204-1.1 was defined as all modified implements that exhibited bifacial modification that was produced with a hard hammer.

**Table 6. Reduction Stages by Site.**

Site	Blocky	Early	Middle	Late	TOTAL
15E111				1	1
15E176	1	1	1	3	6
15E177	1	3	4	5	13
15E178		3	3	1	7
15E179		2			2
15Mo175		3	1	2	6
15Mo174		2	1	1	4
IF1		1		1	2
IF3			1		1
IF4			1	1	2
<b>TOTAL</b>	<b>2</b>	<b>15</b>	<b>12</b>	<b>15</b>	<b>44</b>

Appendix C details each of the cores and modified implements that were recorded during the current investigations.

### *Cores (class 106) and Core Tools (class 206)*

Cores (class 106) are defined as nodules or blocks of cherts that have negative flake scars (previous flake removals) across at least one face. Core tools (class 206) are cores that show evidence of use other than a source of flakes. For cores and core tools, flaking orientation is the main attribute recorded. Flaking that was in one direction from a single margin is classified as unidirectional (106-2 or 206-2). Bi-directional flaking is described as flake removals from two directions, but not bifacial (106-7 or 206-7). Multi-directional cores (106-6 or 206-6) have random flake removals from several directions. Cores of this type have also been referred to as amorphous core by other analysts (e.g., Faulkner and McCollough 1974:80; Johnson 1986). Flake removals that form a bifacial margin are termed bifacial (106-3 or 206-3). The edge angles on these specimens are typically greater than 60 degrees. Cores that were conical in shape with flake removals in one direction (106-5 or 206-5) are termed unidirectional subconical (i.e., blade core). Bipolar cores (106-4 or 206-4) are those that exhibit evidence of bipolar reduction techniques. Such cores often exhibit evidence of force being applied from two opposing faces and crushing along the striking platform. Indeterminate orientation is reserved for fragmented cores (106-1 or 206-1) where the flaking orientation was not determinable.

In addition to the primary attribute of flaking orientation, a secondary attribute was also recorded. This was used to differentiate between cores (.3), core fragments (.2), and tested cobbles (.1). Simply defined, cores have in excess of three flake removals, while tested cobbles exhibit three or less flake removals. Core fragments are portions of cores that have been truncated.

## **Results of Analysis**

The current investigations identified a single core. This artifact, k15h8-01, was recovered from Site 15EL77 as part of the GSC of the site. This specimen is a multidirectional example made from high quality Newman chert (28.3 g). It exhibits multiple flake scars originating from multiple platforms. It exhibits both matrix and patinated cortical surfaces.

### *Bifacial Implements (class 204)*

For this analysis, biface reduction is viewed as a continuous process. A biface may have been taken out of the reduction sequence at any stage and used for a specific task. After use, it may have reentered the continuum and been further reduced. Bifacial reduction usually started with hard hammer percussion followed by soft hammer percussion. Pressure flaking was generally used for final shaping and haft modification (Johnson 1981) and to prepare striking platforms for the removal of large flakes during biface thinning. A generalized model of biface production is depicted in Figure 29.

The terms hard and soft hammer percussion are used in this analysis to reflect the form of flake scars present and not necessarily to identify the type of percussor used to detach the flake. Hard hammer scars are relatively narrow and deep, and they exhibit prominent negative bulbs of percussion. A biface shaped by hard hammer percussion exhibits high intersecting ridges between flake scars and an irregular bifacial margin. Soft hammer scars are relatively shallow and broad with small negative bulbs of percussion, and they often leave ripple marks in the flake scar. A biface with mostly soft hammer scars usually has a regular bifacial margin, and the ridges between flake scars are not as pronounced as ridges on bifaces with hard hammer scars only. Pressure flake scars are usually small and shallow with small negative bulbs of percussion, and they are often restricted to the edge of the implement. Hard hammer flakes are associated with early-stage reduction. Soft hammer flakes

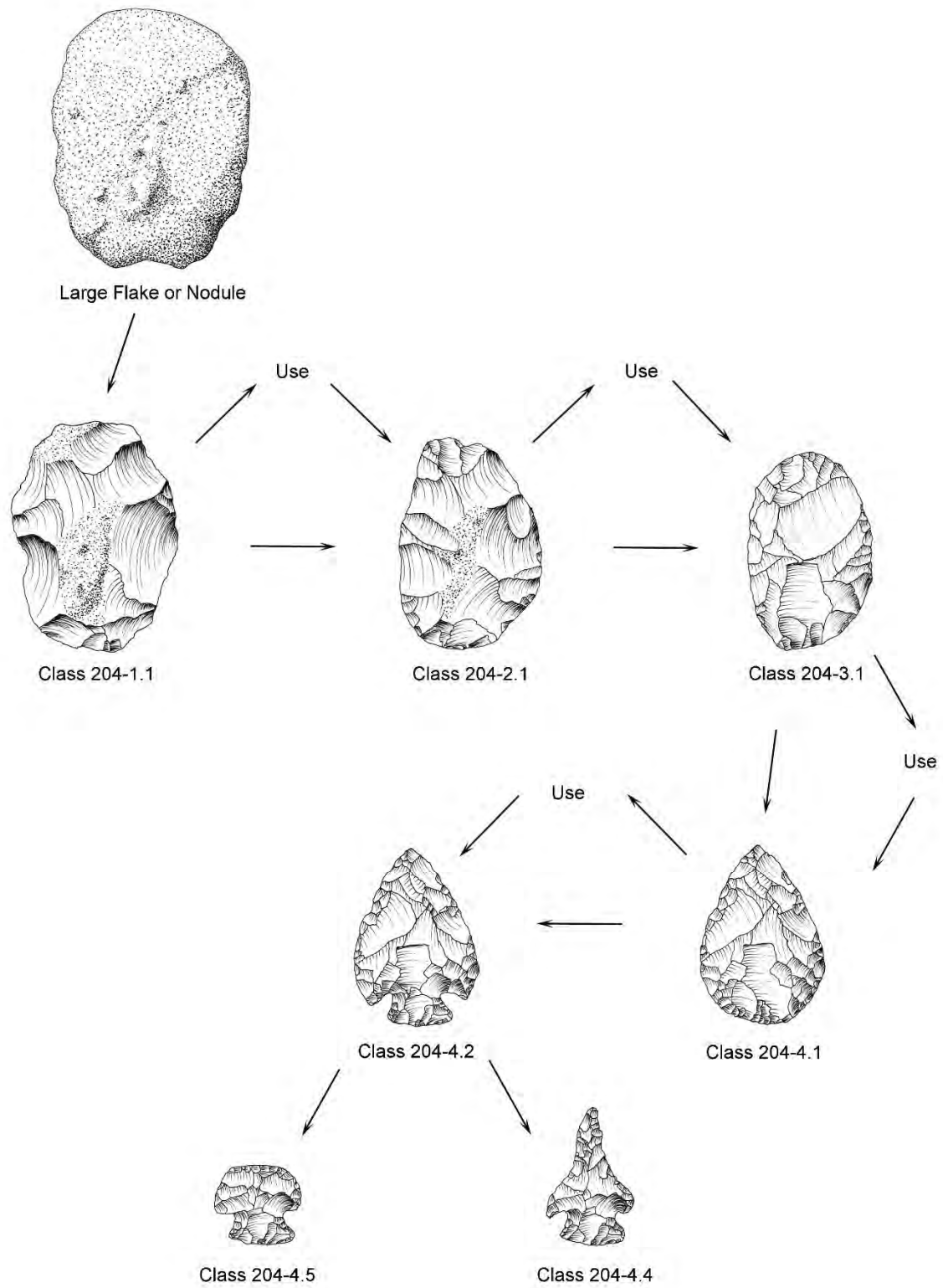


Figure 29. Generalized biface production model.

and pressure flakes are associated with late stage reduction. Note that in some cases bifaces (especially class 204-1.1) may have been used as cores (e.g., Kelly 1988).

Generalized biface classes were defined by the type of flake scars present. The general classes are 204-1 (hard hammer scars only), 204-2 (hard hammer and soft hammer scars), 204-3 (soft hammer scars only), 204-4 (soft hammer and pressure scars), and 204-5 (pressure scars only). An indeterminate class, 204-6, was used for those implements that could not be assigned to one of the above classes, typically small fragments.

In addition to these generalized classes, a further breakdown describes the general morphology of the specimen. The morphological classes are .1 (biface), .2 (hafted biface), .3 (drill), .4 (hafted biface reworked into a drill), .5 (hafted biface reworked into a hafted scraper), and .6 (hafted biface reworked into a boring implement).

Using the above designations allows for more detailed descriptions of the implement. For example, class 204-4.5 defines a hafted bifacial implement that has been worked into a scraper. The implement exhibits scars from both soft hammer percussion and pressure flaking. Class 204-3.1 defines a generalized bifacial implement with flake scars from soft hammer percussion only.

## Results of Analysis

The current investigations identified a total of two bifacial implements.

The first artifact (Artifact #k15h8-02) was recovered at Site 15EL78 in STP 3 in the uppermost horizon (0–35 cm [0–14 in] bgs). This fragmentary artifact was made from a piece of thermally altered fossiliferous Indeterminate chert (2.1 g). It appears to be the remains of a lateral edge, displaying a single bifacial edge. It exhibits a thermal fracture that removed it from the remaining portion of the biface.

The second bifacial implement was recovered at IF5 as the sole prehistoric artifact (k15h8-03). This fragment (4.5 g) was made

from a piece of thermally damaged Haney chert. It is a distal fragment that possesses both perverse and thermal fractures. It has a single patch of matrix cortex on one face.

## Results

This analysis examined a total of 58 lithic artifacts weighing approximately 123.4 g. These artifacts were recovered from investigations at 11 archaeological resources, including 7 sites (15E111, 15E176–15E179, 15Mo174, and 15Mo175) along with 4 isolated finds (IF1–IF4). This total includes 55 flakes weighing approximately 88.5 g. The flake assemblage consists of 44 flakes (86.9 g) larger than .25 inch and 11 flakes smaller than .25 inch (1.6 g). Of the 44 flakes larger than .25 inch, 2 (5.6 g) were classified as blocky debris. None of the flakes appear to represent specialized technologies, such as bipolar or blade technology. In addition to the flakes, 1 core (28.3 g) and 2 small bifacial (6.6 g) implements were also identified in the assemblage. No thermal shatter, fire-cracked rock (FCR), or other modified implements were recovered during the current investigations.

The small number of items and lack of artifact diversity at each of the various sites suggest short-term or specialized use of those particular locations. The overall paucity of thermal damage (or other evidence) suggests that activities involving the use of hearths or cooking features, were either not likely present or were of such an ephemeral nature that evidence has not been identified. The lack of temporally diagnostic artifacts precludes a determination of the temporal and/or cultural affiliation of these occupations.

Given the small sample size and the limited information gleaned from these flakes, little can be stated with any degree of certainty. Beyond the fact that prehistoric peoples once occupied these landforms and conducted activities involving the reduction of lithic raw materials, little else can be said.

### Site 15E111

The prehistoric component at this previously identified site consisted of a single flake made from Oolitic Newman chert (2.4 g). This flake, a late stage flake fragment, was recovered in the upper portion of the solum at a depth between 0 and 15 cm (0 and 6 in) bgs.

Previous investigations at this site (i.e., Sussenbach 1994) indicated that this site represents prehistoric occupations extending over several time spans: Late Archaic, Early Woodland, Middle Woodland, and Late Woodland. The current survey did little to further the knowledge base of these previous investigations; as the single nondiagnostic flake only served to confirm the presence of a prehistoric site. Little else can be said of this flake.

### Site 15E176

Investigations at Site 15E176 recovered a lithic assemblage totaling eight nondiagnostic flakes weighing approximately 10.7 g (Table 7). Of the flakes, six (10.4 g) were larger than .25 inch, while the remaining two flakes were smaller than .25 inch. One of the flakes larger than .25 inch was classified as a piece of blocky debris. This latter example was made from Newman chert (4.1 g). No cores, modified implements, or FCR were identified at the site.

Most of the flakes larger than .25 inch were made from Newman chert (n = 5). The remaining two specimens were made from either Oolitic Newman or Ste. Genevieve cherts. The focus on Newman (including Oolitic Newman) indicates that raw material procurements appear to have been focused on

those western source areas that were previously discussed.

In terms of reduction stages, only five flakes could be assigned to a reduction stage (see Table 6). Three of the flakes were late stage examples, while the remaining two specimens were classified as early and middle stage examples. Given the small sample size, the technological origins of this assemblage could be determined.

The small-sized assemblage precludes a detailed interpretation of the various lithic-related activities that had once been conducted on-site. The sparse lithic assemblage indicates that the occupations were the result of short-term or specialized occupations. The lack of additional artifacts, such as cores or modified implements, further supports the short-term nature of the occupation. The flakes indicate that a series of reduction activities had taken place at the site location. These activities involved the use of several raw materials, most notably Newman chert. As no temporally sensitive, or otherwise diagnostic, artifacts were identified at the site, no determination of the temporal and/or cultural aspect of the occupations could be ascertained.

### Site 15E177

A total of 19 lithic artifacts weighing approximately 48.2 g were recovered during the current investigations (Table 8). Most of the artifacts were flakes, which accounted for approximately 95 percent of the assemblage (n = 18; 19.9 g). The flake assemblage consisted of 13 flakes (19.2 g) larger than .25 inch, and 5 flakes (.7 g) flakes smaller than .25 inch. One of the larger than .25 inch flakes was

**Table 7. Summary of Artifacts Recovered at 15E176.**

Site	Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
15E176	STP 1	I	0-62 cm bgs	1	4.1	Flakes	Newman
15E176	STP 2	I	0-48 cm bgs	1	0.5	Flakes	Newman
15E176	STP 3	I	10-30 cm bgs	1	1.1	Flakes	Newman
15E176	STP 3	I	10-30 cm bgs	1	0.2	Flakes	< 0.25 inch
15E176	STP 4	I	0-50 cm bgs	1	3.3	Flakes	Newman
15E176	STP 5	I	0-30 cm bgs	1	0.6	Flakes	Oolitic Newman
15E176	STP 6	I	0-43 cm bgs	1	0.8	Flakes	Ste. Genevieve
15E176	STP 6	I	0-43 cm bgs	1	0.1	Flakes	< 0.25 inch



**Table 8. Summary of Artifacts Recovered at 15E177.**

Site	Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
15E177	GSC 3	Surf	- Surface	2	4.6	Flakes	Oolitic Newman
15E177	GSC 5	Surf	- Surface	1	1.4	Flakes	Newman
15E177	GSC 6	Surf	- Surface	1	28.3	Core	Newman
15E177	GSC 6	Surf	- Surface	1	0.8	Flakes	Oolitic Newman
15E177	GSC 6	Surf	- Surface	1	0.1	Flakes	< 0.25 inch
15E177	GSC 7	Surf	- Surface	1	0.9	Flakes	Oolitic Newman
15E177	GSC 9	Surf	- Surface	1	0.5	Flakes	Indeterminate
15E177	GSC 9	Surf	- Surface	4	8.1	Flakes	Newman
15E177	GSC 9	Surf	- Surface	3	0.4	Flakes	< 0.25 inch
15E177	STP 1	I	0-10 cm bgs	1	1.8	Flakes	Newman
15E177	STP 2	I	0-34 cm bgs	1	0.5	Flakes	Newman
15E177	STP 4	I	0-19 cm bgs	1	0.2	Flakes	< 0.25 inch
15E177	STP 5	I	0-13 cm bgs	1	0.6	Flakes	Newman

classified as a piece of blocky debris. This latter artifact was a piece of blocky debris (1.5 g) made from Oolitic Newman chert.

In addition to the flake debris, a single core was also identified in the assemblage. This artifact, a multidirectional core (Artifact #k15h8-01) was recovered on the ground surface at GSC 6. The core was made from high quality Newman chert (28.3 g).

The raw material composition of the assemblage was focused on Newman chert (including Oolitic Newman). Of the 13 flakes larger than .25 inch, 12 (92 percent) were made from either variety of Newman chert. The sole non-Newman flake was made from an Indeterminate chert type (.5 g).

The technological analysis of the assemblage indicated that all stages of reduction were present in the 15E77 lithic assemblage. Late stage flakes were the most common (n = 5), followed by middle (n = 4) and early (n = 3). One flake was classified as blocky debris.

All of the artifacts were collected from the upper portions of the solum, including from the ground surface as well as topsoil sediments. It is likely that the historic occupations may have disturbed the prehistoric component to some unknown extent. Based on the current level of investigations, however, it is difficult to determine the degree of disturbance(s).

The raw materials indicted that western source areas were exploited for the

procurement of resources. Two varieties of Newman chert (including Newman and Oolitic Newman) were identified in the assemblage.

The small size of the assemblage prevents a detailed analysis and interpretation of the lithic-related activities that had been conducted at the site. The presence of the flakes showed that a variety of lithic reduction activities had taken place. The core further suggests that lithic reduction, including early stage activities had taken place on-site.

The lack of additional cores or modified implements indicates that the prehistoric occupations at 15E177 were of a short-term or specialized nature. Since no temporally diagnostic artifacts were identified, the prehistoric occupation(s) could not be assigned to time span or cultural period. Little additional information can be gleaned from this small-sized assemblage.

### *Site 15E178*

The Site 15E178 lithic assemblage consisted of total of 10 artifacts weighing approximately 23.5 g (Table 9). Flakes make up the most common artifact type, comprising 90 percent (n = 9; 21.4 g) of the assemblage. Of the 9 flakes, 7 (21.0 g) were larger than .25 inch and 2 were smaller than .25 inch (.4 g). In addition to the flakes, a small thermally damaged biface fragment (Artifact #k15h8-03) manufactured from an indeterminate Burnt chert (2.1 g) was identified. This latter artifact was recovered from shovel test probe (STP) 3 at a depth between 0 and 35 cm (0 and 14 in) bgs.

**Table 9. Summary of Artifacts Recovered at 15E178.**

Site	Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
15E178	STP 1	I	0-40 cm bgs	1	0.4	Flakes	Indeterminate
15E178	STP 2	I	0-25 cm bgs	1	18.3	Flakes	Chalcedony
15E178	STP 2	I	0-25 cm bgs	1	0.3	Flakes	Newman
15E178	STP 3	I	0-35 cm bgs	1	2.1	Biface	Burnt
15E178	STP 3	I	0-35 cm bgs	1	0.4	Flakes	Newman
15E178	STP 4	I	0-50 cm bgs	1	0.6	Flakes	Indeterminate
15E178	STP 4	I	0-50 cm bgs	2	1	Flakes	Newman
15E178	STP 4	I	0-50 cm bgs	2	0.4	Flakes	< 0.25 inch

The lithic assemblage was composed of a relatively narrow range of raw materials. Excluding indeterminate cherts (i.e., Indeterminate and Burnt), only two identified raw materials were present in the assemblage. Most of the artifacts (n = 4; 40 percent) were made from Newman chert. The remaining artifacts were made from Indeterminate (n = 2) as well as single examples of Chalcedony and Burnt. The two flakes smaller than .25 inch were not assigned to a chert type.

Although the sample size is small, some basic information concerning the technological aspects of the flake debris assemblage can be determined. Both early and middle stage flakes were equally represented in the assemblage (n = 3), while a single example of a late stage flake was present. Thus, it appears that a variety of reduction activities had taken place on-site. These activities utilized a variety of raw materials, focusing on higher quality Newman chert.

The small size of the assemblage prevents a detailed interpretation of the lithic-related activities being conducted on-site. The small number of items and lack of artifact diversity at the various sites suggest short-term or specialized use of those particular locations. The flake debris assemblage indicated a narrow variety of raw materials, suggesting a focused procurement strategy. The presence of the thermally damaged biface fragment appears to indicate the presence of some form of thermal feature, such as hearth or cooking pit, at the site. The lack of FCR suggests that the thermal-related activities were of an ephemeral nature. The lack of diagnostic artifacts prevents a determination of the time or cultural span of the occupation(s). Little

additional information can be gleaned from this small-sized assemblage

### *Site 15E179*

The Site 15E179 prehistoric lithic assemblage consists of two flakes. Both flakes were recovered from the western portion of the site in two shovel tests within the uppermost horizon in the solum.

Both of the flakes were early stage platform remnant bearing examples made from Newman chert. The first flake was recovered in STP 4 (0–14 cm [0–6 in] bgs); while the second flake was recovered in STP 10 (0–40 cm [0–16 in] bgs).

Neither flake was considered temporally sensitive, or otherwise diagnostic. Their presence at the site indicated that the site location functioned for repeated occupations during prehistoric and historic times. Beyond the fact that at least a single lithic reduction episode focusing on Newman chert occurred, little else can be said.

### *Site 15Mo174*

Investigations at Site 15Mo174 recovered a total of five flakes, including four flakes larger than .25 inch (4.4 g) and one flake (.1 g) smaller than .25 inch (Table 10). No cores, modified implements, or FCR were recovered at this site.

In terms of raw materials, only three of the flakes could be identified. Single examples of Newman and Ste. Genevieve cherts, and two flakes of Oolitic Newman were present in the sparse assemblage. Little can be said of the technological origins of the assemblage, given its small size.

**Table 10. Summary of Artifacts Recovered at 15Mo174.**

Site	Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
15Mo174	STP 1	I	0-24 cm bgs	1	3.1	Flakes	Ste. Genevieve
15Mo174	STP 4	I	0-24 cm bgs	1	0.3	Flakes	Newman
15Mo174	STP 5	II	17-27 cm bgs	1	1	Flakes	Oolitic Newman
15Mo174	STP 6	I	0-15 cm bgs	1	0.1	Flakes	< 0.25 inch
15Mo174	STP 9	I	0-22 cm bgs	1	2.6	Flakes	Oolitic Newman

The sparse lithic assemblage indicates that the occupations were the result of short-term or specialized occupations. The lack of additional artifacts, such as cores or modified implements, further suggests the short-term nature of the occupation. Chert selection indicates that a relatively wide selection of raw materials was incorporated into the toolkit. As no temporally sensitive artifacts were identified, little can be said of the temporal and/or cultural affiliation of the prehistoric occupations at the site. The historic component present at the site likely disturbed various aspects of the prehistoric component, preventing a better interpretation of these earlier component(s).

### *Site 15Mo175*

The 15Mo175 lithic assemblage consisted of a few (n = 6; 7.0 g) nondiagnostic flakes (Table 11). No cores, modified implements, or FCR were recovered during these investigations. All of the flakes were larger than .25 inch, allowing for identification of both raw material and reduction stage.

Most of the flakes (n = 5; 83.3 percent) were made from Newman chert (including a single flake of Oolitic Newman chert). The sole remaining flake was made from Chalcedony (5.4 g). As previously discussed, Newman chert is readily available approximately 20 km (12 mi) west of the project area.

In terms of reduction stage, all of the various stages were present, although early stage flakes (n = 3) were only slightly more represented in the assemblage when compared to late stage examples (n = 2). Middle stage flakes were only represented by a single Newman flake. Given the small sample size of the flake debris sample, little else can be statistically stated.

The current investigations at this multicomponent site recovered a small-sized lithic assemblage consisting solely of flake debris. The sparse artifact assemblage impedes an accurate interpretation of the prehistoric activities that once were conducted. Regardless, it appears that the artifacts were the result of short-term or specialized occupations of the landform.

The flakes indicates that at least three individual lithic reduction episodes (each with a separate raw material) had taken place. The historic component at the site, particularly the construction of the structure, may have disturbed portions of the prehistoric component. The extent of this disturbance is unknown at this stage of the analysis. Since no temporally diagnostic artifacts were identified, the prehistoric occupation(s) could not be assigned to a time span or cultural period. Little additional information can be gleaned from this small-sized assemblage.

**Table 11. Summary of Artifacts Recovered at 15Mo175.**

Site	Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
15Mo175	STP 4	I	0-30 cm bgs	1	0.6	Flakes	Newman
15Mo175	STP 6	I	0-24 cm bgs	2	0.5	Flakes	Newman
15Mo175	STP 9	I	0-25 cm bgs	1	5.4	Flakes	Chalcedony
15Mo175	STP 12	I	0-35 cm bgs	1	0.2	Flakes	Oolitic Newman
15Mo175	STP 14	II	5-20 cm bgs	1	0.3	Flakes	Newman

### *IF1*

This isolated find consists of three flakes recovered from a single shovel test in sub-topsoil contexts (in Horizon II). All of the flakes were recovered at a depth between 22 and 32 cm (9 and 13 in) bgs. The flake assemblage was composed of an early stage flake fragment made from Newman chert (.4 g), a late stage flake made from an Indeterminate chert (.1 g), and a flake smaller than .25 inch (.1 g).

None of the flakes were temporally sensitive and were not assigned to a cultural and/or temporal span. Little can be said of these artifacts, beyond the fact that various lithic reduction activities had been conducted on this portion of the landform.

### *IF2*

IF2 consists of a single biface fragment. It was recovered in the upper portion of the solum at a depth between 0 and 30 cm (0 and 12 in) bgs. This soft hammer/pressure biface is made from thermally damaged Haney chert (4.5 g). It is a distal portion exhibiting both perverse and thermal fractures. It has a single patch of matrix cortex on one face. This fragment is considered nondiagnostic; and thus, little can be said of the temporal and/or cultural assignment of this artifact.

Given the fact that this biface fragment exhibits thermal damage, it is likely that some form of thermal feature (such as hearth or cooking pit) had likely been present in the vicinity of the recovered artifact. However, as additional shovel testing had been conducted across the landform, these activities were likely of an ephemeral nature. Little else can be said of this single artifact.

### *IF3*

IF3 consists of a single nondiagnostic prehistoric flake. This artifact, a middle stage Newman flake (.3 g), was recovered from a shovel test in the upper portion of the solum (0–19 [0–7 in] bgs). No other artifacts were recovered at this location.

Given the nondiagnostic nature of this single artifact, little can be said. Other than the fact that a single reduction activity involving the use of Newman chert had been conducted, little else can be inferred of this single artifact.

### *IF4*

IF4 consists of two nondiagnostic flakes. The flakes were recovered from adjacent STPs in the upper portion of the solum (within the upper 15 cm [6 in] bgs). The first flake is a middle stage flake made from Newman chert (2.5 g). The second flake is a late stage Breathitt flake fragment (1.4 g).

The lack of temporally sensitive artifacts precludes the identification of the temporal and/or cultural affiliation of this prehistoric component. Beyond the fact that at least two lithic reduction episodes involving the use of multiple raw materials had been conducted at the location, little else can be inferred of these artifacts.

## *Summary*

The current archaeological survey identified six archaeological sites and four isolated finds containing prehistoric artifacts. Most of these archaeological resources contained prehistoric artifacts. Several of the sites were of a multicomponent nature.

Based on the lithic assemblages, each of the sites represented very low to low density lithic scatters. The majority of the materials recovered consisted of flake debris, although one core and two biface fragments were also recovered. FCR was not identified during the analysis. The relatively low density of materials at the sites and the low diversity of artifact classes recovered suggest that the occupations were of limited duration, and few activities were conducted on-site.

Since there was a lack of temporally sensitive or otherwise diagnostic lithic artifacts, it is impossible to ascertain the temporal and/or cultural assignment of any of the prehistoric occupations.

# Historic Materials Recovered

Tanya A. Faberson

## Methods

The historic assemblage includes artifacts classified and grouped according to a scheme originally developed by Stanley South (1977). South believed that his classification scheme would present patterns in historic site artifact assemblages that would provide cultural insights. Questions of historic site function, the cultural background of a site’s occupants, and regional behavior patterns were topics to be addressed using this system.

South’s system was widely accepted and adopted by historical archaeologists. However, some have criticized South’s model on theoretical and organizational grounds (Orser 1988; Wesler 1984). One criticism is that the organization of artifacts is too simplistic. Swann (2002) observed that South’s groups have the potential to be insufficiently detailed. She suggested the use of sub-groups to distinguish between, for example, candleholders used for religious purposes and those used for general lighting. Others, such as Sprague (1981), have criticized South’s classification scheme for its limited usefulness on late-nineteenth- and early-twentieth-century sites, which include an array of material culture—such as automobile parts—not considered by South. Despite its shortcomings, most archaeologists recognize the usefulness of South’s classification system to present data.

Stewart-Abernathy (1986), Orser (1988), and Wagner and McCorvie (1992) have

subsequently revised this classification scheme. For the purposes of this assessment, artifacts are grouped into the following categories: domestic, architecture, arms, furnishings, clothing, personal, communication and education, maintenance and subsistence, biological, and unidentified. The artifacts recovered during this project are summarized in Table 12.

Grouping artifacts into these specific categories makes it more efficient to associate artifact assemblages with historic activities or site types. One primary change associated with the refinement of these categories is reassigning artifacts associated with the “Miscellaneous and Activities” under South’s (1977) original system. Considering the potential variety of historic dwellings and outbuildings within the project area, a refinement of the artifact groupings was considered important to perhaps observe whether the distribution of specific artifact groups would produce interpretable patterns related to activity areas or structure types. Each one of these groups and associated artifacts is discussed in turn.

Information on the age of artifacts as described in the artifact tables is derived from a variety of sources cited in the discussion of the materials recovered. The beginning and ending dates cited need some clarification. Usually, an artifact has specific attributes that represent a technological change, an invention in the manufacturing process, or simple stylistic changes in decoration. These attribute changes usually have associated dates derived from historical and archaeological research.

**Table 12. Historic Artifacts Recovered According to Functional Group.**

Group	15EI77	15EI79	15EI81	15Mo174	15Mo175	15Mo176	15Mo177	IF1	IF5	Total	Percent
Architecture	0	24	6	5	20	8	1	2	0	66	24.72
Domestic	24	33	16	37	35	3	22	0	1	171	64.04
Furnishings	0	3	0	4	1	0	0	0	0	8	3
Personal	0	1	1	0	0	3	2	0	0	7	2.62
Maintenance/Subsistence	1	0	0	0	1	0	0	0	0	2	0.75
Unidentified	0	0	7	1	3	1	1	0	0	13	4.87
Totals	25	61	30	47	60	15	26	2	1	267	100

For example, bottles may have seams that indicate a specific manufacturing process patented in a certain year. The bottle then can be assigned a “beginning,” or incept, date for the same year of the patent. New technology may eliminate the need for the same patent and the bottle would no longer be produced. The “ending,” or terminal, date will be the approximate time when the new technology took hold and the older manufacturing processes are no longer in use.

Specific styles in ceramic decorations are also known to have changed. Archaeological and archival researchers have defined time periods when specific ceramic decorations were manufactured and subsequently went out of favor (e.g., Lofstrom et al. 1982; Majewski and O’Brien 1987). South’s (1977) mean ceramic dating technique uses this information. The dates presented here should not be considered absolute, but rather the best estimates of an artifact’s age available at this time. A blank space indicates that the artifact could not be dated or, alternately, that the period of manufacture was so prolonged that the artifact was being manufactured before North America was colonized. An open-ended terminal date was assigned for artifacts that may be acquired today. The rationale for presenting dates for the artifacts recovered is to allow a more precise estimate of the time span the site was occupied, rather than the mean occupation date of a site.

A summary of the artifacts recovered follows. A complete inventory of the historic artifacts can be found in Appendix D.

## **Materials Recovered by Functional Group**

There were 267 historic artifacts recovered during the current survey. The following provides a descriptive discussion of the types and age of artifacts recovered from Sites 15E177, 15E179, 15E181, 15Mo174, 15Mo175, 15Mo176, 15Mo177, IF1, and IF5.

### ***Architecture Group (N = 66)***

The architecture group is comprised of artifacts directly related to buildings, as well

as those artifacts used to enhance the interior or exterior of buildings. These artifacts primarily consisted of window glass, plate glass, nails, and construction materials, such as brick. The architecture group items are discussed below.

### **Construction Materials (n = 5)**

Construction materials refer to all elements of building construction. For this project, the building materials collected consisted entirely of brick, and more specifically, machine-made brick (n = 5; 251.2 g) (Table 13). The brickmaking industry was one of the most localized of all nineteenth-century industries (Walters 1982:125). It was far less expensive to produce bricks on site than to pay to ship the bricks from another location. In fact, a brickmaker could transport everything needed to produce enough bricks for a large building in two wagons. Although brickmaking was present in the United States by the late eighteenth century, this industry did not become popular until circa 1800. Hand-made bricks manufactured at the construction site continued to be popular as late as the 1880s (Walters 1982:126–128).

Hand-made bricks were typically 5:1 bricks because five sides were identical and the sixth side exhibited distinctly different markings. Linear marks were usually found on the sixth side and were caused by the brickmaker when excessive clay was removed from the top of the mold. The remaining five sides of hand-made bricks usually exhibit a gritty/sandy texture from the sand-coated mold (Walters 1982:128). The paste of hand-made bricks is usually more porous than machine-made bricks. Most hand-made bricks manufactured in the nineteenth century were close in size to the standard adopted by the National Brickmakers Association. However, some irregularity did occur accidentally (Walters 1982:130).

**Table 13. Summary of Architecture Group Items.**

Class	Type	15EI77	15EI79	15EI81	15Mo174	15Mo175	15Mo176	15Mo177	IF1	IF5	Total
<i>Construction material</i>											
<i>Flat glass</i>	Brick	0	0	1	0	4	0	0	0	0	5
	Window glass	0	10	2	2	5	1	0	0	0	20
	Plate glass	0	0	0	1	3	0	1	0	0	5
	Security glass	0	0	0	0	0	2	0	0	0	2
	Clear acrylic Plexiglas	0	2	0	0	0	0	0	0	0	2
<i>Nails</i>											
	Late fully machine-cut	0	1	0	0	0	0	0	0	0	1
	Unspecified cut	0	0	0	0	2	0	0	0	0	2
	Wire	0	7	3	0	1	5	0	2	0	18
	Indeterminate	0	4	0	2	5	0	0	0	0	11
Totals		0	24	6	5	20	8	1	2	0	66

The shift from hand-made bricks to machine-made bricks occurred circa 1880. Although machine-made bricks were produced in factories in most major cities in the United States by the mid-nineteenth century, this process was not standardized or popularized until the last two decades of the nineteenth century (Holley 2009:97). The creation of the National Brick Manufacturers Association in 1886 allowed for an industry-wide discussion of standardization. This push came mostly from architects and building contractors who needed a better standard for quantity and project cost estimations (Holley 2009:97). Machine-made bricks will often have marks in the clay related to the machine manufacturing process (Greene 1992; Gurcke 1987). This brick type is typically more uniform in shape, and the paste is more consistent throughout.

It should also be noted that firebricks and molded ornamental bricks became largely popular in the late nineteenth century. Large fires destroyed huge portions of major American cities throughout the latter half of the nineteenth century. This prompted many cities to develop building ordinances that required fireproof brick construction. Ornamental bricks became largely popular between the 1893 and 1904 world's fairs. Unfortunately, the production of these types of bricks declined after 1904 when the extruded method of brick production became more popular than the dry-press method (Broeksmit and Sullivan 2006). Paving bricks typically are

heavier and larger than the other bricks described above, and they were manufactured to construct roadways. Hence, they needed to be manufactured to withstand the weight and wear of daily traffic. Brick paving became popular in the 1890s (Hockensmith 1997:158).

#### **Flat Glass (n = 29)**

Cylinder glass was developed in the late eighteenth century to enable the inexpensive production of window glass. With this method, glass was blown into a cylinder and then cut flat (Roenke 1978:7). This method of producing window glass replaced that of crown glass production, which dates back to the Medieval period and was capable of fabricating only very small, usually diamond-shaped, panes (Roenke 1978:5). Cylinder glass was the primary method of window glass production from the late eighteenth century through the early twentieth century, at which time cylinder glass windows were slowly replaced by plate glass windows. Plate glass window production became mechanized after 1900, but did not become a commercial success in the United States until around 1917 (Roenke 1978:11).

Cylinder window glass has been shown to gradually increase in thickness through time and can be a useful tool for dating historic sites. Several dating schemes and formulas have been devised that use average glass thickness to calculate building construction or modification dates. These include Ball (1984),

Roenke (1978), and Chance and Chance (1976) to name a few. Like previously derived formulas, Moir (1987) developed a window glass dating formula to estimate the initial construction dates for structures built primarily during the nineteenth century. Although Moir (1987:80) warns that analysis on structures built prior to 1810 or later than 1915 have shown poor results, most research in this area shows the regression line extending back beyond 1810 (Moir 1977; Roenke 1978). Hence, dates calculated back to 1785 were considered plausible. Sample size is also a consideration when using the Moir window glass regression formula. According to Moir (1987:78), sample sizes also need to be “reasonable and not collected from a point or two” in order to accurately date the construction of a building. Moir (1987:80) indicates sample sizes as small as 15 sherds are acceptable, but recommends larger sample sizes for better accuracy, and this report agrees with his assessment. For the purposes of this report, a “reasonable” sample size is considered 25 window glass sherds. It should be noted that for window glass assemblages with less than 25 sherds, however, “tentative” dates based on measurements are still presented for the purpose of reporting and providing additional information regarding the material collected. Individual sherd/small assemblage measurements/dates are not presented as “absolute” dates for sites, and as a general principle, any window glass dates derived using the Moir (1987) method should be contextualized utilizing other artifact dating methods whenever possible.

Each fragment of flat glass was measured for thickness and recorded to the nearest hundredth of a millimeter using digital calipers. The differences between cylinder window glass and plate glass were in part determined by the thickness and wear of each flat glass fragment. Although Moir (1987:80) states that dating window glass after 1915 is not as reliable for dating sites, for the purposes of this assessment, window glass that measured 2.41 mm (dating to 1916) was included in the calculations because according to Roenke (1978:11), plate glass does not

become widely or successfully produced in the United States until 1917. There were a total of 29 flat glass sherds recovered during the current project (see Table 13). Twenty sherds were identified as window glass, and Moir’s window glass technique was used to date the sherds, which ranged from 1834 to 1915. The technique, which relies on statistically meaningful samples from discreet contexts for accuracy, also was used to calculate a mean date of 1891 for the window glass sherds in the survey assemblage. A total of five flat glass sherds were identified as plate glass and date from 1917 to the present. Two pieces of security glass dating after 1891 also were recovered, in addition to two pieces of clear acrylic Plexiglas, which dates after 1933 (IMACS 1992; Professional Plastics 2015).

### **Nails (n = 32)**

There are three stages recognized in the technological chronology of nails: wrought nails, cut nails, and wire-drawn nails.

Wrought nails were handmade and were the primary type of construction fastener in the eighteenth and early nineteenth centuries. Their use ended around 1810 with the widespread use of square cut or machine cut nails (Nelson 1968:8).

The cut nail, introduced in approximately 1800, originally had a machine-cut body with a hand-made head. Around 1815, crude machine-made heads replaced hand-made heads on cut nails, and overall, cut nails replaced wrought nails in the construction industry. Early fully machine-cut nails exhibit a “rounded shank under the head,” and therefore, often appear pinched below the head of the nail (Nelson 1968:8). By the late 1830s, these “early” fully machine-cut nails were replaced with “late” fully, or modern, machine-cut nails.

The first wire-drawn nails were introduced into the United States from Europe by the mid-nineteenth century. These early wire nails were primarily used for box construction and were not well adapted for the building industry until the 1870s. Although the cut nail can still be purchased today, the wire nail nearly



universally replaced it by the turn of the twentieth century (Nelson 1968:8).

A total of 32 nails were recovered from the project area (see Table 13). Of the nails recovered, 1 was late fully machine cut (Figure 30a), 2 were unspecified cut, 18 were wire-drawn (Figure 30b), and 11 were indeterminate nails. The late fully machine-cut nail had a 9d pennyweight and had been pulled. The 2 unspecified cut nails were fragmentary. Of the wire nails recovered, 8 were fragmentary and 10 were complete. Pennyweights of the complete late fully machine-cut nails included 2d (n = 1), 3d (n = 2), 5d (n = 1), 6d (n = 1), 7d (n = 1), 8d (n = 2), 12d (n = 1), and 30d (n = 1). Seven were pulled, 2 were unaltered, and 1 was clinched.

In general, smaller pennyweight nails are utilized for roofing, lathing, moulding, and finishing (2d–5d), while 6d nails are commonly used for light framing. Pennyweights of 7d–9d commonly are utilized for siding, and flooring and interior fittings, and nails with pennyweights of 10d and above are most often utilized for flooring, boarding, wooden studding, rafters, and heavy framing (Faulkner 2000; Wentworth 1979). Overall, most the nails in the assemblage were pulled, indicating the disassembling and/or demolition of structures or other nail-fastened objects. The nails types recovered from the project area suggest a general date range of the turn of the twentieth century to the mid-twentieth century (Nelson 1968).



Figure 30. Architectural and domestic materials recovered: (a) 9d pulled late fully machine-cut nail from 15E179 STP 4, Zone I; (b) 12d pulled wire-drawn nail from 15Mo176 STP 1, Zone I; (c) plain whiteware plate rim from 15Mo175 STP 7, Zone I; (d) early-twentieth-century dark blue transfer-printed whiteware teacup body sherd from 15E179 STP 12, Zone I; (e) decal-decorated porcelain sherd from 15Mo174 STP 7, Zone I; (f) Bristol-glazed cobalt-decorated mixing bowl body/base fragment from 15E179 STP 13, Zone I; (g) embossed aqua BIM recessed-panel medicine bottle body from 15Mo175 STP 4, Zone I; (h) embossed clear ABM Drey square mason jar fragment from 15E179 STP 13, Zone I; and (i) translucent peach press-molded Depression glass tableware body sherd from 15Mo174 STP 3, Zone I.

## Domestic Group (N = 171)

Artifacts included in the domestic group consisted of ceramics (n = 36), container glass (n = 117), container closures (n = 12), beverage cans (n = 1), and glass tableware (n = 5) (Table 14).

The ceramic inventory consisted of refined and utilitarian wares dating from the nineteenth century through the twentieth century. A full description of ceramic types recovered from the project area is listed below, followed by descriptions of other domestic group artifacts.

### Ceramics (n = 36)

The ceramics recovered were grouped into four major ware types: whiteware (n = 30), porcelain (n = 1), ironstone (n = 3), and stoneware (n = 2). Ceramics within each of these ware groups were separated into decorative types that have temporal significance. Each of these ware groups is reviewed below, followed by discussions of associated decorative types.

## Whiteware (n = 30)

As a ware type, whiteware includes all refined earthenware that possesses a relatively non-vitreous, white to grayish-white clay body. Undecorated areas on dishes exhibit a white finish under clear glaze. This glaze is usually a variant combination of feldspar, borax, sand, nitre, soda, and china clay (Wetherbee 1980:32). Small amounts of cobalt were added to some glazes, particularly during the period of transition from pearlware to whiteware and during early ironstone manufacture. Some areas of thick glaze on whiteware may, therefore, exhibit bluish or greenish-blue tinting. Weathered paste surfaces are often buff or off-white and vary considerably in color from freshly exposed paste (Majewski and O'Brien 1987).

Most whiteware produced before 1840 had some type of colored decoration. These decorations are often used to designate ware groups (i.e., edgeware, polychrome, and colored transfer print). Most of the decorative types are not, however, confined to whiteware. Therefore, decoration alone is not a particularly accurate temporal indicator or actual ware group designator (Price 1981).

Table 14. Summary of Domestic Group Items.

Class	Type	15E177	15E179	15E181	15Mo174	15Mo175	15Mo176	15Mo177	IF1	IF5	Total
<i>Ceramics</i>											
	Whiteware	1	7	8	1	11	0	2	0	0	30
	Ironstone	0	1	0	1	0	1	0	0	0	3
	Porcelain	0	0	0	1	0	0	0	0	0	1
	Stoneware	0	1	0	0	0	0	0	0	1	2
<i>Container glass</i>											
	BIM	0	0	0	1	8	0	0	0	0	9
	ABM	23	15	5	26	12	2	20	0	0	103
	Undiagnostic container	0	0	2	2	1	0	0	0	0	5
<i>Glass tableware</i>											
	Press-molded	0	1	0	2	2	0	0	0	0	5
<i>Container closures</i>											
	Home canning	0	7	1	3	1	0	0	0	0	12
<i>Beverage cans</i>											
	Pull tab	0	1	0	0	0	0	0	0	0	1
	Totals	24	33	16	37	35	3	22	0	1	171

The most frequently used name for undecorated whiteware is the generic “ironstone,” which derives from “Ironstone China” patented by Charles Mason in 1813 (Mankowitz and Haggard 1957). For purposes of clarification, ironstone will not be used when referring to whiteware. Ironstone is theoretically harder and denser than whiteware produced prior to circa 1840. Manufacturer variability is, however, considerable and precludes using paste as a definite ironstone identifier or as a temporal indicator. Consequently, without independent temporal control, whiteware that is not ironstone is difficult to identify, as is early vs. later ironstone. For this analysis, the primary determining factor in classification of a sherd as whiteware was the hardness and porosity of the ceramic paste. Decorative types observed on the whiteware sherds in our assemblage are summarized and defined in the following discussions (see Table 14).

#### *Plain/Undecorated (N = 27)*

This decorative type includes vessels with no decoration. While some researchers such as Lofstrom et al. (1982:10) and Wetherbee (1980) include molded designs with “plain” whiteware, this assessment agrees with Majewski and O’Brien (1987:153) that molded vessels should be grouped on their own. Plain whiteware vessels became very popular following the Civil War and continued in popularity throughout the late nineteenth and early twentieth centuries (Faulkner 2000). Bacteriological research emerged after the Civil War, and it was not long before it became widely known in the medical community that there was a link between bacteria and disease (Duffy 1978:395). Bacteria could not be seen with the naked eye, however, and in spite of efforts by health officials to educate the public with regard to the connection between illness and bacteria, most people still held to the filth and miasmatic theories of disease (Rogers 1997:550). As the public became more educated on the subject, these ideas merged, and it became commonly thought that plain, undecorated wares were best suited for maintaining and serving bacteria-free food. That is, the public equated

the simple, “clean” appearance of undecorated wares with the purity (i.e., bacteria-free) and cleanliness of what they were eating. The ceramic manufacturing industry followed suit in this line of thinking and met market demands, producing primarily plain wares which resulted in increased competition between whiteware and ironstone manufacturers.

Purity crusades also indirectly helped increase the popularity of plain, white vessels in the late nineteenth and early twentieth centuries as social reformers—many of whom were white and middle class—focused on cleaning up city streets, improving sanitation, and ridding cities of disease epidemics. Part of this crusade was the public promotion of purity at the dinner table. Unfortunately, many of these white public health reformers were also motivated by Social Darwinist ideas, and sanitation problems and disease epidemics were often blamed on African Americans and East-European immigrants who were stereotyped as being the harbingers of disease and social decay (Friedman 1970:123).

Twenty-seven undecorated and/or plain whiteware sherds were recovered during the current project. Seven of these sherds were large enough to appear to have been plain vessels without decoration, and they were assigned dates of 1860–1930 (Figure 30c) (Majewski and O’Brien 1987:119). The other 20 sherds were too small to determine whether they were from plain vessels or whether they were undecorated parts of decorated vessels. These sherds were assigned a general date range of 1830 to the present (Majewski and O’Brien 1987:119). Identifiable vessel forms among the plain/undecorated whiteware sherds included a teacup (n = 1), saucers (n = 2), plates (n = 18), and a platter (n = 1).

#### *Molded/Embossed (N = 1)*

As transfer printing became popular on pearlware, molded designs were simplified. Molded designs were revived with the introduction of whiteware in the late 1830s, but they did not attain the elaborateness of previous forms. Specialized moldings for whiteware were common in the 1840s when

the ware had a more limited and generally more affluent market.

During the 1860s, molding tended to become softer in relief as opposed to the angular and sculpted forms of the 1840s and 1850s (Wetherbee 1980). During the 1870s and 1880s, molded decorations occupied smaller areas on dishes, with elaboration confined to handles and lids. British stylistic trends dominated the embossed and molded whiteware industry throughout most of the nineteenth century (Wetherbee 1980).

One whiteware sherd with embossed/molded decoration was recovered. It appeared relatively modern and was assigned a date range of 1900 to the present (Faulkner 2000).

#### *Transfer Print (N = 1)*

By the late 1780s, transfer printing was being developed in the potteries of Staffordshire, England, as a fast and inexpensive method of mass-producing decorated pearlware and whiteware. It was originally perfected circa 1756 for use on porcelains and was not used on earthenwares until Thomas Minton designed his blue willow pattern in 1780, which initiated a wider commercial use (Little 1969:15–17; Norman-Wilcox 1978). A description of the process follows.

The required pattern is first engraved by hand on a copper plate, from which a tissue-paper print called a “pull” or “proof” is taken. Then, by pressing the tissue against a piece of undecorated ware, the design is deposited or transferred to the surface of the vessel. Glazing and baking complete the process (Norman-Wilcox 1978:167).

According to Hughes and Hughes (1968:150) and others, such as Godden (1964), blue was the dominant color of transfer-printed wares prior to the 1830s. With advances in ceramic technology, brown and black prints appeared after 1825, and by 1830, green, red, pink, mulberry, and light blue were also being produced (Bemrose 1952:23; Little 1969:13–22; Wetherbee 1980:15). By the late 1840s, a technique for transferring more than

one primary color to a vessel was perfected (Godden 1964). Green transfer-printed wares were generally no longer produced after 1859 (Samford 1997:20).

Early patterns include the willow pattern and other Chinese design motifs. Although some Chinese-style motifs were still being used, the use of classical and romantic scenic themes became popular in the early nineteenth century. These patterns included country scenes, floral motifs, and travel scenes. Patterns depicting American buildings and scenery were popular after 1812 (Snyder 2000:5). The patterns on these sherds were suggestive of prints of the early nineteenth century (Price 1979:19).

One transfer-printed sherd was recovered during the current project (Figure 30d) (Samford 1997:20). It exhibited a dark blue transfer print and had been part of a teacup at one time (Faulkner 2000). It likely dates to the early twentieth century.

#### *Chromatic Glaze (N = 1)*

Solid colored, or chromatic, glazed ceramics became popular during the second quarter of the twentieth century (Majewski and O’Brien 1987:164). As chain stores dealing in five- and ten-cent merchandise, groceries, drugs, and clothing sought to provide an increased array of cheap merchandise for consumers, pottery companies expanded their production efforts with the use of tunnel kilns. These kilns, which contained continuous flow ovens, allowed pottery manufacturers to significantly increase the output of cheap dishes available to chain stores, and ultimately, consumers (Blaszczyk 2000:120–121).

One of the first well known and popular styles to be produced in the 1920s had a yellow or ivory glaze, with or without decals (Blaszczyk 2000:121). By the 1930s, other chromatic glazes in colors such as red, cobalt blue, and green also became popular, as exemplified by the excitement surrounding Homer-Laughlin’s introduction of Fiesta tableware to the consumer market in 1936 (Gonzalez 2000). Over time, other colors were

added to the chromatic glazed tablewares available to consumers, and although chromatic-glazed vessels are still available today, the height of their popularity was seen between the 1920s and 1960s.

It should be noted that sherds identified as having solid color glazing can date to the nineteenth century. However, these sherds are usually undecorated fragments from dip-glazed vessels (such as annular and mocha-decorated wares) and should be noted as such.

One whiteware sherd was recovered with a solid-colored glaze. It was ivory in color and dates from 1923 to 1940 (Blaszczyk 2000:121; Faulkner 2000).

#### *Porcelain (n = 1)*

Porcelain is the name given to high-temperature fired, translucent ware. This ware type was first developed by the Chinese. Chinese, or hard paste, porcelain was introduced to Europe by Portuguese sailors that had traveled to China during the sixteenth century. The formula for true, or feldspathic, porcelain was not discovered in Europe until 1708 and not marketed until 1713 (Boger 1971:266). The production of true porcelain was limited to three factories in England; all other products were softer porcelains made with glass, bone ash, or soapstone. Porcelain made with bone ash, often called “bone china,” became the preferred product after 1800, since the paste was harder and the ware was cheaper to produce with bone than with glass or soapstone (Mankowitz and Haggart 1957:179). Among the more affluent households in Europe and North America, porcelain was a common tableware used during the eighteenth and nineteenth centuries (Fay 1986:69). Porcelain production in America was not successful until 1826, and the number of porcelain factories in the United States remained small throughout the nineteenth century. In the lab, bone china can be differentiated from hard paste porcelain by placing it under ultraviolet light. Bone china fluoresces blue-white while hard paste porcelain fluoresces magenta (Majewski and O’Brien 1987:128).

#### *Decal (N = 1)*

Decal decoration was rare before 1900 on ceramics other than imported porcelains (Majewski and O’Brien 1987:147). The process of decalomania consists of applying decals—designs printed on a film or paper—to ceramic vessels. This decorative technique is often confused with transfer printing; however, decals can be distinguished from transfer prints by the sharpness of the design, the presence of shading, the use of bright colors, and the slight relief often felt when touching the edge of a decal design (Majewski and O’Brien 1987:146). Decals are applied to vessels prior to the final firing and are usually put through the decorating kiln in order to harden the decal for permanency. The decals include stipple and line-engraved motifs created using a lithographic process in an assortment of colors (Majewski and O’Brien 1984:36).

In contrast to the polychrome sprig and broadline floral style popular in the mid-nineteenth century, floral decals are characterized by their use as a border or vessel accent. Frequently, these appeared as small sprays of flowers applied off-center and often were applied in conjunction with thin-line border stripes, raised-border motifs, hand painting, and gilding (Majewski and O’Brien 1984:36). Occasionally, decals were lightly touched up by hand in order to give a hand-painted appearance. Majewski and O’Brien (1987) suggest that this motif began in the late 1800s as an inexpensive alternative to multi-colored hand-painted techniques. Decals remained a popular method of decoration until the introduction of new decorating methods, including chromatic glazes and silk screening in the mid-twentieth century (Blaszczyk 2000:155). Decal decorations can occur on whiteware, ironstone, and porcelain.

One decal-decorated hard-paste porcelain sherd was recovered during the current project (Figure 30e). It dates from 1890 to 1940 (Blaszczyk 2000:155; Majewski and O’Brien 1987:147; Wegars and Carley 1982).

### *Ironstone (n = 3)*

Ironstone is a white or gray-bodied, refined stoneware with a clear glaze. It is often indistinguishable from whiteware. Ironstone differs from whiteware in that the body is more vitreous and dense. In addition, a bluish tinge or a pale blue-gray cast often covers the body. In some cases, a fine crackle can be seen in the glaze; however, this condition is not as common as it is in whiteware (Denker and Denker 1982:138).

Confusion in the classification of white-bodied wares is further compounded by the use of the term as a ware type or trade name in advertising of the nineteenth century. Both ironstones and whitewares were marketed with names such as “Patent Stone China,” “Pearl Stone China,” “White English Stone,” “Royal Ironstone,” “Imperial Ironstone,” “Genuine Ironstone,” “White Granite,” and “Granite Ware” (Cameron 1986:170; Gates and Ormerod 1982:8). These names do not imply that true ironstone was being manufactured. Some investigators avoid the distinctions entirely by including ironstones as a variety of whiteware. Others, however, such as Wetherbee (1980), refer to all nineteenth-century white-bodied earthenwares as ironstone. For this analysis, the primary determining factor in classification of a sherd as ironstone was the hardness and porosity of the ceramic paste. Sherds with a hard vitreous paste were classified as ironstone.

Charles James Mason is usually credited with the introduction of ironstone (referred to as Mason’s Ironstone China) in 1813 (Dodd 1964:176). Others, including the Turners and Josiah Spode, produced similar wares as early as 1800 (Godden 1964). As a competitive response to the highly popular oriental porcelain, British potters initiated this early phase of ironstone production. The ironstone of this early phase bears a faint blue-gray tint and oriental motifs, much like Chinese porcelain. A second phase of ironstone began after 1850 in response to the popularity of hard paste porcelains produced in France. This variety of ironstone had a harder paste and

reflected the gray-white color of French porcelains.

While some ironstones continued to use oriental design motifs after 1850, the general trend was toward undecorated or molded ironstones (Collard 1967:125–130; Lofstrom et al. 1982:10). Ironstone continued to be produced in England, and after 1870, it was also manufactured by numerous American companies. For many years, classic ironstone—the heavy, often undecorated ware—had been frequently advertised as being affordable and suitable for “country trade” (Majewski and O’Brien 1987:121). By the late 1800s, these thick, heavy ironstones began losing popularity and were often equated with lower socioeconomic status (Collard 1967:13). At the same time, ironstone manufacturers began shifting to thinner, lighter weight ironstones. As a result, this type of ironstone became popular tableware in American homes during most of the twentieth century (Majewski and O’Brien 1987:124–125). In spite of the shift towards thinner and lighter ironstones, heavy ironstone remained on the market and continues to be popular in hotel/restaurant service (hence, this heavy, twentieth-century ironstone is sometimes called “hotelware”). However, its production for home use all but ceased by the second decade of the twentieth century (Lehner 1980:11).

Three ironstone sherds were recovered from the project area (see Table 14). Embossed ironstone (n = 1) was available beginning in 1860 (Faulkner 2000). The embossed sherd had been part of a teacup. Two undecorated sherds also were recovered, and they date after 1830 (Majewski and O’Brien 1987:153). One had been part of a bowl and the other a teacup.

### *Stoneware (n = 2)*

Stoneware served as the “daily use” pottery of America, particularly rural America, after its introduction during the last decade of the eighteenth century. By 1850, this ware generally replaced coarse redware as the primary utilitarian ware used in American households. Stoneware is a semi-vitreous ware

manufactured of a naturally fine, but dense, clay. The pottery was fired longer and to a higher temperature than earthenwares; a kiln temperature of at least 1,200 to 1,250 degrees Celsius had to be obtained (Cameron 1986:319; Dodd 1964:274–275). As a result, stoneware generally exhibits a hard body and a very homogeneous texture. The paste may vary from gray to brown, depending on the clay source, and length and intensity of the firing.

Because this ware is fired at such high temperatures, its body is nonporous and well suited to liquid storage. Stoneware, as mentioned, was not typically manufactured as a refined ware (such as its cousin, ironstone, or eighteenth-century refined white salt-glazed stoneware), and hence, it was, for the most part, utilized for utilitarian activities associated with jars, churns, crocks, tubs, jugs, mugs, pans, and pots. These vessels were typically glazed, with salt glazing and slip glazing most common.

Although refined salt glazing was practiced in England during the eighteenth century, by 1780, the production of English salt-glazed tableware had been virtually supplanted by the manufacture of cream colored earthenwares (Lewis 1950:29). The salt-glazing technique continued to be utilized for utilitarian vessels, however, and was eventually introduced to the United States in the early-nineteenth century. Salt glazing was accomplished by introducing sodium chloride into the kiln during the firing process, at which point the salt quickly volatilized. The vapor reacted with the clay to form a sodium aluminum silicate glaze (see Billington 1962:210; Dodd 1964:239). The surface of the glaze is typically pitted, having what is commonly known as an “orange peel” effect.

Stoneware may also be coated with a colored slip (a suspension of fine clay and pigment). The Albany slip—named after the rich brown clay found near Albany, New York—first appeared in the 1820s. Initially, it was mainly used for the interior of stoneware vessels. However, by the 1850s, it was also used as an exterior glaze. Bristol glaze, an

opaque white slip, was introduced late in the nineteenth century. When used in combination with Albany slip, Bristol-glazed stoneware vessels have a general date range of 1880–1925 (Ketchum 1983:19; Raycraft and Raycraft 1990:5).

A third glaze often used on stoneware is the alkaline glaze. Like the Albany slip, it was developed in the 1820s. The basic alkaline glaze is made up of wood ash, clay, and sand. Other additions may be slaked lime, ground glass, iron foundry cinders, or salt. These additions affected the color and texture of the glaze. Colors vary from olive to brown to a gray-green or yellowish hue, depending on adjustments in proportion of ingredients (Ketchum 1991:9). Although not as prevalent, alkaline glazing has been used in combination with salt glazing. This causes the stoneware vessel to exhibit the colors of alkaline glazing with the pitted texture of a salt glaze.

The stoneware sherds recovered reflect two of the three glazes described above (see Table 14). One of the sherds was salt-glazed on the exterior and had a brown slip on the interior. It was assigned a date range of 1800–1925. The other exterior treatment identified was Bristol slip (n = 1). It also exhibited a cobalt decoration on the exterior and had a Bristol slip on the interior (Figure 30f). It dates between 1880 and 1925.

### **Container Glass (n = 117)**

A variety of container glass was recovered during the current survey, and research by Baugher-Perlin (1982), Jones and Sullivan (1985), Lindsey (2015), and Toulouse (1972) was used to date the assemblage. Glass color was the only attribute that could be used for dating those fragments that were not identifiable as to type of manufacture.

The approximate date of manufacture for bottles and bottle fragments recovered from the project area was established by determining the manufacturing process associated with the bottle (i.e., creation of the base and lip of the container) and using any patent or company manufacturing dates embossed on the bottle.

When examining glass vessels, bottle lips can be informative. A lipping tool, patented in the United States in 1856, smoothes and shapes the glass rim into a more uniform edge than a hand-smoothed lip or “laid-on ring.” Certain types or styles of lips were associated with specific contents; for example, medicines were often contained in bottles with prescription lips (Jones and Sullivan 1985). A “sheared,” or unfinished, bottle lip typically dates before 1880.

Lipping tools were used throughout the middle and end of the nineteenth century until the advent of the fully automatic bottle machine (ABM) in 1903. It should be noted, however, that as automated bottle manufacture became available after the turn of the twentieth century (see below), tooled finishes continued to be produced—albeit in steadily decreasing numbers. That is, there is a lag time between tooled finishes and ABM finishes, and although ABM glass is given an incept date of 1903, most tooled-glass vessel sherds will be given a terminal date around the 1920s due to this lag time, unless other diagnostic characteristics are observed enabling one to give it an earlier terminal date.

Color also is an important aspect of container glass identification, and oftentimes it is used to date vessels/sherds in conjunction with other diagnostic characteristics. In the event that no other manufacturing characteristics are observable, glass color alone can be used to date container glass. Jones and Sullivan (1985) observed that chemicals color glass, either as natural inclusions or additions by the manufacturer. “Black glass” is one of the earliest glass colors, possibly dating back to mid-seventeenth-century Europe. It was not actually black, but more of a very dark olive green or olive amber. The coloring of the glass was usually the result of high iron concentrations as well as carbon, copper with iron, and/or magnesia (Jones and Sullivan 1985). It was called black because the color was so deep as to appear black unless held up to direct lighting (McKearin and Wilson 1978:9). “Black glass” protected contents from the effects of direct light and was strong

and resilient. Typically, black glass was utilized for liquor, wine, and ale/beer, and they were mass produced for ale and beer between 1840 and the 1880s (Lindsey 2015; Wilson and Wilson 1968). According to McKearin and Wilson (1978:229–232), black glass container sherds are not typically found on sites dating after 1880.

According to Lockhart (2006), amethyst glass began to be manufactured around 1870, when manganese was being added to the glass recipe. Although initially colorless, the glass will turn a distinctive purplish color when exposed to sunlight over time. It was previously thought that amethyst glass production ceased by 1914 due to a shortage of manganese from Germany during World War I; however, the change was actually a result of technological advancements in the glass industry, mainly the conversion to automatic bottle machines (Lockhart 2006:53). Although manganese was more difficult to obtain after World War I, and selenium was often less expensive, the improvement in technology was the major reason for the change. The use of selenium proved to be an inexpensive decolorant in glass production and ultimately displaced manganese as a decolorizer by 1920 (Lockhart 2006:53). Amber glass had a general application in the mid-nineteenth century, but was not widely used until after 1860. Cobalt glass is produced with the addition of the coloring agent cobalt oxide to the glass batch (Lindsey 2015). The introduction of what Lindsey (2015) calls “true blue” glass began in 1840 with the production of soda, mineral water, and ink bottles.

With the growing public desire to see the contents of the bottles, clear glass came into demand and was popular beginning in the 1860s with the burgeoning public health movements following the Civil War (Baugher-Perlin 1982:261; Wiebe 1967). However, it should be noted that clear glass was available to a limited degree before this time, especially colorless leaded glass, which dates between 1827 and 1875 (Jones 2000:149, 161; Miller and Sullivan 1984). Opaque white, or “milk,” glass has been manufactured as long as glass



has been made, but milk glass became common in the late nineteenth and twentieth centuries as it became frequently used in “containers, tablewares, and lighting devices” (Jones and Sullivan 1985:14). Aqua and olive colored glass were also used for many different containers, but they generally are not assigned specific dates due to their long period of use over the last several centuries. In some cases, however, aqua glass BIM sherds with no other diagnostic characteristics are assigned a date range of 1800–1920, and olive green sherds are given a date range of 1780–1920.

The manufacturing process can be roughly divided into three basic groups including free blown, blown in mold (BIM), and automatic bottle machine manufactured (ABM) vessels (Baugher-Perlin 1982:262–265). BIM and ABM glass were recovered from the current project. Each process is discussed separately below.

*Blown in Mold (BIM) (n = 9)*

Most molded bottles are constructed in pieces and have distinctive seams. The dip mold was used from the late seventeenth through the mid-nineteenth century (Baugher-Perlin 1982:262). It leaves no seams, unless glass adhered to the edges of the bottle mold as it was attached to the free blown shoulder and bottle neck. The key mold, on the other hand, was a type of two-piece mold that was used from about 1750 to 1880 (Jones and Sullivan 1985:27). Key mold seams cross the base and are concealed in the corners of a flat-sided body.

The turn paste mold was used from circa 1870 to the early twentieth century and does not contain seams because the glass is blown into a container that is spun. The glass conforms to the mold from the centrifugal force produced. Vessels formed from this process usually have faint horizontal lines from the spinning process. The three-part mold has seams running around the shoulder of the vessel and partially up the neck of the vessel. This style of mold lost popularity around 1870. The blow back mold was another mold type, and this was used in the

manufacture of jars such as the distinctive Mason jar, which was patented in 1858.

Embossing on container glass vessels was made possible by engraving the mold the glass was blown into. This was first conducted in the mid-eighteenth century and continued into the twentieth century. The panel bottle came into popular existence around 1860, and the shape of this vessel was useful because the name of the commodity or the manufacturing company could be changed on the bottle form by substituting a different “slug-plate” into the mold. This process can be identified through the distinctive seams, since they follow the rectangular shape of the nameplate. The date of the manufacturer’s patent on the bottle and the name of the company, when present, can often be utilized to determine a date of manufacture for the container.

The finish is the top part of the neck of a bottle or jar made to fit the cork or other closure used to seal the vessel. The finish is often simply referred to as either the lip or rim. Glass factories in the late nineteenth and early twentieth centuries produced a wide variety of finishes for their containers (Jones and Sullivan 1985:78). Finishes were formed by manipulating the glass at the end of the bottle neck, by shaping glass added to the end of the neck, by the lipping tool, or by being blown into a mold (Jones and Sullivan 1985:79). The term “finish” originated with the mouth-blown bottle manufacturing process where the last step in the completion of a finished bottle was to “finish the lip.”

Mouth-blown bottles were removed from the blowpipe by two primary methods: either through the cracking-off process or by shearing the neck off of the blowpipe. Once this was completed the bottle was reheated in a furnace to smooth out the sharp edges where the blowpipe was detached (Lindsey 2015). This method, referred to as fire polishing, was completed even if no specific finish was to be formed. Once this method was complete a finish could be either added or formed on the top of the bottle neck. These finish types included a laid-on ring, a rolled finish, a flared or flanged finish, an applied finish, and a

tooled finish. The most commonly found finish types are the applied finish and the tooled finish. An applied finish was created when applied hot glass is added at the point where the blowpipe was removed. This applied hot glass was manipulated with various tools in order to form a wide variety of finish styles (Lindsey 2015). A tooled finish was created by reheating the severed end of the bottle near the neck. Once reheating or refiring the end of the neck was accomplished, a lipping tool was inserted into the neck of the bottle and rotated while squeezing the jaws to form the finish desired.

A total of nine pieces of container glass were assigned to the BIM category, and many of these had multiple diagnostic characteristics (see Table 14). One body type was identified, and it was an embossed recess panel (n = 2). Both sherds were aqua medicine-bottle sherds. One was embossed with three partial unknown letters (Figure 30g), and the other was partially embossed "IL." They date between 1865 and 1920 (Berge 1980; Fike 1987:5; Pullin 1986:355). The remaining seven sherds could only be classified by color. These included amethyst (n = 3) and aqua (n = 4). Identifiable vessel forms consisted solely of canning jars (n = 3).

#### *Automatic Bottle Machine (ABM) (n = 103)*

The Owens automatic bottle-making machine was patented in 1903 and creates suction scars and distinctive seams that run up the length of the bottle neck and onto the lip. Bottles were being manufactured regularly with this machine by 1905, and by 1907, it was utilized to produce significant quantities of container glass vessels (Lindsey 2015; Miller and McNichol 2002). Hence, the ABM mold provides a firm manufacturing date at the beginning of the twentieth century. Another automatic bottle machine called the Individual Section was also used in the commercial production of bottles. This machine was widely used starting in 1925 and by 1940 became the most widely used bottle manufacturing device (Jones and Sullivan 1985:39). This bottle machine was more cost

effective than the Owens machine, which was no longer used after 1955.

There were 103 glass fragments assigned to the ABM category during the current project, and many of these had multiple distinguishing characteristics (see Table 14). Two base types were found. One was cup bottom mold (n = 6), and 1 base exhibited a valve mark. Two cup bottom mold sherds were cobalt medicine bottle fragments, and 1 was a green soda bottle base. One green cup bottom mold base was embossed with an Anchor Hocking maker's mark, and it dates after 1938 (Toulouse 1972:48). A clear cup bottom mold base was embossed with a Fairmount Glass Works maker's mark, and it dates between 1933 and 1971 (Lockhart et al. 2015). Another green cup bottom mold base exhibited stippling, indicating it dates after 1940 (Lindsey 2015). The valve marked base was clear and dates between 1930 and 1950 (Lindsey 2015).

Two body types were recovered including embossed (n = 7) and recessed panel (n = 1). The embossed sherds consisted of clear (n = 4), cobalt (n = 1), and green (n = 2) glass. Two of the clear sherds had embossed hatching and were identified as miscellaneous bottles. One clear sherd had been part of a meat jar with parallel embossed lines along the rim. One clear sherd was embossed "SQUA...MASON," and it had been part of a Drey company square canning jar (Figure 30h). It dates between 1920 and 1925 (Leybourne 2001:116). The cobalt sherd was embossed with a partial word reading, "SKY." It dates between 1903 and 1960. The green sherds had been parts of soda bottles that were stippled on the body.

Two finish types were identified also during the current survey. One was a double ring lip of a clear meat jar. The other was a packer lip of a clear meat jar. Both finishes date after 1903.

The remaining body sherds totaled 85 and consisted of a variety of colors. These included amber (n = 11), amethyst (n = 1), aqua (n = 3), clear (n = 48), cobalt (n = 15), green (n = 2), light green (n = 4), and selenium

(n = 1). The amethyst glass dates from 1903 to 1920, and the selenium glass dates between 1914 and 1930 (Faulkner 2000; Lockhart 2006). Unless otherwise noted, glass assigned to the ABM category dated from 1903 to the present. Identifiable vessel forms among the ABM body sherds included beer bottles (n = 7), canning jars (n = 2), medicine bottles (n = 15), miscellaneous bottles (n = 5), and soda bottles (n = 4).

#### *Undiagnostic Container Glass (n = 5)*

When no other diagnostic features were present, the color of the glass was noted, although there is some subjectivity inherent in color classification. Jones and Sullivan (1985) observed that chemicals color glass, either as natural inclusions or additions by the manufacturer. The concern here is primarily to note the presence of purple or “amethyst” glass, selenium glass, cobalt glass, and “milk” glass. A small portion (n = 5) of the container glass sherds recovered during the current project was not diagnostic (see Table 14). Three colors were represented including clear glass (n = 3), opaque white (n = 1), and aqua (n = 1).

#### **Closures (n = 12)**

Bottle closures serve both to prevent the spilling of a bottle’s contents and to protect a bottle’s contents from contamination and evaporation (Berge 1980). Closures have been used almost as long as animal skins and bottles have been employed to contain liquids. Closures range from a utilitarian piece of paper or cloth stuffed into the mouth of a bottle to a delicately crafted crystal stopper for a decanter. There are three primary closure types: caps, stoppers, and seals (Berge 1980).

Caps are secured to a bottle by overlapping the outside edge of the finish or mouth. Common cap types include external screw, lugs, crown, and snap-on. External screw caps were first introduced in the mid-nineteenth century (Jones and Sullivan 1985; Toulouse 1977). External thread caps were attached to bottles by means of grooves in the cap that screwed down on continuous glass threads on the finished exterior of a bottle.

External thread caps were first produced using metal in 1858 (Jones and Sullivan 1985; Toulouse 1977). Advances in technology led to the introduction of a Bakelite external thread cap around 1922 (Berge 1980; Meikle 1995), an aluminum shell roll-on cap in 1924 (Berge 1980; Rock 1980), and modern plastic caps in the mid-1930s (Meikle 1995). Examples of the external thread cap include canning jar, mayonnaise jar, and pickle jar lids.

The crown cap was patented on February 2, 1892, by William Painter of Baltimore, Maryland (Rock 1980). The crown cap was placed over the finish, and then crimped around a lip or groove in the finish to seal the container. This closure was lined with cork from 1892 until circa 1965 (IMACS 1992; Riley 1958; Rock 1980). Crown caps with composition liners appeared in 1912, and both cork and composition liners were gradually phased out following the introduction of the plastic liner in 1955 (IMACS 1992; Riley 1958). The majority of commercially produced glass soda bottles have crown cap closures.

Stoppers, the second major closure type, are secured to the finish interior of bottles, usually by forcing a portion of the stopper into the bore of the finish. Stopper types include cork, glass, inside screw, porcelain-top, Hutchinson Spring, Electric, Pittsburgh, and Lightning. Cork stoppers were the most common historic closure type. Most glass stoppers use ground or roughened tapered stems along with a roughened finish inside to seal bottles. The “modern” ground and tapered glass stopper was developed in Europe around 1725 (Holscher 1965). Glass stoppers came in many shapes, sizes, and styles and were used as closures in many different types of bottles. As with the cork stopper, the glass stopper was phased out in the 1920s with the advent of the crown cap closure (Berge 1980; Jones and Sullivan 1985).

Seal closures utilized the vacuum on the interior of the glass container. The heating and then cooling of the bottle’s contents created the vacuum. Seal closures, although dating

back to 1810, did not become popular until the mid-twentieth century. These closures were most often used in food jars (Berge 1980). There were several types of seal closures including Phoenix, Sure Seal, Giles, spring seal, and disc seal.

The disc seal was used as early as 1810 by Nicholas Appert (Berge 1980). John L. Mason used this type of closure on his patented fruit jar in 1858 (Berge 1980). Mason's closure was made of zinc and was held in place with an exterior screw cap ring. Unfortunately, the zinc reacted with the contents of the jars, giving the contents an unpleasant metal taste (Jones and Sullivan 1985). Glass liners were then developed and added to the disc around 1869 by Lewis R. Boyd (Toulouse 1969, 1977). These liners prevented the zinc from reacting with the contents of the jar. To aid in opening, Boyd added a handle to the disc circa 1900 (Toulouse 1977). Both of these disc seal types were used until around 1950 (Jones and Sullivan 1985; Toulouse 1969, 1977). In 1865, the Kerr two-piece seal was patented. This system utilized a metal seal disc held in place by an exterior screw cap with no center. This seal and cap type system is still in use today.

All 12 closure artifacts recovered during the current project were in the home canning jar category (see Table 14). Eight were milk glass canning jar lid liners, and 4 were zinc canning jar lid fragments. They date from the second half of the nineteenth century to the twentieth century.

### **Beverage Cans (n = 1)**

In 1904, the Sanitary Can Company of New York developed the first airtight solderless can (Rock 1984). The cans were completely machine made and were produced at a rate of almost 25,000 cans a day (May 1937). By the early 1960s, the tin can was replaced by a steel body, which was stronger and more durable than tin. Aluminum tops were added to beverage cans in order to make opening the cans easier. Modern cans are steel or alloys, usually lined with plastic on the interior to prevent chemical reactions between the contents of the can and the can itself.

One beverage can item was recovered during the current project (see Table 14). It was a ring tab and dates from 1965 to 1985 (Busch 1981; Rock 1980).

### **Glass Tableware (n = 5)**

Press molding was first used (although on a very small scale) in England in the late seventeenth century to make small solid glass objects, such as watch faces and imitation precious stones (Buckley 1934). By the end of the eighteenth century, decanter stoppers and glass feet for objects were also being produced (Jones and Sullivan 1985). The production of complete hollowware glass objects did not become possible until there were innovations in press-molded techniques in the United States during the late 1820s (Watkins 1930). Mass production of press-molded glassware was well established by the 1830s (Watkins 1930).

Earlier press-molded glass objects were predominately made of colorless lead glass (Jones and Sullivan 1985). William Leighton of the Hobbs-Brockunier Glass Works in Wheeling, West Virginia, invented lime glass. This type of glass looked like lead glass, had superior pressing attributes, and was much more inexpensive than lead glass (Revi 1964). Advancements in mold technology in the 1860s and 1870s led to the application of steam-powered mold operation. This in turn led to increased production and reduced costs (Revi 1964). Modern press molding is conducted entirely by machine (Jones and Sullivan 1985).

Press-molded table glass was made by dropping hot pieces of glass into a mold. A plunger was then forced into the mold, pressing the hot glass against it. The outer surface of the glass took on the form of the mold, while the inner surface of the glass was shaped by the plunger. The plunger was withdrawn and the glass object was removed from the mold. The surface of the glass was often fire polished to restore the brilliance of the glass surface that was disturbed by its contact with the mold (Jones and Sullivan 1985).

Press-molded glass may be recognized by several characteristics. Usually, the glass object must be open-topped in order for the plunger to be withdrawn from the mold. Narrow mouthed vessels were produced, but additional manipulation of the glass was necessary after the plunger was removed from the mold. Evidence of this manipulation should be present on the vessel (Jones and Sullivan 1985). There is no relationship between the exterior shape and design of a press-molded vessel to the interior shape and design because the plunger shapes the interior of the object most often leaving behind a smooth surface. This differs from earlier glass vessel production techniques like blown glassware, where interior shape was related to the exterior shape and design (Jones and Sullivan 1985).

Another characteristic of press-molded containers was that mold seams were generally present. The seams were sharp and distinct, unless steps had been taken to deliberately remove them. The texture of the glass surface of press-molded glass was disturbed and often disguised by an all-over stipple design. The edges of the designs on press-molded glass had a predisposition toward rounded edges. The bases of press-molded objects were usually polished. The quality of the designs on press-molded glassware was precise and the design motifs were numerous (Jones and Sullivan 1985).

In contrast to press-molded glass, cut glass generally had a polished, smooth, and glossy surface texture. The design edges were sharp and distinct. Cut glass designs consisted mostly of panels, flutes, and miters. The designs were often slightly uneven and asymmetrical. Mold seams were usually absent; they were polished off prior to cutting (Jones and Sullivan 1985). Contact-molded glass also differs from press-molded glass in that the exterior and interior of the vessel will portray parallel patterns. The interior of the vessel is also generally much more diffuse towards the base.

Five pieces of glass tableware were recovered (see Table 14). All were press

molded. One was a translucent peach color and was identified as Depression glass (Figure 30i). It dates after 1920. Two clear sherds had a press molded design, 1 of which indicated it had been part of a fluted tumbler at one time. One clear sherd appears to have had “frosted” stripes in a parallel pattern. The clear sherds date after 1864. One opaque white sherd also was recovered. The vessel form is unknown, but it likely dates to 1830–1960.

### *Furnishings Group (N = 8)*

The furnishings category includes artifacts usually associated with the home or building, but are not elements of the actual construction. Examples of furnishings include decorative elements, furniture, heating, lighting, and wall decorations. Artifacts were collected from one of the above categories (Table 15). Eight lighting artifacts were recovered, and all were clear unleaded lamp chimney glass fragments dating from 1854 to 1940 (Faulkner 2008:100; Pullin 1986).

### *Maintenance and Subsistence Group (N = 2)*

The maintenance and subsistence group contains artifacts grouped into classes containing non-food containers, electrical, farming and gardening, hunting and fishing, stable and barn activities, general hardware, general tools, transportation, and fuel-related items such as coal. One of these classes was represented in the historic assemblage recovered during the current project (see Table 15).

### **General Hardware (n = 2)**

This class of artifacts includes a wide variety of hardware fasteners and items used for a variety of purposes. The two objects recovered in this category consisted of an indeterminate iron/steel bolt fragment and a hex-head iron/steel machine bolt with associated washer (Figure 31a). Neither object was assigned a specific date.

**Table 15. Summary of Furnishing, Maintenance and Subsistence, Personal, and Unidentified Group Items.**

Class	Type	15E177	15E179	15E181	15Mo174	15Mo175	15Mo176	15Mo177	IF1	IF5	Total
<i>Lighting</i>	Lamp chimney	0	3	0	4	1	0	0	0	0	8
<i>General hardware</i>	Bolt	1	0	0	0	1	0	0	0	0	2
<i>Health and grooming</i>	Lipstick tube	0	0	1	0	0	0	0	0	0	1
<i>Money</i>	Penny	0	1	0	0	0	0	0	0	0	1
<i>Toys and games</i>	Doll part	0	0	0	0	0	3	0	0	0	3
	Marble	0	0	0	0	0	0	1	0	0	1
	Figurine	0	0	0	0	0	0	1	0	0	1
<i>Glass</i>	Amorphous	1	0	1	0	0	1	0	0	0	3
<i>Metal</i>	Amorphous	1	0	1	1	0	0	0	0	0	3
<i>Plastic</i>	Modern item/part	1	0	5	0	0	0	1	0	0	7
	Totals	4	4	8	5	2	4	3	0	0	30

### *Personal Group (N = 7)*

The personal group includes artifacts assumed to have belonged to individuals. This category of artifacts includes health and grooming items, jewelry and beads, coins, music and art items, personal items, toys, and games. Tobacco products are also subsumed into this category. Artifacts related to health and grooming (n = 1), money (n = 1), and toys and games (n = 5) were recovered from the project area (see Table 15). The health and grooming item consisted of a small white sample lipstick tube with “persimmon” written on the base. It had been manufactured by the Avon Company in the 1960s (Avon Products, Inc. 2016). The money item was a 1942 wheat penny (Figure 31b). The toys included three hand-painted bisque porcelain doll parts (Figure 31c), a glass marble (Figure 31d), and a modern plastic gold figurine base with portions of the feet still present. The doll parts date between 1860 and 1925 (Coleman et al. 1968:74, 582). The marble was “Brushed Patch” colored (black, blue, and white), manufactured by the Master Marble Company between 1930 and 1973 (Basinet 2012). The modern plastic figurine base was assigned a date range of 1930 to the present (Meikle 1995).

### *Unidentified (N = 13)*

This category contains artifacts that could not be identified beyond the material from which the artifact was made. There were three material classes included within this group. These material classes included glass (n = 3), metal (n = 3), and plastic (n = 7) (see Table 15).

The glass consisted of three amorphous glass fragments. Two metal fragments were iron/steel and amorphous. Another metal fragment was a piece of flat lead from an unknown item. The plastic consisted of seven modern plastic unidentified items/parts dating from 1930 to the present (Meikle 1995).

## **Discussion**

There were 267 historic artifacts recovered during the current survey. The average date range of the entire historic assemblage is 1886–1943, and the mean date is 1914. The material collected is discussed in detail above, and summarized below in the individual site discussions.

**Site 15E177:** There were 25 historic artifacts recovered from Site 15E177. All but 1 were in the domestic group. The other item was in the



Figure 31. Maintenance and subsistence, and personal group items recovered: (a) iron/steel machine-bolt from 15E177 GSC 3; (b) 1942 penny from 15E179 STP 7, Zone I; (c) hand-painted bisque porcelain doll part from 15Mo176 STP 2, Zone I; and (d) “Brushed Patch” Master Marble Company glass marble from 15Mo177 STP2, Zone I.

maintenance and subsistence group (n = 1). The domestic artifacts consisted of ceramics (n = 1) and container glass (n = 23). The ceramic sherd was identified as a plain whiteware plate body (n = 1) dating between 1860 and 1930. All of the container glass was ABM. Two of the sherds were embossed cup bottom mold bases. One was green and embossed with an Anchor Hocking maker’s mark, and it dates after 1938. The other was clear and embossed with a Fairmount Glass Works mark, and it dates between 1933 and 1971. A valve mark also was observed on a clear bottle base, and it dates between 1930 and 1950. The rest of the ABM glass consisted of body sherds (n = 20). Colors included amber (n = 5), aqua (n = 1), clear (n = 12), and green (n = 2). Identifiable vessel forms included beer bottles (n = 4), miscellaneous bottles (n = 2), and a soda bottle (n = 1). The maintenance and subsistence group artifact was a machine bolt with an associated washer.

The average date range of the historic artifacts recovered from this site was 1905–1959, and the mean was 1932. No structures were identified in the vicinity of the site on

historic maps, but there was a structure present adjacent to the site on its west side shown on a map dating to 1950. It is likely that the artifacts recovered from Site 15E177 are associated with the occupation of that house, which remains extant. It appears that the occupants used the site for disposing of kitchen trash, and that some other items, such as the machine bolt, were discarded there as well. Since only a small assemblage of materials was recovered from this site, little more can be interpreted regarding the lifeways of the former site occupants based solely on the cultural materials.

**Site 15E179:** Sixty-one historic artifacts were recovered from Site 15E179 during the current survey. These items were classified into the architecture (n = 24), domestic (n = 33), furnishings (n = 3), and personal (n = 1) groups. The architecture group consisted of flat glass (n = 12) and nails (n = 12). Ten of the flat glass sherds were window glass. They dated tentatively from 1873 to 1912, and the mean date is 1899. The other two pieces of flat glass consisted of clear acrylic Plexiglas dating after 1933. The nails included late fully

machine-cut (n = 1), wire-drawn (n = 7), and indeterminate (n = 4). The late fully machine-cut nail was complete and had a 9d pennyweight and was pulled. It dates between 1830 and 1890. Five of the wire nails were fragmentary while the remainder were complete. Pennyweights of the complete wire nails ranged were 2d and 6d. The former was unaltered, and the latter was pulled. The pennyweights of the cut and wire nails indicate the fastening of anything from roofing to light framing.

The domestic assemblage consisted of ceramics (n = 9), container glass (n = 15), container closures (n = 7), beverage cans (n = 1), and glass tableware (n = 1). The ceramics consisted of whiteware (n = 7), ironstone (n = 1), and stoneware (n = 1). Six of the whiteware sherds were undecorated and date after 1830. Vessel forms included plates (n = 2), a cup (n = 1), and a platter (n = 1). The other whiteware sherd was dark blue transfer printed and dates between 1860 and 1930 but likely dates to the early twentieth century. The ironstone sherd had been part of a teacup and was molded/embossed. It dates after 1860. The stoneware was Bristol slipped on the interior and exterior, and there also was a cobalt decoration on the exterior. It had been part of a mixing bowl and dates between 1880 and 1925.

Fifteen pieces of container glass were recovered, and all were ABM. One light green cup bottom mold of a soda bottle was identified. One clear glass jar body sherd was embossed, "SQU...MASON" and had been part of a Drey square canning jar dating between 1920 and 1925. One recessed panel medicine bottle sherd also was identified. It was clear glass. A double ring finish was observed on a clear meat jar rim, and a packer lip was observed on a different meat jar fragment. Body sherds with no other attributes were amber (n = 1) and clear (n = 9), and no vessel forms were identifiable. Unless otherwise specified, the ABM glass dates after 1903.

The container closures included four canning jar milk glass lid liners dating

between 1869 and 1950, and three zinc canning jar lid fragments dating from 1858 to 1950. The beverage can item was an aluminum ring pull tab dating between 1965 and 1985. The glass tableware was press molded, clear, and exhibited frosted stripes in a parallel pattern. It dates after 1864.

Three clear lamp chimney fragments comprised the furnishings group. The personal item was a 1942 penny.

The historic artifacts recovered from Site 15EI79 had an average date range of 1884–1944, and the mean is 1914. The dominance of the architectural and domestic group artifacts supports the known use of the site as a domestic farmstead/residence. While the first map showing a structure in the location of Site 15EI79 dates to 1925, the architectural artifacts suggest that a domestic dwelling and likely outbuildings were extant at the site by the turn of the twentieth century. The former site occupants utilized both refined and utilitarian ceramics, and all of the container glass dated to the twentieth century. They appear to have practiced food canning, and they also purchased patent medicines and potted meats. The presence of lamp chimney glass suggests that they may not initially have had electric lighting and/or they supplemented it with oil lamps. Little more can be interpreted regarding the lifeways of the former occupants of Site 15EI79 based solely on the cultural materials.

**Site 15EI81:** There were 30 historic artifacts recovered from Site 15EI81. These items were classified into the architecture (n = 6), domestic (n = 16), personal (n = 1), and unidentified (n = 7) groups. The architecture items consisted of a machine-made brick fragment (n = 1), 2 pieces of window glass dating tentatively to the 1910s, and 3 nails, all of which were wire-drawn. These nails were complete, and the pennyweights were 3d (n = 1), 5d (n = 1), and 30d (n = 1). The 3d and 5d nails were pulled, and the 30d nail was clinched.

The domestic artifacts consisted of ceramics (n = 8), container glass (n = 7), and container closures (n = 1). All of the ceramics



were whiteware, 5 of which were undecorated dating after 1830, and 3 of which were plain dating between 1860 and 1930. All of these sherds had been parts of plates at one time. The container glass consisted of ABM (n = 5) and undiagnostic container fragments (n = 2). One of the ABM sherds was a green stippled soda bottle base dating after 1940. The remaining ABM glass consisted of body sherds, all of which were clear. One miscellaneous bottle fragment was identified in the ABM body sherd assemblage. The undiagnostic container glass sherds were clear (n = 1) and opaque white (n = 1). The container closure artifact was a zinc canning jar lid fragment.

The personal group artifact was an Avon sample lipstick tube. The color had been “persimmon,” but the lipstick was no longer present. It dates to the 1960s. Unidentified group items included a piece of amorphous glass (n = 1), a piece of lead (n = 1), and 5 unknown plastic items/parts.

The average date range of the historic artifacts recovered from this site was 1883–1961, and the mean was 1922. The assemblage represented primarily a light scatter of mostly domestic and architectural artifacts, and the presence of these items is consistent with a domestic farmstead/residence. Based on the artifact types and manufacture dates of the items, this site appears to date to the turn of the twentieth century. This is generally consistent with cultural historic data indicating that the house was constructed between 1875 and 1899 (Spurlock et al. 2015). There was little variation in the domestic artifact types, indicating little by way of specific activities with the exception of home canning. The presence of the lipstick tube suggests that the occupants were likely visited by Avon Company saleswomen, but it is not known if this was a common occurrence. Due to the small size of the assemblage and lack of variation in the materials, little more can be said regarding the daily lives of the former site occupants based solely on the cultural materials.

**Site 15Mo174:** A total of 47 historic artifacts were recovered from this site. These items were classified into the architecture (n = 5), domestic (n = 37), furnishings (n = 4), and unidentified (n = 1) groups. Architectural items consisted of flat glass (n = 3) and nails (n = 2). The flat glass included 2 pieces of window glass tentatively dating to 1834 and 1915, as well as a piece of plate glass dating after 1917. The nails were both indeterminate fragments.

The domestic items made up the majority of the assemblage, and this group was comprised of ceramics (n = 3), container glass (n = 29), container closures (n = 3), and glass tableware (n = 2). The ceramics consisted of chromatic-glazed whiteware dating between 1923 and 1945; decal decorated porcelain dating between 1890 and 1940, and undecorated ironstone dating after 1830. Since only 3 sherds were recovered, a mean ceramic date for the site was not calculated.

The container glass included BIM (n = 1), ABM (n = 26), and undiagnostic container glass (n = 2). The BIM glass consisted of an aqua canning jar body dating between 1850 and 1920. The ABM glass consisted of cup bottom mold (n = 2), embossed (n = 2), crown lip (n = 1), and body sherds (n = 21). The cup bottom mold sherds consisted of 2 cobalt medicine bottle base fragments. The embossed sherds included 1 clear miscellaneous bottle fragment with embossed hatching and a cobalt body sherd with “SKY” embossed on it. The crown lip was clear glass and had been part of a soda bottle. The body sherds included amber (n = 3), clear (n = 1), cobalt (n = 15), and light green (n = 2). Identifiable vessel forms included a beer bottle (n = 1), medicine bottles (n = 15), miscellaneous bottles (n = 2), and a soda bottle (n = 1). The ABM sherds date after 1903. Two clear container glass sherds were undiagnostic.

Container closures included 3 milk glass canning jar lid liners. Both glass tableware sherds were press molded. One was a translucent peach molded design/pattern Depression glass sherd dating after 1920. The

other was a clear tumbler sherd dating after 1864.

The furnishings group was represented by 4 lamp chimney glass fragments dating between 1854 and 1940. The unidentified group item consisted of a piece of amorphous iron/steel. It was not assigned a specific date.

The historic artifacts recovered from Site 15Mo174 had an average date range of 1893–1952, and the mean is 1922. The historic artifact assemblage supports the known use of the site as a domestic farmstead/residence. The first map showing a structure in the location of Site 15Mo174 dates to 1929, but the artifacts recovered suggest that the house was present at the site by at least the 1910s and no later than the 1920s. Both window glass and plate glass were recovered, and nails were recovered as well, but these were indeterminate. The ceramics recovered from the site suggest an emphasis at the turn of the twentieth or early twentieth century, and the prevalence of ABM in comparison to BIM glass also demonstrates a twentieth-century occupation. Depression glass also was recovered, which supports the interpretation of this as an early- to mid-twentieth-century site. The presence of lamp chimney glass suggests that the site occupants may not have had electricity early in the occupation of the site, although they could have supplemented their electric lighting with oil lamps as well. Little additional interpretations regarding the lifeways of the former site occupants can be made solely on the cultural materials.

**Site 15Mo175:** Sixty historic artifacts were recovered from Site 15Mo175. These included architecture (n = 20), domestic (n = 35), furnishings (n = 1), maintenance and subsistence (n = 1), and unidentified (n = 3) group items. The construction materials (n = 4) in the architecture group consisted entirely of machine-made brick fragments, which date after 1880. Eight flat glass sherds were recovered, 5 of which were window glass, and 3 were plate glass. The window glass ranged from 1870 to 1891. The plate glass dates after 1917. Eight of the architecture group artifacts were nails. Two were unspecified cut, 1 was

wire-drawn, and 5 were indeterminate. All of the nails recovered from this site were fragmentary.

The domestic artifacts consisted of ceramics (n = 11), container glass (n = 21), container closures (n = 1), and glass tableware (n = 2). The ceramics consisted entirely of whiteware, and all were plain/undecorated. Two were plain and date between 1860 and 1930. One had been part of a plate, and the other, a saucer. The 9 undecorated sherds date after 1830. Identifiable vessel forms included plates (n = 5) and a saucer (n = 1).

The container glass recovered from this site included BIM (n = 8), ABM (n = 12), and undiagnostic container glass (n = 1). The BIM included 2 embossed recessed panel medicine bottle sherds and 6 body sherds. Both of the recessed panel bottle sherds were aqua. One was embossed with 3 partial unknown letters, and the other was embossed “IL”. They were assigned a date range of 1865–1920. The body sherds were amethyst (n = 3) and aqua (n = 3). Two canning jars were identified among these sherds. One body type was identified among the ABM glass. It was a clear embossed meat jar sherd (n = 1). The remaining ABM glass fragments were body sherds, and the colors included amethyst (n = 1), aqua (n = 2), clear (n = 7), and selenium (n = 1). Two canning jars were identified among the ABM body sherds. The ABM glass dates after 1903. The single undiagnostic container glass sherd was aqua.

The container closures included a milk glass canning jar lid liner. Both of the glass tableware sherds were press molded. One was an opaque white body of unknown vessel form dating between 1830 and 1860. There also was a clear unleaded body sherd dating after 1864.

The furnishings group consisted of a single lamp chimney glass fragment. The maintenance and subsistence artifact was an indeterminate bolt fragment. The unidentified group was represented by amorphous glass (n = 1), modern plastic (n = 1), and amorphous iron/steel (n = 1).

The Site 15Mo175 historic artifact assemblage had an average date range of 1867–1942, and the mean date is 1905. The prevalence of architecture and domestic group items supports the known use of the site as a domestic farm/residence. The first map showing a structure in the location of Site 15Mo175 dates to 1937, and based on the map data, it appears to have been demolished around 1953. The architectural and domestic artifacts, suggest that a domestic dwelling and outbuildings were present at the site by the late nineteenth century. The architectural items date to both the late nineteenth century and the early twentieth century, and some of the window glass was burned suggesting that the house may have experienced a fire or may have been burned down. The ceramics consisted entirely of whiteware, and all of it was plain or undecorated. Both BIM and ABM glass were recovered, and the vessel types indicate that food canning was commonly conducted and that medicine bottles were purchased. The presence of lamp chimney glass indicates the use of oil lamps at the site, which is common on farmsteads dating to this period. Based on the material culture alone, little else can be interpreted regarding the historic occupation of this site.

**Site 15Mo176:** Fifteen historic artifacts were recovered from Site 15Mo176. These items were categorized into the architecture (n = 8), domestic (n = 3), personal (n = 3), and unidentified (n = 1) groups. The architecture items were divided into flat glass (n = 3) and nails (n = 5). The flat glass consisted of 1 piece of window glass tentatively dating to 1912 and 2 pieces of security glass dating after 1891. All 5 nails were wire drawn. Two were fragmentary, and 3 were complete. Pennyweights included 3d, 8d, and 12d, and 2 were pulled while 1 was unaltered. The pennyweights of the nails indicate the fastening of everything from roofing to flooring, to light and heavy framing.

The domestic artifacts recovered from the site consisted of 1 piece of undecorated ironstone dating after 1830 and two pieces of ABM container glass. One was a clear body sherd, and the other was a light green soda

bottle body sherd. They both date after 1903. The personal group artifacts recovered from Site 15Mo176 consisted of 3 hand-painted bisque porcelain doll parts. The unidentified group item was a piece of amorphous glass.

The historic artifacts recovered from Site 15Mo176 had an average date range of 1879–1949, and the mean is 1914. This small assemblage represents the material remains of a domestic farmstead/residence dating to the early to mid-twentieth century. Both architecture and domestic artifacts were recovered, and porcelain doll parts were recovered as well, suggesting the likely presence of children at the site at one time. Since the assemblage was small, and the items were not very diverse in type and class, little more can be said regarding the lifeways of the former site occupants.

**Site 15Mo177:** Twenty-six historic artifacts were recovered from Site 15Mo177 during the current investigations. These items were classified into the architecture (n = 1), domestic (n = 22), personal (n = 2), and unidentified (n = 1) groups. The architecture item consisted of a single piece of plate glass dating after 1917. The domestic items included ceramics (n = 2) and container glass (n = 20). The ceramics recovered from the site consisted of 1 plain whiteware plate body sherd and 1 late embossed whiteware plate base. The plain sherd dates between 1860 and 1930, and the embossed sherd dates after 1900. All of the container glass was ABM. Three sherds were embossed. One was clear and had embossed hatching, and 2 were green and were stippled. The green sherds had been part of a soda bottle at one time. ABM body sherds were amber (n = 2), clear (n = 14), and light green (n = 1). Identifiable vessel forms included beer bottles (n = 2) and a soda bottle (n = 1). The personal group item consisted of a “Brushed Patch” black, blue, and white glass marble manufactured by the Master Marble Company dating between 1930 and 1973, as well as a modern plastic figurine base dating after 1930. The unidentified item was a piece of modern plastic dating after 1930.

The historic artifacts recovered from Site 15Mo177 had an average date range of 1905–1957, and the mean is 1931. The materials are associated with the use/occupation of the Wrigley Mercantile commercial building. Plate glass, likely associated with the structure, was recovered, as were ceramics, container glass, and a toy marble, all of which likely had been used/discarded by Wrigley Mercantile employees and/or visitors. Historic maps indicate the structure was present by 1929, but it is likely that it was constructed within the previous decade.

**IF1:** Two architectural items were recovered as IF1. These items consisted of two wire nails. Both were complete. One had a pennyweight of 7d and was pulled, and the other was 8d and pulled as well. These nails may have been used for flooring or interior fittings in a structure. Since these items were not recovered as part of a site, no further interpretations will be made with regard to the material culture.

**IF5:** A single stoneware sherd comprised IF5. It was salt-glazed on the exterior and had a brown slip on the interior. It dates between 1800 and 1925. No further interpretation can be made, since it was not discovered as part of an archaeological site.

## VI. RESULTS

**D**uring the course of the current survey 1 previously recorded site (15E111) was revisited, and 10 previously unrecorded archaeological sites (15E176–15E181 and 15Mo174–15Mo177) were documented. Five isolated finds (IF1–IF5) were also recorded. A description of each of the sites and isolated finds is presented below. Their locations are depicted in Figures 2 and 3.

### Site 15E111

**Elevation:** 226 m (740 ft) AMSL

**Component(s):** prehistoric

**Site type(s):** prehistoric open habitation without mounds

**Size:** 18,000 sq m (193,750 sq ft)

**Distance to nearest water:** 10 m (33 ft)

**Direction to nearest water:** west

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** manicured grass

**Ground surface visibility:** less than 10 percent

**Aspect:** level

**Recommended NRHP status:** unassessed

### Site Description

Site 15E111 was initially recorded in 1994 by Tom Sussenbach and Will Updike as an Early to Late Woodland prehistoric open habitation without mounds that is unassessed for inclusion in the NRHP (Figure 32). The site was noted to contain three areas (northern, eastern, and southwestern) that displayed varying artifact densities likely correlating to differing intensities and ages of occupational episodes.

The site measured approximately 190 m (623 ft) north-south by up to 150 m (492 ft) east-west and encompassed a total of 18,000 sq m (193,750 sq ft). The boundaries for the site were not expanded as a result of the current survey.

The site is located on the south side of KY 7 west-southwest of the town center of Sandy Hook in the bottoms of the Little Sandy River. Only the northern portion of the site was within the current project area (Figure 33). This portion was previously characterized by small concentrations of burned sandstone, typically associated with a few chert artifacts (tools and debitage); however, no diagnostic artifacts were recovered. The portion of the site within the current project area exhibited a relatively high disturbance level. A gravel



Figure 32. Overview of previously recorded Site 15E111, facing south-southeast.



Figure 33. Overview of revisited portion of Site 15E111, facing east-northeast.

road stemming south from KY 7 bisects the northern portion of the site in the current project area as well.

The current field investigations at the site only resulted in the discovery of a single lithic artifact (Figure 34). Vegetation at the site consisted of manicured grass and weeds. As a result, GSV was generally less than 10 percent.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the boundaries of the site within the current project area. The boundaries for the site were previously defined and were not updated as a result of current field investigations. Approximately 7 STPs were conducted during investigations at the site with cultural materials recovered from 1 STP between 0 and 15 cm bgs.

A datum was established at the location of STP 1. The location of the site datum was mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. A site schematic was drafted showing STP 1, site attributes, project boundaries, and physiographic features.

## Depositional Context

The revisited portion of the site is mapped with Rowdy gravelly loam and Cotaco fine sandy loam. Soils exhibited a surface layer of dark yellowish brown (10YR 4/4) silty clay loam to a depth of 15 cm (6 in) bgs. This was followed by a yellowish brown (10YR 5/6) sandy clay loam subsoil (Figure 35). Differences in the soils observed at the site from those described for the location of the site can be attributed to disturbance associated with construction activities as well as intermittent flooding episodes.

BA 3 and BA 4 were conducted in the boundaries of the site. The results of the BAs are presented in the Bucket Augering section of this report.

## Artifacts

Only a single flake made from Oolitic Newman chert (2.4 g) was recovered during the documentation of the site. It was a late stage flake fragment, and was recovered in the upper portion of the solum at a depth between 0 and 15 cm (0 and 6 in) bgs.

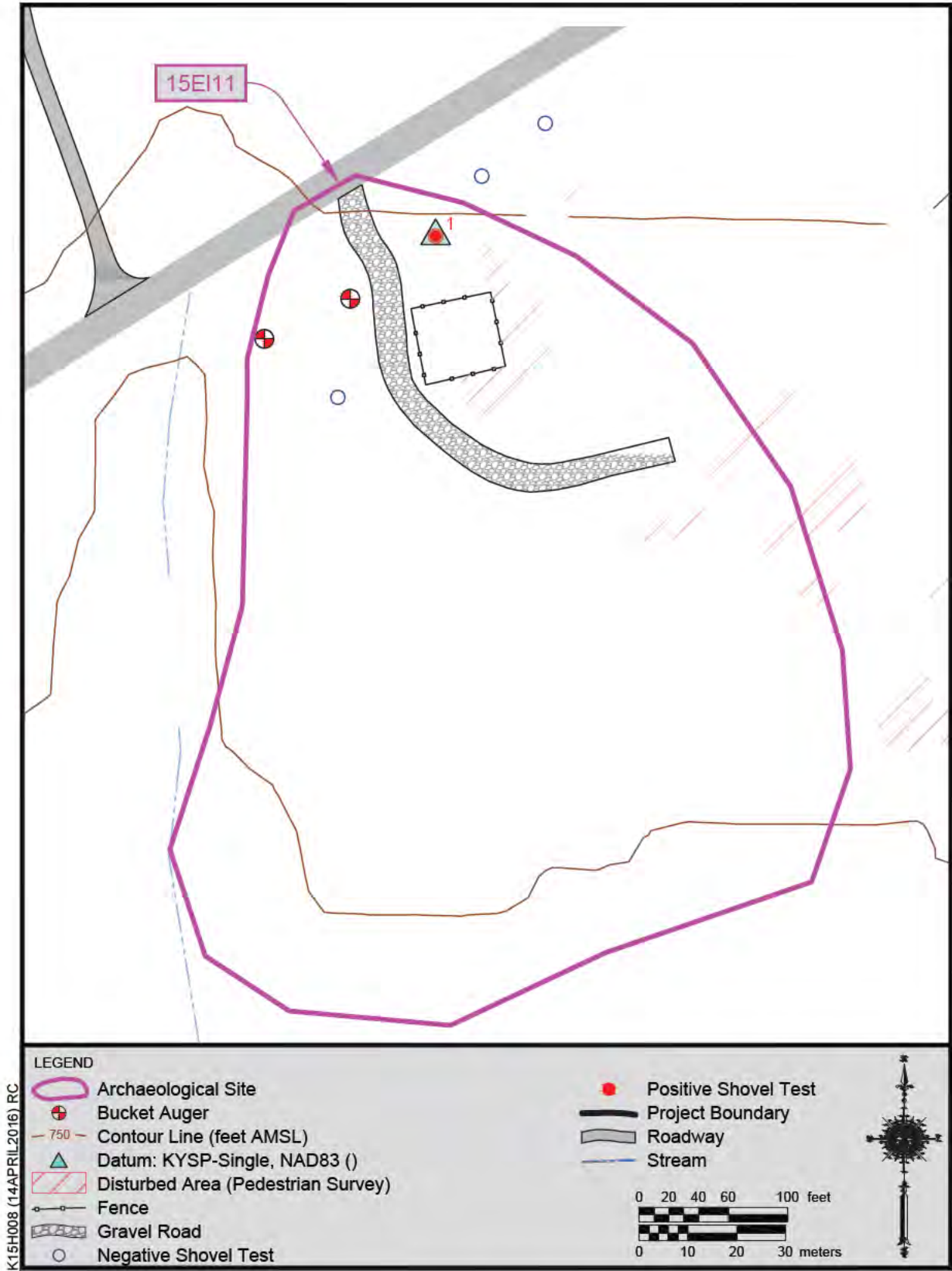
The current investigations were unable to expand upon the knowledge of the site gathering during previous investigations (i.e., Sussenbach 1994). The presence of a single nondiagnostic flake only served to confirm the presence of prehistoric lithic related activities at the site.

## Features

No features were observed during the investigation of the site, and no FCR, charcoal, or burned soil was observed in any of the shovel tests.

## Summary and National Register Evaluation

Site 15E111 is a prehistoric open habitation without mounds that when initially recorded in 1994 was noted to contain a cultural material scatter of varying densities with potentially significant Middle to Late Woodland components. However, the site has since been highly disturbed by construction activities on the property. When the portion of the site within the current project area was reexamined, only one flake was recovered and the surrounding areas exhibited high disturbance levels. Due to the lack of intact buried archaeological deposits, and since only one artifact was recovered, the portion of Site 15E111 in the current project area is recommended not eligible for inclusion in the NRHP. Although much of the site appears to have been disturbed, if not destroyed, additional work would be required in the portions of the site outside the current project area in order to accurately assess it for inclusion in the NRHP.



K15H008 (14APRIL2016) RC

Figure 34. Schematic plan map of the updated portion of Site 15E11.

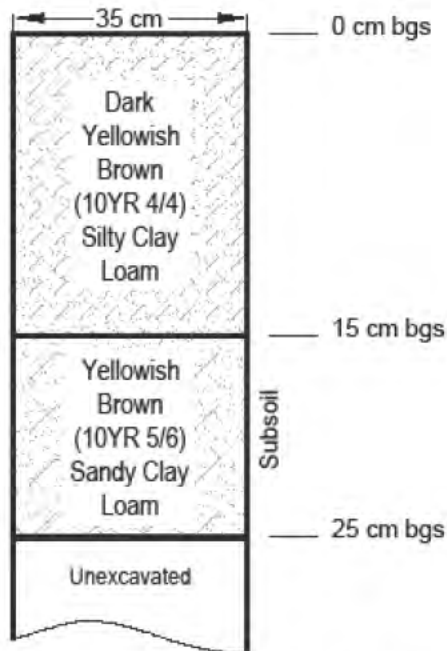


Figure 35. Representative soil profile from Site 15E111.

## Project Impacts

This prehistoric site is situated on a floodplain of the Little Sandy River. Additional archaeological work would not likely produce significant information beyond what has been collected. As noted above, the portion of Site 15E111 within the project area is recommended as not eligible for listing in the NRHP and no further work will be needed for the investigated portion of the site. For this reason, the investigated portion of the site will not be impacted by the proposed construction activities.

## Site 15E176

**Elevation:** 253 m (830 ft) AMSL

**Component(s):** prehistoric

**Site type(s):** open habitation without mounds

**Size:** 2,000 sq m (21,484 sq ft)

**Distance to nearest water:** 30 m (98 ft)

**Direction to nearest water:** southeast

**Type and extent of previous disturbance:** unknown

**Topography:** hillside and floodplain

**Vegetation:** mixed grass and weeds

**Ground surface visibility:** less than 10 percent

**Aspect:** gentle east trending slope

**Recommended NRHP status:** not eligible

## Site Description

Site 15E176 is a prehistoric open habitation without mounds of unknown temporal affiliation that consisted of a low density lithic scatter (Figures 36 and 37). The site is located west-southwest of the town center of Sandy Hook on a gently sloping hillside and floodplain of the Little Sandy River at approximately 253 m (830 ft) AMSL. The Little Sandy River is east of the site. The site is situated on the southeast side of KY 7 just east of a modern residential structure and associated shed that are located on a hilltop overlooking the site. Vegetation at the site consisted of mixed grass and weeds, and as a result was generally less than 10 percent.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the boundaries of the site. The boundaries for the site were defined by negative shovel tests in all directions but to the west. The western boundary was defined by steep sloping terrain. The site measured approximately 50 m (164 ft) north-south by 40 m (131 ft) east-west for a total of 2,000 sq m (21,484 sq ft). Nearly 30 STPs were conducted during investigations at the site with cultural materials recovered from 6 STPs between 0 and 50 cm bgs.

A datum was established at the location of STP 1. The location of the site datum was mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.





Figure 36. Overview of Site 15EI76, facing north-northwest.

## Depositional Context

The location of the site is mapped with Jefferson gravelly loam and Pope fine sandy loam. A typical soil profile at the site consisted of a surface layer of brown (10YR 4/3) gravelly sandy loam with iron and manganese to an average depth of 45 cm bgs. This was followed by a yellowish brown (10YR 5/6) sandy clay loam subsoil with iron (Figure 38). Inconsistencies in the soils encountered at the site compared to the expected soils mapped for the site are likely attributable to past agricultural activities and/or flooding episodes.

BA 24 and BA 27 were conducted on just outside the boundaries of the site on the same landform. The results of the BAs can be found in the Bucket Augering section of this report.

## Artifacts

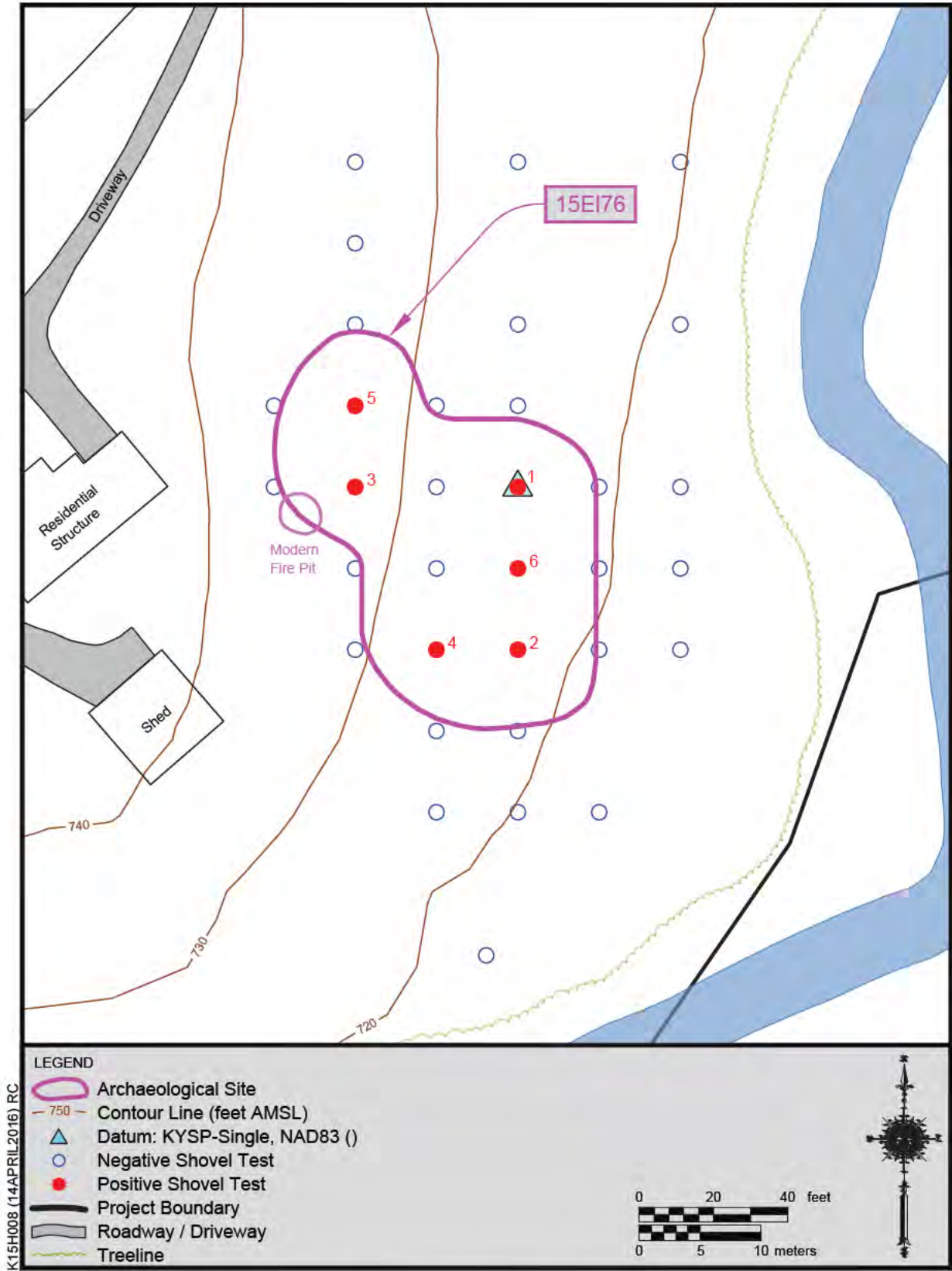
A total of 8 nondiagnostic flakes weighing approximately 10.7 g were recovered during investigations at the site

(Table 16). The majority of the flakes (n = 6; 10.4 g) were larger than .25 inch. The remainder of the flakes (n = 2) were smaller than .25 inch. No cores, modified implements, or FCR were identified at the site.

Newman chert accounted for 4 of the 6 flakes larger than .25 inch; the other two were made from either Oolitic Newman or Ste. Genevieve cherts. The dominance of Newman chert suggests that raw material procurements were focused on previously discussed western source areas. Only 5 flakes could be assigned to a reduction stage (see Table 6). These included late stage (n = 3), early stage (n = 1), and middle stage (n = 1).

## Features

No features were observed during the investigation of the site, and no FCR, charcoal, or burned soil was observed in any of the shovel tests.



K15H008 (14APRIL2016) RC

Figure 37. Schematic plan map of Site 15EI76.



Figure 38. Representative soil profile from Site 15E176.

## Summary and National Register Evaluation

Site 15E176 is a prehistoric open habitation without mounds of indeterminate temporal affiliation that consists of a low density lithic scatter.

With such a small lithic assemblage, an in-depth interpretation of the lithic-related activities that had once been conducted on-site is impossible. Short-term or specialized occupations are the most likely cause of the artifacts recovered from the site, especially due to the lack of additional artifacts such as cores or modified implements. The nondiagnostic flakes indicate a series of reduction activities occurred primarily with Newman chert. Temporal and/or cultural associations for the site were unable to be determined.

There was no evidence for the presence of intact buried cultural deposits, features, and/or midden. No FCR or burned soil was noted at the site, and due to the overall paucity of artifacts recovered, Site 15E176 is recommended not eligible for inclusion in the NRHP. No further work is recommended at the site.

## Project Impacts

This prehistoric site situated on a floodplain of the Little Sandy River. Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15E176. Since the Site is recommended not eligible for NRHP inclusion, the proposed construction activities will result in no effect.

Table 16. Prehistoric Artifacts Recovered at Site 15E176.

Provenience	Zone	Depth	Ct	Wt (g)	Item Type	Raw Material
STP 1	I	0-62 cm bgs	1	4.1	Flakes	Newman
STP 2	I	0-48 cm bgs	1	0.5	Flakes	Newman
STP 3	I	10-30 cm bgs	1	1.1	Flakes	Newman
STP 3	I	10-30 cm bgs	1	0.2	Flakes	< 0.25 inch
STP 4	I	0-50 cm bgs	1	3.3	Flakes	Newman
STP 5	I	0-30 cm bgs	1	0.6	Flakes	Oolitic Newman
STP 6	I	0-43 cm bgs	1	0.8	Flakes	Ste. Genevieve
STP 6	I	0-43 cm bgs	1	0.1	Flakes	< 0.25 inch

## Site 15EI77

**Elevation:** 230 m (754 ft) AMSL  
**Component(s):** historic and prehistoric  
**Site type(s):** farmstead, open habitation without mounds  
**Size:** 3,250 sq m (34,932 sq ft)  
**Distance to nearest water:** 200 m (656 ft)  
**Direction to nearest water:** south  
**Type and extent of previous disturbance:** unknown  
**Topography:** floodplain  
**Vegetation:** mixed grass and weeds, manicured grass  
**Ground surface visibility:** less than 10 percent to 90 percent  
**Aspect:** level  
**Recommended NRHP status:** not assessed

### Site Description

Site 15EI77 is a multicomponent site that consists of a prehistoric open habitation without mounds of unknown temporal affiliation and a historic material scatter possibly associated with the adjacent early to mid-twentieth-century farm/residence (Figures

39 and 40). The prehistoric component consists of a low density lithic scatter. The historic assemblage was composed primarily of ABM glass and may represent roadside garbage as all of the historic materials were recovered from the ground surface.

The site is located west of the town center of Sandy Hook on a floodplain of the Little Sandy River at approximately 230 m (754 ft) AMSL. The Little Sandy River is south of the site. The site is situated on the south side of KY 7. The west half of the site is located on a residential lot and vegetation consisted of manicured grass. GSV in the west half was generally low at less than 10 percent. The east half was located in a fallow agricultural field that had been recently seeded with grass. GSV was much higher in the east half of the site, and ranged from 60–100 percent. Based on aerial imagery, the agricultural field was formerly planted with tobacco.

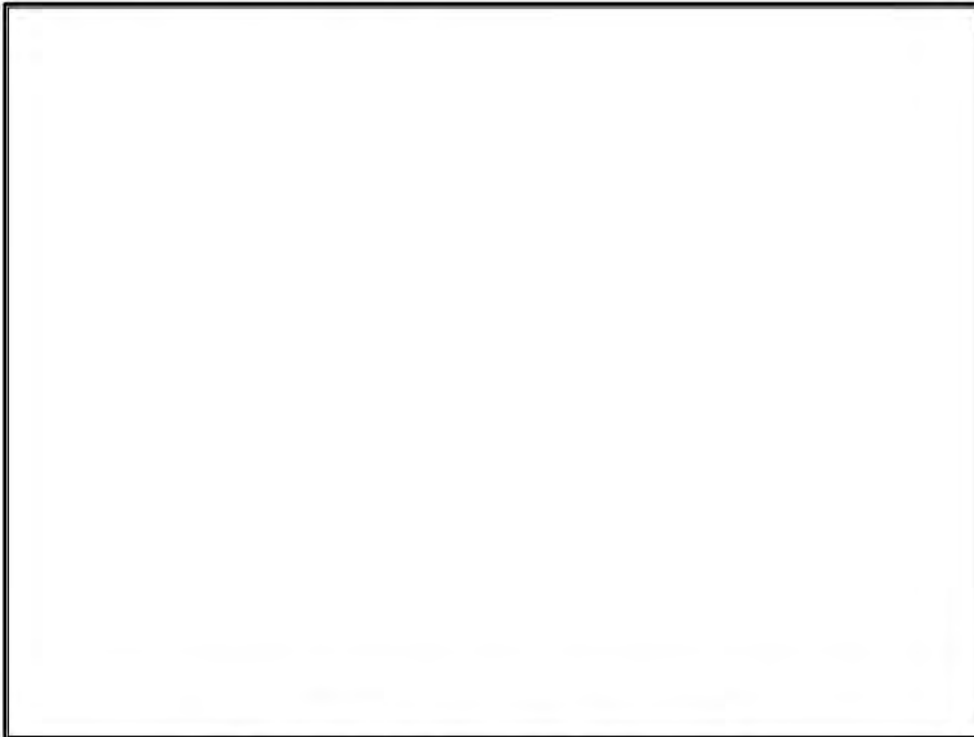
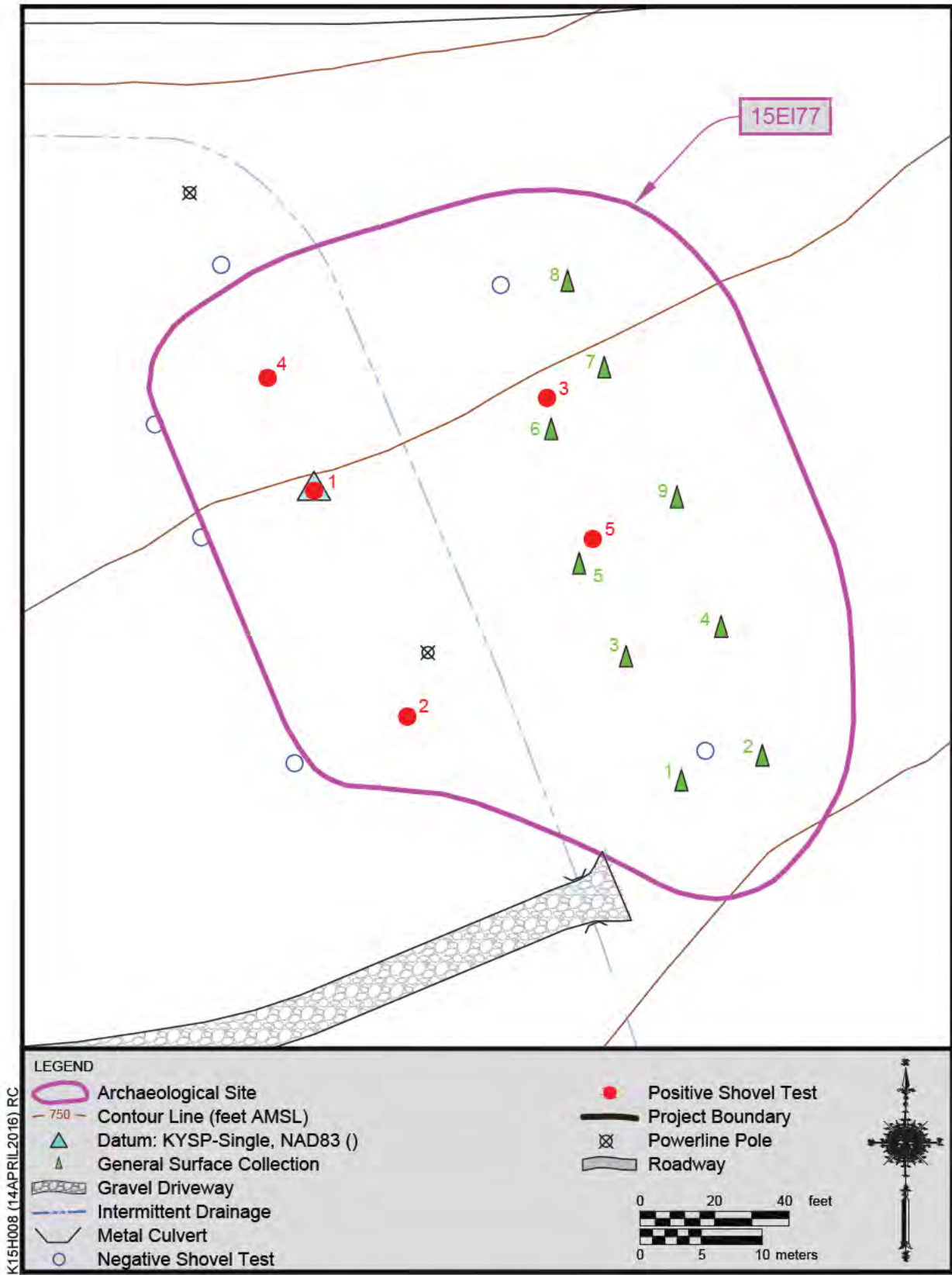


Figure 39. Overview of Site 15EI77, facing northwest.



K15H008 (14APRIL2016) RC

Figure 40. Schematic plan map of Site 15EI77.

None of the historic maps reviewed indicated the presence of structures in the immediate vicinity of the site. However, the 1950 topographic quadrangle does depict a residential structure present adjacent to the west boundary of the site (see Figure 27). The structure is currently extant and was recorded by CRA personnel as part of cultural historic Site 45 (EL 101) (Spurlock et al. 2015).

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the site. The boundaries for the site were defined by project area constraints in all directions but to the north where the boundary was defined by KY 7. The site measured approximately 65 m (213 ft) north–south by 50 m (164 ft) east–west for a total of 3,250 sq m (34,932 sq ft). Due to exceptional GSV in the east half of the site, 9 general surface collections (GSC) were made in that area. In total, 11 STPs were conducted during investigations at the site with cultural materials recovered from 5 STPs between 0 and 35 cm bgs.

A datum was established at the location of STP 1. The location of the site datum, the positive STPs, and GSCs were all mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), GSCs, site attributes, project boundaries, and physiographic features were drawn on a site schematic.

## Depositional Context

The north portion of the site was mapped with Jefferson series gravelly loam and the south portion of the site was mapped with Cotaco gravelly loam. A typical soil profile from the western half of the site consisted of a surface layer of gravelly brown (10YR 4/3) silt loam to an average depth of 22 cm (9 in) bgs. The subsoil consisted of a dark yellowish brown (10YR 4/4) mottled with (10YR 5/8) silty clay loam with iron and manganese (Figure 41). The eastern half of the site had a

surface layer of brown (10YR 4/3) clay loam to a depth of 35 cm (14 in) bgs. This was followed by a yellowish brown (10YR 5/6) clay loam subsoil (Figure 42). Inconsistencies in the soil types found at the site are likely attributable to agricultural activities as well as flooding episodes.

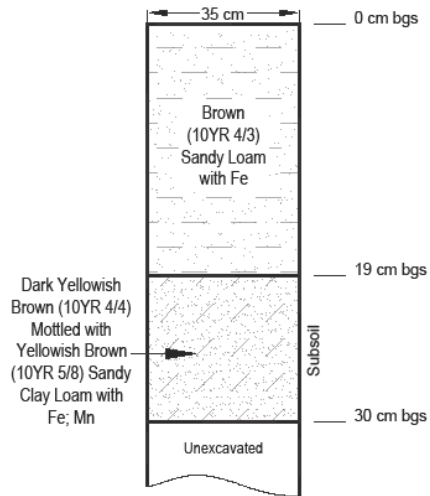


Figure 41. Representative soil profile from western half of Site 15EI77.

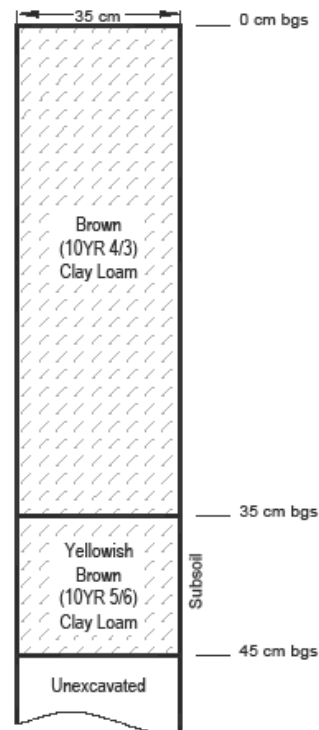


Figure 42. Representative soil profile from eastern half of Site 15EI77.

BA 28 was conducted in the boundary of the site. The results of the BA can be found in the Bucket Augering section of this report.

## Artifacts

The current investigations at Site 15EI77 recovered 19 lithic artifacts weighing approximately 48.2 g (Table 17). Of the artifacts, 95 percent of the lithic assemblage (n = 18; 19.9 g) were flakes that included 13 flakes (19.2 g) larger than .25 in, and 5 flakes (.7 g) flakes smaller than .25 in. One flake larger than .25 in was classified as a piece of blocky debris (1.5 g) made from Oolitic Newman chert. A multidirectional core (Artifact #k15h8-01) made from high quality Newman chert (28.3 g), was recovered on the ground surface at GSC 6. All of the prehistoric artifacts were recovered from the upper portion of the solum, including the ground surface as well as topsoil sediments.

The raw material composition of the assemblage consisted of Newman and Oolitic Newman chert. These varieties of Newman chert accounted for 12 of the 13 flakes larger than .25 inch. The only other chert type

identified was indeterminate. With the dominance of Newman chert in the assemblage, western source areas appear to have been used for resource procurement.

All reduction stages were identified in the assemblage. The breakdown of reduction stages at the site is as follows: Late stage (n = 5), middle stage (n = 4), and early stage (n = 3).

A total of 25 historic artifacts were recovered from the site and consisted of domestic (n = 24) and maintenance and subsistence (n = 1) group items (see Table 17). The historic assemblage had an average date range of 1905–1959, with a mean date of 1932.

The domestic group assemblage consisted of ceramics (n = 1) and container glass (n = 23). The lone ceramic sherd was identified as a plain whiteware plate body that dated between 1860 and 1930. ABM glass was the only type present at the site. Two pieces were embossed cup bottom mold bases. One piece was green and embossed with an Anchor Hocking maker's mark, and another piece was

**Table 17. Artifacts Recovered from Site 15EI77.**

Unit	Zone	Depth	Group	Class/Type	N=
GSC 1	Surf	Surface	Domestic	ABM	5
GSC 2	Surf	Surface	Domestic	ABM	1
GSC 3	Surf	Surface	Domestic	ABM	2
GSC 3	Surf	Surface	Maint/sub	Bolt	1
GSC 3	Surf	Surface	Lithic	Flakes	2
GSC 4	Surf	Surface	Domestic	ABM	2
GSC 5	Surf	Surface	Domestic	ABM	5
GSC 5	Surf	Surface	Lithic	Flakes	1
GSC 6	Surf	Surface	Domestic	ABM	1
GSC 6	Surf	Surface	Lithic	Core	1
GSC 6	Surf	Surface	Lithic	Flakes	1
GSC 6	Surf	Surface	Lithic	Flakes	1
GSC 6	Surf	Surface	Lithic	Core	1
GSC 7	Surf	Surface	Domestic	Ceramic	1
GSC 7	Surf	Surface	Lithic	Flakes	1
GSC 8	Surf	Surface	Domestic	ABM	1
GSC 9	Surf	Surface	Lithic	Flakes	1
GSC 9	Surf	Surface	Lithic	Flakes	4
GSC 9	Surf	Surface	Lithic	Flakes	3
STP 1	I	0-10 cm bgs	Lithic	Flakes	1
STP 2	I	0-34 cm bgs	Domestic	ABM	1
STP 2	I	0-34 cm bgs	Lithic	Flakes	1
STP 3	I	0-35 cm bgs	Domestic	ABM	4
STP 4	I	0-19 cm bgs	Lithic	Flakes	1
STP 5	I	0-13 cm bgs	Domestic	ABM	1
STP 5	I	0-13 cm bgs	Lithic	Flakes	1
Total					45

clear and embossed with a Fairmount Glass Works mark, and dates between 1933 and 1971. One of the bottle bases recovered exhibited a valve mark that dates between 1930 and 1950. The remaining container glass consisted of body sherds with colors that included amber (n = 5), aqua (n = 1), clear (n = 12), and green (n = 2). Identifiable vessel forms included beer bottles (n = 4), miscellaneous bottles (n = 2), and a soda bottle (n = 1). A single machine bolt and associated washer made up the maintenance and subsistence group.

## Features

No features were observed during the investigation of the site, and no FCR, charcoal, or burned soil was observed in the plowed field or shovel test.

## Archival Data

The property containing Site 15EI77 seems to have been owned by Joseph E. Farley throughout the early to mid-twentieth century (Table 18). He died May 14, 1932, at which point the property in his possession appears to have been devised to his wife, Rachel (Ancestry.com 2007). The earliest known deed record with regard to the ownership history for Site 15EI77 dates to 1935. On August 5, 1935, Faye G. Redwine, Special Commissioner, conveyed a 20 ha (50 acre) property referred to as Tract No. 5 to Ada Farley Pennington on behalf of the heirs of Rachel Farley (Elliott County Clerk's Office [ECCO] DB 42:41, Sandy Hook, Kentucky). The heirs of Rachel Farley included Willie and Delpha Farley, Dot Farley and Nealy Adkins, Dewey and Beulah Farley, Geneva Farley and Claude Howard,

Chester Farley, Cora Farley and Kenneth Mobley, Bert and Daisy Farley, Genoa Farley and Heston Lemaster, Elbert and Irene Farley, Lillia Farley and Jack Brown, and Virginia Farley and Clyde Whitt. Rachel Farley did not die until February 26, 1948, suggesting that she was allowing the children to divide the land amongst themselves that had been left to her by their father, Joseph E. Farley (Ancestry.com 2012a).

Site 15EI77 does not necessarily represent a historic period occupation, but possibly rather a refuse area associated with an adjacent farmstead and/or vehicle traffic along the roadways that bisect and bound the site.

Table 18. Ownership History for Site 15EI77.



## Summary and National Register Evaluation

Site 15EI77 is a multicomponent site that consists of a prehistoric open habitation without mounds of unknown temporal affiliation and a low density mid-twentieth century historic material scatter.

Although no structures were identified in the immediate vicinity of the site on historic maps, a residential structure present adjacent the west boundary of the site is depicted on the 1950 quadrangle. The artifacts recovered from Site 15EI77 may be associated with the occupation of that residential structure, which remains extant, and possibly represent the use of the site for the disposal of kitchen trash primarily; however, it also is possible that the artifacts represent roadside garbage due to the site's location at the junction of KY 7.

Detailed analysis and interpretation of the lithic-related activities conducted at the site is precluded by such a small lithic assemblage. The presence of flakes and a core indicate a variety of lithic reduction activities had

occurred. However, with no additional cores or modified implements present, prehistoric occupations at the site were most likely short-term or specialized in nature. As a result, it was not possible to draw any prehistoric temporal and/or cultural affiliations.

The site is bisected by a road which has resulted in significant disturbances related to road construction and maintenance. No evidence for the presence of intact buried cultural deposits, features, and/or midden was noted in the recorded portion of the site. No FCR or burned soil was present either. Due to the overall paucity of artifacts recovered, the portion of Site 15EI77 within the current project area is recommended not eligible for inclusion in the NRHP, and no further work is recommended. However, the site likely extends outside the boundaries of the current project area, and as a result, the overall eligibility of the site cannot be determined at this time. Therefore, Site 15EI77 is unevaluated for inclusion in the NRHP. If the project plans were to change in the location of the site, further work would be required to assess the site's NRHP eligibility.

## Project Impacts

This multicomponent site is situated on a floodplain of the Little Sandy River at the junction of KY 7. Additional archaeological work would not likely produce significant information beyond what has been collected. As noted above, the portion of Site 15EI77 within the project area is recommended as not eligible for listing in the NRHP and no further work will be needed for the investigated portion of the site. For this reason, the investigated portion of the site will not be impacted by the proposed construction activities.

## Site 15EI78

**Elevation:** 241 m (790 ft) AMSL

**Component(s):** prehistoric

**Site type(s):** open habitation without mounds

**Size:** 750 sq m (8,036 sq ft)  
**Distance to nearest water:** 70 m (230 ft)  
**Direction to nearest water:** east  
**Type and extent of previous disturbance:** unknown  
**Topography:** floodplain  
**Vegetation:** manicured grass and some shrubs  
**Ground surface visibility:** less than 10 percent  
**Aspect:** level  
**Recommended NRHP status:** not assessed

## Site Description

Site 15EI78 is a prehistoric open habitation without mounds of unknown temporal affiliation that consisted of a low density lithic scatter (Figures 43 and 44). The site is located in the town of Little Sandy southwest of the town center of Sandy Hook. It is situated on the east side of KY 702 on a floodplain of the Little Sandy River at approximately 241 m (790 ft) AMSL. An unnamed tributary of the Little Sandy River is approximately 70 m (230 ft) east of the site and the Little Sandy River is

approximately 160 m (525 ft) to the south. Two modern residential structures are adjacent to the west of the site boundary, and a commercial building and parking area are adjacent to the north. Vegetation at the site consisted of manicured grass and some shrubs, and GSV was generally less than 10 percent.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 5–15 m (16–49 ft) intervals was conducted throughout the boundaries of the site. The boundaries for the site were defined by project area constraints to the south and west, and commercial disturbances to the north. The site measured approximately 50 m (164 ft) north-south by 15 m (49 ft) east-west for a total of 750 sq m (8,036 sq ft). A total of 5 STPs were conducted during investigations at the site with cultural materials recovered from 4 STPs between 0 and 50 cm bgs.



Figure 43. Overview of Site 15EI78, facing north.

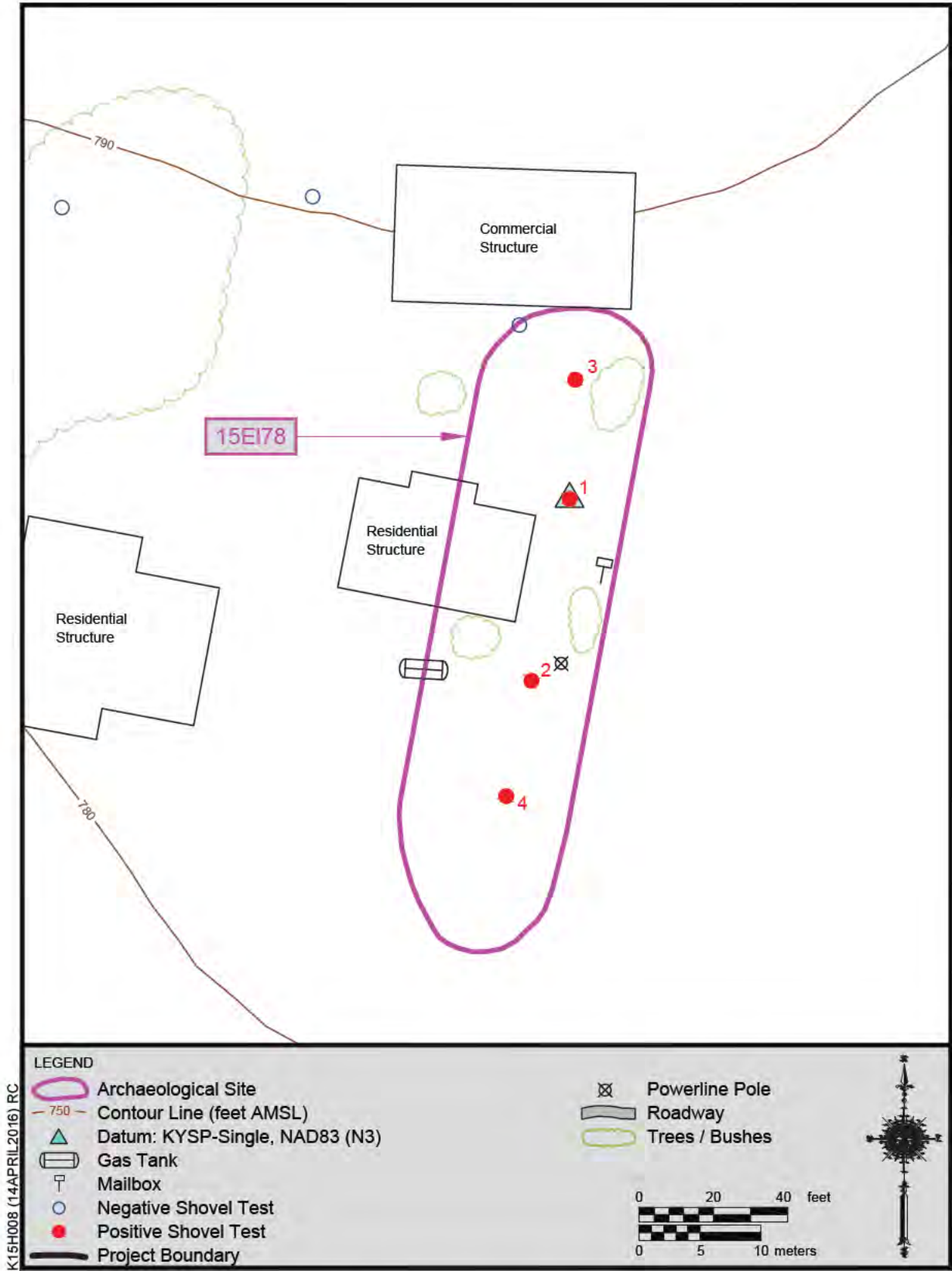


Figure 44. Schematic plan map of Site 15E178.

A datum was established at the location of STP 1. The location of the site datum was mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.

## Depositional Context

The location of the site is mapped with Allegheny series loam. The soils at the site were generally consistent with the expected Allegheny loam. A typical surface layer consisted of a dark yellowish brown (10YR 4/4) silty clay loam to a depth of approximately 50 cm bgs. The subsoil consisted of a dark yellowish brown (10YR 4/6) silty clay (Figure 45). Discrepancies in the soils noted at the site compared to the expected Allegheny loam can be attributed to disturbances related to residential construction and road construction/maintenance.

## Artifacts

A total of 10 lithic artifacts weighing approximately 23.5 g were recovered during investigations at the site (Table 19). Of the assemblage, 90 percent (n = 9; 21.4 g) were flakes, and 7 of those were larger than .25 inch. Two of the flakes were smaller than .25 inch. The remaining artifact was a small thermally damaged biface fragment (Artifact #k15h8-03) manufactured from an indeterminate Burnt chert. It was recovered from STP 3 at a depth between 0 and 35 cm (0 and 14 in) bgs.

The most common raw material was Newman chert (n = 4), followed by Indeterminate (n = 2), Chalcedony (n = 1), and Burnt (n = 1). The assemblage included early stage (n = 3) middle stage (n = 3), and late stage (n = 1) flakes, suggesting a variety of reduction activities had taken place on-site utilizing a variety of raw materials that focused on higher quality Newman chert.

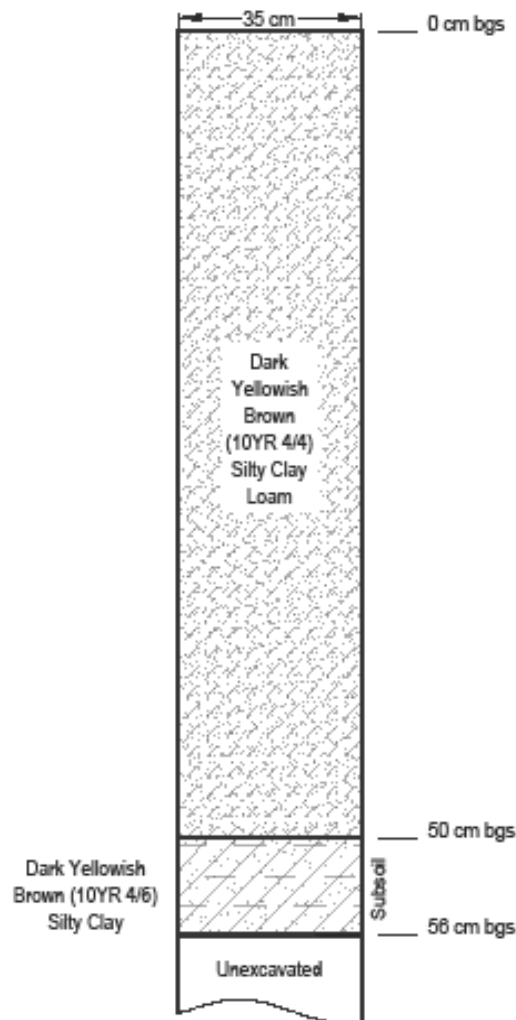


Figure 45. Representative soil profile from Site 15E178.

## Features

No features were observed during the investigation of the site, and no FCR, charcoal, or burned soil was observed in any of the shovel tests.

## Summary and National Register Evaluation

Site 15E178 is a prehistoric open habitation without mounds of unknown temporal affiliation that consists of a low density lithic scatter.

**Table 19. Prehistoric Artifacts Recovered from Site 15E178.**

Unit	Zone	Depth	Group	Item Type	N=
STP 1	I	0-40 cm bgs	Lithic	Flakes	1
STP 2	I	0-25 cm bgs	Lithic	Flakes	1
STP 2	I	0-25 cm bgs	Lithic	Flakes	1
STP 3	I	0-35 cm bgs	Lithic	Biface	1
STP 3	I	0-35 cm bgs	Lithic	Flakes	1
STP 4	I	0-50 cm bgs	Lithic	Flakes	1
STP 4	I	0-50 cm bgs	Lithic	Flakes	2
STP 4	I	0-50 cm bgs	Lithic	Flakes	2
Total					10

The lithic-related activities being conducted on-site cannot be interpreted in any detail with such a small lithic assemblage. Due to a lack of artifact diversity and the small size of the assemblage, prehistoric occupations at the site were likely short-term or specialized. The small variety of raw materials indicates a focused procurement strategy. Although a thermal feature is likely present at the site based on the presence of a thermally damaged biface, the lack of FCR suggests that the thermal-related activities were short-lived. Without diagnostic artifacts from the site, temporal and/or cultural affiliations cannot be determined.

The site seems to have been highly disturbed by past construction activities related to the adjacent residential and commercial structures, as well as the construction/maintenance of KY 7. There is no evidence for the presence of intact buried cultural deposits, features, and/or midden at the recorded portion of the site. Along with the overall paucity of artifacts recovered, the portion of Site 15E178 within the current project area is recommended not eligible for inclusion in the NRHP, and no further work is recommended. However, the site likely extends outside the boundaries of the current project area, and as a result, the overall eligibility of the site cannot be determined at this time. Therefore, Site 15E178 is unevaluated for inclusion in the NRHP. If the project plans were to change in the location of the site, further work would be required to assess the site's NRHP eligibility.

## Project Impacts

This prehistoric site is situated on a floodplain of the Little Sandy River to the southwest of KY 7. Additional archaeological work would not likely produce significant information beyond what has been collected. As noted above, the portion of Site 15E178 within the project area is recommended as not eligible for listing in the NRHP and no further work will be needed for the investigated portion of the site. For this reason, the investigated portion of the site will not be impacted by the proposed construction activities.

## Site 15E179

**Elevation:** 274 m (900 ft) AMSL

**Component(s):** historic and prehistoric

**Site type(s):** farmstead, open habitation without mounds

**Size:** 8,450 sq m (90,951 sq ft)

**Distance to nearest water:** 0 m (0 ft)

**Direction to nearest water:** south

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass, weeds, brush, briars, and deciduous trees

**Ground surface visibility:** less than 10 percent to 35 percent

**Aspect:** level

**Recommended NRHP status:** not eligible

## Site Description

Site 15E179 is a multicomponent site that consists of an early-twentieth-century to mid-

twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation (Figures 46–48). The historic component of the site included six extant structures and a limestone block well. The prehistoric component consisted of an extremely low-density lithic scatter. The site is located approximately 5.8 km (3.6 mi) northeast of the town of Wrigley on the north side of KY 7 at approximately 274 m (900 ft) AMSL. It is situated at the mouth of a hollow on a floodplain and terrace of an intermittent portion of the Little Sandy River. An unnamed tributary of the Little Sandy River bisects the site at the mouth a hollow. The unnamed stream is drained by Little Sandy River which is approximately 20 m (66 ft) south of the site bordering the south side of KY 7. Two gravel drives are present in the eastern portion of the site for access from KY 7. Vegetation throughout the majority of the site consisted of mixed grass, weeds, brush, briars, and deciduous trees. Manicured grass was present in the eastern portion of the site, and a fallow agricultural field was present in the central portion. In general, GSV was

less than 10 percent; however, in the fallow agricultural field GSV was approximately 35 percent.

The earliest map depicting a structure in the general vicinity of the site is the 1925 Elliott County Oil and Gas map which shows the early-twentieth-century residence in the western portion of the site (see Figure 23). The 1950 Sandy Hook quadrangle depicts four structures in the general vicinity of the site. The map depicts the early-twentieth-century residence in the western portion of the site, as well as two residential structures in the eastern portion and a barn/outbuilding in the northeastern portion. An aerial image of the site from 1947 shows the early-twentieth-century residence in the western portion of the site, the currently extant barn present in the northeastern portion, and a structure in the vicinity of the currently extant early- to mid-twentieth-century residential structure. The 1950 and 1961 aerial images show all of the structures from the 1947 aerial as well as the log house located directly adjacent to the east boundary of the site.



**Figure 46. Overview of central (foreground) and western (background) portions of Site 15E179, facing west.**



**Figure 47. Overview of eastern portion of Site 15EI79, facing east-northeast.**

A total of six structures were noted to be extant at the site during field investigations. Five of the structures were previously recorded by CRA personnel as cultural historic Sites 81 and 82 (EL 137 and EL 138, respectively) (Spurlock et al. 2015). These structures included a side gable wood frame dwelling (Figure 49) constructed circa 1900–1924 (EL 138), a front gable frame dwelling (Figure 50), a front gable frame barn (Figure 51), a front gable frame garage (Figure 52), and a privy/shed (Figure 53), all of which were thought to be constructed circa 1925–1949 (EL 137). One modern prefabricated shed was present at the site directly behind the garage. Two structures were also present directly adjacent to the east boundary of the site (Figure 54). These included a small rectangular log house thought to be constructed circa 1925–1949 and a non-historic prefabricated shed. Shovel testing around these two structures was negative for the presence of cultural materials. Therefore, the structures were excluded from inclusion in the site boundary.

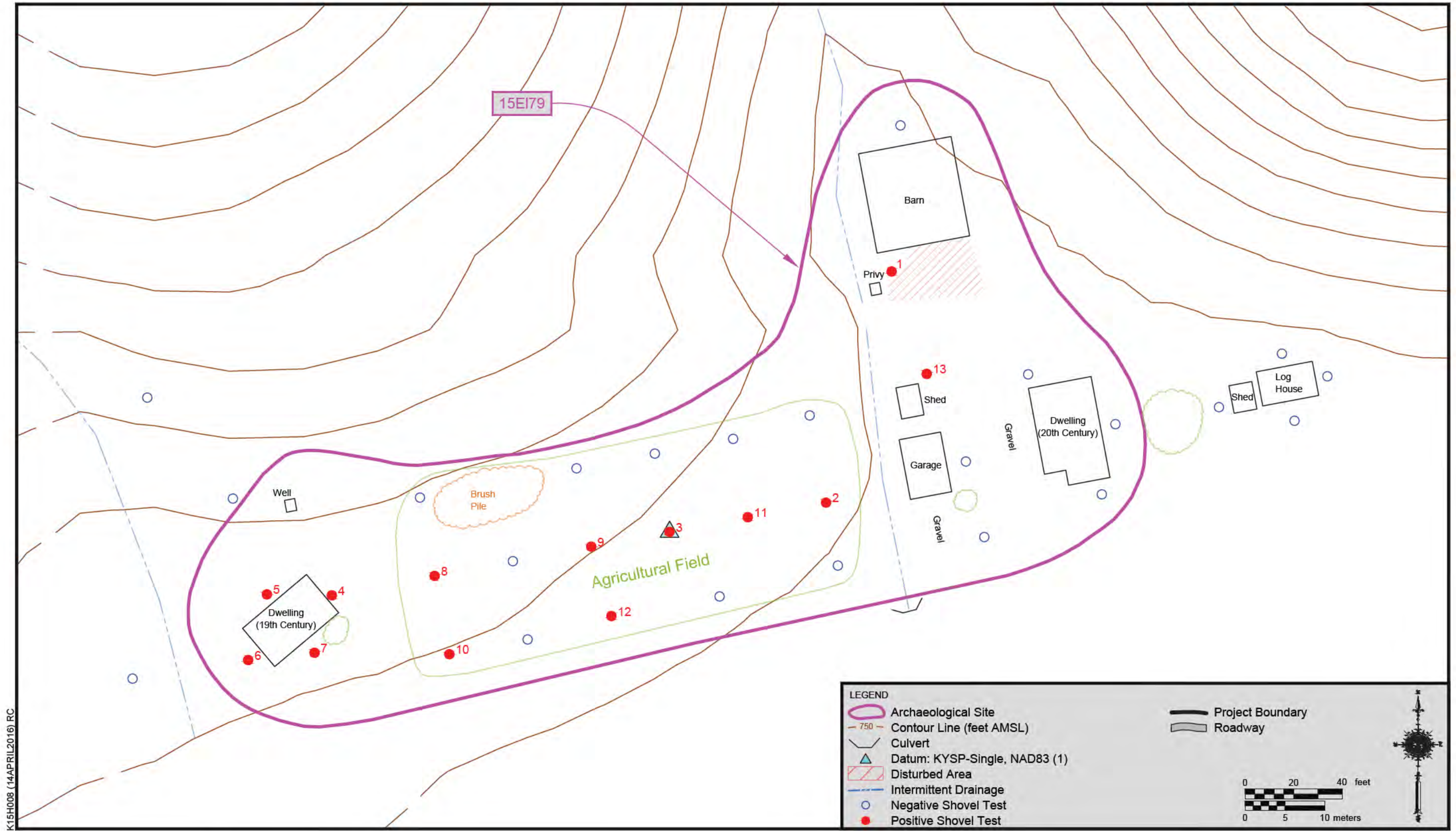
A limestone block well (Figure 55) was located in the western portion of the site approximately 8 m (26 ft) north of the early-twentieth-century residential structure. The well appeared to be constructed of stacked limestone blocks, and a cement slab with a rebar handle had been used to cap the well.

## **Investigation Methods**

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the boundaries of the site. Additional shovel tests were conducted off the grid to test around structures present at the site. The boundaries for the site were defined by negative shovel tests to the east and west, sloping terrain and the project area boundary to the north, and KY 7 to the south. The site measured approximately 65 m (213 ft) north-south by 130 m (427 ft) east-west for a total of 8,450 sq m (90,951 sq ft). Nearly 40 STPs were conducted during investigations at the site with cultural materials recovered from 13 STPs between 0 and 40 cm bgs.







K15H008 (14APRIL2016) RC

Figure 48. Schematic plan map of Site 15E179.





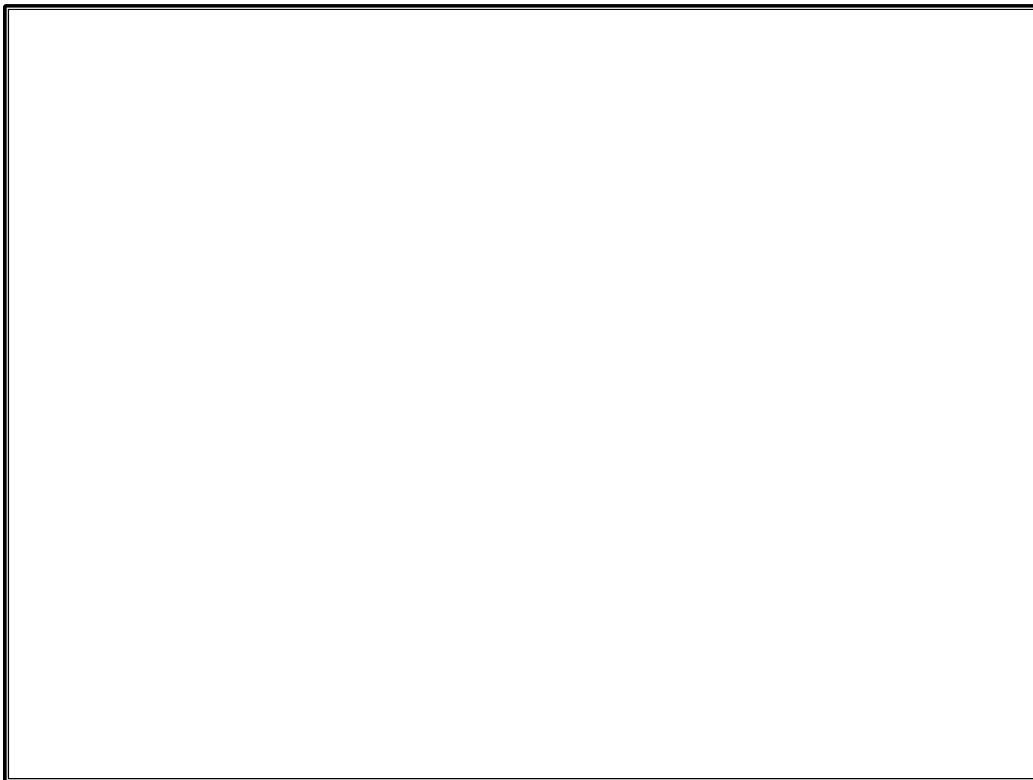
**Figure 49. Early-twentieth-century residential structure at Site 15EI79, facing west.**



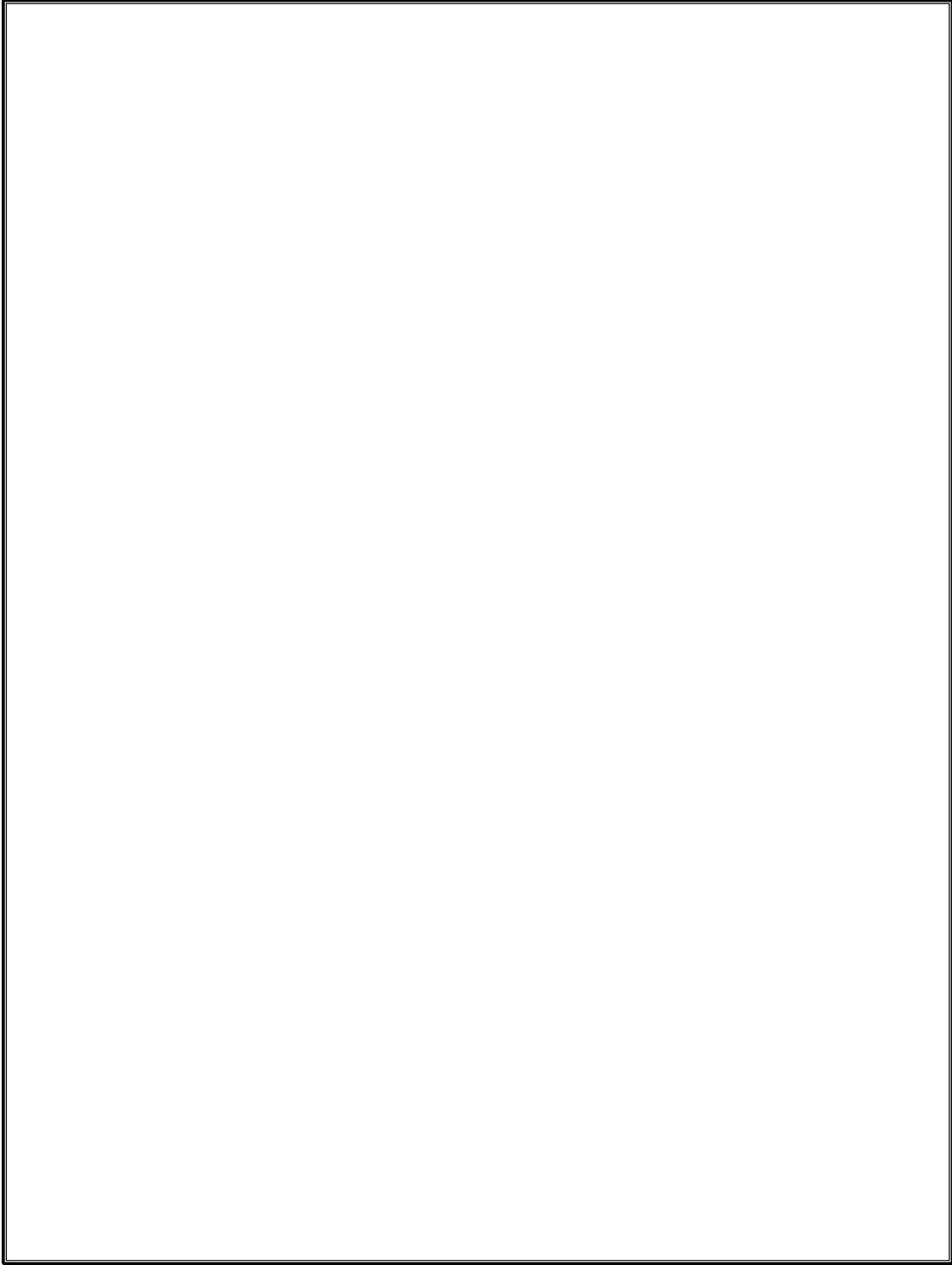
**Figure 50. Early- to mid-twentieth-century residential structure at Site 15EI79, facing northeast.**



**Figure 51. Barn at Site 15EI79, facing northwest.**



**Figure 52. Garage at Site 15EI79, facing northeast.**



**Figure 53. Privy/shed at Site 15E179, facing southwest.**



Figure 54. Log house and prefabricated shed to east of Site 15EI79, facing north.



Figure 55. Overview of limestone block well at Site 15EI79.

A datum was established at the location of STP 3. The location of the site datum, and several other site attributes for reference were mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.

## Depositional Context

The location of the site is mapped with Shelocta-Grigsby-Orville complex soils. Typical soil profiles in the central portion of the site had a surface layer of brown (10YR 4/3) to yellowish brown (10YR 5/4) silt loam with sandstone to an average depth of approximately 28 cm (11 in) bgs. This was followed by a light olive brown (2.5Y 5/4) mottled with olive yellow (2.5Y 6/6) silty clay loam subsoil with manganese, sandstone, and coal (Figure 56). Shovel tests in the western portion of the site around the early twentieth-century structure generally had a surface layer of very dark grayish brown (10YR 3/2) silt loam with some medium to large roots as well as iron and coal to an average depth of approximately 14 cm (6 in) bgs. The subsoil consisted of a yellowish brown (10YR 5/4) silty clay with iron, manganese, sandstone, and coal (Figure 57). Discrepancies in the soils present at the site and those mapped for the location can be attributed to past agricultural activities as well as residential construction activities. Disturbances related to residential construction activities were prominent in the eastern portion of the site.

BA 14 was conducted in the site boundaries and BA 15 was conducted directly adjacent to the eastern boundary of the site. These results of the BAs are presented in the Bucket Augering section of this report.

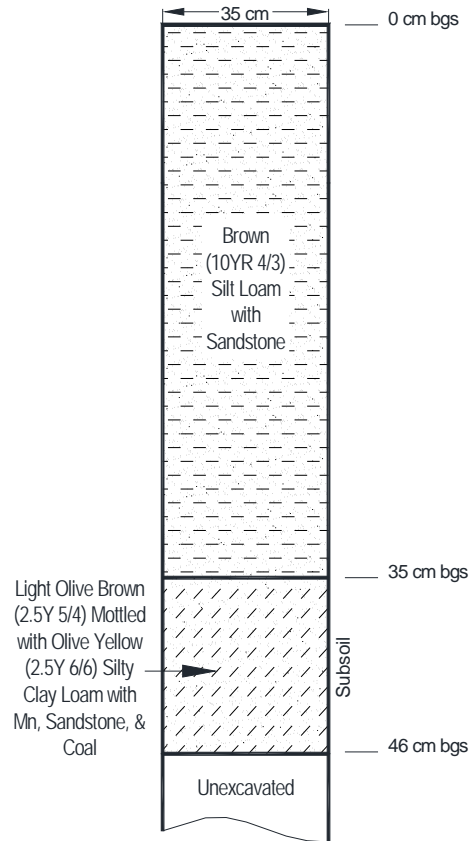


Figure 56. Representative soil profile from central portion of Site 15E179.

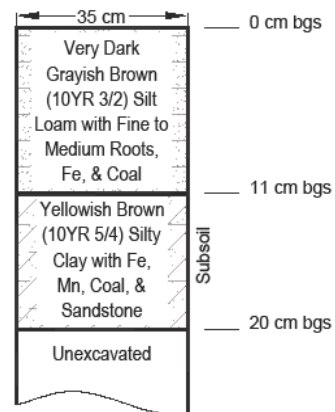


Figure 57. Representative soil profile from Site western portion of site 15E179.

## Artifacts

The historic assemblage at Site 15E179 consisted of 61 artifacts that were classified into the architecture (n = 24), domestic (n = 33), furnishings (n = 3), and personal (n = 1) groups (Table 20). The average date range for the artifacts recovered was 1884–1944, with a mean date of 1914.

The architecture group assemblage consisted of flat glass (n = 12) and nails (n = 12). Of the flat glass, 10 pieces were window glass that dated tentatively from 1873 to 1912, with a mean date of 1899. The 2 remaining pieces were clear acrylic Plexiglas dating after 1933. Fully machine-cut (n = 1), wire-drawn (n = 7), and indeterminate (n = 4) nails were recovered from the site. Dating between 1830 and 1890, the late fully machine-cut nail was complete and pulled with a pennyweight of 9d. Of the wire nails, 5 were fragmentary and 2 were complete. The 2 complete wire nails had pennyweights of 2d and 6d, and 1 was unaltered, while the other was pulled.

The domestic group assemblage consisted of ceramics (n = 9), container glass (n = 15), container closures (n = 7), beverage cans (n = 1), and glass tableware (n = 1). Whiteware (n = 7), ironstone (n = 1), and stoneware (n = 1) were present in the ceramic assemblage. Of

the whiteware, 6 sherds were undecorated and date after 1830. Identified vessel forms included plates, a cup, and a platter. The final sherd was dark blue transfer printed and likely dates to the early twentieth century. The lone ironstone sherd was molded/embossed and dates after 1860. It had been part of a teacup. The stoneware sherd had a Bristol slipped interior and exterior with a cobalt decoration on the exterior as well. It dates between 1880 and 1925 and appears to have been part of a mixing bowl.

All 15 pieces of container glass were ABM with the majority dating after 1903. A light green cup bottom mold of a soda bottle was identified as well as a clear glass jar body sherd embossed with “SQU...MASON”. It had been part of a Drey square canning jar dating between 1920 and 1925. In addition, a clear recessed panel medicine bottle sherd was identified, along with a clear meat jar rim with double ring finish. On another meat jar fragment, a packer lip was present. Unidentifiable body sherds in the assemblage were amber and clear. Four canning jar milk glass lid liners dating between 1869 and 1950, and 3 zinc canning jar lid fragments dating from 1858 to 1950 made up the container closures in the domestic group assemblage. An aluminum ring pull tab dating between 1965

**Table 20. Historic Artifacts Recovered from Site 15E179.**

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0–20 cm bgs	Architecture	Nail	1
STP 1	I	0–20 cm bgs	Domestic	ABM	3
STP 2	I	0–20 cm bgs	Domestic	Ceramic, ABM	2
STP 3	I	0–24 cm bgs	Domestic	Ceramic	1
STP 4	I	0–14 cm bgs	Architecture	Window glass, Plexiglas, nails	15
STP 4	I	0–14 cm bgs	Furnishings	Lamp chimney glass	1
STP 5	I	0–11 cm bgs	Architecture	Window glass, nails	5
STP 5	I	0–11 cm bgs	Domestic	Canning jar lid fragments, canning jar lid liners, ABM	8
STP 6	I	0–15 cm bgs	Architecture	Nails	2
STP 6	I	0–15 cm bgs	Domestic	Ceramic	1
STP 7	I	0–17 cm bgs	Architecture	Nail	1
STP 7	I	0–17 cm bgs	Domestic	Ceramics, ring pull tab	3
STP 7	I	0–17 cm bgs	Furnishings	Lamp chimney glass	2
STP 7	I	0–17 cm bgs	Personal	Money	1
STP 8	I	0–22 cm bgs	Domestic	Ceramics	2
STP 9	I	0–20 cm bgs	Domestic	ABM	2
STP 10	I	0–40 cm bgs	Domestic	ABM	3
STP 11	I	0–20 cm bgs	Domestic	ABM	2
STP 12	I	0–24 cm bgs	Domestic	Ceramic, glass tableware	2
STP 13	I	0–20 cm bgs	Domestic	Ceramic, ABM	4
				Total	61



and 1985 was the lone beverage can. The clear press molded glass tableware fragment exhibited frosted stripes in a parallel pattern and dates after 1864.

The furnishing group assemblage consisted of 3 clear lamp chimney fragments, and the lone personal item was a 1942 penny.

The prehistoric lithic assemblage from the site consists of two flakes. Both flakes were early stage platform remnant bearing and made from Newman chert. They were each recovered from the western portion of the site in the uppermost horizon of the solum. The first flake was recovered from STP 4 (0–14 cm [0–6 in] bgs), and the second flake was recovered from STP 10 (0–40 cm [0–16 in] bgs).

## Features

The only feature observed at the site was the limestone block well. However, no FCR, charcoal, or burned soil was observed in any of the shovel tests.

## Archival Data

The earliest known deed record with regard to the ownership history for Site 15E179 dates to 1910 (Table 21). On October 25, 1910, Rufus Whitt and his wife, Mary, sold 32 ha (80 acres) more or less to his brother, Audie Whitt, for \$300.00 (ECCO DB 13:290). Audie Whitt died circa May 26, 1927, and through his affidavit of descent devised the property in his ownership to his wife, Nola, and their children, Jerome, Everett,

Audra, Erma, Geneva, Clyde, and Bernard (ECCO DB 40:94). On June 12, 1948, the heirs of Audie Whitt sold a more or less 4 ha (9 acre) portion (Tract I) of the property containing Site 15E179 to Jerome Whitt and his wife, Nannie (ECCO DB 40:94). Tract I was noted to border the “Old Home Place”.

**Table 21. Ownership History for Site 15E179.**

Date	Owner	Acreage	Amount
------	-------	---------	--------

The first known owner of the property, Rufus Whitt, was the brother of Audie Whitt, and the two were living in the household of their parents in Devils Fork, Elliott County, in 1900 (USBC 1900). In 1910, Rufus and his wife, Mary, were living along Sandy Hook and Wrigley Road in Devils Fork, on a farm they owned, and Audie and his wife, Nola, also were living on a neighboring farm which they also owned (USBC 1910). Audie appears to have been living at the location of Site 15E179 at that time, and seems to have remained on the farm until his death in 1927.

By 1930, Audie's widow, Nola, remained on the family farm with their children, and census records indicate they were on the farm in 1940 as well (USBC 1930, 1940). Nola's son, Jerome Whitt, appears to have moved to the adjacent farm, which he owned, by 1935 (USBC 1940). Census data beyond 1940 is not available.

The archival data indicates that Audie Whitt and his family resided in the early-twentieth-century structure present in the western portion of Site 15E179 from at least 1910 until his death in 1927. It would seem that shortly after Audie's death, his eldest son, Jerome, moved to the adjacent farm and resided in a structure in the eastern portion of the site likely in the currently extant early- to mid-twentieth-century residential structure.

## **Summary and National Register Evaluation**

Site 15E179 is a multicomponent site that consists of an early-twentieth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation.

The known use of the site as a domestic farm/residence is supported by the historic assemblage, which was dominated by architectural and domestic group artifacts. The first depiction of a residential structure in the location of the site is on the 1925 oil and gas map, while additional residential structures are depicted on later maps.

The earliest occupants of the site appear to have been Audie and Nola Whitt beginning circa 1910. They and their family resided in the currently extant early-twentieth-century residential structure in the western portion of the site into the early- to mid-twentieth century. Following Audie's death in 1927, his wife and children appear to have remained at the site until the mid-twentieth century at which point occupation of the structure likely ended.

Neither of the 2 flakes recovered from the site were considered diagnostic, and preclude defining a cultural and/or temporal affiliation. The prehistoric activities at the site appear to have been the result of a single lithic reduction episode focusing on Newman chert.

No evidence for the presence of intact buried cultural deposits, features, and/or midden was noted at the site, and no FCR or burned soil was present either. The central portion of the site contained the highest artifact densities. That portion had been used for agricultural purposes throughout the past and all of the artifacts were recovered from plow zone contexts. The eastern portion of the site was noted to be highly disturbed by residential construction activities and only contained 2 positive STPs with artifacts near the ground surface. The western portion of the site contained shallow soils that also exhibited

signs of disturbance. As a result, the site is unlikely to contain any intact buried deposits or features. Due to these factors, Site 15E179 is recommended not eligible for inclusion in the NRHP; no further work is recommended.

## Project Impacts

This multicomponent site is situated on a floodplain and terrace of an intermittent portion of the Little Sandy River. Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15E179. The proposed construction activities will have no effect on the site since it is not listed in or eligible for the NRHP.

## Site 15E180 (Farley Cemetery)

**Elevation:** 277 m (910 ft) AMSL

**Component(s):** historic

**Site type(s):** late nineteenth to late twentieth century cemetery

**Size:** 500 sq m (5,412 sq ft)

**Distance to nearest water:** 450 m (1,476 ft)

**Direction to nearest water:** southeast

**Type and extent of previous disturbance:** unknown

**Topography:** ridge spur

**Vegetation:** grass, trees, weeds, and yucca

**Ground surface visibility:** Less than 10 percent

**Aspect:** south slope (6–10 percent)

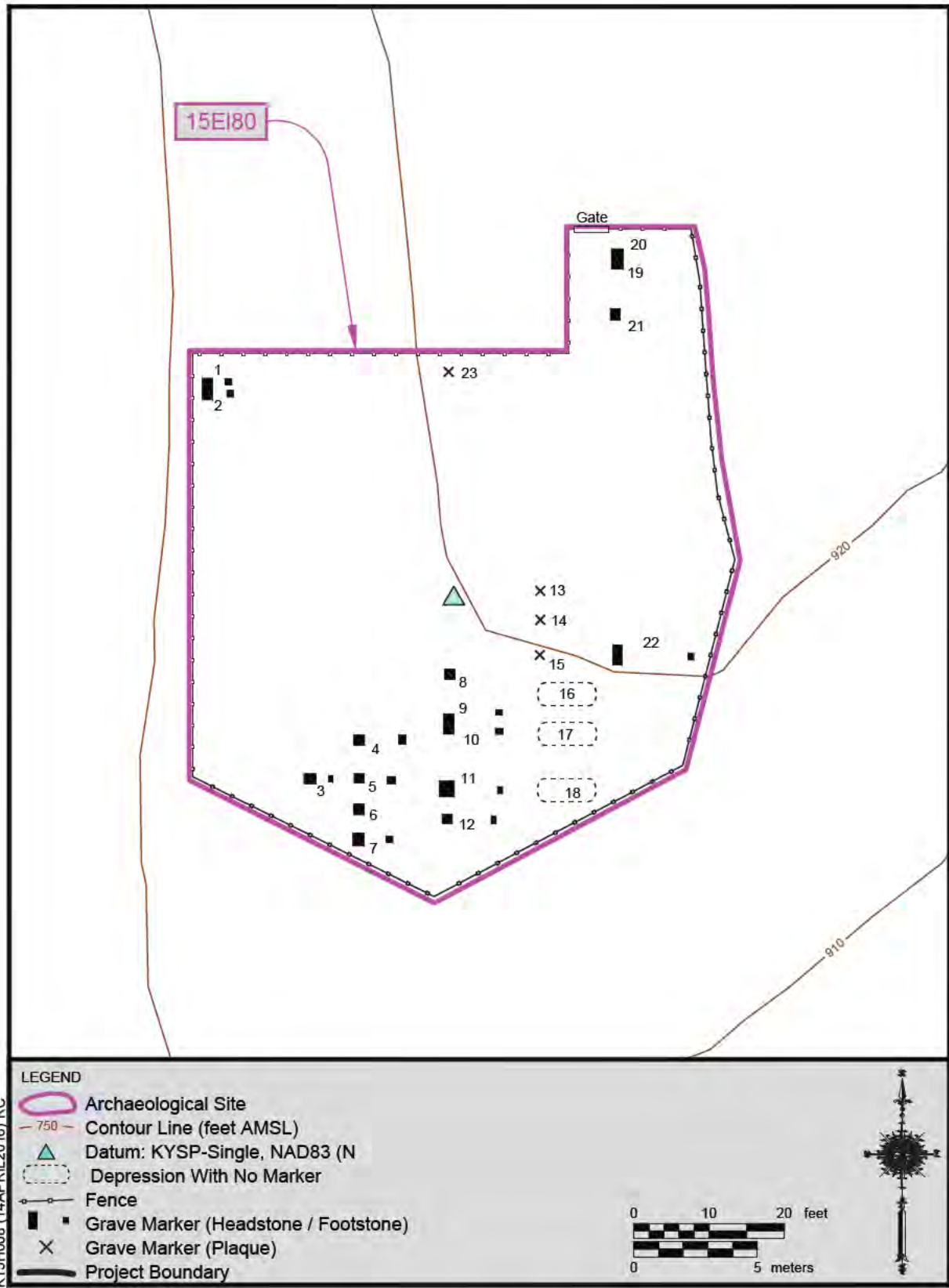
**Recommended NRHP status:** not eligible

## Site Description

Site 15E180 (Farley Cemetery) is a historic cemetery located on a ridge spur north of KY 7 and KY 650 approximately 3.0 km (1.9 mi) west-southwest of the town of Sandy Hook (Figures 58 and 59). A gravel road leads up from a residential driveway to the cemetery. It is situated at the top of a ridge and is enclosed by a barb wire fence measuring approximately 20-x-25 m (66-x-82 ft). A metal gate is located at the north end of the cemetery. In total, the cemetery encompasses approximately 500 sq m (5,412 sq ft). It is surrounded by coniferous and deciduous trees, although no trees are located within the fence. Yucca, manicured grass, weeds, and moss make up the vegetation in the cemetery.



Figure 58. Overview of Site 15E180, facing south-southwest.



K15H008 (14APRIL2016) RC

Figure 59. Schematic plan map of Site 15E180.

The cemetery was previously recorded by CRA personnel as cultural historic Site 42 (EL 98) and was recommended not eligible for inclusion in the NRHP under Criteria A, B, and C (Spurlock et al. 2015). The cemetery is not depicted on any historic maps or on the most recent topographic map.

A total of 22 burials (23 including a pet burial) are present in the cemetery (Table 22). The vast majority of burials in the cemetery are for members of the Farley, Adkins, and Meadows families. The earliest death date is 1895 and the most recent is 2007, indicating that the cemetery is still in use. Fifteen of the burials are marked with commercially bought carved granite headstones, three burials were marked with temporary metal plaques provided by a funeral home, three burials were unmarked but exhibited visible depressions, and one burial was marked with a government-provided military headstone (see Appendix E). Three of the graves are located at the northern end of the cemetery near the gate, two more are located at the northwestern corner, and the rest are located in the southern portion of the cemetery. The placement of the graves has left a large space in the center of

the cemetery that does not appear to contain any burials.

A search of the available United States Census, Civil War, and Kentucky birth and death records (available online at: <http://www.ancestry.com/home/mbDefault.aspx>) was conducted to have a better understanding about members of the families buried in the cemetery. A number of the burials were directly associated with the Farley family who owned the property containing the cemetery as well as surrounding properties throughout much of the twentieth century if not earlier.

Joseph E. Farley is the earliest known owner of the property and surrounding properties, and he was married to Rachel Farley. According to death records, Joseph E. Farley died of Bright's Disease on May 14, 1932 (Ancestry.com 2007). Although a headstone was present in the cemetery for Rachel Farley, death records indicate she died February 26, 1948, and was buried in Sandy Hook Cemetery (Ancestry.com 2007). This is supported by the fact that her headstone in Farley Cemetery does not list a death date.

**Table 22. Burials in Site 15E180.**

Grave	Name	Date(s)	Footstone	Type
1	Donald Farley	11/15/1950-11/15/1950	Yes	Formal
2	Ronald Farley	11/15/1950-11/15/1950	Yes	Formal
3	Dewy Baxter Farley	11/14/1929-2/10/1930	Yes	Formal
4	Dott E. Adkins	10/5/1893-7/4/1932	Yes	Formal
5	Edward Adkins	10/28/1915-10/28/1915	Yes	Formal
6	Cletus Dale Adkins	6/11/1932-10/5/1933	No	Formal
7	Willie Ellis	10/22/1893-10/22/1895	Yes	Formal
8	Elbert D. Farley	7/27/1912-1/9/1943	No	Formal
9	Rachel L. Farley	10/18/1874-no death date	Yes	Formal
10	Joseph E. Farley	7/17/1851-5/14/1932	Yes	Formal
11	Chester L. Farley	9/9/1902-7/29/1928	Yes	Formal
12	Mabel B. Farley	2/6/1910-7/24/1910	Yes	Formal
13	Unknown	Unknown	No	Metal Plaque
14	Robert Elliot	1916-1964	No	Metal Plaque
15	Unknown	Unknown	No	Metal Plaque
16	Unknown	Unknown	No	Depression
17	Unknown	Unknown	No	Depression
18	Unknown	Unknown	No	Depression
19	Wilma K. Meadows	6/5/1956-no death date	No	Formal
20	Cloteen Meadows	10/1/1922-10/27/2007	No	Formal
21	Clyde Meadows	8/31/1901-4/21/1961	No	Government
22	Jewell Cassity	8/20/1904-6/8/1946	Yes	Formal
23	Henry	Unknown	No	Wooden Plaque

Joseph and Rachel Farley were discovered to have been the parents of Chester L. Farley, Dewey Baxter Farley, Dott E. Adkins, Elbert D. Farley, and Mabel Farley (USBC 1900, 1910). Death records indicate that Chester L. Farley died July 28, 1923, of a self-inflicted gunshot wound that was ruled a suicide (Ancestry.com 2007). However, his headstone at the site lists his death as occurring on July 29, 1928.

Dott E. Adkins was the wife of Nealy Akins, and they were the parents of Edward Adkins and Cletus Dale Adkins. Death records indicate she died from an infection resulting from the birth of her son, Cletus (Ancestry.com 2007). Edward died in infancy, and Cletus died several months after his first birthday from dysentery (Ancestry.com 2007).

Clyde L. Meadows seems likely to have been the husband of Cloteen Meadows. He was a World War II veteran in the United States Army. He had enlisted July 7, 1942, and was honorably discharged January 30, 1944 (Ancestry.com 2012b). Death records for Cloteen Meadows were not available; however, her grave maker indicates she was the mother of Wilma K. Meadows.

Jewel Cassity was the daughter of Ollie and Nora Adkins. Her spouse may have been Charlie Cassidy. Death records indicate she died June 2, 1947, of pulmonary edema related to preexisting heart disease (Ancestry.com 2007).

Birth records indicate that Robert Elliott was born February 10, 1916, and was the son of Mollie Wagoner (Ancestry.com 2006). Death records indicate he died September 7, 1964 (Ancestry.com 2000).

Birth and death records for the other individuals interred in Farley Cemetery were not available.

## Investigation Methods

The Farley Cemetery is located on a ridgetop saddle. The entire area was walked over to determine if any other burials were located near or within the cemetery. Data pertaining to the site location was recorded, and the site was indicated on appropriate maps. A site datum was established and recorded with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All observed graves were piece plotted on a site plan map (see Figure 59).

## Archival Data

The property containing Site 15E180 seems to have been owned by Joseph E. Farley throughout the early to mid-twentieth century (Table 23). He died May 14, 1932, at which point the property in his possession appears to have been devised to his wife, Rachel (Ancestry.com 2007). The earliest known deed record with regard to the ownership history for Site 15E180 dates to 1935. On August 5, 1935, Faye G. Redwine, Special Commissioner, sold a 58 ha (144 acre) property to Willie Farley in the division of the lands of Rachel Farley (ECCO DB 28:43). The property was sold on behalf of Dott Farley and Nealy Adkins, Ada Farley and Marvin Pennington, Dewey and Beulah Farley, Geneva and Claude Howard, Cora Farley and Kenneth Mobley, Elbert and Irene Farley, Lillia Farley and Jack Brown, and Virginia Farley and Clyde Whitt. Rachel did not die until February 26, 1948, suggesting that she was allowing the children to divide the land amongst themselves that was devised to her by their father, Joseph E. Farley (Ancestry.com 2012a).

**Table 23. Ownership History for Site 15E180.**

Willie Farley died intestate on or about June 19, 1936, and through his affidavit of descent the property in his possession was devised to his wife, Delpha, and their children, Earl, Mildred, Christine, Edna, Rosina, Billie, Joyce, and Laura Rachel (ECCO DB 38:569). Then on May 7, 1949, Christine Mullins, a widow, sold her interest in the property to her sister, Mildred Veach, and her husband, Carrol, for \$1.00 cash in hand and other good and valuable considerations (ECCO DB 38:525).

## Summary and National Register Evaluation

Site 15E180 (Farley Cemetery) is a historic cemetery containing 22 burials primarily from the Farley, Adkins, and Meadows families. Unsurprisingly, ownership of the cemetery has remained and still remains in members of the Farley's extended family. The earliest death date for a burial in the cemetery is 1895, and the most recent is 2007. The majority of the burials from the cemetery have death dates in the early to mid-twentieth century.

Similar cemeteries are of common occurrence throughout eastern Kentucky, and Farley Cemetery is not a unique representation of a small family cemetery in the region. Therefore, Site 15E180 is recommended not eligible for inclusion in the NRHP. Since only a small portion of the cemetery is located in the project area, it is recommended for avoidance if possible. If it cannot be avoided then any burials that may be affected will need to be moved in accordance with Kentucky state law.

## Project Impacts

This small family cemetery is situated on ridge spur overlooking the Little Sandy River. Although the cemetery is recommended not eligible for inclusion in the NRHP, it is recommended for avoidance as only a small section of the southern portion of the cemetery is located in the project area. Any burials that may be affected by the current project will have to be moved in accordance with Kentucky state law.

## Site 15E181

**Elevation:** 221 m (725 ft) AMSL

**Component(s):** historic

**Site type(s):** farmstead

**Size:** 1,575 sq m (17,020 sq ft)

**Distance to nearest water:** 25 m (82 ft)

**Direction to nearest water:** east

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** weeds, brush, briars, and deciduous trees

**Ground surface visibility:** less than 10 percent

**Aspect:** level

**Recommended NRHP status:** unassessed

## Site Description

Site 15E181 is a historic farm/residence that dates from the late nineteenth century to mid-twentieth century and consists of a low density historic material scatter, an extant

residential structure, a well house and limestone well, and the possible remains of a limestone wall (Figures 60 and 61). The site is located approximately 1.7 km (1.1 mi) west-southwest of the town center of Sandy Hook on the southeast side of KY 7 at approximately 221 m (725 ft) AMSL. A steep sloping access drive connects the site to KY 7. It is situated on a floodplain of the Little Sandy River which is approximately 25 m (82 ft) to the east. An unnamed intermittent tributary of the Little Sandy River forms the southern boundary for the site. Vegetation consisted of mixed grass, weeds, brush, briars, and deciduous trees. As a result, GSV was generally less than 10 percent.

The earliest map depicting a structure in the general vicinity of the site is the 1950 Sandy Hook quadrangle (see Figure 27). Historic aerials first depict the extant residential structure at the site in 1947, and a fence or wall of some type appears to be present in the general vicinity of the possible stone wall remains noted at the site.

The extant residential structure (Figure 62) present at the site and the well house (Figure 63) were previously recorded by CRA personnel as part of cultural historic Site 30 (EL 86) (Spurlock et al. 2015). Based on construction style the structure was thought to have been constructed between 1875 and 1899. The well was likely constructed around the same time as the residential structure, but the well house appears to have been constructed at a later date.

The well present at the site is surrounded by the cinder-block wall remains of a well house (Figure 64). The well is constructed of limestone blocks that are currently moss covered. The possible remains of a stone wall consisted of a dispersed line of limestone blocks that bisected the southern portion of the site (Figure 65). Many of the stones were sodded and moss covered. The line of stones appeared to originate near the base of the gravel access drive and generally trend in a southeasterly direction.

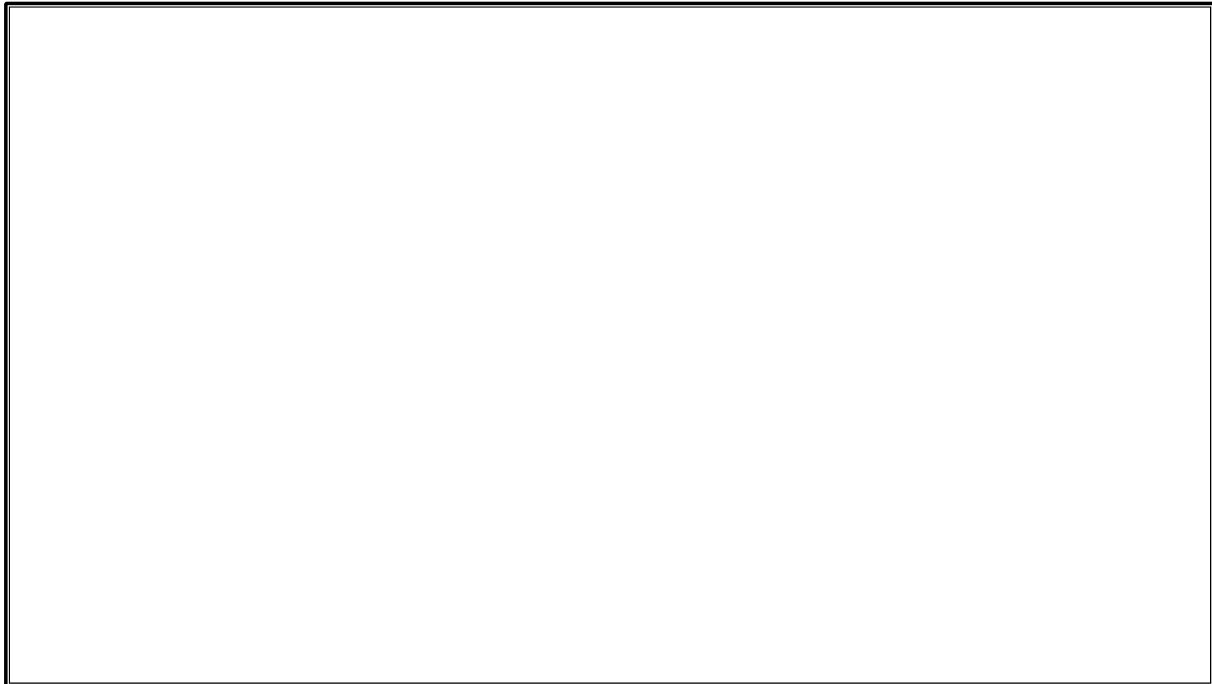


Figure 60. Overview of Site 15E181, facing north-northwest.



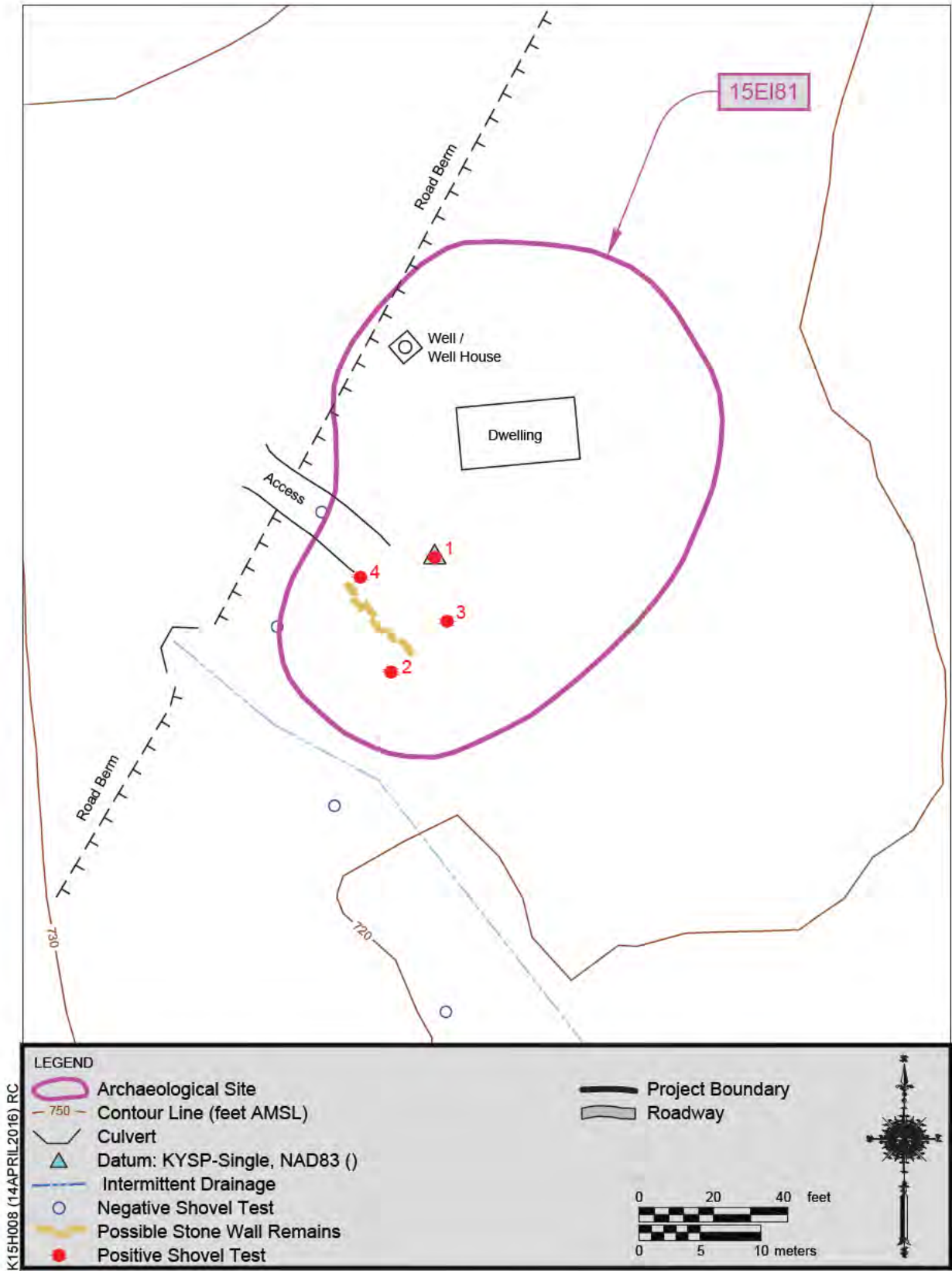


Figure 61. Schematic plan map of Site 15EI81.



**Figure 62. Extant residential structure at Site 15E181, facing east.**



**Figure 63. Well house at Site 15E181, facing north.**



Figure 64. Limestone block well at Site 15EI81.



Figure 65. Possible remains of stone wall at Site 15EI81.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 5–10 m (16–33 ft) intervals was conducted throughout the portion of the site located within the current project area. The boundaries for the site were the project area to the north and east, KY 7 to the west, and an unnamed intermittent tributary of the Little Sandy River to the south. The site measured approximately 45 m (148 ft) north-south by 35 m (115 ft) east-west for a total of 1,575 sq m (17,020 sq ft). Only 6 STPs were able to be conducted at the site due to the limitations imposed by the current project area; however, 4 STPs were positive for cultural materials between 0 and 35 cm bgs. Cultural materials associated with the site were noted to be scattered across the ground surface in the portions of the site outside the current project area, and therefore, were not collected.

A datum was established at the location of STP 1. The location of the site datum, several STPs and the location of the well house were mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.

## Depositional Context

The western half of the site is mapped with Rowdy series gravelly loam, and the eastern half of the site is mapped with Grigsby fine sandy loam. A typical soil profile at the site had a surface layer that consisted of brown (10YR 4/3) fine grained sandy loam to sandy clay loam that was gravelly to a depth of approximately 25 cm (10 in) bgs. Coal was common in the surface layer. This was followed by a dark yellowish brown (10YR 4/4) sandy loam to sandy clay loam subsoil (Figure 66). STP 2 exhibited a surface layer of very dark grayish brown (2.5Y 3/2) gravelly sandy clay loam with fine roots to a depth of 24 cm (9 in) bgs. This was followed by a layer of brown (10YR 4/3) sandy loam with coal to

a depth of 35 cm (14 in) bgs. The subsoil was wet and gritty grayish brown (2.5Y 5/2) sandy clay (Figure 67).

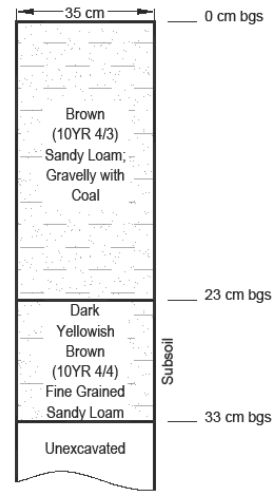


Figure 66. Representative soil profile from Site 15E181.

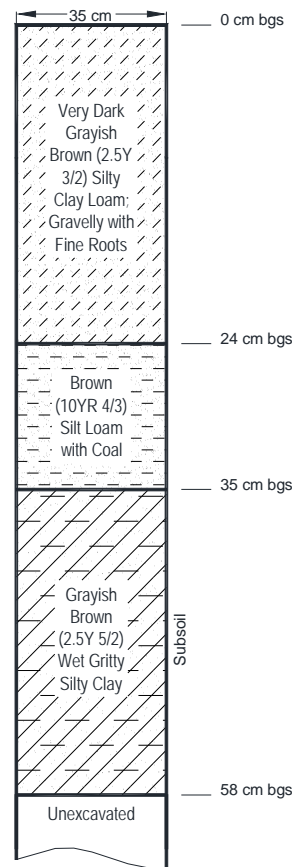


Figure 67. Representative soil profile from STP 2 at Site 15E181.

## Artifacts

A total of 30 historic artifacts were recovered during field investigations at Site 15E181 (Table 24). The historic artifact assemblage was comprised of architecture (n = 6), domestic (n = 16), personal (n = 1), and unidentified (n = 7) group items. The average date range for the artifacts recovered was 1883–1961, with a mean date of 1922.

The architecture group assemblage consisted of a machine-made brick fragment, 2 pieces of window glass dating tentatively to the 1910s, and 3 complete wire-drawn nails with pennyweights of 3d, 5d, and 30d.

The domestic group assemblage consisted of ceramics (n = 8), container glass (n = 7), and a container closure (n = 1). Whiteware was the only ceramic type recovered, with 5 undecorated ceramics dating after 1830, and 3 plain dating between 1860 and 1930. Five of the container glass fragments consisted of ABM and 2 were undiagnostic container fragments. The ABM glass assemblage included 1 green stippled soda bottle base dating after 1940, while the rest consisted of body sherds, all of which were clear. The undiagnostic container glass sherds were clear and opaque white. A zinc canning jar lid fragment was the lone container closure.

Only 1 personal group artifact was recovered which was an Avon sample lipstick tube and it dates to the 1960s. Unidentified group items included a piece of amorphous

glass (n = 1), a piece of lead (n = 1), and unknown plastic items/parts (n = 5).

## Features

Features noted at the site included a limestone well and the possible remains of a limestone wall. No other archaeological features were observed during investigations at the site.

## Archival Data

Based on deed records, the earliest known owner of the property was J.T. Brown (Table 25). The earliest known deed record with regard to the ownership history for Site 15E181 dates to 1946. On May 6, 1946, Ruth Keck, Special Commissioner, conveyed a 10 ha (25 acre) tract of land containing Site 15E181 to Irene B. Farley for premises outlined in the deed and the further consideration that Irene pay a proportionate share of the costs for the purpose of dividing land amongst the heirs of J.T. Brown (ECCO DB 34:272). The heirs for which the conveyance was made on behalf included, Laura Brown, Irene B. Farley, Ray Brown, Frances Brown, Myrtle Hank, Delpha Farley, Viola Lewis, June Lewis, Lester Brown, Opal Brown, Wilma Brown, Johnie Brown, Ruth Brown, Ladonna Brown, William Thomas Brown, John Ison, Ronald C. Brown, Bettie Francis Brown, and Janet Brown. The property was said to contain the “Old Brown Dwelling House.”

**Table 24. Artifacts Recovered from Site 15E181.**

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0–23 cm bgs	Architecture	Window glass, nails	4
STP 1	I	0–23 cm bgs	Domestic	ABM, undiagnostic container glass	2
STP 1	I	0–23 cm bgs	Unidentified	Plastic, lead	2
STP 2	I	0–24 cm bgs	Domestic	ABM	1
STP 2	I	0–24 cm bgs	Unidentified	Glass	1
STP 2	II	24–35 cm bgs	Domestic	Ceramics, undiagnostic container glass	4
STP 3	I	0–29 cm bgs	Architecture	Nail	1
STP 3	I	0–29 cm bgs	Domestic	ABM, canning jar lid frag	3
STP 3	I	0–29 cm bgs	Unidentified	Plastic	4
STP 4	I	0–14 cm bgs	Architecture	Brick	1
STP 4	I	0–14 cm bgs	Domestic	Ceramics, ABM	6
STP 4	I	0–14 cm bgs	Personal	Lipstick tube	1
Total					30

Table 25. Ownership History for Site 15E181.

Date	Owner	Acreage	Amount
------	-------	---------	--------

The first known occupants at the dwelling present at Site 15E181 appear to have been J.T. Brown and his family. Census data indicates that in 1880, John T. Brown was living in the household of his parents, James and Frances Brown, in West Liberty, Morgan County (USBC 1880). He was living in West Liberty, Morgan County, in 1900, with his wife Laura and their daughter, Delpha; however, in 1910, he had moved to a farm he owned on the Little Sandy River in Martinsburg, Elliott County (USBC 1900, 1910). He and his family appear to have resided at the site through 1940 (USBC 1920, 1930, 1940).

It is possible that Irene B. Farley resided at the site briefly in the mid-twentieth century; however, it is more likely that upon J.T. Brown's death on an unknown date circa 1946, occupation of the site ceased.

## Summary and National Register Evaluation

Site 15E181 is a historic farm/residence dating from the late nineteenth century to mid-twentieth century that consists of a low density historic material scatter, an extant residential structure, a limestone well and associated well house, and the possible remains of a limestone wall.

The known use of the site as a domestic farm/residence is supported by the historic assemblage. The assemblage was composed primarily of architectural and domestic group artifacts. Although the first depiction of a structure in the location is present on the 1950 quadrangle, the artifact data is generally consistent with the cultural historic data which indicates the house was constructed between 1875 and 1899 (Spurlock et al. 2015).

Although the dwelling at Site 15E181 may have been occupied prior to the turn of the twentieth century, occupation appears to have begun no later than 1910 by J.T. Brown and his family. He and his family likely resided at the site until his death circa 1946, at which time his lands were divided and ownership of the property was conveyed to his daughter, Irene B. Farley. She may have briefly resided at the site before selling it in 1949; however, occupation likely ended shortly after the death of J.T. Brown at or around that time.

Field investigations at the site were greatly limited by the current project area and the site boundaries for the site clearly extend outside the project boundaries to the north and east. However, the portion of the site within the current project area did not appear to exhibit any intact buried cultural deposits or features of significance. Therefore, the portion of Site

15E181 within the current project area is recommended not eligible for inclusion in the NRHP, and no further work is recommended. The portions of the site outside the project area should be avoided, and additional work is recommended to assess the site for inclusion in the NRHP.

### Project Impacts

This historic site is situated on a floodplain along the Little Sandy River. Additional archaeological work in the recorded portion of the site would not likely produce significant information beyond what has been collected. As noted above, the portion of Site 15E181 within the project area is recommended as not eligible for listing in the NRHP and no further work will be needed for the investigated portion of the site. For this reason, the investigated portion of the site will not be impacted by the proposed construction activities.

## Site 15Mo174

**Elevation:** 253 m (830 ft) AMSL  
**Component(s):** historic and prehistoric  
**Site type(s):** farm/residence, open habitation without mounds  
**Size:** 5,850 sq m (62,835 sq ft)  
**Distance to nearest water:** 3 m (10 ft)  
**Direction to nearest water:** east  
**Type and extent of previous disturbance:** unknown  
**Topography:** floodplain  
**Vegetation:** mixed grass and weeds, manicured grass  
**Ground surface visibility:** less than 10 percent  
**Aspect:** level  
**Recommended NRHP status:** not eligible

### Site Description

Site 15Mo174 is a multicomponent site that consists of a late-nineteenth-century to mid- to late-twentieth-century farm/residence and a prehistoric open habitation without mounds (Figures 68 and 69). The historic component consists of a low density historic material scatter, two structures, and two

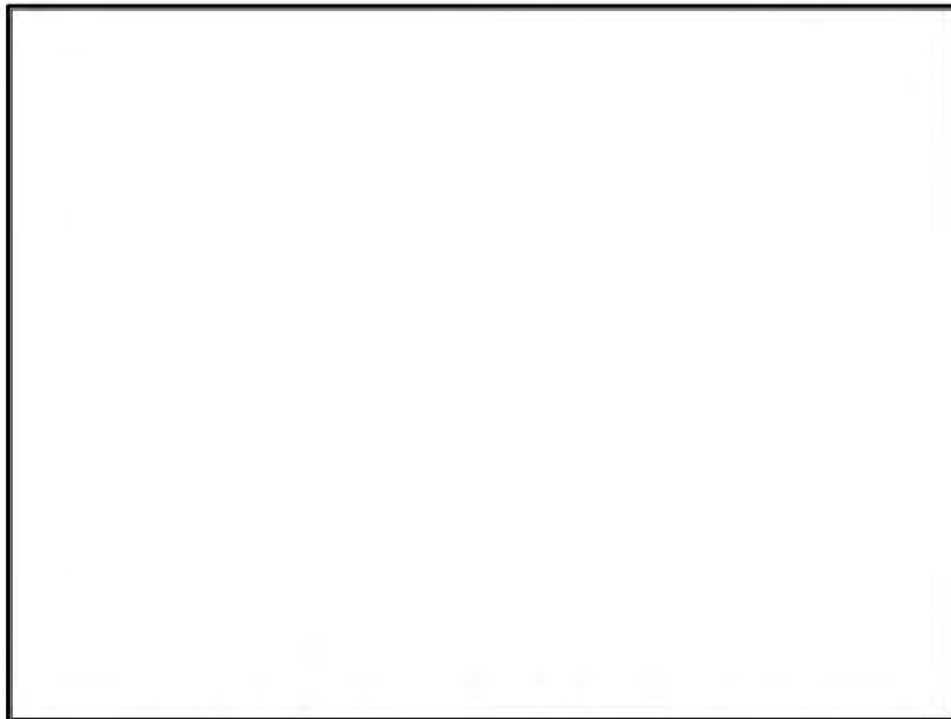
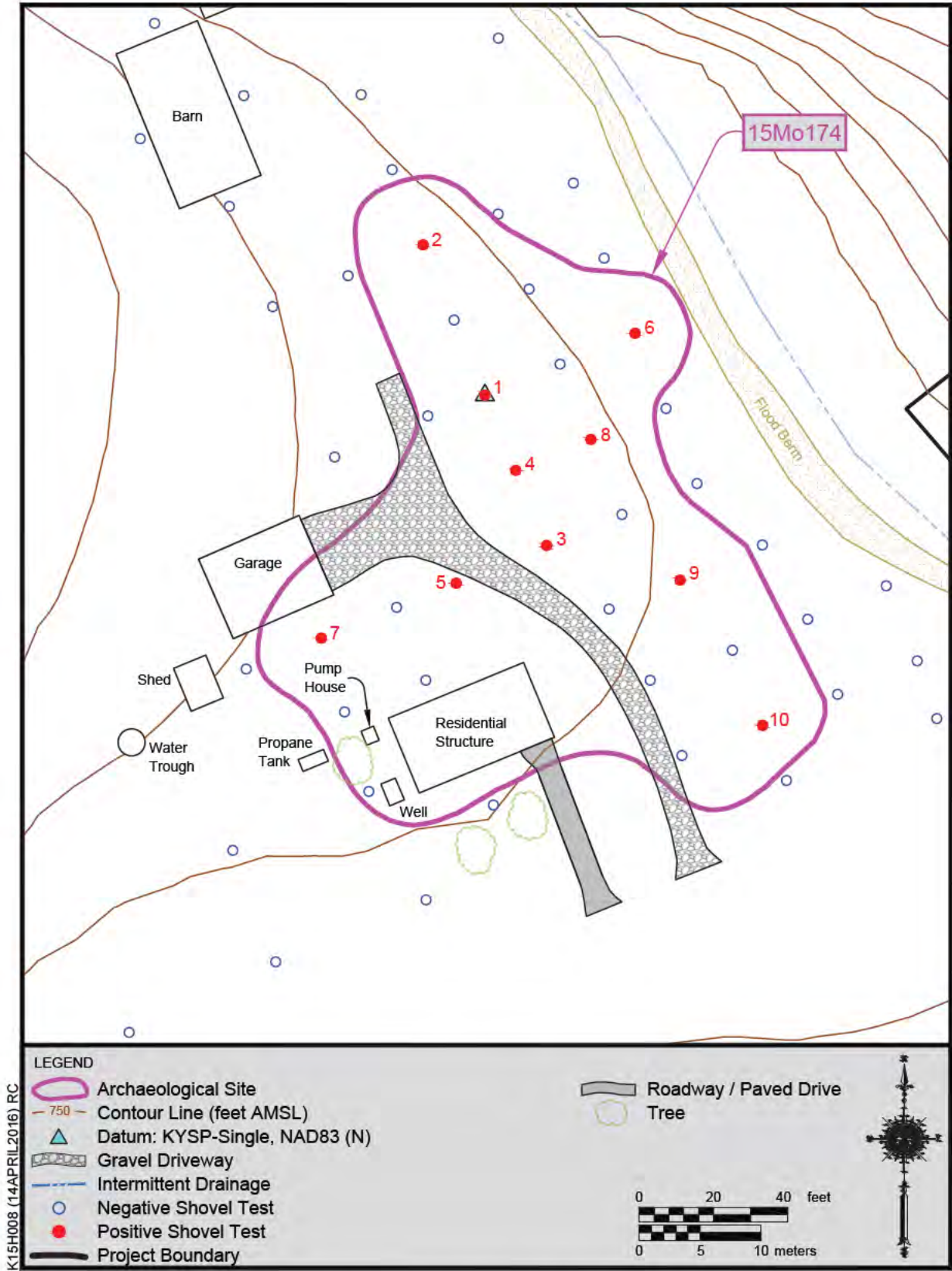


Figure 68. Overview of Site 15Mo174, facing southeast.



K15H008 (14APRIL2016) RC

Figure 69. Schematic plan map of Site 15Mo174.



wells/well houses. The prehistoric component consists of a low density lithic scatter.

The site is located northeast of the town of Wrigley on the north side of KY 7 at approximately 253 m (830 ft) AMSL. The site is situated at the mouth of a hollow on a floodplain. A flood berm separates the intermittent drainage from the site. Vegetation throughout the majority of the site consisted of mixed grass and weeds. In the western portion of the site vegetation consisted of manicured grass. GSV was generally low throughout the site at less than 10 percent.

The earliest map depicting a structure in the general vicinity of the site is the 1929 Morehead quadrangle (see Figure 24). The map depicts a single residential structure on the north side of KY 7 in the same general location as the residential structure present on the property; however, this is not the currently extant structure. The original residential structure is also depicted on the 1935 quadrangle, the 1937 and 1951 county highway maps, and the 1953 quadrangle. A barn formerly present at the site likely dating to the mid-twentieth century is also depicted

on the 1953 Wrigley quadrangle. The currently extant house and barn present at the site are first depicted on the 1977 Wrigley quadrangle. According to the current landowner, Danny Lewis (personal communication 2015), the extant house and barn were constructed in the mid-1960s. Evidence of the razed residential structure appeared to have been entirely demolished due to the construction of the currently extant residential structure. It is more or less located in the same footprint of the razed house. Historic aerials from 1947, 1950, and 1961 depict the formerly present residential structure and barn from the site, confirming the currently extant house and barn present at the site were constructed at some point after 1961.

Five structures were noted to be extant during field investigations, all of which appear to have been constructed after 1950. The residential structure (Figure 70) and tobacco barn (Figure 71) appear to date to the mid- to late twentieth century and were recorded by CRA personnel as part of cultural historic Site 109 (MO 505) (Spurlock et al. 2015). The rest of the extant structures are non-historic and include a garage, a prefabricated shed, and a frame shed.



Figure 70. Overview extant residential structure at Site 15Mo174, facing northeast.



Figure 71. Overview of tobacco barn at Site 15Mo174, facing northwest.

A well (Figure 72) and well house (Figure 73) are present at the site and were also recorded as part of cultural historic Site 109 (Spurlock et al. 2015). They are each located adjacent to the southwest of the extant residential structure, and both are rectangular in shape and constructed of stacked stone blocks and mortar.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the boundaries of the site. The boundaries for the site were defined by negative shovel tests in all directions but to the east. The eastern boundary was defined by an unnamed tributary of Road Fork. The site measured approximately 90 m (295 ft) north-south by 65 m (213 ft) east-west for a total of 5,850 sq m (62,835 sq ft). Nearly 40 STPs were conducted during investigations at the site with cultural materials recovered from 10 STPs between 0 and 39 cm bgs.

A datum was established at the location of STP 1. The location of the site datum was mapped with an iPad Mini tablet coupled with

a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.

## Depositional Context

The location of the site is mapped as Rowdy series loam. Two soil profiles were typical throughout the site. One had a surface layer of olive brown (2.5Y 4/3) fine grain sandy loam to sandy clay loam with coal and some gravel to an average depth of approximately 32 cm (13 in) bgs. The subsoil generally consisted of a light olive brown (2.5Y 5/4) sandy clay loam (Figure 74). The other common soil profile at the site exhibited a surface layer of dark yellowish brown (10YR 4/4) fine grain sandy loam with some gravel to an average depth of approximately 21 cm (8 in) bgs. This was followed by a subsoil that consisted of brownish yellow (10YR 6/6) silty clay (Figure 75). Inconsistencies in the soil types found at the site are likely attributable to agricultural activities as well as flooding episodes.



**Figure 72. Overview well at Site 15Mo174, facing west-northwest.**



**Figure 73. Overview of well house at Site 15Mo174, facing northeast.**

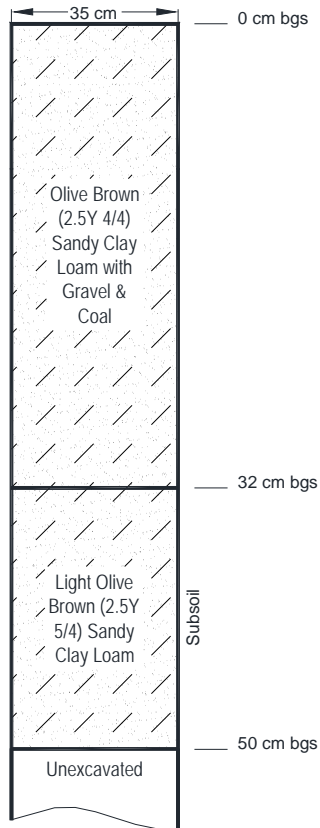


Figure 74. Representative soil profile 1 from Site 15Mo174.

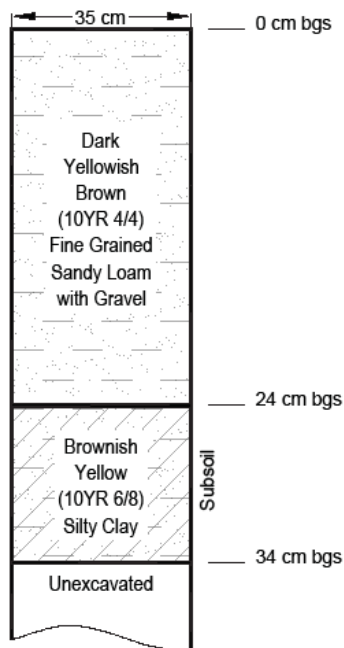


Figure 75. Representative soil profile 2 from Site 15Mo174.

One STP contained a transition zone that was positive for cultural materials just beneath the plow zone; however, this does not appear to be evidence of intact buried deposits at the site.

BA 8 was conducted in the boundaries of the site. The results of the BA are presented in the Bucket Augering section of this report.

## Artifacts

Field investigations recovered a total of 47 historic artifacts from Site 15Mo174 (Table 26). The artifacts included architecture (n = 5), domestic (n = 37), furnishings (n = 4), and unidentified (n = 1) group items, with an average date range of 1939–1952, and a mean date of 1922.

The architectural group assemblage consisted of 3 flat glass fragments and 2 indeterminate nails. Two of the flat glass fragments were window glass that tentatively dates to 1834 and 1915. A single plate glass fragment dating after 1917 made up the third piece of flat glass.

The domestic group assemblage consisted of ceramics (n = 3), container glass (n = 29), container closures (n = 3), and glass tableware (n = 2). Chromatic-glazed whiteware dating between 1923 and 1945, decal decorated porcelain dating between 1890 and 1940, and undecorated ironstone dating after 1830, made up the ceramics recovered from the site. The container glass was dominated by ABM (n = 26), but also included BIM (n = 1), and undiagnostic container glass (n = 2). The lone piece of BIM glass was an aqua canning jar body fragment dating between 1850 and 1920. The ABM glass consisted of 2 cup bottom mold cobalt medicine bottle base fragments, a clear miscellaneous bottle fragment with embossed hatching, a cobalt body sherd embossed with “SKY”, a clear crown lip soda bottle fragment, and 21 body sherds of varying color. Identifiable vessel forms included a beer bottle, medicine bottles, miscellaneous bottles, and a soda bottle. All of the ABM glass dated after 1903. Two clear container glass sherds were undiagnostic. The 3 container closures were milk glass canning jar lid liners, and both

**Table 26. Artifacts Recovered from Site 15Mo174.**

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0–24 cm bgs	Architecture	Window glass, plate glass	2
STP 1	I	0–24 cm bgs	Lithic	Flakes	1
STP 1	I	0–24 cm bgs	Domestic	ABM, canning jar lid liner	2
STP 2	I	0–10 cm bgs	Architecture	Window glass	1
STP 3	I	0–25 cm bgs	Architecture	Nail	1
STP 3	I	0–25 cm bgs	Domestic	ABM, glass tableware	3
STP 4	I	0–24 cm bgs	Lithic	Flakes	1
STP 5	I	0–17 cm bgs	Architecture	Nail	1
STP 5	I	0–17 cm bgs	Domestic	Ceramic, ABM, undiagnostic container glass	3
STP 5	I	0–17 cm bgs	Furnishings	Lamp chimney glass	3
STP 5	I	0–17 cm bgs	Unidentified	Metal	1
STP 5	II	17–27 cm bgs	Lithic	Flakes	1
STP 6	I	0–15 cm bgs	Lithic	Flakes	1
STP 7	I	0–20 cm bgs	Domestic	Ceramic, BIM, ABM, undiagnostic container glass	4
STP 7	I	0–20 cm bgs	Furnishings	Lamp chimney glass	1
STP 8	I	0–20 cm bgs	Domestic	Ceramic, ABM, canning jar lid liner, glass tableware	5
STP 8	I	30–39 cm bgs	Domestic	Canning jar lid liner	1
STP 9	I	0–22 cm bgs	Lithic	Flakes	1
STP 10	I	0–32 cm bgs	Domestic	ABM	19
				Total	52

glass tableware sherds were press molded. Of the glass tableware, 1 was a Depression glass sherd dating after 1920, and the other was a clear tumbler sherd dating after 1864.

The furnishings group assemblage was composed of 4 lamp chimney glass fragments dating between 1854 and 1940. The lone unidentified group item consisted of a piece of amorphous iron/steel that was not assigned a specific date.

The prehistoric component of Site 15Mo174 consisted of a total of 5 flakes (see Table 26). These included 4 flakes larger than .25 inch (4.4 g) and 1 flake (.1 g) smaller than .25 inch. Raw materials identified at the site included Oolitic Newman (n = 2), Newman (n = 1), and Ste. Genevieve (n = 1) cherts.

## Features

Aside from the two wells/well houses, no features were observed during the investigation of the site. In addition, no FCR, charcoal, or burned soil was observed in any of the shovel tests.

## Archival Data

Deed records indicate the earliest known owner of the property containing Site

15Mo174 was R.M. Fraley (Table 27). He died November 27, 1927, and was survived by his wife, Maude Fraley, and their children (Ancestry.com 2007). The earliest known deed record with regard to the ownership history for Site 15Mo174 dates to 1933. On December 18 of that year the heirs of R.M. Fraley were selling interest in a property of unknown size to the Commercial Bank of West Liberty, Kentucky, for \$2,000.00 (Morgan County Clerk’s Office [MCCO] Deed Book [DB] 67:419, West Liberty, Kentucky). An action was filed by the Commercial Bank of West Liberty against Clyde Fraley et al. which resulted in Harlam Murphy, Master Commissioner, exposing the property for sale at public auction at which point it was purchased by the Commercial Bank of West Liberty. The property was sold on behalf of Maude (Fraley) Keeton, Stewart Keeton, Claude Fraley, Virginia Fraley, Kesse Fraley, Edna Mays, Thelma Mays, W.M. Gardener, W.D. Ratliff, C.K. Stacy (Administrator of the estate of R.M. Fraley), and the Commercial Bank of West Liberty. The deed indicated that the property was previously owned by R.M. Fraley, and that he had acquired the property via R.M. Oakley, Master Commissioner, on an unknown date.

Table 27. Ownership History for Site 15Mo174.

Date	Owner	Acreage	Amount
------	-------	---------	--------

The Fraley family likely represents the first occupants at Site 15Mo174. In 1900, R.M. Fraley was living in the household of his parents in Devils Fork, Elliott County, and in 1910 he remained in their household, although the family had moved to North Fork, Morgan County, possibly to the location of Site

15Mo174 (USBC 1900, 1910). In 1920, he and his wife, Maude, were renting a house in North Fork, likely at the location of Site 15Mo174 (USBC 1920). Following R.M. Fraley's death in 1927, by 1930, his family had moved to a farm on Blairs Mill Road in District 3, Morgan County (USBC 1930).

Census data indicates that in 1930, Merdie Adkins owned a farm on Fork Road in District 3, Morgan County; however, no census data is available for the Adkins family in 1940 (USBC 1930). It seems likely that Merdie and his family resided at the location of Site 15Mo174 from throughout much of the mid-twentieth century, beginning at least by 1937.

## Summary and National Register Evaluation

Site 15Mo174 is a multicomponent site consisting of a late-nineteenth-century to mid-to late-twentieth-century farm/residence, and a prehistoric open habitation without mounds of unknown temporal affiliation. Both site components consisted of low density cultural material scatters.

Historic artifacts recovered from the site support its known use as a domestic farm/residence. Although a residential structure is first depicted on the 1929 quadrangle (see Figure 24), the artifacts suggest that the house formerly present at the site was constructed in the early twentieth century, and no later than the 1920s. The ceramic assemblage and the prevalence of ABM glass emphasize turn-of-the-twentieth-century or early-twentieth-century occupations. The presence of Depression glass supports an early- to mid-twentieth-century site occupation.

The archival data suggests that the first occupants at the site were members of the Fraley family as early as 1910. R.M. Fraley and his family appear to have been residing at the site throughout much of the early twentieth century, until his death in 1927. The next possible occupants appear to have been the family of Merdie Adkins by the 1930s. They may have resided at the site into the mid-twentieth century.

The sparse lithic assemblage indicates that the prehistoric occupations at the site were short-term or specialized in nature. Without cores or modified implements, little more can be said about the activities that occurred on-site. The lack of diagnostic artifacts makes defining cultural and/or temporal affiliations impossible. With no one dominant chert type present in the prehistoric assemblage, it suggests a wide variety of raw materials were incorporated into the toolkit of occupants at the site. It is likely that the prehistoric component at the site was significantly disturbed by the later historic component.

No intact buried archaeological deposits or features were noted to be present at the site, and no FCR, burned soil, and/or charcoal was observed. All but one artifact (a flake) was recovered from plow zone contexts and the southwestern portion of the site exhibited relatively high disturbance levels associated

with residential construction activities. As a result, the site is unlikely to contain any intact buried deposits or features. Due to these factors Site 15Mo174 is recommended not eligible for inclusion in the NRHP; no further work is recommended.

## Project Impacts

This multicomponent site is situated on a floodplain. Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15Mo174. The proposed construction activities will have no effect on the site since it is not listed in or eligible for the NRHP.

## Site 15Mo175

**Elevation:** 256 m (840 ft) AMSL

**Component(s):** historic and prehistoric

**Site type(s):** farmstead, open habitation without mounds

**Size:** 4,550 sq m (48,990 sq ft)

**Distance to nearest water:** 0 m (0 ft)

**Direction to nearest water:** north

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass and weeds, manicured grass

**Ground surface visibility:** less than 10 percent

**Aspect:** level

**Recommended NRHP status:** not eligible

## Site Description

Site 15Mo175 is a multicomponent site that consists of a late-nineteenth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation (Figures 76 and 77). The historic component consists of a medium density historic material scatter, four extant historic structures, and a cement-lined well. The prehistoric component consists of a low density lithic scatter.



Figure 76. Overview of Site 15Mo175, facing north-northeast.

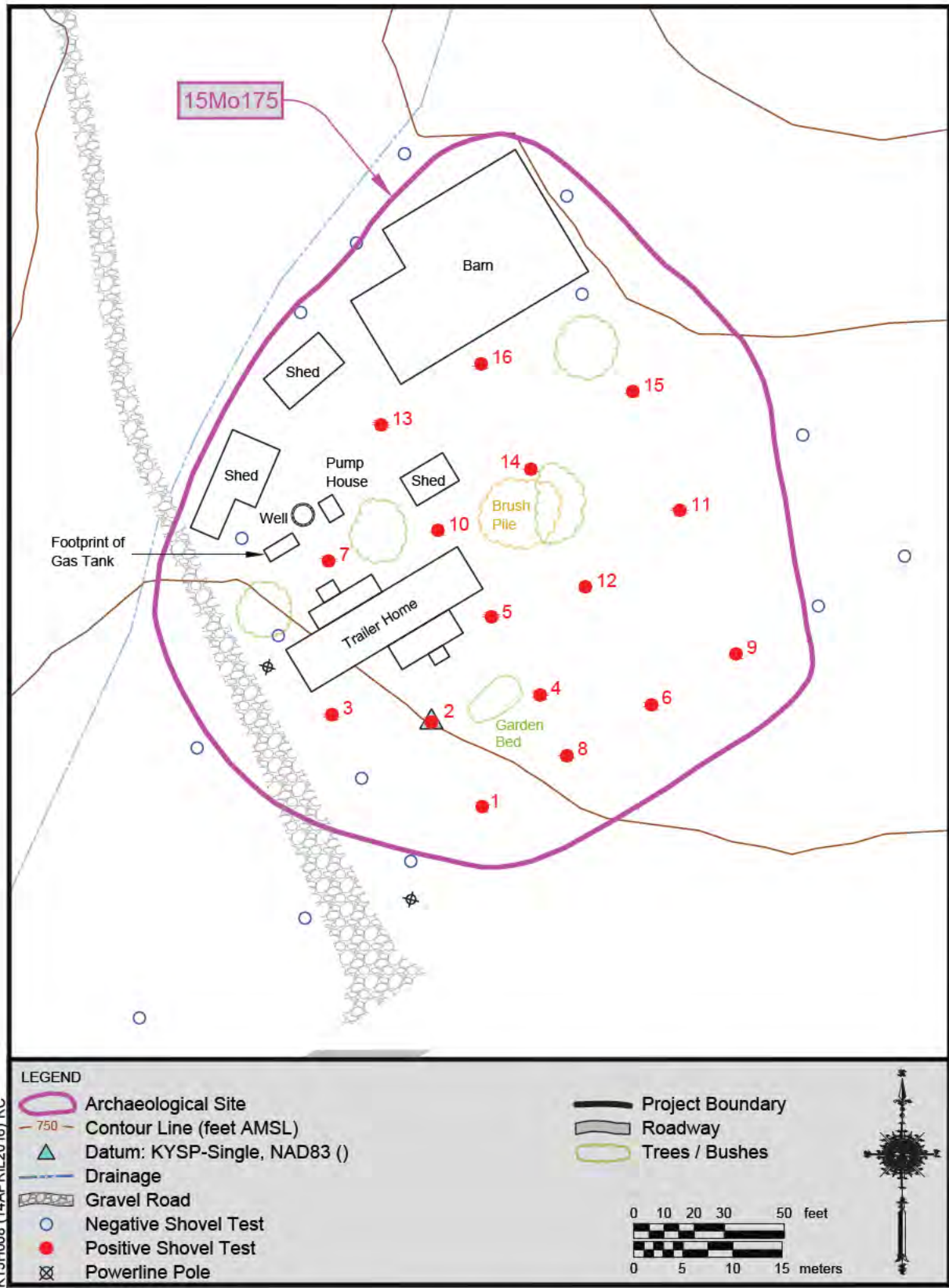
The site is located northeast of the town of Wrigley on the north side of KY 7 at approximately 256 m (840 ft) AMSL. The site is situated at the mouth of a hollow on a floodplain of Road Fork. An unnamed tributary of Road Fork is located directly adjacent to the north of the site. Vegetation throughout the majority of the site consisted of manicured grass with several deciduous trees. As a result, GSV was generally less than 10 percent throughout the site.

The earliest map depicting a structure in the general vicinity of the site is the 1937 county highway map (see Figure 26). The structure is also depicted on the 1953 county highway map; however, the structure appears to have been demolished shortly after since it is not

depicted on the 1953 topographic quadrangle map of the area. However, it does depict the extant barn currently present at the site. Historic aerials from 1947 and 1950 indicate the residential structure formerly present at the site was in the same general location as the extant mobile home that is currently present. The extant barn is also visible on both the 1947 and 1950 aerial images. The 1961 aerial image shows that the former residential structure had been demolished, but the barn and a shed to the west of the barn are present.

Six structures were noted to be extant during current field investigations. Four of the structures were previously recorded by CRA personnel as part of cultural historic Site 106 (MO 502) (Spurlock et al 2015). These include a front gable frame structure barn (Figure 78), two frame structure sheds (Figures 79 and 80), and a concrete block well house (Figure 81). All of the historic structures are thought to date to the early- to mid-twentieth century, although aerial images suggest several were constructed after 1960.



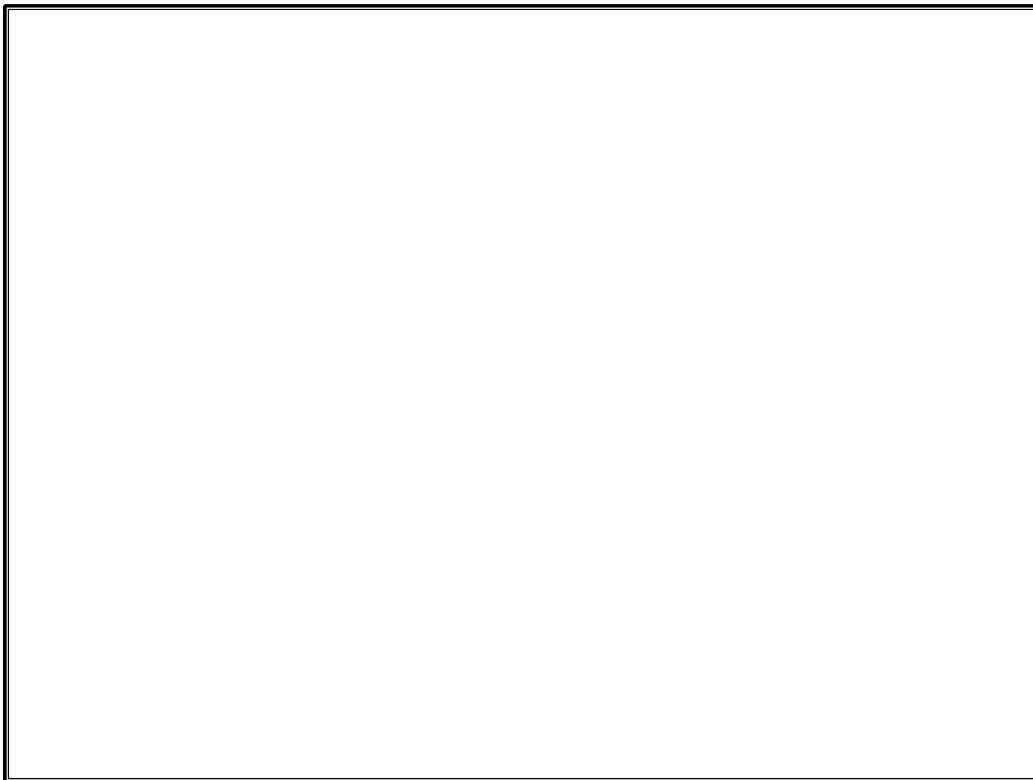


K15H008 (14APRIL2016) RC

Figure 77. Schematic plan map of Site 15Mo175.



**Figure 78. Barn present at Site 15Mo175, facing northeast.**



**Figure 79. Western-most shed present at Site 15Mo175, facing northeast.**



**Figure 80. Eastern-most shed present Site 15Mo175, facing southwest.**



**Figure 81. Well house and cement-lined well present at Site 15Mo175, facing south-southwest.**

Two non-historic structures were also present at the site and include a modern mobile home and a prefabricated shed. As mentioned previously, a residential structure was formerly present at the site in the location of the extant mobile home (Figure 82). The extant barn appears to have been the only structure from the site to be standing prior to the demolition of the former residential structure.

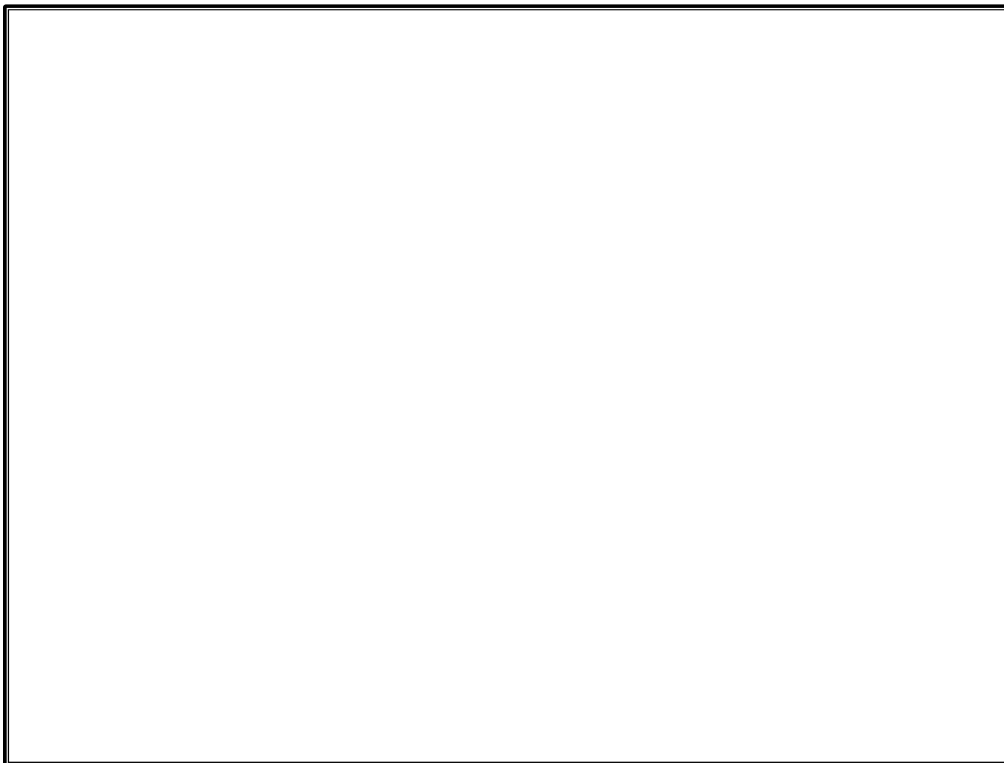
A cement-lined well was present at the site directly adjacent to the east of the well house (see Figure 81). The well was constructed of cement pipes that extended approximately 1 m (3 ft) above the ground surface. A wood post hoist stands over the well. The footprint of a modern propane tank was also present. The truncated gas line and cinder blocks on which the tank sat were all that remained.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft)

intervals was conducted throughout the boundaries of the site. Additional shovel tests were conducted off the grid to test around structures present at the site. The boundaries for the site were defined by negative shovel tests to the east and west, an unnamed tributary of Road Fork to the north, and KY 7 to the south. The site measured approximately 70 m (230 ft) north-south by 65 m (213 ft) east-west for a total of 4,550 sq m (48,990 sq ft). Nearly 30 STPs were conducted during investigations at the site with cultural materials recovered from 16 STPs between 0 and 39 cm bgs.

A datum was established at the location of STP 2. The location of the site datum, and several other STPs for reference were mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.



**Figure 82.** Modern mobile home is the location of the former residential structure present at Site 15Mo175, facing northeast.

## Depositional Context

The location of the site is mapped as Rowdy series loam. In the southern and eastern portions of the site a typical soil profile exhibited a surface layer of dark yellowish brown (10YR 4/4) sandy loam to sandy clay loam to an average depth of approximately 25 cm (10 in) bgs. This was generally followed by a yellowish brown (10YR 5/6) to brownish yellow (10YR 6/6) silt loam to silty clay subsoil (Figure 83). The central portion of the site was subjected to various disturbances related to construction and demolition activities. A soil profile in this portion of the site generally had a surface layer that consisted of a dark grayish brown (2.5Y 4/2) sandy clay loam to clay loam to an average depth of approximately 24 cm (9 in) bgs. The subsoil consisted of a yellowish brown (10YR 5/8) to brownish yellow (10YR 6/8) sandy clay to sandy clay loam (Figure 84).

BA 9 was conducted directly adjacent to the eastern site boundary. The results of the BA are presented in the Bucket Augering section of this report.

## Artifacts

A total of 60 historic artifacts were recovered from the site which included architecture (n = 20), domestic (n = 35), furnishings (n = 1), maintenance and subsistence (n = 1), and unidentified (n = 3) group items (Table 28). The average date range for the historic artifact assemblage was 1867–1942, with a mean date of 1905.

The architecture group assemblage consisted of construction materials (n = 4), flat glass (n = 8), and nails (n = 8). All of the construction material items were machine-made brick fragments that date after 1880. Of the flat glass, 5 pieces were window glass that date from 1870 to 1891, and 3 were plate glass that date after 1917. The 8 nails recovered were fragmentary and included 2 unspecified cut, 1 wire-drawn, and 5 indeterminate.

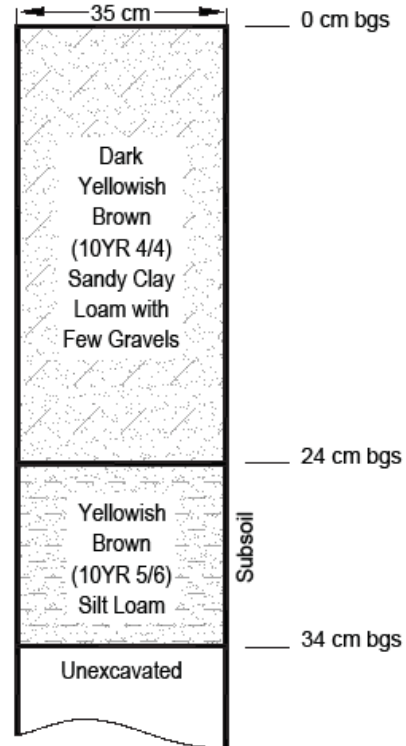


Figure 83. Representative soil profile from the southern and eastern portions of Site 15Mo175.

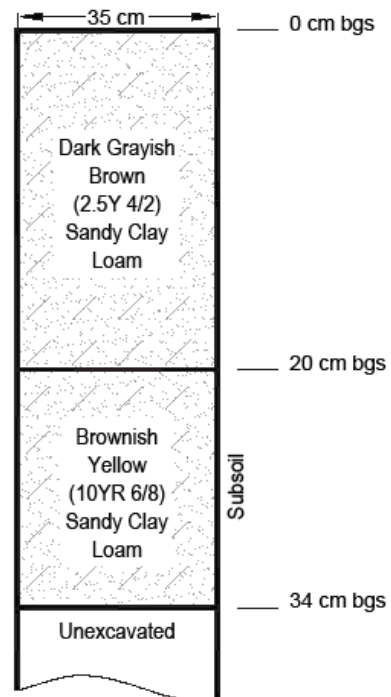


Figure 84. Representative soil profile from the central portion of Site 15Mo175.

**Table 28. Artifacts Recovered from Site 15Mo175.**

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0-15 cm bgs	Architecture	Nail	1
STP 1	I	0-15 cm bgs	Domestic	Ceramics, BIM	3
STP 2	I	0-30 cm bgs	Architecture	Window glass	2
STP 2	I	0-30 cm bgs	Domestic	ABM	2
STP 2	I	0-30 cm bgs	Furnishings	Lamp chimney glass	1
STP 3	I	0-30 cm bgs	Architecture	Plate glass, nails	2
STP 3	I	0-30 cm bgs	Domestic	Ceramics, ABM	4
STP 3	I	0-30 cm bgs	Unidentified	Metal, plastic	2
STP 4	I	0-30 cm bgs	Domestic	Ceramics, BIM, ABM	5
STP 4	I	0-30 cm bgs	Unidentified	Glass	1
STP 4	I	0-30 cm bgs	Lithic	Flakes	1
STP 5	I	0-17 cm bgs	Domestic	BIM, glass tableware	2
STP 5	I	17-39 cm bgs	Architecture	Brick, nails	6
STP 5	I	17-39 cm bgs	Domestic	ABM, undiagnostic container glass	4
STP 6	I	0-24 cm bgs	Domestic	BIM	1
STP 6	I	0-24 cm bgs	Lithic	Flakes	2
STP 7	I	0-20 cm bgs	Architecture	Plate glass	2
STP 7	I	0-20 cm bgs	Domestic	Ceramics, BIM, ABM	6
STP 8	I	0-30 cm bgs	Domestic	BIM	1
STP 9	I	0-25 cm bgs	Lithic	Flakes	1
STP 10	I	0-28 cm bgs	Architecture	Window glass	1
STP 10	I	0-28 cm bgs	Domestic	Ceramics, glass tableware	2
STP 10	I	0-28 cm bgs	Maint/sub	Bolt	1
STP 11	I	0-15 cm bgs	Architecture	Window glass	1
STP 12	I	0-35 cm bgs	Architecture	Nail	1
STP 12	I	0-35 cm bgs	Lithic	Flakes	1
STP 13	III	14-30 cm bgs	Architecture	Nail	1
STP 13	III	14-30 cm bgs	Domestic	Canning jar lid liner, BIM	2
STP 13	IV	30-39 cm bgs	Architecture	Nail	1
STP 14	II	5-20 cm bgs	Lithic	Flakes	1
STP 14	II	5-20 cm bgs	Architecture	Window glass, nail	2
STP 15	I	0-20 cm bgs	Domestic	ABM	2
STP 16	I	10-20 cm bgs	Domestic	Ceramic	1
Total					66

The domestic group assemblage consisted of ceramics (n = 11), container glass (n = 21), container closures (n = 1), and glass tableware (n = 2). All of the ceramics were plain/undecorated whiteware sherds. The 2 plain sherds date between 1860 and 1930, and represented part of a plate and a saucer. The 9 undecorated sherds date after 1830, and 5 were identified as plate sherds and 1 was a saucer sherd. BIM (n = 8), ABM (n = 12), and undiagnostic container glass (n = 1) made up the container glass. Two aqua embossed recessed panel medicine bottle sherds and 6 body sherds were identified from the BIM glass, and they were assigned a date range of 1865-1920. Three amethyst and 3 aqua body sherds were identified, 2 of which were canning jar fragments. The ABM glass included a single clear embossed meat jar sherd and body sherds of various colors. All of the ABM glass dates after 1903, and 2 canning

jars were identified. The lone container closure was a milk glass canning jar lid liner, and both of the glass tableware sherds were press molded. Of the glass tableware, one was an opaque white body fragment dating between 1830 and 1860, and the other was a clear unleaded body sherd dating after 1864.

A single lamp chimney glass fragment made up the furnishings group, and the lone maintenance and subsistence group item was an indeterminate bolt fragment. Single pieces of amorphous glass, modern plastic, and amorphous iron/steel made up the unidentified group assemblage.

The lithic assemblage from Site 15Mo175 consisted of a 6 nondiagnostic flakes (7.0 g) (see Table 28). Although no cores, modified implements, or FCR were recovered during these investigations, all of the flakes were larger than .25 inch, and therefore, able to be

identified for both raw material and reduction stage. Including a single example of Oolitic Newman chert, most of the flakes (n = 5; 83.3 percent) were made from Newman chert. The remaining flake was made from Chalcedony. Early stage (n = 3), middle stage (n = 1), and late stage (n = 2) flakes were present in the assemblage.

Mattie Eldridge for \$650.00 (MCCO DB 66:474). Mattie Eldridge and her husband, John, sold two tracts of land totaling 49 ha (120 acres) more or less to Charlie Adkins and his wife, Maggie, on November 8, 1943, for \$10.00 cash in hand and other good and valuable considerations (MCCO DB 75:5).

## Features

The lone feature present at the site was a cement-lined well. No other archaeological features were observed during the investigation of the site, and no FCR, charcoal, or burnt soil was observed in any of the shovel tests.

## Archival Data

The earliest known deed record with regard to the ownership history for Site 15Mo175 dates to 1923 (Table 29). On June 13, 1921, R.M. Oakley, Master Commissioner, exposed a property of unknown size for sale at public auction on behalf of Jennie Blair and Frank Blair. The property was sold on that date to Clay Blair for \$1,200.00 and entered into the records of the county clerk on November 17, 1923 (MCCO DB 54:425).

The next conveyance involving the property containing Site 15Mo175 occurred on December 24, 1928, when Clay Blair and his wife, Hettie, sold it to Charlie Dixon for \$4,000.00 (MCCO DB 64:74). On October 12, 1932, Charlie Dixon and his wife, Ella, sold the more or less 24 ha (60 acre) property to

**Table 29. Ownership History for Site 15Mo175.**

Date	Owner	Acreage	Amount
------	-------	---------	--------

The first potential occupants of the site appear to have been members of the Blair family in the late-nineteenth century. In 1900, Jesse Blair and his wife, Jennie, owned a farm in Magisterial District 6, Morgan County, possible at the location of the site (USBC 1900). Census data from 1910 indicates their family was living on a farm they owned in North Fork, Morgan County, likely at the location of Site 15Mo175 (USBC 1910). Jesse Blair died January 12, 1916, and was survived by his wife, Jennie, and their children (Ancestry.com 2007). Following Jesse's death, the property was conveyed to Clay Blair, his eldest son, in 1923.

It appears that from the time he acquired the property until selling it in 1928, Clay Blair and his family resided at Site 15Mo175. Census data supports this supposition indicating that in 1920 he owned a farm in North Fork, Morgan County (USBC 1920). After purchasing the property containing the site in 1928, census data shows that Charlie Dixon and his family lived on a farm he owned on Fork Road in District 3, Morgan County, suggesting an occupation at Site 15Mo175 (USBC 1930).

The property was purchased by Mattie Eldridge in 1932, who likely began occupying the site. In 1940, she and her husband, John, owned a farm along KY 7 in Morgan County, which was indicated to have been their residence in 1935 as well (USBC 1940).

No additional census data is available; however, it is possible that Site 15Mo175 was occupied by the family of Charlie and Maggie Adkins from 1943 to 1945, and Lonnie and Hannah Smith from 1945 to 1950. A brief occupation by the family of Emory and Nancy A. Click beginning in 1950 is also a possibility. Occupation of the site is thought to have ended circa 1953, by which time the residential structure formerly present at the site had been razed.

## Summary and National Register Evaluation

Site 15Mo175 is a multicomponent site that consists of a late-nineteenth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation.

The known use of the site as a domestic farm/residence is supported by the prevalence of architecture and domestic group items in the historic artifact assemblage. The first depiction of a residential structure at the location is on the 1937 county highway map, and based on later maps, the structure appears to have been demolished circa 1953. Based on the architectural and domestic artifacts recovered, it is likely that a domestic dwelling and outbuildings were present at the site by the late nineteenth century. Since some of the window glass was burned it is possible that the razed residential structure may have experienced a fire and/or burned down.

The archival data suggests the first site occupants were likely members of the Blair family in the late nineteenth century. The family of Jesse and Jennie Blair seems likely to have resided at the site by at least 1900, and census data suggests they remained at the location until Jesse's death in 1916. Following Jesse's death, his son, Clay Blair, and his family appear to have resided at the site until 1928.

Charlie and Ella Dixon and their family likely resided at the site from 1928 to 1932, followed by the family of John and Mattie Eldridge from 1932 to 1943. The family of Charlie and Maggie Adkins may have resided at the site from 1943 to 1945, and Lonnie and Hannah Smith's family may have been occupants from 1945 to 1950. The final possible occupants at the site would have been the family of Emory and Nancy A. Click beginning in 1950. Based on the absence of a residential structure in the location of the site on the 1953 quadrangle, occupation is thought to have ended by that time.



A sparse lithic assemblage consisting entirely of flake debris was recovered from the site. Beyond the interpretation of short-term or specialized occupations of the site, little else can be determined regarding the prehistoric component. However, raw material types suggest at least three individual lithic reduction episodes occurred at the site. The site's historic component may have resulted in an unknown level of disturbance to portions of the prehistoric component. The lack of diagnostic artifacts prevented insight into the cultural and/or temporal affiliations of the site occupants.

No evidence for the presence of intact buried cultural deposits or features of significance was noted at the site, nor was evidence of midden, FCR, and/or burned soil. Disturbances related to residential construction activities have resulted in significant disturbances to much of the site, and artifacts recovered from undisturbed portions of the site were found in plow zone contexts. Therefore, the potential for the site to contain any intact buried cultural deposits or features is considered low. Due to these factors, Site 15Mo175 is recommended not eligible for inclusion in the NRHP, and no further work is recommended.

## Project Impacts

This multicomponent site is situated on a floodplain of Road Fork. It is located in parcel number 43 which is owned by Patricia and Ronnie Wright; however, upon speaking with the Wrights (personal communication 2015) they explained that there was an error with the property boundaries at the Property Valuation Administrator's office and that the property was owned by the Click family who own the adjacent properties (parcel numbers 40 and 42). Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15Mo175. The proposed construction activities will have no effect on the site since it is not listed in or eligible for the NRHP.

## Site 15Mo176

**Elevation:** 274 m (900 ft) AMSL  
**Component(s):** historic  
**Site type(s):** farm/residence  
**Size:** 2,275 sq m (24,495 sq ft)  
**Distance to nearest water:** 35 m (115 ft)  
**Direction to nearest water:** south  
**Type and extent of previous disturbance:** unknown  
**Topography:** floodplain  
**Vegetation:** manicured grass, weeds, brush, briars, and deciduous trees  
**Ground surface visibility:** less than 10 percent  
**Aspect:** level  
**Recommended NRHP status:** not eligible

## Site Description

Site 15Mo176 is a historic farm/residence that dates from the early to mid-twentieth century and consists of a low density historic material scatter, the foundation remains of a suspected outbuilding, and several extant historic structures (Figures 85 and 86). The site is located northeast of the town of Wrigley on the north side of KY 7 at approximately 274 m (900 ft) AMSL. The site is situated between two hollows on a floodplain of Road Fork at the base of a south trending hillslope, and a small intermittent drainage is present in the east portion of the site. Evidence of an old gravel drive leading to the extant barn on the property was noted. Vegetation throughout the majority of the site consisted of manicured grass and deciduous trees. As a result, GSV was generally less than 10 percent. Some brush and briars were present on the hillsides in surrounding areas.



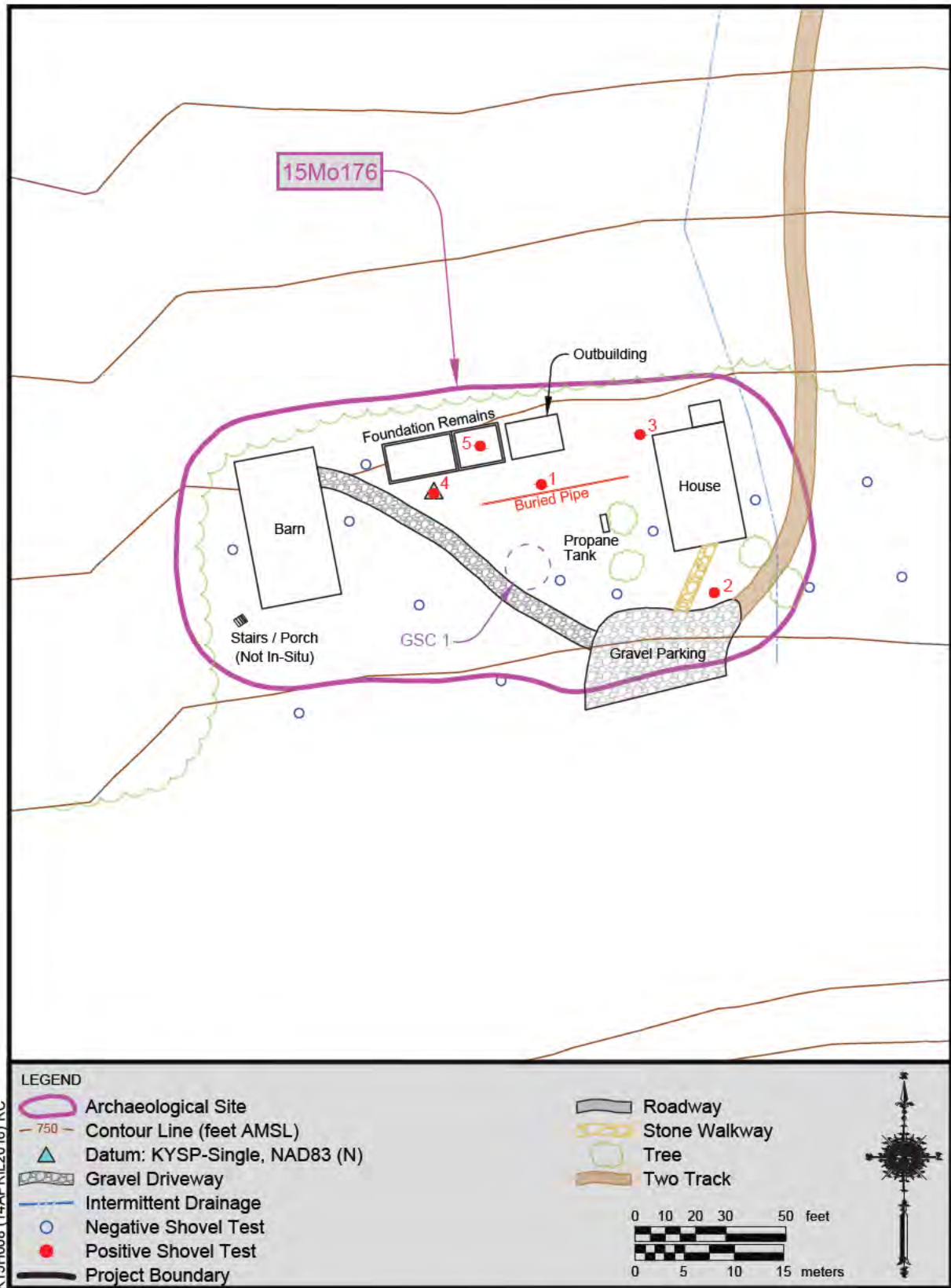
**Figure 85. Overview of Site 15Mo176, facing northeast.**

The earliest map depicting a structure in the general vicinity of the site is the 1937 county highway map (see Figure 26). It is unclear if the residential structure depicted on the 1937 highway map represents the dwelling currently present at the site. The 1950 Sandy Hook quadrangle depicts a structure at the site as well. The first depiction of the extant barn at the site is the 1962 Sandy Hook quadrangle. Historic aerials first depict the extant residential structure at the site in 1947. Only the 1961 historic aerial shows an additional structure at the site which appears to be the extant barn.

The three extant structures present at the site were previously recorded by CRA personnel as part of cultural historic Site 96 (MO 492) (Spurlock et al 2015). The structures were thought to have been constructed in the early to mid-twentieth century; however, upon review of the historic aerials of the location only the front gable frame residential structure (Figure 87) appears

to have been constructed in that period. The front gable frame structure barn (Figure 88) appears to have been constructed at some point after 1950, and the shed/outbuilding (Figure 89) was likely moved to its current location at some point in the mid- to late twentieth century.

The foundation remains (Figure 90) documented at the site were directly adjacent to the west of the shed/outbuilding and measured approximately 4 m (13 ft) north-south by 12 m (39 ft) east-west. They exhibited evidence of a division of the structure into two rooms. In addition, a set of three concrete steps (Figure 91) that appear to be associated with a structure, likely residential, were noted near the southwest corner of the extant barn at the site. The stairs were not in-situ, and it is unclear what became of the structure the stairs were associated with.

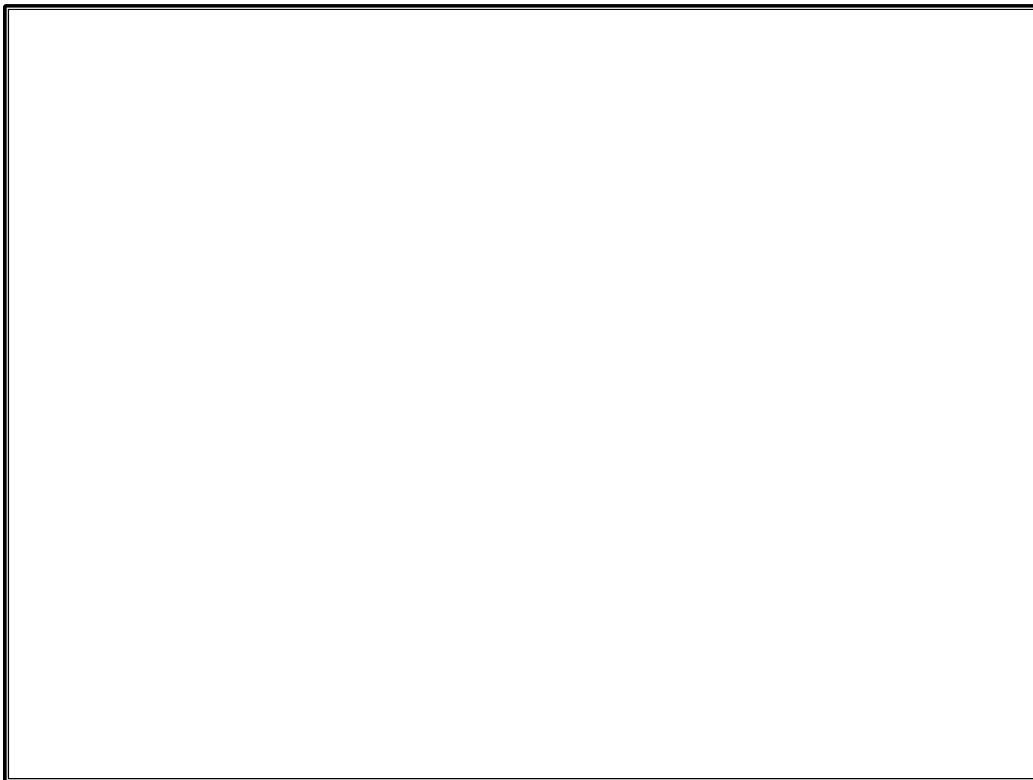


K15H008 (14APRIL2016) RC

Figure 86. Schematic plan map of Site 15Mo176.



**Figure 87. Residential structure present at Site 15Mo176, facing north-northeast.**



**Figure 88. Barn present at Site 15Mo176, facing northwest.**



**Figure 89. Shed/outbuilding present at Site 15Mo176, facing northwest.**



**Figure 90. Foundation remains present at Site 15Mo176, facing east-northeast.**



Figure 91. Concrete steps present at Site 15Mo176, facing east-northeast.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10–20 m (33–66 ft) intervals was conducted throughout the boundaries of the site. Additional shovel tests were conducted off the grid to test around structures present at the site. The boundaries for the site were defined by negative shovel tests to the east and west, sloping terrain to the north, and KY 7 to the south. The site measured approximately 35 m (115 ft) north-south by 65 m (213 ft) east-west for a total of 2,275 sq m (24,495 sq ft). Nearly 20 STPs were conducted during investigations at the site with cultural materials recovered from 5 STPs between 0 and 38 cm bgs. A single GSC was made in the location of what appeared to be a modern fire pit and/or burn pile.

A datum was established at the location of STP 4. The location of the site datum, several STPs and the GSC were mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), the GSC, site attributes, project boundaries, and

physiographic features were drawn on a site schematic.

## Depositional Context

The majority of the site is mapped as Rowdy series loam; however, the northern portion of the site is mapped with Shelocta-Helechawa-Hazelton complex. A typical soil profile at the site consisted of a surface layer of dark yellowish brown (10YR 4/4) silt loam to an average depth of 23 cm (9 in) bgs. The subsoil consisted of a dark yellowish brown (10YR 4/6) to light olive brown (2.5Y 5/4) sandy loam to sandy clay loam with iron concretions (Figure 92). STP 4, which was conducted just south of the foundation remains, was noted to contain cultural materials beneath the surface layer. The soil profile for STP 4 exhibited a surface layer of dark grayish brown (2.5Y 4/2) silt loam to a depth of 6 cm (2 in) bgs. This was followed by a layer of olive brown (2.5Y 4/4) fine grain silt loam with sandstone inclusions to a depth of approximately 21 cm (8 in) bgs. The subsoil consisted of a light olive brown (2.5Y 5/4) mottled with yellowish brown (10YR 5/8) fine grain sandy loam with iron and manganese inclusions (Figure 93).

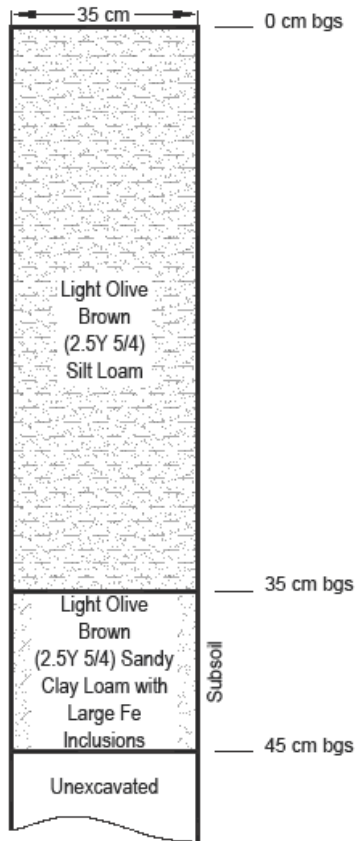


Figure 92. Representative soil profile from Site 15Mo176.

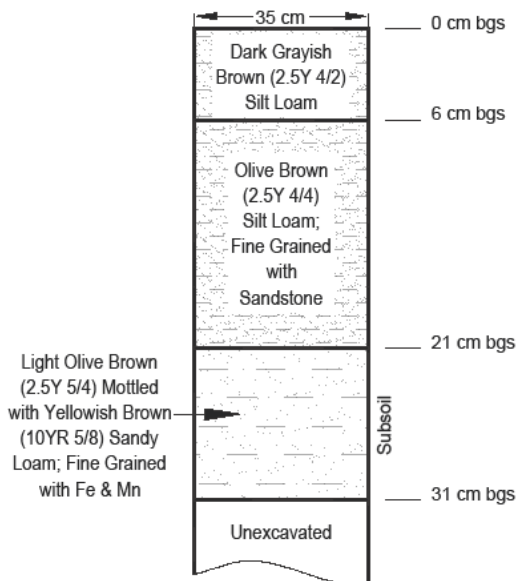


Figure 93. Soil profile for STP 4 from Site 15Mo176.

## Artifacts

In total, 15 historic artifacts were recovered from Site 15Mo176, and the assemblage included architecture (n = 8), domestic (n = 3), personal (n = 3), and unidentified (n = 1) group items (Table 30). The average date range of the artifacts was 1879–1949, with a mean date of 1914

The architecture group assemblage consisted of flat glass (n = 3) and nails (n = 5). Of the flat glass 1 piece was window glass tentatively dating to 1912 and 2 pieces were security glass dating after 1891. All 5 nails were wire drawn, and 2 were fragmentary with the other 3 being complete. Two of the complete nails were pulled while 1 was unaltered, and they had pennyweights of 3d, 8d, and 12d.

The domestic group assemblage consisted of a single piece of undecorated ironstone dating after 1830 and two ABM container glass fragments. Of the ABM glass, 1 was a clear body sherd, and the other was a light green soda bottle body sherd, both of which date after 1903. Three hand-painted bisque porcelain doll parts comprised the personal group assemblage, and a single piece of amorphous glass made up the unidentified group.

## Features

The only feature present at the site was the foundation remains. No other archaeological features were noted to be present at the site.

## Archival Data

The earliest known deed record with regard to the ownership history for Site 15Mo176 dates to 1907 (Table 31). On November 8, 1907, H.G. Howard and his wife, Polly Ann, sold the more or less 202 ha (500 acre) property containing the site to W.G. Dearing for \$6,700.00 (MCCO DB 32:349). Between 1888 and 1907, H.G. Howard acquired six separate parcels that made up the 202 ha property he sold to W.G. Dearing in 1907.

**Table 30. Historic Artifacts Recovered from Site 15Mo176.**

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0-16 cm bgs	Architecture	Nail	1
STP 2	I	0-20 cm bgs	Architecture	Nail	1
STP 2	I	0-20 cm bgs	Personal	Doll parts	3
STP 3	I	0-20 cm bgs	Architecture	Security glass	1
STP 3	I	0-20 cm bgs	Domestic	ABM	1
STP 4	II	6-21 cm bgs	Architecture	Nails	2
STP 5	I	0-20 cm bgs	Architecture	Nail	1
STP 5	I	0-20 cm bgs	Domestic	ABM	1
GSC 1	Surf	0-0 cm bgs	Architecture	Window glass, security glass	2
GSC 1	Surf	0-0 cm bgs	Domestic	Ceramic	1
GSC 1	Surf	0-0 cm bgs	Unidentified	Glass	1
Total					15

**Table 31. Ownership History for Site 15Mo176.**

Less than a year after purchasing the property, W.G. Dearing sold the more or less 202 ha containing Site 15Mo176 to James A. Shuttleworth for \$6,700.00 on March 25, 1908 (MCCO DB 33:288). The next conveyance involving the property occurred on July 26, 1927, at which time W.G. Lewis, Master Commissioner, sold 152 ha (375 acres) more or less of property containing the site to the Fidelity and Columbia Trust Company for \$1,400.00 on behalf of A.J. Fraley and his wife, Cora (MCCO DB 60:187). It is unclear how A.J. and Cora Fraley came into ownership of the property, but it appears they were forced to sell it after defaulting on bank loans.

On May 13, 1930, the Fidelity and Columbia Trust Company sold the more or less 152 ha property containing Site 15Mo176 to C.K. Stacy for an unknown valuable consideration (MCCO DB 62:121). Then on May 3, 1938, C.K. Stacy and his wife, Margaret, sold 63 ha (155 acres) more or less of property containing the site to O.M. Dehart

and his wife, Allie, and their sons, Clyde and Clayton, for \$1.00 cash in hand and other unknown valuable considerations as well as the further consideration of \$1,225.00 (MCCO DB 69:563).



The first potential site occupants at Site 15Mo176 appear to have been A.J. and Cora Fraley. In 1900 they were living in Devils Fork, Elliott County, but by 1910, they were living in North Fork, Morgan County, on a farm they owned (USBC 1910, 1920). Census data indicates they remained at that location through 1920, and by 1930 they had moved to Mount Sterling, Montgomery County (USBC 1920, 1930).

The site likely was left vacant from 1927–1930 at which time O.M. and Allie Dehart and their family began occupying the site. Although the property was owned by C.K. Stacy in 1930, it appears the Deharts were renting from C.K. Stacy. Census data indicates that in 1930, C.K. Stacy was working for a bank in West Liberty, Morgan County, while at that same time O.M. and Allie Dehart were renting a house on Fork Road in Morgan County (USBC 1930). After purchasing the property in 1938, census data indicates that in 1940, O.M. and Allie Dehart and their sons, Clyde and Clayton were residing on the farm (USBC 1940).

## **Summary and National Register Evaluation**

Site 15Mo176 is a historic farm/residence dating to the early to mid-twentieth century

that consists of a low density historic material scatter, the foundation remains of a suspected outbuilding, and three extant historic structures.

The small artifact assemblage supports the known use of the site as a domestic farm/residence dating to the early to mid-twentieth century. The earliest depiction of a structure in the location of the site is the 1937 county highway map; however, the extant residential structure was likely constructed in the 1920s, if not earlier. The historic assemblage was primarily composed of architecture and domestic artifacts, although porcelain doll parts also were recovered.

Archival data suggests the first site occupants were A.J. and Cora Fraley and their family from the early twentieth century until circa 1927. Then the farm was occupied by the family of O.M. and Allie Dehart from 1930 to the mid- to late twentieth century. Although occupation of the site has been continuous into modern times, the artifacts recovered seem most likely to be associated with the Fraley and Dehart families between the early and mid-twentieth century.

No evidence for the presence of intact buried cultural deposits, features, and/or midden was noted at the site during field investigations. Due to these factors and the overall paucity of artifacts recovered, Site 15Mo176 is recommended not eligible for inclusion in the NRHP, and no further work is recommended.

## **Project Impacts**

This historic site situated on a floodplain of Road Fork. Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15Mo176. The construction activities will have no effect the site since it is not listed in or eligible for the NRHP.

## Site 15Mo177

**Elevation:** 248 m (815 ft) AMSL  
**Component(s):** historic  
**Site type(s):** commercial  
**Size:** 594 sq m (6,408 sq ft)  
**Distance to nearest water:** 116 m (381 ft)  
**Direction to nearest water:** south  
**Type and extent of previous disturbance:** unknown  
**Topography:** floodplain  
**Vegetation:** manicured grass and a deciduous tree  
**Ground surface visibility:** less than 10 percent  
**Aspect:** level  
**Recommended NRHP status:** not eligible

### Site Description

Site 15Mo177 is a small cultural material scatter dating from the early to mid-twentieth century and is associated with a commercial building formerly known as the Wrigley Mercantile General Store (Figures 94 and 95). A small rectangular cement pad was present approximately 7 m (23 ft) east of the commercial structure. The site is located in the town of Wrigley on the northeast corner of the intersection of KY 7 and KY 711 on a floodplain of the North Fork Licking River at

the base of a hill approximately 248 m (815 ft) AMSL. The North Fork Licking River is located approximately 116 m (381 ft) south of the site. The majority of the land directly surrounding the commercial structure has been significantly disturbed by road construction/maintenance activities and the construction of a gravel parking area. Portions manicured lawn directly adjacent to the east side of the building was relatively undisturbed; however, the rest of the yard contained soils noted to be highly disturbed. Vegetation throughout the majority of the site consisted of manicured grass and a deciduous tree. As a result, GSV was generally less than 10 percent.

The earliest map depicting a structure in the general vicinity of the site is the 1929 Morehead quadrangle (see Figure 24). The map depicts the structure between an old county road and a segment of the Morehead and North Fork Railroad. The railroad tracks were removed by at least the late 1930s and the roads surrounding the site have been rerouted as a result of the construction of KY 7 and KY 711. Several structures are depicted adjacent to the extant commercial building on the 1953 Wrigley quadrangle, as well as an old gravel road just north of the site. Although

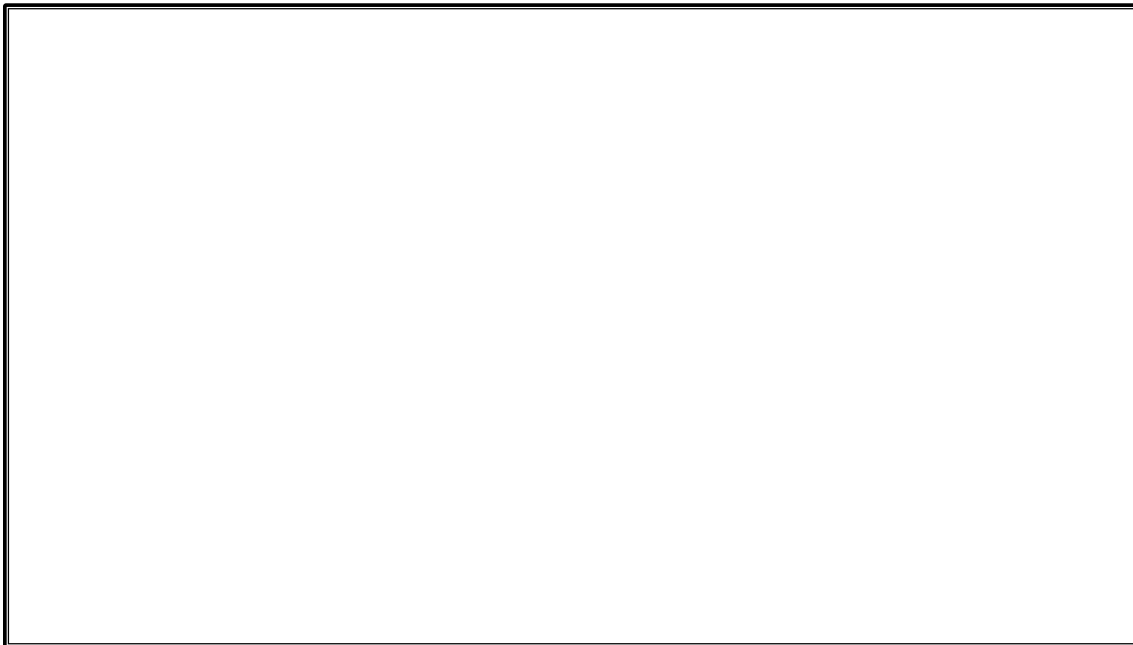


Figure 94. Overview of Site 15Mo177, facing west.

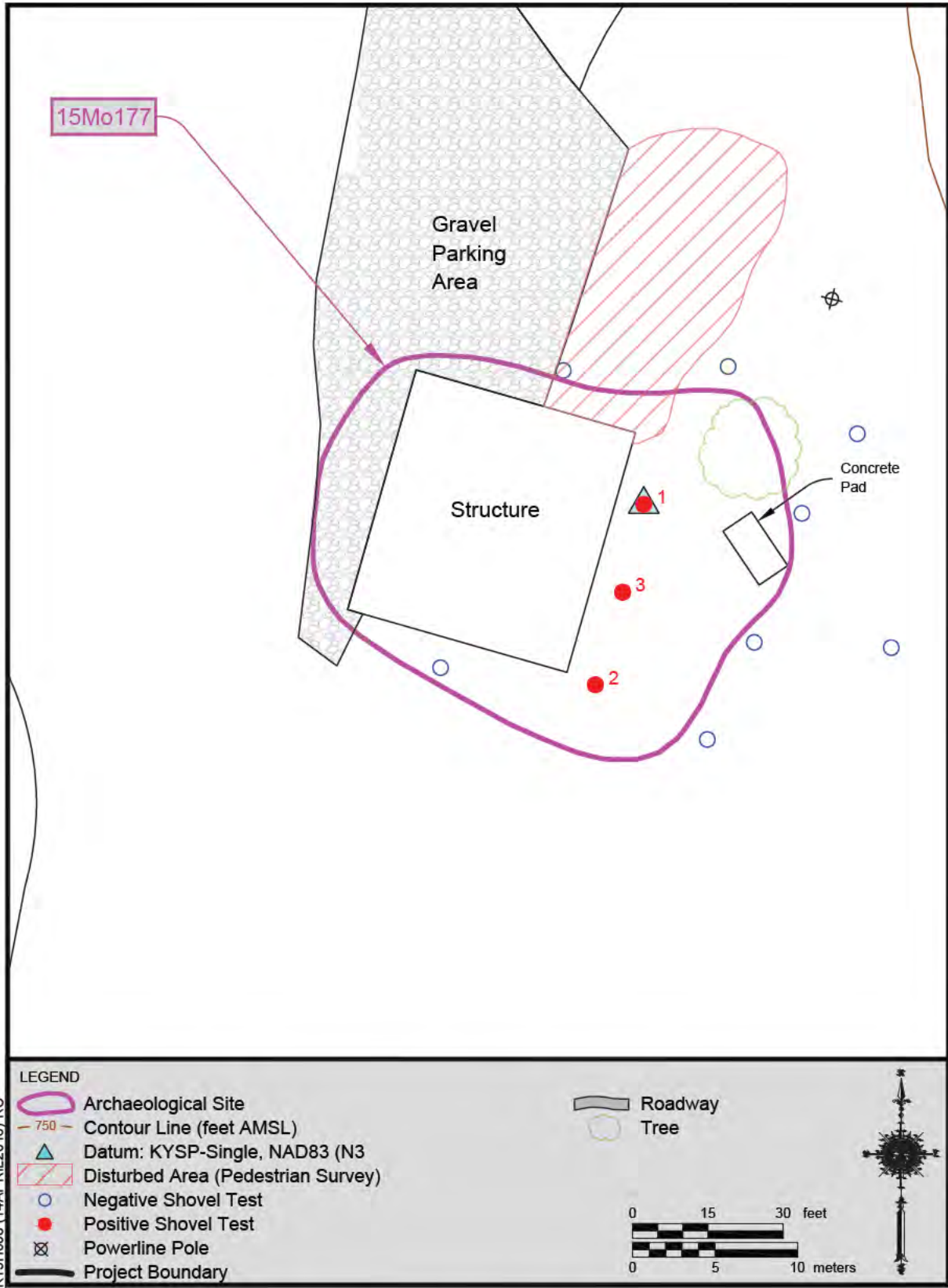


Figure 95. Schematic plan map of Site 15Mo177.

Wrigley was home to a number of commercial establishments and a railroad depot, the Wrigley Mercantile building is the only commercial building currently extant. The high disturbance level of the land surrounding the site can be attributed to the demolition and removal of the surrounding structures. Only the footprint of the gravel road remains, while no other foundation remains are present at the site.

The only extant structure at the site was the early-twentieth-century Wrigley Mercantile building (Figure 96). Initially documented by the Morgan County Historical Society in 1992, the structure was recorded by CRA personnel as a cultural historic Site 119 (MO 51) (Hudson 1992; Spurlock et al 2015). The commercial structure was thought to have been constructed circa 1907, and consists of a two-story front gable frame structure with evidence of several additions, including a false front. CRA recommended the structure eligible for inclusion in the NRHP under Criterion A.

The small rectangle cement pad directly behind the structure may be associated with a razed structure (Figure 97). Two limestone slabs and gravel have been placed in the center of the cement pad and may be covering an old water line or utility associated with one of the

historic structures previously located in the vicinity of the site.

## Investigation Methods

Pedestrian inventory supplemented by screened shovel testing at 10 m (33 ft) intervals was conducted throughout the boundaries of the site. Additional shovel tests were conducted off the grid to test around the Wrigley Mercantile building. The boundaries for the site were defined by KY 7 to the west, KY 711 to the south, and negative shovel tests to the north and east. The site measured approximately 22 m (72 ft) north-south by 27 m (89 ft) east-west for a total of 594 sq m (6,408 sq ft). Over 10 STPs were conducted during investigations at the site with cultural materials recovered from 3 STPs between 0 and 50 cm bgs.

A datum was established at the location of STP 1. The location of the site datum, and several other STPs for reference were mapped with an iPad Mini tablet coupled with a Garmin GLO Bluetooth GPS receiver capable of real-time 2–3 m horizontal accuracy. All of the positive STPs (those containing artifacts), site attributes, project boundaries, and physiographic features were drawn on a site schematic.



Figure 96. Wrigley Mercantile building at Site 15Mo177, facing east-northeast.



Figure 97. Cement pad at Site 15Mo177, facing southeast.

## Depositional Context

The location of the site is mapped as Rowdy series loam. The majority of the soils found at the site were noted to be highly disturbed. Shovel tests immediately east of the Wrigley Mercantile building were the only positive shovel tests and located in a relatively undisturbed portion of the site. These shovel tests had a surface layer of brown (10YR 4/3) gritty silty clay loam to clay loam to an average depth of approximately 18 cm (7 in) bgs. The subsoil generally consisted of a dark yellowish brown (10YR 4/6) gravelly clay loam (Figure 98).

## Artifacts

A total of 26 historic artifacts were recovered from Site 15Mo177, and they included architecture (n = 1), domestic (n = 22), personal (n = 2), and unidentified (n = 1) group items (Table 32). The artifacts had an average date range of 1905–1957, with a mean date of 1931.

A single piece of plate glass dating after 1917 made up the architecture group. Ceramics (n = 2) and container glass (n = 20)

comprised the domestic group. One plain whiteware plate body sherd that dates between 1860 and 1930 and a late embossed whiteware plate base sherd that dates after 1900 made up the ceramic assemblage. Only ABM glass was present at the site. The container glass assemblage included three embossed sherds, 1 of which was clear with embossed hatching, and the other 2 were green stippled soda bottle fragments. Body sherds were amber, clear, and light green with identifiable vessel forms including beer bottles and a soda bottle. A “Brushed Patch” black, blue, and white glass marble and a modern plastic figurine base dating after 1930 made up the personal group items. The marble was manufactured by the Master Marble Company and dates between 1930 and 1973. The lone unidentified group item was a piece of modern plastic dating after 1930.

## Features

The only feature observed during investigations at the site was the cement pad. No other archaeological features were noted at the site.

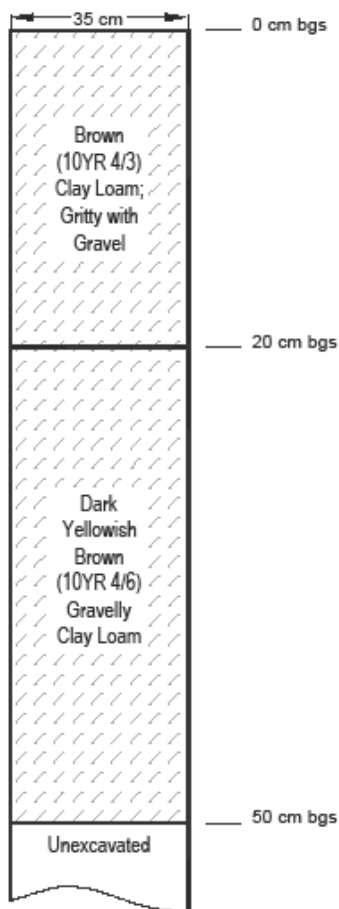


Figure 98. Representative soil profile from Site 15Mo177.

## Archival Data

Deed records regarding the ownership history of Site 15Mo177 were difficult to trace due to the property being subdivided into numerous parcels throughout the early and mid-twentieth century. The earliest definitive

ownership of the property dates to 1944 (Table 33). On January 6, 1944, Eliza Brown sold 1.6 ha (4.0 acres) more or less to Gardener Patrick for \$900.00 (MCCO DB 75:59). Then on March 11, 1944, W.R. Adkins and his wife, Mollie, sold .27 ha (.67 acres) to Gardener Patrick and his wife, Maye, for \$275.00 (MCCO DB 78:325).

Of the two properties Gardener Patrick purchased in the early months of 1944, it was not possible to identify which had contained the site. Regardless it is clear that both properties passed through numerous hands between the prior to 1944. Additional research would be required to ascertain who the owners of the property were preceding the Gardeners.

Evidence of a tragic event that occurred at the site in 1930 was discovered in *The Courier-Journal* out of Louisville. On July 4, 1930, two men were killed and two others were seriously wounded in a quarrel that took place in the Wrigley Mercantile General Store. Members of the Gross and Whitt families were said to have been involved in long standing disputes, which culminated in George Gross and his son, Bert, being killed in the reported altercation. Clarence Whitt, also involved in the fight, was seriously wounded by a gunshot wound to the head, and his brother-in-law, Rufus Whitt, was critically wounded after being stabbed. The papers reported that the “details of the battle were meager,” but the Whitts had initiated the quarrel, and that “the popping of firecrackers outside suddenly was drowned out by the popping of guns” (*The Courier-Journal* 1930).

Table 32. Artifacts Recovered from Site 15Mo177.

Unit	Zone	Depth	Group	Class/Type	N=
STP 1	I	0–20 cm bgs	Domestic	ABM	3
STP 2	I	0–20 cm bgs	Domestic	ABM	5
STP 2	I	0–20 cm bgs	Personal	Marble	1
STP 2	II	20–50 cm bgs	Domestic	ABM	3
STP 3	I	0–12 cm bgs	Domestic	ABM	4
STP 3	I	0–12 cm bgs	Personal	Plastic figurine	1
STP 3	II	12–50 cm bgs	Architecture	Plate glass	1
STP 3	II	12–50 cm bgs	Domestic	Ceramics, ABM	7
STP 3	II	12–50 cm bgs	Unidentified	Plastic	1
Total					26

Table 33. Ownership History for Site 15Mo177.

Date	Owner	Acreage	Amount

On April 22, 1949, Gardener Patrick and his wife, Maye, sold a more or less 1.6 ha (4 acre) property containing the site to Ernest Lewis for \$200.00 (MCCO DB 82:211). Ernest Lewis and his wife, Corda, owned and operated the Wrigley Mercantile General Store during the time they owned the property from 1949–1965 (*The Lexington Herald-Leader* 1998).

investigations at the site suggest it was constructed circa 1907.

Although the site was never necessarily occupied in a residential capacity, the use of the location as a general store likely began in the early twentieth century. The early to mid-twentieth century owners of the property were unable to be defined due to difficulties tracing deed records for the property. However, in 1930, two men were murdered and two more were critically injured in a scuffle at the Wrigley Mercantile General Store. The two men who died were members of the Gross family, and the two men who were critically injured were members of the Whitt family. The Whitt family was prominent through the county and surrounding areas throughout much of the twentieth century, and the property is currently owned by members of the family.

The Gardner family may have operated the store during their ownership of the property from 1944–1949.

## Summary and National Register Evaluation

Site 15Mo177 consists of a small cultural material scatter dating to the early to mid-twentieth century that is associated with the Wrigley Mercantile General Store.

Artifacts recovered from the site are associated with the use/occupation of the Wrigley Mercantile General Store. Historic maps indicate the structure was present by 1929; however, previous cultural historic

The areas immediately surrounding the site to the west and south exhibited high

disturbance levels associated with the construction and maintenance of KY 7 and KY 711. To the north, the adjacent area has been converted into a gravel parking area. The only undisturbed portion of the site was the portion of the site directly behind the Wrigley Mercantile General Store. However, the undisturbed portion did not appear to contain any significant intact buried cultural deposits, features, and/or midden. Although the Wrigley Mercantile General Store building (MO 51) was recommended eligible for inclusion in the NRHP under Criterion A, the archaeological component of the site is not recommended eligible for NRHP inclusion under Criterion D. This determination was based on the factors mentioned above as well as the overall paucity of artifacts recovered during field investigations. Therefore, no further work is recommended at the site.

## Project Impacts

This historic site is situated on a floodplain of the North Fork Licking River. Additional archaeological work on the site will not produce significant information beyond what has been collected, and no further work is recommended for Site 15Mo177. The proposed construction activities will have no effect on the site since it is not listed in or eligible for the NRHP.

## Isolated Artifact Finds

This class of cultural resources consisted of isolated pieces of lithic debris or historic materials that occurred in locations with no other evidence of prehistoric and/or historic activity associated with the artifacts. For every isolated find, shovel testing and/or surface reconnaissance was conducted to locate any possible associated artifacts.

### Isolated Find 1

**KYSP-Single NAD83:**

**Elevation:** 219 m (720 ft) AMSL

**Distance to nearest water:** 30 m (99 ft)

**Direction to nearest water:** west

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass and weeds

**Ground Surface Visibility:** less than 10 percent

**Aspect:** level

**Description.** IF1 consists of three flakes and two wire nails recovered from a single shovel test in sub-plow zone contexts (Zone II) on a floodplain of the Little Sandy River. All of the flakes were recovered at a depth between 22 and 32 cm (9 and 13 in) bgs, and the nails were recovered at depths between 12 and 17 cm bgs. Radial shovel tests conducted in the vicinity of IF1 were negative for cultural materials.

The prehistoric artifacts included an early stage flake fragment made from Newman chert (.4 g), a late stage flake made from an Indeterminate chert (.1 g), and a flake smaller than .25 inch (.1 g). None of the flakes could be assigned a temporal or cultural affiliation. Beyond the fact that various lithic reduction activities had been conducted in the location of IF1, little else can be inferred.

Both of the wire nails were complete and had been pulled. Pennyweights for the nails were 7d and 8d. They are likely associated with the adjacent residential structure. According to the landowner, Scott Horton (personal communication 2015), the structure was moved to its current location at some point in the 1930s.

### Isolated Find 2

**KYSP-Single NAD83:**

**Elevation:** 238 m (780 ft) AMSL

**Distance to nearest water:** 3 m (10 ft)

**Direction to nearest water:** west

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass and weeds



**Ground Surface Visibility:** less than 10 percent

**Aspect:** level

**Description.** A single biface fragment made from thermally damaged Haney chert was recovered from IF2 on a floodplain of the little Sandy River. This soft hammer/pressure biface was recovered in the upper portion of the solum at a depth between 0 and 30 cm (0 and 12 in) bgs. Both perverse and thermal fractures are present on the artifact which is the distal portion of a biface. The biface fragment is nondiagnostic, and as a result cultural and/or temporal affiliations cannot be assigned.

Since the biface fragment exhibits thermal damage, a thermal feature may have been present in the vicinity of IF2. However, radial shovel tests conducted in the vicinity of IF2 were negative for the presence of cultural materials suggesting the thermal activities were ephemeral in nature.

### **Isolated Find 3**

**KYSP-Single NAD83:**

**Elevation:** 244 m (800 ft) AMSL

**Distance to nearest water:** 48 m (157 ft)

**Direction to nearest water:** south

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass and weeds

**Ground Surface Visibility:** less than 10 percent

**Aspect:** level

**Description.** A single nondiagnostic middle stage flake made from Newman flake (.3 g) was recovered from IF3. The flake was found in the upper portion of the solum (0–19 [0–7 in] bgs) on a floodplain of the Little Sandy River. Radial shovel tests conducted in the vicinity of IF3 were negative for the presence of cultural materials.

With the flake being nondiagnostic, temporal and/or cultural affiliation cannot be

assigned. Therefore, little else can be inferred about this single flake.

### **Isolated Find 4**

**KYSP-Single NAD83:**

**Elevation:** 244 m (800 ft) AMSL

**Distance to nearest water:** 151 m (495 ft)

**Direction to nearest water:** east

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** mixed grass and weeds

**Ground Surface Visibility:** less than 10 percent

**Aspect:** level

**Description.** Two nondiagnostic flakes (3.9 g) were recovered in the upper 15 cm (6 in) bgs of the solum in two separate STPs within 10 m (33 ft) of each other. One was a middle stage flake (2.5 g) made from Newman chert, and the other flake was a late stage flake fragment (1.4 g) made from Breathitt chert.

Since neither artifact is diagnostic, temporal and/or cultural affiliations for this prehistoric component cannot be drawn. Little more can be inferred beyond the occurrence of two lithic reduction episodes involving the use of multiple raw materials.

BA 1 was conducted in the location of IF4. The results of the BA are presented in the Bucket Augering section of this report.

### **Isolated Find 5**

**KYSP-Single NAD83:** Elevation: 288 m (945 ft) AMSL

**Distance to nearest water:** 3 m (10 ft)

**Direction to nearest water:** west

**Type and extent of previous disturbance:** unknown

**Topography:** floodplain

**Vegetation:** manicured grass

**Ground Surface Visibility:** less than 10 percent

**Aspect:** level

**Description.** IF5 consists of a single stoneware sherd located on a floodplain of the Little Sandy River at the location of BA 13. The sherd was found in the front yard of a property approximately 21 m (70 ft) southeast of a mid- to late-nineteenth-century dwelling. All of the STPs conducted on the property were negative for cultural materials.

The exterior of the sherd was salt-glazed while the interior had a brown slip. It dates between 1800 and 1925. Other than a possible association between the artifact and the occupants of the house on the property, no further interpretation can be made.

## Bucket Augering

*Thomas McAlpine*

A total of 28 BAs were conducted throughout the project corridor in areas that were known to contain alluvial soils during the current field investigations (see Figure 3). Aside from charcoal noted in BA 1 and BA 3, none of the excavated BAs revealed the presence of buried cultural components, and no evidence for buried A horizons was noted in any of the BAs.

BA 1 was conducted in a grass field on the floodplain of the Little Sandy River in the location of IF4. It was excavated to a depth of 122 cm (48 in) bgs and contained four zones. The first zone (Zone I) went to a depth of 30 cm (12 in) bgs and consisted of a brown (10YR 4/3) silty clay loam. Zone II extended to a depth of 88 cm (35 in) bgs and consisted of a yellowish brown (10YR 5/4) sandy clay. Zone III was recorded to a depth of 110 cm (43 in) bgs and consisted of a yellowish brown (10YR 5/4) sandy clay with manganese, redoximorphic features, and an increase in the clay content. The final layer, Zone IV, consisted of a yellowish brown (10YR 5/4) clay with manganese and iron concretions, sandstone, and river gravel. The auger was terminated when it reached solid sandstone. One piece of charcoal was found in Zone III. The shallow nature of the soil seen in the iron and manganese mottled soils within a meter of

the ground surface exhibited low potential for any buried archaeological deposits.

BA 2 was conducted in a grass field on the floodplain of the Little Sandy River. It was excavated to a depth of 60 cm (24 in) bgs and contained two zones. Zone I reached a depth of 42 cm (17 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II consisted of a dark yellowish brown (10YR 4/6) sandy loam with river gravel. The water table was reached at 40 cm (16 in) bgs. The auger was terminated due to the high nature of the water table and the heavy amount of river gravel found in Zone II, suggesting a low potential for any buried archaeological deposits.

BA 3 was conducted in a grass field on the floodplain of the Little Sandy River at the location of Site 15E111. It was excavated to a depth of 89 cm (35 in) bgs and contained five zones. Zone I went to a depth of 16 cm (6 in) bgs and consisted of dark yellowish brown (10YR 4/4) silty loam. Zone II extended to a depth of 40 cm (16 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy loam. Zone III reached a depth of 75 cm (30 in) bgs and consisted of a brown (7.5YR 4/4) sandy loam. Zone IV went to a depth of 80 cm (31 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sand with common river gravel and sandstone fragments. The final layer, Zone V, consisted of dark yellowish brown (10YR 4/4) sand with many river gravel and manganese concretions. The auger was terminated at solid sandstone. Charcoal was found in Zone III. The sandy nature of the soil suggests a high energy deposition which yields a low potential for buried archaeological deposits.

BA 4 was conducted in a grass field on the floodplain of Road Fork at the location of Site 15E111. It was excavated to a depth of 35 cm (14 in) bgs and contained two zones. Zone I went to a depth of 25 cm (10 in) bgs and consisted of a brown (10YR 4/3) silty clay loam. Zone II consisted of a dark yellowish brown (10YR 4/4) sandy clay loam with common yellowish brown (10YR 5/8) mottles and sandstone fragments. The auger was

terminated at solid sandstone. The shallow nature of the soil suggests a low potential for buried archaeological deposits.

BA 5 was conducted in a grass field on the floodplain of Road Fork. It was excavated to a depth of 135 cm (53 in) bgs and contained three zones. Zone I extended to a depth of 67 cm (26 in) bgs and consisted of a dark yellowish brown (10YR 3/4) sandy clay loam. Zone II went to a depth of 92 cm (36 in) bgs and consisted of a dark yellowish brown (10YR 3/4) sandy loam. The final layer, Zone III, reached a depth of 135 cm bgs and consisted of a dark yellowish brown (10YR 4/4) sand with river gravel. The auger was terminated when it reached a greenish gray (GLEYS 1 5/1) clay with sand. The water table was reached at 122 cm (48 in) bgs. The sandy nature of the soil suggests a high energy deposition which produces a low potential for buried archaeological deposits.

BA 6 was conducted in an agricultural field on the floodplain near the confluence of the North Fork and Road Fork of the Licking River. It was excavated to a depth of 67 cm (26 in) bgs and contained four zones. The first zone (Zone I) went to a depth of 25 cm (10 in) bgs and consisted of a dark yellowish brown (10YR 3/4) silty clay loam. Zone II reached a depth of 30 cm (12 in) bgs and consisted of a brown (10YR 4/3) sandy clay loam. Zone III extended to a depth of 57 cm (22 in) bgs and consisted of a brownish yellow (10YR 6/8) mixed with light brownish grey (10YR 6/2) clay. The final layer, Zone IV, consisted of a brownish yellow (10YR 6/8) clay with iron concretions. The water table was reached near the end of Zone III, around 57 cm bgs. The shallow nature of the soil, as evidenced by reaching older iron mottled soils within a meter, showed low potential for any buried archaeological deposits.

BA 7 was conducted in an agricultural field on the floodplain of Road Fork. It was excavated to a depth of 65 cm (26 in) bgs and contained four zones. Zone I reached a depth of 5 cm (2 in) bgs and consisted of a brown (10YR 4/3) silty clay loam. Zone II went to a depth of 32 cm (13 in) bgs and consisted of a

brown (7.5YR 4/2) clay with iron concretions. Zone III extended to a depth of 55 cm (22 in) bgs and consisted of a yellowish brown (10YR 5/8) sandy clay. The final layer, Zone IV, consisted of a yellowish brown (10YR 5/8) clay with iron and manganese concretions. The shallow nature of the soil, showed by reaching older, iron and manganese mottled soils within a meter of the ground surface, exhibited low potential for any buried archaeological deposits.

BA 8 was conducted in a grass field near the confluence of Road Fork and an unnamed tributary at the location of Site 15Mo174. It was excavated to a depth of 76 cm (30 in) bgs and contained three zones. Zone I extended to a depth of 42 cm (17 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II reached a depth of 73 cm (29 in) bgs and consisted of a dark yellowish brown (10YR 4/4) mixed with gray (10YR 6/1) sandy clay with iron concretions, manganese concretions, and sandstone fragments. The final layer, Zone III, had the same color and texture as Zone II, but showed an increase in iron, manganese, and sandstone, with the addition of slate fragments. The bucket auger was terminated when it reached bedrock. The sandy nature of the soil suggests a high energy deposition which produces a low potential for buried archaeological deposits.

BA 9 was conducted in a grass field on the floodplain of Road Fork adjacent to the eastern boundary of Site 15Mo175. It was excavated to a depth of 130 cm (51 in) bgs and contained four zones. Zone I went to a depth of 38 cm (15 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II extended to a depth of 74 cm (29 in) bgs and consisted of yellowish brown (10YR 5/4) sandy loam. Zone III reached a depth of 80 cm (31 in) bgs and consisted of yellowish brown (10YR 5/6) sand. The final layer, Zone IV, consisted of a yellowish brown (10YR 5/6) sand with iron and manganese concretions. The water table was reached at the end of Zone III, around 80 cm bgs. The sandy nature of the soil suggests a high energy deposition which produces a low potential for buried archaeological deposits.

BA 10 was conducted at the edge of an agricultural field near the confluence of Road Fork and the tributary from Poplar Hollow. It was excavated to a depth of 20 cm (8 in) bgs and contained one zone. Zone I consisted of a yellowish brown (10YR 5/4) sandy clay loam. The bucket auger was terminated at bedrock. Another auger was attempted in a 10 m proximity to BA 10, but yielded the same results. Due to the shallow nature of the bedrock, there is no potential for buried archaeological deposits.

BA 11 was conducted in a grass field near the confluence of Road Fork and an unnamed tributary. It was excavated to a depth of 165 cm (65 in) bgs and contained four zones. Zone I extended to a depth of 32 cm (13 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy loam. Zone II went to a depth of 79 cm (31 in) bgs and consisted of a yellowish brown (10YR 5/4) sandy clay loam with sandstone fragments. Zone III reached a depth of 142 cm (56 in) bgs and consisted of a yellowish brown (10YR 5/4) mixed with dark yellowish brown (10YR 4/4) sandy clay, with river gravel and an increase in sandstone fragments. The final layer, Zone IV, consisted of a dark yellowish brown (10YR 4/4) sandy clay with iron and manganese concretions, river gravel, and sandstone fragments. The water table was reached in Zone IV around 155 cm (61 in) bgs. The sandy nature of the soil suggests a high energy deposition, which produces a low potential for buried archaeological deposits.

BA 12 was attempted near the confluence of the Road Fork of the Licking River and an unnamed tributary. No place near this confluence could be found that wasn't either steep slope or heavily disturbed by road/building construction. All attempted augers produced nothing but impassible gravel.

BA 13 was conducted in a grass field on the floodplain of Road Fork at the location of IF5. It was excavated to a depth of 106 cm (42 in) bgs and contained five zones. Zone I went to a depth of 33 cm (13 in) bgs and consisted of dark brown (10YR 3/3) silt loam. Zone II

extended to a depth of 45 cm (18 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam with gravel. Zone III reached a depth of 65 cm (26 in) bgs and consisted of a dark yellowish brown (10YR 4/4) silty clay loam. Zone IV went to a depth of 80 cm bgs and consisted of a yellowish brown (10YR 5/4) mixed with dark yellowish brown (10YR 4/6) sandy clay. The final layer, Zone V, consisted of a yellowish brown (10YR 5/4) mixed with dark yellowish brown (10YR 4/6) hydric clay with iron and manganese concretions. One artifact, a piece of stoneware (IF5), was found in Zone II. The shallow nature of the soil exhibited in older, iron and manganese mottled soils being reached near a meter bgs showed low potential for any buried archaeological deposits.

BA 14 was conducted in a grass field on the floodplain of Road Fork at the location of Site 15E179. It was excavated to a depth of 88 cm (35 in) bgs and contained four zones. Zone I extended to a depth of 20 cm (8 in) bgs and consisted of a dark yellowish brown (10YR 3/4) sandy clay loam. Zone II went to a depth of 40 cm (16 in) bgs and consisted of a dark yellowish brown (10YR 4/4) mixed with yellowish brown (10YR 5/4) sand. Zone III reached a depth of 80 cm (31 in) bgs and consisted of a yellowish brown (10YR 5/4) mixed with brownish yellow (10YR 6/6) sandy clay with iron and manganese concretions. The final layer, Zone IV, had the same color and texture as the previous zone, with an increase in iron and manganese concretions. The sandy nature of the soil suggests a high energy deposition which yields a low potential for buried archaeological deposits.

BA 15 was conducted in a grass field on the floodplain of Road Fork adjacent to the western boundary of Site 15E179. It was excavated to a depth of 35 cm (14 in) bgs and contained two zones. Zone I reached a depth of 20 cm (8 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II consisted of a dark yellowish brown (10YR 4/6) sandy clay loam with gravel and sandstone fragments. The auger was terminated at bedrock. Due to the shallow

nature of the bedrock, there is no potential for buried archaeological deposits.

BA 16 was conducted in a grass field on the floodplain of Road Fork. It was excavated to a depth of 30 cm (12 in) bgs and contained two zones. Zone I went to a depth of 20 cm (8 in) bgs and consisted of dark yellowish brown (10YR 3/4) silty clay loam. Zone II consisted of a reddish yellow (7.5YR 6/6) mixed with pale brown (10YR 6/3) sandy clay. The auger was terminated when this heavily disturbed soil was reached. Another auger was attempted in a 10 m proximity of BA 16, but yielded the same results. Due to the heavy disturbance of the area, the potential for buried archaeological deposits is low.

BA 17 was attempted near the confluence of Road Fork and an unnamed tributary. No place near this confluence could be found that was not either steep slope or heavily disturbed by road/building construction. All attempted augers produced nothing but impassible gravel.

BA 18 was conducted near the confluence of the Little Sandy River and Turkey Branch. It was excavated to a depth of 95 cm (37 in) bgs and contained three zones. Zone I reached a depth of 60 cm (24 in) bgs and consisted of dark yellowish brown (10YR 3/4) silt loam with gravel. Zone II went to a depth of 70 cm (28 in) bgs and consisted of dark yellowish brown (10YR 4/4) sandy loam with gravel. The final layer, Zone III, consisted of dark yellowish brown (10YR 4/4) sandy clay loam with a high content of gravel, iron and manganese concretions. With older, iron and manganese mottled soils present at such shallow depths there is low potential for any buried archaeological deposits.

BA 19 was conducted near the confluence of the Little Sandy River and an unnamed tributary. It was excavated to a depth of 120 cm (47 in) bgs and contained three zones. Zone I went to a depth of 35 cm (14 in) bgs and consisted of a dark yellowish brown (10YR 3/4) sandy loam. Zone II extended to a depth of 70 cm (28 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy loam with sandstone fragments and gravel. The final

layer, Zone III, consisted of a dark yellowish brown (10YR 4/4) mixed with dark gray (7.5YR 4/1) sandy loam with iron and manganese concretions, increasing with depth. The water table was reached around 105 cm (41 in) bgs. The sandy nature of the soil suggests a high energy deposition which produces a low potential for buried archaeological deposits.

BA 20 was conducted in an agricultural field on the floodplain of the Little Sandy River. It was excavated to a depth of 50 cm (20 in) bgs and contained two zones. Zone I extended to a depth of 40 cm (16 in) bgs and consisted of dark yellowish brown (10YR 4/4) sandy loam. Zone II consisted of dark yellowish brown (10YR 4/4) mixed with light yellowish brown (2.5Y 6/4) sandy loam with sandstone fragments, and iron and manganese concretions. The bucket auger was terminated when the water table was reached at 50 cm bgs. The shallow nature of the soil, seen in the older, iron and manganese mottled soils within a meter of the ground surface, exhibited low potential for any buried archaeological deposits.

BA 21 was conducted on a grass lawn near the confluence of the Little Sandy River and Doctors Branch. BA 21 was excavated to a depth of 38 cm bgs and contained one zone. Zone I consisted of a dark yellowish brown (10YR 4/4) silt loam with gravel. The auger was terminated at bedrock. Due to the shallow nature of the bedrock, there is no potential for buried archaeological deposits.

BA 22 was conducted in a grass field near the confluence of the Little Sandy River and an unnamed tributary. BA 22 was excavated to a depth of 95 cm bgs and contained three zones. Zone I went to a depth of 20 cm bgs and consisted of a brown (10YR 4/3) silt loam. Zone II went to a depth of 30 cm bgs and consisted of dark yellowish brown (10YR 4/4) mixed with yellowish brown (10YR 5/4) sandy clay with sandstone fragments and iron concretions. The final layer, Zone III, consisted of a strong brown (7.5YR 4/6) mixed with yellowish brown (10YR 5/4) clay, with sandstone fragments, and iron and

manganese concretions which increase with depth. The auger was terminated at bedrock. The shallow nature of the soil, as evidenced by reaching older iron and manganese mottled soils within a meter, showed low potential for any buried archaeological deposits.

BA 23 and BA 26 were conducted in an agricultural field on the floodplain of the Little Sandy River. BA 23 was excavated down to 120 cm (47 in) bgs and contained three zones. Zone I reached a depth of 80 cm (31 in) bgs and consisted of a dark yellowish brown (10YR 4/4) silty clay loam with sandstone fragments and pea gravel increasing with depth. Zone II was a dark yellowish brown (10YR 3/4) sandy clay with gravel and sandstone fragments and extended to a depth of 100 cm (39 in) bgs. The final layer, Zone III, consisted of a dark yellowish brown (10YR 4/6) sandy clay with gravel and sandstone fragments. The bucket auger was terminated at a rock obstruction. The sandy nature of the soil suggests a high energy deposition which produces a low potential for buried archaeological deposits. BA 26 exhibited the same surface layer as BA 23; however, it could not be excavated past 65 cm (26 in) bgs due to rock obstruction.

BA 24 was conducted in a grass field on the floodplain of the Little Sandy River just outside the boundaries of Site 15E176. It was excavated to a depth of 70 cm (28 in) bgs and contained three zones. Zone I extended to a depth of 30 cm (12 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II went to a depth of 40 cm (16 in) bgs and consisted of an olive yellow (2.5Y 6/6) clay. The final layer, Zone III, had the same color and texture as the previous zone while also including iron and manganese concretions. The potential for buried archaeological deposits was considered low due to the shallow nature of the soil seen in the older, iron and manganese mottled soils present within a meter bgs.

BA 25 was conducted in a grass field near the confluence of the Little Sandy River and an unnamed tributary. It was excavated to a depth of 130 cm (51 in) bgs and consisted of

three zones. Zone I reached a depth of 50 cm (20 in) bgs and consisted of a dark yellowish brown (10YR 4/4) silty clay loam with pea gravel and sandstone fragments increasing with depth. Zone II went to a depth of 120 cm (47 in) bgs and consisted of a dark yellowish brown (10YR 3/4) sandy clay with sandstone fragments, and iron and manganese concretions. The final layer, Zone III, consisted of a dark gray (10YR 4/1) sandy clay with iron and manganese concretions. The auger was terminated at a rock obstruction. The shallow nature of the soil, seen in older iron and manganese mottled soils present within a meter of the ground surface, exhibited low potential for any buried archaeological deposits.

BA 27 was conducted in a grass field on the floodplain of the Little Sandy River just outside the location of Site 15E176. It was excavated to a depth of 90 cm (35 in) bgs and contained three zones. Zone I went to a depth of 60 cm (24 in) bgs and consisted of a dark yellowish brown (10YR 4/4) sandy clay loam. Zone II reached a depth of 80 cm (31 in) bgs and consisted of a dark yellowish brown (10YR 4/6) sand. The final layer, Zone III, consisted of olive gray (5Y 5/2) clay with a heavy content of iron and manganese concretions. The auger was terminated at a rock obstruction. The shallow nature of the soil, showed by reaching older iron and manganese mottled soils within a meter of the ground surface, exhibited low potential for any buried archaeological deposits.

BA 28 was conducted in an agricultural field on the floodplain of the Little Sandy River at the location of Site 15E177. It was excavated to a depth of 120 cm (47 in) bgs and contained four zones. Zone I extended to a depth of 25 cm (10 in) bgs and consisted of a dark yellowish brown (10YR 3/4) clay loam with pea gravel and sandstone fragments. Zone II went to a depth of 70 cm (28 in) bgs and consisted of a yellowish brown (10YR 5/6) clay with iron and manganese concretions. Zone III reached a depth of 90 cm (35 in) bgs and consisted of a brownish yellow (10YR 6/8) clay with iron and manganese concretions. The final layer, Zone IV,

consisted of a brownish yellow (10YR 6/8) mixed with gray (10YR 6/1) sandy clay, with iron and manganese concretions. The water table was reached in Zone IV around 100 cm (39 in) bgs. With older, iron and manganese mottled soils present at such shallow depths there is low potential for any buried archaeological deposits.

Based on the results of BAs conducted throughout the project area, the potential for deeply buried intact cultural deposits appears to be low. Much of the project area contained shallow soils with mottles of iron and manganese mottled within a meter of the ground surface. Sandy soils were also commonly encountered. Both soil characteristics are considered to have a low potential for intact buried cultural deposits.

## **VII. CONCLUSIONS, RECOMMENDATIONS, AND TREATMENT**

**N**ote that a principal investigator or field archaeologist cannot grant clearance to a project. Although the decision to grant or withhold clearance is based, at least in part, on the recommendations made by the field investigator, clearance may be obtained only through an administrative decision made by

the Federal Highway Administration and KYTC, Division of Environmental Analysis, in consultation with the State Historic Preservation Office (the Kentucky Heritage Council [KHC]).

If any previously unrecorded archaeological materials are encountered during construction activities, the KHC should be notified immediately at (502) 564-6662. If human skeletal material is discovered, construction activities should cease, and the KHC, the local coroner, and the local law enforcement agency must be notified, as described in KRS 72.020.

The current project consists of an archaeological baseline survey for the proposed corridors and interchanges of the KY 7 reconstruction route generally between the towns of Wrigley and Sandy Hook in Morgan and Elliott Counties, Kentucky. All previously unsurveyed portions of the proposed ROW were surveyed for this project with the exception of approximately 13.93 ha (33.83 acres) for which landowner permission was not acquired for the survey (Table 34). This work will have to be conducted after negotiations for acquisition are finalized. The length of the proposed reconstruction route is approximately 16.4 km and encompasses approximately 132 ha. Under the current survey approximately 117.83 ha were surveyed.

Prior to initiating field investigations, a records review was conducted at the OSA for a 2.0 km (1.2 mi) radius around the entire 132 ha project area. The review indicated that nine previous professional archaeological surveys had been conducted within a 2 km radius of the project area. Twelve archaeological sites had been recorded in that area also. A portion of Site 15E111 was determined to be in the boundaries of the current project area.

The archaeological survey of the proposed project area resulted in the documentation of previously recorded Site 15E111, and the discovery of 10 previously unrecorded archaeological sites (15E176–15E181 and 15Mo174–15Mo177). Site 15E111 is an Early to Late Woodland open habitation without mounds that was unassessed for inclusion in the NRHP. During the current site revisit the portions in the project area were noted to be highly disturbed and only one flake was recovered. As a result, the portion of Site 15E111 located in the current project area is recommended not eligible for inclusion in the NRHP; however, the portions of the site outside the current project area are unassessed for inclusion in the NRHP and evaluation would require additional work.

Newly recorded archaeological Site 15E176 is a prehistoric open habitation without mounds that consists of a low density lithic scatter. Site 15E177 is a multicomponent site that consists of a prehistoric open habitation without mounds of unknown temporal affiliation and a historic material scatter possibly associated with the adjacent early- to mid-twentieth-century farm/residence. However, the historic assemblage was composed primarily of ABM glass and possibly represents roadside garbage as all of the historic materials were recovered from the ground surface along KY 7. Site 15E178 is a prehistoric open habitation without mounds of unknown temporal affiliation that consisted of a low density lithic scatter. Site 15E179 is a multicomponent site that consists of an early-twentieth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate

temporal affiliation. The historic component of the site included six extant structures and a limestone block well. The prehistoric component consisted of an extremely low-density lithic scatter. Site 15E180 is a historic cemetery that contains 22 burials with the earliest death date being 1895 and the most recent being 2007. Site 15E181 is a historic farm/residence that dates from the late nineteenth century to the mid-twentieth century and consists of a low density historic material scatter, an extant residential structure, a well house and limestone well, and the possible remains of a limestone wall. Site 15Mo174 is a multicomponent site that consists of an early-twentieth-century to mid-to late-twentieth-century farm/residence and a prehistoric open habitation without mounds. The historic component consists of a low density historic material scatter, two structures, and two wells/well houses. The prehistoric component consists of a low density lithic scatter. Site 15Mo175 is a multicomponent site that consists of a late-nineteenth-century to mid-twentieth-century farm/residence and a prehistoric open habitation without mounds of indeterminate temporal affiliation. The historic component consists of a medium density historic material scatter, four historic structures, and a well. The prehistoric component consists of a low density lithic scatter. Site 15Mo176 is a historic farm/residence that dates from the early to mid-twentieth century and consists of a low density historic material scatter, the foundation remains of a suspected outbuilding, and three extant historic structures. Site 15Mo177 consists of a small cultural material scatter associated with an early- to mid-twentieth-century commercial building formerly known as Wrigley Mercantile General Store. Sites 15E176, 15E179, 15Mo174, 15Mo175, 15Mo176, and 15Mo177 are all recommended not eligible for inclusion in the NRHP, and no further work is recommended. However, Sites 15E177, 15E178, and 15E181 all appear to extend outside the boundaries of the current project area. Therefore, they cannot be properly assessed for inclusion in the NRHP. Although the portions of Sites 15E177, 15E178, and



15E181 that are located in the current project area are recommended not eligible for inclusion in the NRHP, additional work would be required to assess the portions of those sites that are outside of the current project area for inclusion in the NRHP. Site 15E180 is also recommended not eligible for inclusion in the NRHP, but since it contains historic burials, it is recommended for avoidance. If it cannot be avoided, any affected burials will have to be removed in accordance with Kentucky State Law.

Five isolated finds (IF1–IF5) also were documented during field investigations. IF1 consisted of three flakes and two wire nails recovered from a single shovel test. IF2 consisted of a biface fragment; IF3 consisted of a flake; IF4 consisted of two flakes recovered from two shovel tests within 10 m (33 ft) of each other; and IF5 consisted of a stoneware sherd. None the isolated finds are recommended for inclusion in the NRHP.

In addition, five relatively small family cemeteries and two locations that may contain unmarked burials were noted either within or directly adjacent to the current project area. None of the portions of the cemeteries within the project area are known to contain historic burials; however, if the burials are unable to be avoided they will have to be removed in accordance with Kentucky State Law. The two areas that potentially contain burials were identified through communication with local residents. CRA recommends that these locations be avoided. For the location with the possible Civil War burials, if it cannot be avoided, documentary research to attempt to verify the existence of the burials is recommended. If the presence of such burials is verified, additional archaeological work to evaluate their eligibility for the NRHP is recommended. For the other area with potential graves, as it is doubtful that a small population of anonymous graves would be NRHP eligible, it is recommended that KYTC's standard procedure of identification and relocation of graves in accordance with Kentucky State Law would be sufficient.

No archaeological sites listed in, or eligible for listing in, the NRHP will be affected by the proposed construction activities of the current project. So long as all marked burials present in the project area are avoided or treated as outlined above, archaeological clearance is recommended. However, it is recommended that the parcels for which permission was not obtained be surveyed following property acquisition.

## REFERENCES CITED

- Adovasio, James M. (compiler)  
1982 *The Prehistory of the Paintsville Reservoir, Johnson and Morgan Counties, Kentucky*. Ethnology Monographs No. 6. Department of Anthropology, University of Pittsburgh, Pittsburgh.
- Adovasio, James M., David R. Pedler, John Donahue, and Robert Stuckenrath  
1998 Two Decades of Debate on Meadowcroft Rockshelter. *North American Archaeologist* 19:317–341.
- Ancestry.com  
2000 *Kentucky Death Index, 1911-2000*. Ancestry.com Operations Inc., Provo, Utah.  
2006 *Kentucky, Birth Index, 1911-1999*. Ancestry.com Operations, Inc., Provo, Utah.  
2007 *Kentucky, Death Records, 1852-1963*. Ancestry.com Operations, Inc., Provo, Utah.  
2012a *U.S., Find A Grave Index, 1600s-Current*. Ancestry.com Operations, Inc., Provo, Utah.  
2012b *U.S., Headstone Applications for Military Veterans, 1925-1963*. Ancestry.com Operations, Inc., Provo, Utah.
- Anderson, David G.  
2001 Climatic and Culture Change in Prehistoric and Early Historic Eastern North America. *Archaeology of Eastern North America* 29:143–186.

- Anderson, Orin K.  
1975 Climate of Kentucky. *Climatography of the United States* No. 60:15. United States Department of Commerce, Weather Bureau, Washington, D.C.
- Andrefsky, William, Jr.  
1994 Raw Material Availability and the Organization of Technology. *American Antiquity* 59:21–35.
- Applegate, Darlene  
2008 Woodland Period. In *The Archaeology of Kentucky: An Update*, Vol. 1, edited by David Pollack, pp. 339–604. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.
- Avon Products, Inc.  
2016 *Avon Company History*. Electronic document, <http://www.avoncompany.com/aboutavon/history/>, accessed March 16, 2016.
- Baerreis, David A., Reid A. Bryson, and John E. Kutzbach  
1976 Climate and Culture in the Western Great Lakes region. *Midcontinental Journal of Archaeology* 1:39–58.
- Ball, Donald B.  
1984 Historic Artifact Patterning in the Ohio Valley. *Proceedings of the Symposium on Ohio Valley Urban and Historic Archaeology* II:24–36.
- Basinet, Alan  
2012 *Master Marble Company/Master Glass Company (1930–1973)*. Electronic document, <http://www.buymarbles.com/marblealan/master.html>, accessed March 1, 2016.
- Baughner-Perlin, Sherene  
1982 Analyzing Glass Bottles for Chronology, Function, and Trade Networks. In *Archeology of Urban America: The Search for Pattern and Process*, edited by Roy S. Dickens, pp. 250–291. Academic Press, New York.
- Beck, Charlotte, and George T. Jones  
1990 Toolstone Selection and Lithic Technology in Early Great Basin Prehistory. *Journal of Field Archaeology* 17:283–299.
- Bemrose, Geoffrey  
1952 *Nineteenth Century English Pottery and Porcelain*. Pitman Publishing Corporation, New York.
- Berge, Dale L.  
1980 *Simpson Springs Station Historical Archaeology in Western Utah 1974–1975*. Cultural Resource Series Number 6. Bureau of Land Management, Salt Lake City, Utah.
- Billington, Dora M.  
1962 *The Technique of Pottery*. Hearthside Press Inc., New York.
- Binford, Lewis R.  
1979 Organization and Formation Processes: Looking at Curated Technologies. *Journal of Anthropological Research* 35:255–272.
- Birkeland, Peter W.  
1984 *Soils and Geomorphology*. Oxford University Press, New York.
- Bladen, Wilford A.  
1973 The Mountains. In *Kentucky: A Regional Geography*, edited by Pradyumna P. Karan, pp. 23–51. Kendall/Hunt Publishing Company, Dubuque, Iowa.
- Blaszczyk, Regina Lee  
2000 *Imagining Consumers: Design and Innovation from Wedgwood to Corning*. Johns Hopkins University Press, Baltimore, Maryland.
- Boger, L. A.  
1971 *The Dictionary of World Pottery and Porcelain*. Charles Scribner and Sons, New York.

- Bonnichsen, Robson, Dennis Stanford, and James L. Fastook  
1987 Environmental Change and Developmental History of Human Adaptive Patterns: The Paleo-Indian Case. In *North America and Adjacent Oceans during the Last Deglaciation*, edited by William F. Ruddiman and Herbert E. Wright, Jr., pp. 403–424. Geological Society of America, Boulder, Colorado.
- Braun, E. Lucy  
2001 *Deciduous Forest of Eastern North America*. Reprinted. Blackburn Press, Caldwell, New Jersey. Originally published 1950, Blakiston, Philadelphia.
- Broeksmit, Susan B., and Anne T. Sullivan  
2006 Dry-Press Brick: A Nineteenth-Century Innovation in Building Technology. *APT Bulletin* 37(1):45–52.
- Brown, Ian W.  
1981 A Study of Stone Box Graves in Eastern North America. *Tennessee Anthropologist* 6(1):1–26.
- Brown, James A.  
1977 Current Directions in Midwestern Archaeology. *Annual Review of Anthropology* 6:161–179.
- Buckley, Francis  
1934 Old English Glass. The Birmingham Glass Pinchers. *Glass* 11(May):187–188.
- Busch, Jane  
1981 An Introduction to the Tin Can. *Historical Archaeology* 15:95–104.
- Cameron, Elisabeth  
1986 *Encyclopedia of Pottery and Porcelain, 1800–1960*. Facts on File Publications, New York.
- Chance, David H., and Jennifer V. Chance  
1976 *Kanaka Village, Vancouver Barracks 1974*. Reports in Highway Archaeology, No. 3. Office of Public Archaeology, University of Washington, Seattle.
- Chandler, J.M.  
2001 The Topper Site: Beyond Clovis at Allendale. *Mammoth Trumpet* 16(4):10–15.
- Chapman, Jefferson  
1975 *The Rose Island Site and the Bifurcate Tradition*. Publications in Anthropology No. 8. Tennessee Valley Authority, Chattanooga. Report of Investigations No. 14. Department of Anthropology, University of Tennessee, Knoxville.
- Clay, R. Berle  
1983 Pottery and Graveside Ritual in Kentucky Adena. *Midcontinental Journal of Archaeology* 8:109–126.  
1984 Styles of Stone Graves. In *Late Prehistoric Research in Kentucky*, edited by David Pollack, Charles D. Hockensmith, and Thomas N. Sanders, pp. 131–144. Kentucky Heritage Council, Frankfort.  
1986 Adena Ritual Spaces. In *Early Woodland Archaeology*, edited by Kenneth B. Farnsworth and Thomas E. Emerson, pp. 581–595. Kampsville Seminars in Archeology No. 2. Center for American Archeology Press, Kampsville, Illinois.  
1991 Adena Ritual Development: An Organizational Type in a Temporal Perspective. In *The Human Landscape in Kentucky's Past*, edited by Charles Stout and Christine K. Hensley, pp. 33–39. Kentucky Heritage Council, Frankfort.  
1998 The Essential Features of Adena Ritual and Their Implications. *Southeastern Archaeology* 17:1–21.  
2002 Deconstructing the Woodland Sequence from the Heartland. In *The Woodland Southeast*, edited by David G. Anderson and Robert C. Mainfort, pp. 162–184. University of Alabama Press, Birmingham.

- Cohen, Mark N.  
1977 *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture*. Yale University Press, New Haven, Connecticut.
- Cole, Fay-Cooper, Robert Bell, John Bennett, Joseph Caldwell, Norman Emerson, Richard MacNeish, Kenneth Orr, and Roger Willis  
1951 *Kincaid: A Prehistoric Illinois Metropolis*. University of Chicago Press, Chicago.
- Coleman, Dorothy S., Elizabeth A. Coleman, and Evelyn J. Coleman  
1968 *The Collector's Encyclopedia of Dolls*. Crown Publishers, New York.
- Collard, Elizabeth  
1967 *Nineteenth-Century Pottery and Porcelain in Canada*. McGill University Press, Montreal, Canada.
- Collins, Michael B.  
1975 Lithic Technology as a Means of Processual Inference. In *Lithic Technology: Making and Using Stone Tools*, edited by E. Swanson, pp. 5–34. Mouton, The Hague.  
1979 The Longworth-Gick Site (15JF243). In *Excavations at Four Archaic Sites in the Lower Ohio Valley, Jefferson County, Kentucky*, Vol. II, edited by Michael B. Collins, pp. 471–589. Occasional Papers in Anthropology No. 1. Department of Anthropology, University of Kentucky, Lexington.
- Collins, Richard H.  
1882 *History of Kentucky*. Collins and Company, Covington, Kentucky.
- The Courier-Journal*  
1930 “Two Slain, Two Wounded in State Quarrel.” July 5. Louisville, Kentucky.
- Cowan, C. Wesley  
1985 Understanding the Evolution of Plant Husbandry in Eastern North America: Lessons from Botany, Ethnography, and Archeology. In *Prehistoric Food Production in North America*, edited by Richard I. Ford, pp. 205–243. Anthropological Papers No. 75. Museum of Anthropology, University of Michigan, Ann Arbor.
- Cowan, C. Wesley, H. Edwin Jackson, Katherine Moore, Andrew Nickelhoff, and Tristine L. Smart  
1981 The Cloudsplitter Rockshelter, Menifee County, Kentucky: A Preliminary Report. *Bulletin of the Southeastern Archaeological Conference* 24:60–76. New Orleans.
- Creasman, Steven D.  
1995 *Upper Cumberland Archaic and Woodland Period Archeology at the Main Site (15BL35), Bell County, Kentucky*. 2 vols. Contract Publication Series 94-56. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Creasman, Steven D., Jonathan P. Kerr, E. Arthur Bettis, III, and Albert. M. Pecora  
1996 The Main Site: Radiocarbon and Cultural Chronology. *Tennessee Anthropologist* 21:156–180.
- Daugherty, Dona R.  
2010 Phase I Archaeological Survey of the Proposed Sandy Hook Cellular Communications Tower Location, Elliott County, Kentucky. Wilbur Smith Associates, Lexington, Kentucky. Manuscript on file, Office of State Archaeology, University of Kentucky, Lexington.
- Davis, Daniel B.  
1999 A Phase I Archaeological Survey of Three Alternate Routes for KY 7 Near Sandy Hook in Elliott County, Kentucky. Technical Report No. 404. Program for Archaeological Research, Department of Anthropology, University of Kentucky, Lexington.

- Davis, Darrell H.  
1924 *The Geography of the Mountains of Eastern Kentucky: A Reconnaissance Study of the Distribution and Activities of Man in that part of the Cumberland Plateau Embraced by the Commonwealth*. Kentucky Geological Survey, Frankfort.
- Davis, Leslie B.  
1993 Paleo-Indian Archaeology in the High Plains and Rocky Mountains of Montana. In *From Kostenki to Clovis: Upper Paleolithic-Paleo-Indian Adaptations*, edited by Olga Soffer and Nikolai D. Praslov, pp. 263–278. Plenum Press, New York.
- Delcourt, Hazel R.  
1979 Late Quaternary Vegetational History of the Eastern Highland Rim and Adjacent Cumberland Plateau of Tennessee. *Ecological Monographs* 49(3):255–280.
- Delcourt, Paul A., and Hazel R. Delcourt  
1981 Vegetation Maps for Eastern North America: 40,000 B.P. to the Present. In *Geobotany II*, edited by Robert C. Romans, pp. 123–165. Plenum Press, New York.
- 1987 *Long Term Forest Dynamics of the Temperate Zone: A Case Study of Late-Quaternary Forests in Eastern North America*. Ecological Studies 63. Springer-Verlag, New York.
- 1997 *Report of Paleoecological Investigations, Cliff Palace Pond, Jackson County, Kentucky, in the Daniel Boone National Forest*. Submitted to United States Department of Agriculture, Daniel Boone National Forest, Stanton Ranger District, Stanton, Kentucky, Contract No. 43-531A-6-0389. Copies available from United States Department of Agriculture, Daniel Boone National Forest, Stanton Ranger District, Stanton, Kentucky.
- Denker, Ellen, and Bert Denker  
1982 *The Warner Collector's Guide to North American Pottery and Porcelain*. Warner Books, New York.
- Dincauze, Dena F.  
1993 Fluted Points in the Eastern Forests. In *From Kostenki to Clovis: Upper Paleolithic-Paleo-Indian Adaptations*, edited by Olga Soffer and Nikolai D. Praslov, pp. 279–292. Plenum Press, New York.
- Dodd, Arthur Edward  
1964 *Dictionary of Ceramics*. Philosophical Library Inc., New York.
- Dragoo, Don W.  
1976 Some Aspects of Eastern North American Prehistory: A Review 1975. *American Antiquity* 41:3–27.
- Duffield, Lathel F., and Richard A. Boisvert  
1983 The Adams Mastodon Site. Paper presented at the 48th Annual Meeting of the Society of American Archaeology, Pittsburgh.
- Duffy, John  
1978 Social Impact of Disease in the Late Nineteenth Century. In *Sickness and Health in America: Readings in the History of Medicine and Public Health*, edited by Judith Walzer Leavitt and Ronald L. Numbers, pp. 395–402. University of Wisconsin Press, Madison.
- Dunnell, Robert C.  
1971 *Systematics in Prehistory*. The Free Press, New York.
- Elliott County History Book Committee  
1985 *The History of Elliott County, Kentucky*. Walsworth Press, Inc., Salem West Virginia.
- 1992 *The History of Elliott County, Kentucky: 1869 1990*. Walsworth Publishing Co., Waynesville, North Carolina.

- Englund, Kenneth J., and A. Otis Delaney  
1966 Geological Map of the Sandy Hook  
Quadrangle, Elliott and Morgan  
Counties, Kentucky. GQ-521. Kentucky  
Geological Survey, Frankfort.
- Faulkner, Charles H.  
2000 *Historical Archaeology Laboratory  
Manual*. Department of Anthropology,  
University of Tennessee, Knoxville.
- 2008 *The Ramseys at Swan Pond: The  
Archaeology and History of an East  
Tennessee Farm*. University of  
Tennessee Press, Knoxville.
- Faulkner, Charles H., and Major C. R.  
McCollough  
1974 *Excavations and Testing, Normandy  
Reservoir Salvage Project: 1972  
Seasons*. Publications in Anthropology  
No. 5. Tennessee Valley Authority,  
Chattanooga. Normandy Archaeological  
Project Vol. 2, Report of Investigations  
No. 12. Department of Anthropology,  
University of Tennessee, Knoxville.
- Fay, Robert P.  
1986 *Archaeological Investigations at  
Liberty Hall, Frankfort, Kentucky*.  
Kentucky Heritage Council, Frankfort,  
Kentucky.
- Fiegel, Kurt  
2013 A Cultural Resources Assessment of  
the Proposed Redbud Mining, LLC,  
Contour-Auger Mine of the Mud Seam  
Coal Seam, Near Faye, Elliott County,  
Kentucky. Frankfort, Kentucky.  
Manuscript on file, Office of State  
Archaeology, University of Kentucky,  
Lexington.
- Fike, Richard E.  
1987 *The Bottle Book: A Comprehensive  
Guide to Historic, Embossed Medicine  
Bottles*. Pergerine Smith Books, Salt  
Lake City, Utah.
- Fredlund, Glen G.  
1989 *Holocene Vegetational History of the  
Gallipolis Locks and Dam Project Area,  
Mason County, West Virginia*. Contract  
Publication Series 89-01. Cultural  
Resource Analysts, Inc., Lexington,  
Kentucky.
- Freeman, Andrea K.L., Edward E. Smith, Jr.,  
and Kenneth B. Tankersley  
1996 A Stone's Throw from Kimmswick:  
Clovis Period Research in Kentucky. In  
*The Paleoindian and Early Archaic  
Southeast*, edited by David G. Anderson  
and Kenneth E. Sassaman, pp. 385–403.  
The University of Alabama Press,  
Tuscaloosa.
- Friedman, Lawrence J.  
1970 *The White Savage: Racial Fantasies in  
the Postbellum South*. Prentice-Hall,  
Inc., Englewood Cliffs, New Jersey.
- Fritts, Harold C., Robert G. Lofgren, and G.A.  
Gordon  
1979 Variation in Climate Since 1602 as  
Reconstructed from Tree-rings.  
*Quaternary Research* 12:18–46.
- Gates, William C., Jr., and Dana E. Ormerod  
1982 The East Liverpool Pottery District:  
Identification of Manufacturers and  
Marks. *Historical Archaeology* 16(1–  
2):1–358.
- Gatus, Thomas W.  
1978 The Occurrence and Distribution of  
Chert Bearing Deposits in the Land  
Between the Lakes Area of Western  
Kentucky. *Bulletin of the Kentucky  
Archaeological Association* 12:24–45.
- 1980 Appendix C; Chert Descriptions, In  
*Taylorville Lake, Kentucky,  
Archaeological Resources Survey and  
Evaluation, Season II*. Archaeological  
Report 24, University of Kentucky,  
Department of Anthropology.

- 1985 Chert Resource Utilization. In *Prehistoric & Historic Sites Archaeology in the Proposed Yatesville Reservoir, Lawrence County, Kentucky*, by C. M. Niquette, and T. K. Donham, pp. 420–439. Contract Publication Series 85-13. Cultural Resource Analysts, Lexington, Kentucky.
- Godden, Geoffrey A.  
1964 *An Illustrated Encyclopedia of British Pottery and Porcelain*. Bonanza Books, New York.
- Gonzalez, Mark  
2000 *Collecting Fiesta, Lu-Ray, and Other Colorware*. L-W Book Sales, Marion, Indiana.
- Goodyear, Albert C., III  
1999 The Early Holocene Occupation of the Southeastern United States: A Geoarchaeological Summary. In *Ice Age Peoples of North America*, edited by Robson Bonnicksen and Karen L. Turnmire, pp. 432–481. Center for the Study of the First Americans, Corvallis.
- Goodyear, Albert C., III, and Kenn Steffy  
2003 Evidence of a Clovis Occupation at the Topper Site, 38AL23, Allendale County, South Carolina. *Current Research in the Pleistocene* 20:23–25.
- Greene, Lance K.  
1992 The Penfield is Mightier than the Sword: Machine Made Bricks in Knoxville and Knox Co. Tennessee. In *Proceedings of the Tenth Symposium on Ohio Valley Urban and Historic Archaeology*, edited by Amy Young and Charles Faulkner, pp. 74–91. Tennessee Anthropological Association Miscellaneous Paper No. 16.
- Griffin, James B.  
1961 Some Correlations of Climatic and Cultural Change in Eastern North American Prehistory. *Annals of the New York Academy of Sciences* 95:710–717.
- Gurcke, Karl  
1987 *Bricks and Brickmaking, a Handbook for Historical Archeology*. The University of Idaho Press, Moscow, Idaho.
- Hammack, James W., Jr.  
1992 War of 1812. In *The Kentucky Encyclopedia*, edited by John E. Kleber, pp. 928–930. University Press of Kentucky, Lexington.
- Hammon, Neal  
1992 Kentucky County. In *The Kentucky Encyclopedia*, edited by John E. Kleber, pp. 495. University Press of Kentucky, Lexington.
- Hand, Robert B.  
1994 A Cultural Resource Assessment of the Proposed North Wood Apartments in the Town of Sandy Hook, Elliott County, Kentucky. Contract Publication Series 94-13. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Henderson, A. Gwynn  
2008 Fort Ancient Period. In *The Archaeology of Kentucky: An Update*, Vol. 2, edited by David Pollack, pp. 739–902. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.
- Hixon, James Lee  
1994 Phase I Archaeological Assessment of the Proposed New West Liberty – Wrigley Road from Kenall Hill Road to KY 7 at Wrigley, Morgan County, Kentucky (Item No. 10-271.00). Kentucky Transportation Cabinet, Department of Highways, Division of Environmental Analysis, Frankfort, Kentucky. Manuscript on file, Office of State Archaeology, University of Kentucky, Lexington.
- Hockensmith, Charles D.  
1997 A Study of Frankfort Bricks and Brickmaking, Franklin County, Kentucky. *Tennessee Anthropologist* 22(2):121–176.

- Holley, I.B., Jr.  
2009 The Mechanization of Brickmaking. *Technology and Culture* 50(1):82–102.
- Holscher, Harry Heltman  
1965 *Hollow and Specialty Glass: Background and Challenge*. Reprint from the Glass Industry, Volume 46, June–November. Owens-Illinois, Toledo, Ohio.
- Hosterman, John W., Sam H. Patterson, and John W. Huddle  
1961 Geology of the Wrigley Quadrangle, Kentucky. GQ-170. Kentucky Geological Survey, Frankfort.
- Hudson, Karen E.  
1992 Morgan County: Survey of Historic Sites. Kentucky Heritage Council, Frankfort.
- Hughes, Bernard, and Therle Hughes  
1968 *The Collector's Encyclopedia of English Ceramics*. Abbey Library, London, England.
- Hunt, George T.  
1940 *The Wars of the Iroquois: A Study in Intertribal Trade Relations*. University of Wisconsin Press, Madison.
- Hunter, William A.  
1978 History of the Ohio Valley. In *Northeast*, edited by Bruce G. Trigger, pp. 588–593. Handbook of North American Indians, Vol. 15, William T. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
- IMACS  
1992 *Intermountain Antiquities Computer System Users Guide*. University of Utah, Bureau of Land Management, U.S. Forest Service. Electronic document, [http://www.sha.org/bottle/pdf/IMA CSUsersGuide1992.pdf](http://www.sha.org/bottle/pdf/IMA%20UsersGuide1992.pdf), accessed April 20, 2015.
- Ingbar, Eric E.  
1994 Lithic Material Selection and Technological Organization. In *The Organization of North American Prehistoric Chipped Stone Tool Technologies*, edited by P. J. Carr, pp. 45–56. Archaeological Series No. 7, International Monographs in Prehistory, Ann Arbor, Michigan.
- Jefferies, Richard W.  
2008 The Archaic Period. In *The Archaeology of Kentucky: Past Accomplishments and Future Directions*, Vol. 1, edited by David Pollack, pp. 193–338. State Historic Preservation Comprehensive Plan Report No. 1. Kentucky Heritage Council, Frankfort.
- Johnson, Arthur C.  
1974 Early Morgan County. Economy Printers, Ashland, Kentucky.
- Johnson, Jay K.  
1981 *Lithic Procurement and Utilization Trajectories: Analysis, Yellow Creek Nuclear Power Plant Site, Tishomingo County, Mississippi, Vol. II*. Archaeological Papers No. 1. Center for Archaeological Research, University of Mississippi.  
1986 Amorphous Core Technologies in the Midsouth. *Midcontinental Journal of Archaeology* 11:135–151.
- Jones, Olive  
2000 A Guide to Dating Glass Tableware: 1800 to 1940. In *Studies in Material Culture*, edited by Karlis Karklins, pp. 141–232. The Society for Historical Archaeology, Pennsylvania.
- Jones, Olive, and Catherine Sullivan  
1985 *The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass, and Closures*. Studies in Archaeology, Architecture and History. National Historic Parks and Sites Branch, Parks Canada.



- Kelly, Robert L.  
1988 The Three Sides of a Biface. *American Antiquity* 53:717–734.
- Kelly, Robert L., and Lawrence C. Todd  
1988 Coming into the Country: Early Paleo-Indian Hunting and Mobility. *American Antiquity* 53:231–244.
- Kentucky Agricultural Statistics Service  
1998 Kentucky Agricultural Statistics: 1997-1998. Kentucky Department of Agriculture, Frankfort, Kentucky.
- Kentucky Department of Highways  
1937a *Highway and Transportation Map of Elliott County, Kentucky*. Kentucky Department of Highways, Frankfort, Kentucky. Prepared in cooperation with the United States Department of Commerce, Bureau of Public Roads.  
1937b *Highway and Transportation Map of Morgan County, Kentucky*. Kentucky Department of Highways, Frankfort, Kentucky. Prepared in cooperation with the United States Department of Commerce, Bureau of Public Roads.  
1959 *General Highway Map of Elliott County, Kentucky*. Kentucky Department of Highways, Frankfort, Kentucky. Prepared in cooperation with the United States Department of Commerce, Bureau of Public Roads.
- Kentucky Geological Survey  
1880 *Map of Morgan and Johnson Counties and Parts of Magoffin, Floyd, and Martin*. Geology by A.R. Crandall. Krebs Lithographing Company, Cincinnati, Ohio.
- Kentucky State Highway Department  
1951a *General Highway Map of Elliott County, Kentucky*. Kentucky Department of Highways Division of Planning. Frankfort, Kentucky.  
1951b *General Highway Map of Elliott County, Kentucky*. Kentucky Department of Highways Division of Planning. Frankfort, Kentucky.
- Kerr, Jonathan P.  
1995 Prehistoric Ceramic Analysis. In *Upper Cumberland Archaic and Woodland Period Archeology at the Main Site (15BL35), Bell County, Kentucky*, Vol. II, by Steven D. Creasman, pp. C-1–C-13. Contract Publication Series 94-56. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Kerr, Jonathan P., and Steven D. Creasman  
1995 *Phase III Investigations at the Martin Justice Site (15PI92), Pike County, Kentucky*. Contract Publication Series 95-24. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Ketchum, William C., Jr.  
1983 *Pottery and Porcelain*. Alfred A. Knopf, New York.  
1991 *American Stoneware*. Henry Holt and Company, Inc., New York.
- Klippel, Walter E., and Paul W. Parmalee  
1982 Diachronic Variation in Insectivores from Cheek Bend Cave, and Environmental Change in the Midsouth. *Paleobiology* 8:447–458.
- Lehner, Lois  
1980 *Complete Book of American Kitchen and Dinner Wares*. Wallace-Homestead Books, Des Moines, Iowa.
- Lewis, Griselda  
1950 *English Pottery*. Pellegrini and Cudahy, New York.  
*The Lexington Herald-Leader*  
1998 “Obituary of Corda Easterling Lewis.” July 11. Lexington, Kentucky.
- Leybourne, Douglas M., Jr.  
2001 *The Collector’s Guide to Old Fruit Jars*. Red Book 9. Douglas M. Leybourne, Jr., Muskegon, Michigan.
- Lindsey, Bill  
2015 *Historic Glass Bottle Identification and Information*. Electronic document, <http://www.sha.org/bottle/index.htm>, accessed April 6, 2015.

- Little, Wilfred L.  
1969 *Staffordshire Blue: Underglaze Blue Transfer Printed Earthenware*. Crown Publishers, Inc., New York.
- Lockhart, Bill  
2006 The Color Purple: Dating Solarized Amethyst Container Glass. *Historical Archaeology* 40(2):45–56.
- Lockhart, Bill, Bill Lindsey, Carol Serr, Pete Schulz, and Beau Schriever  
2015 *Manufacturer's Marks and Other Logos on Glass Containers*. Electronic document, <http://sha.org/bottle/makersmarks.htm>, accessed November 16, 2015.
- Lofstrom, Edward U., Jeffrey P. Tordoff, and Douglas C. George  
1982 A Seriation of Historic Earthenwares in the Midwest, 1780–1870. *Minnesota Archaeologist* 41(1):3–29.
- Long, John H. (editor)  
1995 *Kentucky Atlas of Historical County Boundaries*. Charles Scribner's Sons, New York.
- Lucas, Marion B.  
1992 *A History of Blacks in Kentucky*. The Kentucky Historical Society, Frankfort, Kentucky.
- McAvoy, Joseph M., and Lynn D. McAvoy  
1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*. Research Report Series No. 8. Virginia Department of Historic Resources, Richmond.
- McBride, Kim A., and W. Stephen McBride  
2008 Historic Period. In *The Archaeology of Kentucky: An Update*, Vol. 2, edited by David Pollack, pp. 903–1132. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.
- McConnell, Michael N.  
1992 *A Country Between: The Upper Ohio Valley and Its Peoples, 1724-1774*. University of Nebraska Press, Lincoln.
- McKearin, Helen, and Kenneth M. Wilson  
1978 *American Bottles & Flasks and Their Ancestry*. Crown Publishers, Inc., New York.
- Maggard, Greg J., and Kary L. Stackelbeck  
2008 Paleoindian Period. In *The Archaeology of Kentucky: An Update*, Vol. 1, edited by David Pollack, pp. 109–192. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.
- Magne, Martin P. R.  
1985 *Lithics and Livelihood: Stone Tool Technologies of Central and Southern Interior B.C.* Archaeology Survey of Canada, Mercury Series No. 133, Ottawa.
- Magne, Martin P. R., and David Pokotylo  
1981 A Pilot Study in Bifacial Lithic Reduction Sequences. *Lithic Technology*, 10(2–3) 34–47.
- Majewski, Teresita, and Michael J. O'Brien  
1984 *An Analysis of Historical Ceramics from the Central Salt River Valley of Northeast Missouri*. Publications in Archaeology, Number 3. American Archaeology Division, Department of Anthropology, University of Missouri, Columbia, Missouri.
- 1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory*, Volume 11, edited by Michael J. Schiffer, pp. 97–209. Academic Press, New York.
- Mankowitz, Wolf, and Reginald G. Haggard  
1957 *The Concise Encyclopedia of English Pottery and Porcelain*. Hawthorne Books, New York.

- Marquardt, William H., and Patty Jo Watson  
1976 Excavation and Recovery of  
Biological Remains from Two Archaic  
Shell Middens in Western Kentucky.  
Paper presented at the 33rd Annual  
Meeting of the Southeastern  
Archaeological Conference, Tuscaloosa,  
Alabama.
- Mason, Martyn  
1992 Elliott County. In *The Kentucky  
Encyclopedia*, edited by John E. Kleber,  
pp. 292. University Press of Kentucky,  
Lexington.
- Maxwell, Jean A., and Margaret B. Davis  
1972 Pollen Evidence of Pleistocene and  
Holocene Vegetation on the Allegheny  
Plateau, Maryland. *Quaternary  
Research* 2:506–530.
- May, Earl Chapin  
1937 *The Canning Clan: A Pageant of  
Pioneering Americans*. The MacMillan  
Company, New York.
- Meeks, Scott C., and David G. Anderson  
2012 Evaluating the Effect of the Younger  
Dryas on Human Population Histories in  
the Southeastern United States. In  
*Hunter-Gatherer Behavior: Human  
Response during the Younger Dryas*,  
edited by Metin I. Eren, pp. 111-138.  
Left Coast Press, Walnut Creek,  
California.
- Meikle, Jeffrey L.  
1995 *American Plastic: A Culture History*.  
Rutgers University Press, New  
Brunswick, New Jersey.
- Meltzer, David J.  
1993 Is There a Clovis Adaptation? In *From  
Kostenki to Clovis: Upper Paleolithic-  
Paleoindian Adaptations*, edited by  
Olga Soffer and Nikolai D. Praslov, pp.  
293–310. Plenum Press, New York.
- Meltzer, David J., and Ofer Bar-Yosef  
2012 Looking for the Younger Dryas. In  
*Hunter-Gatherer Behavior: Human  
Response during the Younger Dryas*,  
edited by Metin I. Eren, pp. 249-268.  
Left Coast Press, Walnut Creek,  
California.
- Miller, George L., and Tony McNichol  
2002 Dates for Suction Scarred Bottoms:  
Chronological Changes in Owens  
Machine-Made Bottles. Revised March  
2010 with illustrations. Paper presented  
at the 2002 Society for Historical  
Archaeology meeting, Mobile,  
Alabama.
- Miller, George L., and Catherine Sullivan  
1984 Machine-Made Glass Containers and  
the End of Production for Mouth-Blown  
Bottles. *Historical Archaeology*  
18(2):83–96.
- Milliken, K. L.  
1979 The Silicified Anhydrite Syndrome-  
Two Aspects of Silicification History of  
Former Evaporite Nodules from  
Southern Kentucky and Northern  
Tennessee. *Journal of Sedimentary  
Petrology* 49(1):245–256.
- Mocas, Stephen T.  
1988 Pinched and Punctated Pottery of the  
Falls of the Ohio River Region: A  
Reappraisal of the Zorn Punctate  
Ceramic Type. In *New Deal Era  
Archaeology and Current Research in  
Kentucky*, edited by David Pollack and  
Mary Lucas Powell, pp. 115–143.  
Kentucky Heritage Council, Frankfort.
- Moir, Randall W.  
1977 *Window Glass: A Statistical  
Perspective*. Manuscript on file,  
Archaeology Research Program,  
Southern Methodist University, Dallas,  
Texas.

- 1987 Socioeconomic and Chronometric Patterning of Window Glass. In *Historic Buildings, Material Culture, and People of the Prairie Margin*, edited by David H. Jurney and Randall W. Moir, pp. 73–81. Richland Creek Technical Series, Vol. V. Southern Methodist University, Dallas, Texas.
- Morse, Dan F.  
1973 Dalton Culture in Northeast Arkansas. *The Florida Anthropologist* 26:23–38.
- Morse, W.C.  
1931 The Pennsylvanian invertebrate fauna of Kentucky. In *The Paleontology of Kentucky; A Symposium Outlining Systematically, and Briefly Describing with Stratigraphic References the Various Fossil Forms of Life Indigenous to the Rocks of the Commonwealth*. Edited by W.R. Jillson, pp 293-348, Kentucky Geological Survey Geologic Report, Vol. 356. Frankfort, Kentucky.
- National Park Service  
1983 Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. *Federal Register* 48(190): 44716–44742. United States Department of the Interior, Washington, D.C.
- Nelson, Lee H.  
1968 *Nail Chronology as an Aid to Dating Old Buildings*. American Association for State and Local History, Technical Leaflet 15. American Association for State and Local History, Madison, Wisconsin.
- Neuman, Robert W.  
1967 Atlatl Weights from Certain Sites on the Northern and Central Great Plains. *American Antiquity* 32:36–53.
- Newell, Wayne L.  
2001 Physiography. In *The Geology of Kentucky—A Text to Accompany the Geologic Map of Kentucky*, edited by Robert C. McDowell. Contributions to the Geology of Kentucky. United States Geological Survey Professional Paper 1151-H, Online Version 1.0. Electronic document, <http://pubs.usgs.gov/prof/p1151h/physiography.html>, accessed September 24, 2011. (December 17, 2015)
- Nickell, Joe  
1992a Daniel Boone. In *The Kentucky Encyclopedia*, edited by John E. Kleber, pp. 96–98. University Press of Kentucky, Lexington.  
1992b Kentucky County. In *The Kentucky Encyclopedia*, edited by John E. Kleber, pp. 652. University Press of Kentucky, Lexington.
- Niquette, Charles M. (editor)  
1989 *Phase III Excavations at the Graham Site, A Stratified Archaic/Woodland Site in the Proposed Yatesville Reservoir, Lawrence County, Kentucky*. Contract Publication Series 89-26. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Niquette, Charles M., and Randall D. Boedy  
1986 *The Calloway Site (15MT8): A Transitional Early to Middle Woodland Camp in Martin County, Kentucky*. Contract Publication Series 86-12. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Niquette, Charles M., Randall D. Boedy, and Gayle J. Fritz  
1987 The Calloway Site, A Woodland Camp in Martin County, Kentucky. *West Virginia Archeologist* 39(1):21–56.
- Niquette, Charles M., and Theresa K. Donham  
1985 *Prehistoric and Historic Sites Archeology in the Proposed Yatesville Reservoir, Lawrence County, Kentucky*. Contract Publication Series 85-13. Cultural Resource Analysts, Inc., Lexington, Kentucky.

- Norman-Wilcox, Gregor  
1978 Staffordshire in a Nutshell. In *English Pottery and Porcelain*, edited by P. Atterbury, pp. 166–170. Universe Books, New York.
- O'Donnell, James H.  
1992 Shawnee Indians. In *The Kentucky Encyclopedia*, edited by John E. Kleber, pp. 814–815. University Press of Kentucky, Lexington.
- Orser, Charles E., Jr.  
1988 *The Material Basis of the Postbellum Tenant Plantation*. The University of Georgia Press, Athens, Georgia.
- Pollack, David  
2008a Introduction. In *The Archaeology of Kentucky: An Update*, Vol. 1, edited by David Pollack, pp. 1–26. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.  
2008b Mississippi Period. In *The Archaeology of Kentucky: An Update*, Vol. 2, edited by David Pollack, pp. 605–738. State Historic Preservation Comprehensive Plan Report No. 3. Kentucky Heritage Council, Frankfort.
- Price, Cynthia R.  
1979 *Nineteenth-Century Ceramics in the Eastern Ozark Escarpment Region of Southeast Missouri*. Paper presented to the 35th Annual Meeting of the Southeast Archaeological Conference, Knoxville, Tennessee.  
1981 Early to Mid-Nineteenth Century Refined Earthenwares. In *A Guide for Historical Archaeology in Illinois*, edited by Charles E. Orser, Jr., pp. 24–48. Mid-American Research Center Research Paper Number 1. Loyola University, Chicago.
- Professional Plastics  
2015 *Plastics*. Electronic document, <http://www.professionalplastics.com/plastics>, accessed June 17, 2015.
- Pullin, Anne G.  
1986 *Glass Signatures, Trademarks and Trade Names from the Seventeenth to the Twentieth Century*. Wallace-Homestead Book Company, Lombard, Illinois.
- Railey, Jimmy A.  
1996 Woodland Cultivators. In *Kentucky Archaeology*, edited by R. Barry Lewis, pp. 79–127. University Press of Kentucky, Lexington.
- Raycraft, Don, and Carol Raycraft  
1990 *Collector's Guide to Country Stoneware and Pottery*, Second Series. Collector Books, Paducah, Kentucky.
- Reidhead, Van A.  
1984 A Reconstruction of the Pre-settlement Vegetation of the Middle Ohio Valley Region. In *Experiments and Observations on Aboriginal Wild Plant Utilization in Eastern North America*, edited by Patrick J. Munson, pp. 386–426. Prehistory Research Series Vol. 6, No. 2. Indiana Historical Society, Indianapolis.
- Rennick, Robert M.  
1984 *Kentucky Place Names*. University Press of Kentucky, Lexington.
- Revi, Albert C.  
1964 *American Pressed Glass and Figure Bottles*. Thomas Nelson and Sons, New York.
- Riley, John J.  
1958 *A History of the American Soft Drink Industry 1807–1957*. American Bottlers of Carbonated Beverages, Washington, D.C.
- Robinson, L.C., J.S. Hundall, and H.T. Richardson  
1928 (reprinted 1950) *Reconnaissance Structural Map of Elliott County, Kentucky*. Kentucky Geological Survey, Lexington, Kentucky.

- Rock, James T.  
1980 *American Bottles: A Few Basics*.  
Manuscript on file at the Klamath  
National Forest, Region B, United  
States Department of Agriculture.
- 1984 Cans in the Countryside. *Historical  
Archaeology* 18(2):97–111.
- Roenke, Karl G.  
1978 Flat Glass, Its Use as a Dating Tool for  
Nineteenth Century Archeological Sites  
in the Pacific Northwest and Elsewhere.  
*Northwest Anthropological Research  
Notes*, Memoir No.4. Moscow, Idaho.
- Rogers, Naomi  
1997 Dirt, Flies, and Immigrants:  
Explaining the Epidemiology of  
Poliomyelitis, 1900–1916. In *Sickness  
and Health in America: Readings in the  
History of Medicine and Public Health*,  
edited by Judith W. Leavitt and Ronald  
L. Numbers, pp. 543–554. Originally  
published 1978. University of  
Wisconsin Press, Madison.
- Samford, Patricia M.  
1997 Response to a Market: Dating English  
Underglaze Transfer-Printed Wares.  
*Historical Archaeology* 31(2):1–30.
- Sanders, Thomas N. (editor)  
2006 *Specifications for Conducting  
Fieldwork and Preparing Cultural  
Resource Assessment Reports*. Second  
revised ed. Kentucky State Historic  
Preservation Office, Kentucky Heritage  
Council, Frankfort.
- Schock, Jack M.  
1978 An Archaeological Survey of a  
Proposed Housing Subdivision in Sandy  
Hook (Elliott County), Kentucky. Arrow  
Enterprises. Manuscript on file, Office  
of State Archaeology, University of  
Kentucky, Lexington.
- Schock, Jack M., and Terry L. Weis  
1977 An Archaeological Survey and Testing  
of Proposed Elliott County/Sandy Hook,  
Kentucky HUD Project #B-77-DN-21-  
0059. Arrow Enterprises. Manuscript on  
file, Office of State Archaeology,  
University of Kentucky, Lexington.
- Schwartz, Douglas W.  
1967 *Conceptions of Kentucky Prehistory, A  
Case Study in the History of  
Archaeology*. Studies in Anthropology  
No. 6. University of Kentucky Press,  
Lexington.
- Schwendeman, Joseph R.  
1979 *Geography of Kentucky*. 5th ed.  
Kentucky Images, Lexington, Kentucky.
- Shane, Linda C.K.  
1994 Intensity and Rate of Vegetation and  
Climatic Change in the Ohio Region  
between 14,000 and 9,000 14C YR B.P.  
In *The First Discovery of America:  
Archaeological Evidence of the Early  
Inhabitants of the Ohio Area*, edited by  
William S. Dancey, pp. 7–22. The Ohio  
Archaeological Council, Columbus,  
Ohio.
- Shane, Linda C.K., Gordon G. Snyder, and  
Katherine H. Anderson  
2001 Holocene Vegetation and Climate  
Changes in the Ohio Region. In *Archaic  
Transitions in Ohio and Kentucky  
Prehistory*, edited by Olaf H. Prufer,  
Sara E. Pedde, and Richard S. Meindl,  
pp. 11–55, Kent State University Press,  
Kent, Ohio.
- Smith, Bruce D.  
1978 Variation in Mississippian Settlement  
Patterns. In *Mississippian Settlement  
Patterns*, edited by Bruce D. Smith, pp.  
479–503. Academic Press, New York.
- Smith, N. Adam, and Fredrick Siewers  
2004 Mineralogy and Formation of Geodes  
in the Mississippian Salem and Warsaw  
Formation, South-Central Kentucky and  
Northern Tennessee. *Geological Society  
of America Abstracts with Programs*,  
36(3):42.

- Snyder, Jeffrey B.  
2000 *Historical Staffordshire: American Patriots and Views*. 2nd ed. Schiffer, Atglen, Pennsylvania.
- Soil Survey Staff  
1999 *Soil Taxonomy, A Basic System of Soil Classification for Making and Interpreting Soil Surveys*. 2nd ed. Agricultural Handbook Number 436. United States Department of Agriculture, Natural Resource Conservation Service, Soil Survey Division, Washington, D.C.
- South, Stanley  
1977 *Method and Theory in Historical Archaeology*. Academic Press, New York.
- Sprague, Roderick  
1981 A Functional Classification for Artifacts from 19th and 20th Century Historical Sites. *North American Archaeologist* 2(3):251–261.
- Spurlock, W. Trent, Holly Higgins, and Kathy Martinolich  
2015 *Cultural Historic Resource Baseline Survey for the Proposed Reconstruction of KY 7 From Sandy Hook to KY 711 at Wrigley in Elliott and Morgan Counties, Kentucky (Item Number 09-228.00)*. Contract Publication Series 14-397. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Stacy, Helen Price, and William Lynn Nickell  
1972 Selections from Morgan County History: Sesquicentennial Volume. Privately published, West Liberty, Kentucky.
- Stafford, C. Russell  
2004 Modeling Soil-Geomorphic Associations and Archaic Stratigraphic Sequences in the Lower Ohio River Valley. *Journal of Archaeological Science* 31:1053–1067.
- Stallings, Richard and Nancy Ross-Stallings  
1993 A Phase I Cultural Resource Survey of a Two Acre Substation Located at Sandy Hook, Elliott County, Kentucky. Cultural Horizons, Inc., Harrodsburg, Kentucky. Manuscript on file, Office of State Archaeology, University of Kentucky, Lexington.
- Stewart-Abernathy, Leslie C.  
1986 *The Moser Farmstead, Independent But Not Isolated: The Archeology of a Late Nineteenth Century Ozark Farmstead*. Arkansas Archeological Survey Research Series No. 26, Fayetteville, Arkansas.
- Stokes, B. Jo, and Carl R. Shields  
1999 *Woodland Occupations along Clear Creek in Southeastern Kentucky*. Research Report No. 2. Kentucky Archaeological Survey, Frankfort and Lexington.
- Stoltman, James B., and David A. Baerreis  
1983 The Evolution of Human Ecosystems in the Eastern United States. In *The Holocene*, edited by Herbert E. Wright, Jr., pp. 252–268. Late Quaternary Environments of the United States, Vol. 2. University of Minnesota Press, Minneapolis.
- Stone, Richard G.  
1992 Lord Dunmore's War. In *The Kentucky Encyclopedia*, edited by John E. Kleber, p. 571. University Press of Kentucky, Lexington.
- Struever, Stuart, and Kent D. Vickery  
1973 The Beginnings of Cultivation in the Midwest Riverine Area of the United States. *American Anthropologist* 75:1197–1220.
- Sussenbach, Tom  
1994 Phase I Cultural Resource Assessment of a 15 Acre Industrial Park and Associated Water Storage Tank and Water Line in Elliott County, Kentucky. Archaeological Report 330. Program for Cultural Resource Assessment, University of Kentucky, Lexington.

- Swann, Brenda M.  
2002 Material Culture at Presidio Santa Maria de Galve (1698–1722): Combining the Historical and Archaeological Records. *Southeastern Archaeology* 21(1):64–78.
- Talbert, Charles G.  
1992 Ohio Company. In *The Kentucky Encyclopedia*, edited by John E. Kleber, p. 689. University Press of Kentucky, Lexington.
- Terry, K., Andrefsky Jr., W., and Konstantinov, M. V.  
2009 Raw material durability, function, and retouch in the Upper Paleolithic of the Transbaikal region. In *Lithic Materials and Paleolithic Societies*, edited by B. Adams and B. Blades, pp 256–269. Blackwell, Oxford.
- Toulouse, Julian H.  
1969 *Fruit Jars*. Thomas Nelson and Sons, Camden, New Jersey, and Everybody's Press, Hanover, Pennsylvania.  
1972 *Bottle Makers and Their Marks*. Thomas Nelson, New York.  
1977 *Fruit Jars, A Collector's Manual with Prices*. Everybody's Press, Inc., Hanover, Pennsylvania.
- United States Geological Survey  
1929 Morehead, Kentucky, 15-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.  
1935 Morehead, Kentucky, 15-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.  
1950 Sandy Hook, Kentucky, 7.5-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.  
1953 Wrigley, Kentucky, 7.5-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.
- 1962 (Photorevised 1978) Sandy Hook, Kentucky, 7.5-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.  
1977 (Revised 1993) Wrigley, Kentucky, 7.5-minute series topographic quadrangle. United States Department of the Interior, Washington, D.C.  
2011 Mineral Resources On-line Spatial Data: Kentucky Geology. Electronic document, <http://mrddata.usgs.gov/sgmc/ky.html> accessed February 2, 2011. (December 17, 2015) United States Department of the Interior, Washington, D.C.
- Vento, Frank J.  
1982 Flaked Stone Raw Materials. In *The Prehistory of the Paintsville Reservoir, Johnson and Morgan Counties, Kentucky*, compiled by J. M. Adovasio, pp. 705–721. Ethnology Monographs No. 6. Department of Anthropology, University of Pittsburgh.
- Wagner, Daniel P., and Joseph M. McAvoy  
2004 Pedoarchaeology of Cactus Hill, a Sandy Paleoindian Site Southeastern Virginia, U.S.A. *Geoarchaeology* 19(4):297–322.
- Wagner, Mark, and Mary McCorvie  
1992 *The Archeology of the Old Landmark. Nineteenth Century Taverns Along the St. Louis Vincennes Trace in Southern Illinois*. Illinois Department of Transportation and the Center for American Archeology, Kampsville, Illinois.
- Walters, Matthew M.  
1988 The Adams Mastodon Site, Harrison County, Kentucky. In *Paleoindian and Archaic Research in Kentucky*, edited by Charles D. Hockensmith, David Pollack, and Thomas N. Sanders, pp 43–46. Kentucky Heritage Council, Frankfort.
- Walters, William D., Jr.  
1982 Nineteenth Century Midwestern Brick. *Pioneer America* 14(3):125–136.



- Walthall, John A.  
1998 Rockshelters and Hunter-Gatherer Adaptation to the Pleistocene/Holocene Transition. *American Antiquity* 63:223–238.
- Warren, Robert E., and Michael J. O'Brien  
1982 Holocene Dynamics. In *The Cannon Reservoir Human Ecology Project: An Archaeological Study of Cultural Adaptations in the Southern Prairie Peninsula*, edited by Michael J. O'Brien, Robert E. Warren, and Dennis E. Lewarch, pp. 71–84. Academic Press, New York.
- Waters, Michael R., Steven L. Forman, Thomas A. Jennings, Lee C. Nordt, Steven G. Driese, Joshua M. Feinberg, Joshua L. Keene, Jessi Halligan, Anna Lindquist, James Pierson, Charles T. Hallmark, Michael B. Collins, and James E. Wiederhold  
2011 The Buttermilk Creek Complex and the Origins of Clovis at the Debra L. Friedkin Site, Texas. *Science* 331:1599–1603.
- Waters, Michael R., and Thomas W. Stafford, Jr.  
2013 The First Americans: A Review of the Evidence for the Late-Pleistocene Peopling of the Americas. In *Paleoamerican Odyssey*, edited by Kelly E. Graf, Caroline V. Ketron, and Michael R. Waters, pp. 541–560. Center of the Study of the First Americans, Department of Anthropology, Texas A&M University.
- Watkins, Lura Woodside  
1930 *Cambridge Glass 1818 to 1888: The Story of the New England Glass Company*. Bramhall House, New York.
- Watson, Patty Jo  
1985 The Impact of Early Horticulture in the Uplands Drainage of the Midwest and Midsouth. In *Prehistoric Food Production in North America*, edited by Richard I. Ford, pp. 99–147. Anthropological Papers No. 75. Museum of Anthropology, University of Michigan, Ann Arbor.
- Webb, William S.  
1942 *The C. and O. Mounds at Paintsville, Sites Jo 2 and Jo 9, Johnson County, Kentucky*. Reports in Anthropology and Archaeology Vol. V, No. 4. Department of Anthropology and Archaeology, University of Kentucky, Lexington.  
1946 *Indian Knoll, Site Oh 2, Ohio County, Kentucky*. Reports in Anthropology and Archaeology Vol. 4, No. 3, Pt. 1. Department of Anthropology and Archaeology, University of Kentucky, Lexington.  
1950 *The Carlson [sic] Annis Mound, Site 5, Butler County, Kentucky*. Reports on Anthropology Vol. VII, No. 4. Department of Anthropology, University of Kentucky, Lexington.
- Webb, William S., and William G. Haag  
1939 *The Chiggerville Site, Site 1, Ohio County, Kentucky*. Reports in Anthropology Vol. IV, No. 1. Department of Anthropology and Archaeology, University of Kentucky, Lexington.
- Wegars, Priscilla, and Caroline D. Carley  
1982 "The Very Latest Rage:" *Design Trends in Twentieth Century Ceramics*. Paper presented at the annual meeting of the Society for Historical Archaeology, Philadelphia.
- Wentworth, Dennis L.  
1979 Archaeological Test Excavations at Arryl House, Clermont, New York. *Journal of Field Archaeology* 6(1):29–39.
- Wesler, Kit W.  
1984 A Spatial Perspective on Artifact Group Patterning Within the Houselot. *Proceedings of the Symposium on Ohio Valley Urban and Historic Archeology* II:37–44.
- Wetherbee, Jean  
1980 *A Look at White Ironstone*. Wallace-Homestead Book Company, Des Moines, Iowa.

- Whitehead, Donald R.  
1973 Late-Wisconsin Vegetational Changes  
in Unglaciated Eastern North America.  
*Quaternary Research* 3:621–631.
- Wiebe, Robert H.  
1967 *The Search for Order, 1877–1920*. Hill  
and Wang, New York.
- Wilkins, G. P., P. Delcourt, F. Harrison, and  
M. Turner  
1991 Paleoecology of Central Kentucky  
since the Last Glacial Maximum.  
*Quaternary Research* 36:224–239.
- Williams, A.B.  
1925 *Oil and Gas Map of Elliott County,  
Kentucky*. Kentucky Geological Survey.  
Frankfort, Kentucky.
- Wilson, Bill, and Betty Wilson  
1968 *Spirits Bottles of the Old West*.  
Henington Publishing Company, Wolfe  
City, Texas.
- Winters, Howard D.  
1968 Value Systems and Trade Cycles of  
the Late Archaic in the Midwest. In *New  
Perspectives in Archaeology*, edited by  
Sally R. Binford and Lewis R. Binford,  
pp. 175–221. Aldine, Chicago.
- Wright, Herbert E., Jr.  
1968 History of the Prairie Peninsula. In *The  
Quaternary of Illinois: A Symposium in  
Observance of the Centennial of the  
University of Illinois*, edited by Robert  
E. Bergstrom, pp. 78–88. Special  
Publication No. 14. College of  
Agriculture, University of Illinois,  
Urbana.

## **APPENDIX A. LITHIC CODES**



# Lithic Analysis Coding Formats

## Flake Debris Analysis Codes

- 1) Size Grade:
  - 1: .125 inch
  - 2: .25 inch
  - 3: .5 inch
  - 4: .75 inch
  - 5: 1.0 inch
- 2) Count
- 3) Weight (to nearest 0.1 gram)
- 4) Portion
  - 0: < .25 inch 1/4"
  - 1: Complete
  - 2: PRB
  - 3: Fragment
  - 4: Blocky
  - 5: Thermal Shatter
- 5) Platform
  - 0: Not present
  - 1: Lipped
  - 2: Cortical
  - 3: Non lipped, non cortical
  - 4: Broken
- 6) Stage (based on platform facet count and dorsal flake scar count)
  - 0: Blocky
  - 1: Early
  - 2: Middle
  - 3: Late
  - 4: Biface thinning
- 7) Thermal Alteration
  - 0: No evidence
- 1: Color change (possible alteration)
- 2: Partial dull, partial gloss
- 3: Gloss both faces
- 4: Crenulations, crazing, potlids
- 5: Differential thermal damage
- 8: Indeterminate
- 9: Not applicable
- 8) Cortex Cover
  - 0: None
  - 1: Dorsal only
  - 2: Platform only
  - 3: Dorsal and platform
- 9) Cortex Type
  - 0: None present
  - 1: Matrix/residual
  - 2: Waterworn cobble
  - 3: Patination
  - 9: Indeterminate
- 8) Raw Material:
  - 000: <.25 inch
  - 028: Ste. Genevieve
  - 040: Chalcedony
  - 046: Newman
  - 056: Breathitt
  - 090: Burnt
  - 098: Haney
  - 110: Indeterminate
  - 111a: Oolitic Newman

# Morphological and Technological Attributes (Modified Implements and Cores)

## Dimension 1: Material Class

- 1: Unmodified lithic
- 2: Modified lithic

## Dimension 2: Lithic Class

- 01: debitage
- 02: fire cracked rock
- 03: ground and pecked stone
- 04: biface
- 05: cobble tool
- 06: cores
- 07: micro-tool
- 08: uniface
- 09: unmodified cobble

## Dimension 3: Technological / Morphological Class for Flaked Stone

Classes 201, 207, 208	Class 204		Class 106 and 206	
0: no retouch	1: hard hammer	.1: biface	1: indeterminate	.1: Tested Cobble
1: unifacial only	2: hard/soft hammer	.2: hafted biface	2: unidirectional	.2: Core Fragment
2: some bifacial	3: soft hammer	.3: drill	3: bifacial	.3: Core
3: bifacial	4: soft hammer/retouch	.4: drill/hafted biface	4: bipolar	
4: alternate unifacial	5: retouch	.5: scraper/hafted biface	5: unidirectional subconical	
	6: indeterminate	.6: boring/hafted biface	6: multidirectional	
			7: bidirectional	

## Dimension 3: Technological/Morphological Class for Ground / Pecked Stone and Cobble Tools (classes 203 and 205)

Manufacture Technique		Modification		
D3a Primary	D3b Secondary	D3c Form	D3d Use wear	D3e Location
0: None	0: None	00: None	0: None observed	0: No obvious modification
1: Use only	1: Use only	01: V-pit	1: Grinding	1: One face
2: Ground	2: Ground	02: U-pit	2: Polish	2: Both faces
3: Pecked	3: Pecked	03: U and V pits	3: Striations only	3: One end
4: Flaked	4: Flaked	04: Other / Indet. pits	4: Battering	4: Both ends
5: Carved	5: Carved	05: Basin	5: Crushing	5: One edge
6: Drilled	6: Drilled	06: Notched	8: Other	6: Multiple edges
7: Grooved	7: Grooved	07: Drilled	9: Indeterminate	7: Edge and end
8: Incised	8: Incised	11: Grooved		8: Other
		12: Incised		9: Indeterminate
		18: Other		
		19: Indeterminate		

## Dimension 4: (Raw Material)

Same codes as Flake Debris

## Dimension 5: (Thermal Alteration)

- 0: no evidence
- 1: color change (possible alt)
- 2: partial dull, partial gloss
- 3: gloss both faces
- 4: crenulations, crazing, potlids
- 5: differential thermal damage
- 8: indeterminate
- 9: not applicable

**Dimension 6: (Cortex Type)**

- 0: none present
- 1: matrix/residual
- 2: water worn cobble
- 3: patination

**Dimension 7: (Cortex Presence)**

Classes 201, 207 and 208	Class 204	Classes 106 and 206
1: none present	1: none present	1: none present
2: < 50% dorsal cortex	2: cortex on one face	2: present
3: > 50% dorsal cortex	3: cortex on two faces	
4: 100% dorsal cortex	4: cortex on base only	
5: platform only cortex	5: cortex on base and face	

**Dimension 8: (Classes 201, 207 and 208)**

Flake debris codes for portion, platform, stage

**Dimension 8: (Type of Wear, classes 106, 206)**

- 0: None
- 1: Battering

**Dimension 8: (Portion, class 204)**

- 01: Indeterminate fragment
- 02: complete
- 03: proximal
- 04: distal
- 05: medial
- 06: lateral
- 07: facial
- 08: basal fragment
- 09: tip missing
- 10: partial stem and base missing

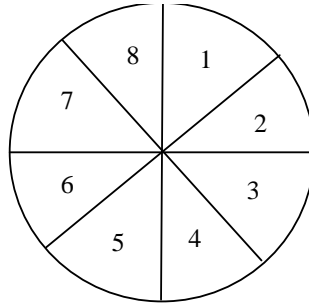
**Dimensions 8 and 9: Function for Ground Stone and Cobble Tools (classes 203 and 205)**

D8 General Function	D9 Specific Function	
00: None obvious (manuport)	A1: Nutting Stone	E1: Notched (hoe)
01: Processing platform	A2: Anvil	E2: Unnotched (hoe)
02: Hand stone	A3: Metate	F1: Bowl
03: Tool fabricator	A4: Mortar	F2: Pipe
04: Hafted woodworking tool	A5: Grinding slab (misc)	F3: Griddle stone
05: Hoe / Pick	A6: Multifunction	G1: Gorget
06: Vessel	B1: Mano	G2: Bead
07: Ornament / Decorative	B2: Pestle	G3: Pendant
08: Gaming stone	B3: Pulverizer	H1: Ball
09: Weight	C1: Hammerstone	H2: Chunky stone
10: Pigment stone	C2: Whetstone	I1: Net sinker
11: Blade	C3: Abrader	I2: Plummets
18: Other	C4: Smoothing stone	I3: Bannerstone
19: Indeterminate	C5: Shaft smoother	J1: Hematite
	C6: Saw	K1: Ground projectile
	D1: Celt	K2: Knife / ulu
	D2: Grooved axe (¾)	Q1: Indeterminate ground
	D3: Full	Q2: Indeterminate incised
	D4: Adz	Q3: Indeterminate carved

### Dimension 9: (Location of retouch: *Classes 201, 207, 208*)

0: indeterminate

- All numbers corresponding to an eight polar coordinate grid (Odell 1977) of retouched area are recorded. Dorsal face up, proximal end facing, distal end away from analyst.



### Dimension 9 (Type of Wear, class 206)

0: none  
1: Crushing  
2: Battering

### Dimension 9: Failure Type (class 204)

01: none	08: thermal	15: longitudinal reverse
02: hinge	09: impact	16: bipolarized
03: incipient fracture	10: transverse hinge	17: radial break
04: edge collapse	11: lateral hinge	18: burinated
05: lateral snap	12: haft snap	
06: perverse	13: post-depositional	
07: outré passé	14: indeterminate	

### Dimension 10: Haft Modification (class 204)

1: indeterminate	5: basal cortex
2: none	6: basal burination
3: haft present, no mod.	7: basal beveling
4: basal grinding	8: basal burination/grinding

### Dimension 11: Blade Modification (class 204)

01: indeterminate	07: serrated/alternate bevel
02: none (bi-convex)	08: alternate unifacial retouch
03: serrated	09: unifacial retouch
04: alternate bevel	10: bifacial retouch
05: one edge beveled	11: reworked/serrated
06: unifacial bevel	12: unifacial bevel/serrated



**Dimension 12: Basal Shape (class 204)**

- 1: incurvate
- 2: excurvate
- 3: straight
- 4: bifurcate
- 5: indeterminate

**Dimension 13: Haft Element (class 204)**

- 1: side notched
- 2: corner notched
- 3: straight stem
- 4: contracting stem
- 5: expanding stem
- 6: no definable haft (lanceolate)
- 7: fluted
- 8: no haft element
- 9: Indeterminate

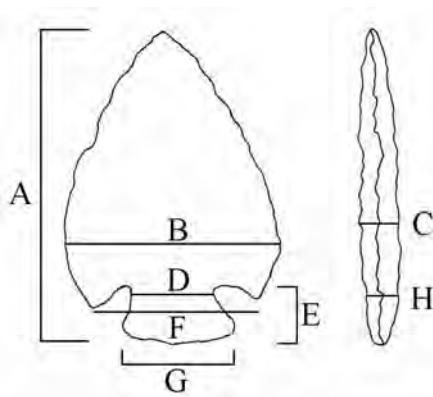
**Dimension 14: Blank Type (all classes)**

- 1: indeterminate
- 2: core
- 3: flake
- 4: tabular block
- 5: river gravel

**Dimension 15: Edge Angle (Classes 201, 204, 207, and 201) to nearest degree**

**Metric Measurements: (Use Length, blade width and thickness for all classes, rest for class 204-4.2, 204-3.2 only)**

- A: Maximum length
- B: Maximum blade width
- C: Maximum blade thickness
- D: Maximum shoulder width
- E: Maximum stem length
- F: Maximum neck width
- G: Maximum basal width



**Tradition Cluster Association:**

- 39: Indeterminate Cluster
- 46: Iddins Cluster



## **APPENDIX B. FLAKES**



Table B-1. Flakes.

Bag	Site	Unit #	Depth	Count	Wt(g)	Size	Portion	Platform	Stage	Therm Alt	Cortex Type	Cortex Cover	Material
1	15Mo174	STP 1	0-24 cm bgs	1	3.1	3	3	0	2	4	0	-	28
4	15Mo174	STP 4	0-24 cm bgs	1	0.3	2	1	3	1	0	0	0	46
6	15Mo174	STP 5	17-27 cm bgs	1	1	2	3	0	3	0	0	0	111a
7	15Mo174	STP 6	0-15 cm bgs	1	0.1	1	0	-	-	-	-	-	0
11	15Mo174	STP 9	0-22 cm bgs	1	2.6	2	1	3	1	0	0	0	111a
13	15E176	STP 1	0-62 cm bgs	1	4.1	2	4	0	0	1	1	1	46
14	15E176	STP 2	0-48 cm bgs	1	0.5	2	3	0	3	0	0	0	46
15	15E176	STP 3	10-30 cm bgs	1	0.2	1	0	-	-	-	-	-	0
15	15E176	STP 3	10-30 cm bgs	1	1.1	2	1	2	1	0	1	3	46
16	15E176	STP 4	0-50 cm bgs	1	3.3	3	3	0	2	0	3	1	46
17	15E176	STP 5	0-30 cm bgs	1	0.6	2	3	0	3	0	0	0	111a
18	15E176	STP 6	0-43 cm bgs	1	0.1	1	0	-	-	-	-	-	0
18	15E176	STP 6	0-43 cm bgs	1	0.8	2	3	0	3	0	0	0	28
22	15Mo175	STP 4	0-30 cm bgs	1	0.6	2	1	3	3	0	0	0	46
25	15Mo175	STP 6	0-24 cm bgs	1	0.3	2	2	3	3	4	0	0	46
25	15Mo175	STP 6	0-24 cm bgs	1	0.2	2	3	0	1	0	1	1	46
28	15Mo175	STP 9	0-25 cm bgs	1	5.4	3	3	0	1	0	1	1	40
31	15Mo175	STP 12	0-35 cm bgs	1	0.2	2	3	0	1	0	0	0	111a
34	15Mo175	STP 14	5-20 cm bgs	1	0.3	2	3	0	2	0	0	0	46
39	15E177	GSC 3	- Surface	1	1.5	2	4	0	0	2	0	0	111a
39	15E177	GSC 3	- Surface	1	3.1	3	3	0	1	0	0	0	111a
41	15E177	GSC 5	- Surface	1	1.4	2	2	3	2	1	0	0	46
42	15E177	GSC 6	- Surface	1	0.1	1	0	-	-	-	-	-	0
42	15E177	GSC 6	- Surface	1	0.8	2	3	0	3	4	0	0	111a
43	15E177	GSC 7	- Surface	1	0.9	2	3	0	3	0	0	0	111a
45	15E177	GSC 9	- Surface	3	0.4	1	0	-	-	-	-	-	0
45	15E177	GSC 9	- Surface	1	0.5	2	2	3	2	0	1	1	110
45	15E177	GSC 9	- Surface	1	0.3	2	3	0	1	1	0	0	46
45	15E177	GSC 9	- Surface	1	0.3	2	3	0	2	0	0	0	46
45	15E177	GSC 9	- Surface	1	4.8	3	2	3	2	1	3	1	46
45	15E177	GSC 9	- Surface	1	2.7	3	3	0	1	0	0	0	46
46	15E177	STP 1	0-10 cm bgs	1	1.8	2	1	3	3	0	1	1	46
47	15E177	STP 2	0-34 cm bgs	1	0.5	2	3	0	3	0	0	0	46
49	15E177	STP 4	0-19 cm bgs	1	0.2	1	0	-	-	-	-	-	0
50	15E177	STP 5	0-13 cm bgs	1	0.6	2	3	0	3	0	0	0	46
51	15E178	STP 1	0-40 cm bgs	1	0.4	2	2	4	1	0	0	0	110
52	15E178	STP 2	0-25 cm bgs	1	0.3	2	1	2	2	0	1	2	46
52	15E178	STP 2	0-25 cm bgs	1	18.3	5	2	3	1	0	0	0	40
53	15E178	STP 3	0-35 cm bgs	1	0.4	2	3	0	2	0	0	0	46
54	15E178	STP 4	0-50 cm bgs	2	0.4	1	0	-	-	-	-	-	0
54	15E178	STP 4	0-50 cm bgs	1	0.6	2	1	2	1	0	1	3	46
54	15E178	STP 4	0-50 cm bgs	1	0.4	2	1	3	2	0	0	0	46
54	15E178	STP 4	0-50 cm bgs	1	0.6	2	1	3	3	0	0	0	110
56	IF1	STP 1	22-32 cm bgs	1	0.1	1	0	-	-	-	-	-	0
56	IF1	STP 1	22-32 cm bgs	1	0.1	2	1	3	3	0	0	0	110
56	IF1	STP 1	22-32 cm bgs	1	0.4	2	3	0	1	0	1	1	46
67	15E179	STP 4	0-14 cm bgs	1	0.5	2	2	3	1	4	0	0	46
73	15E179	STP 10	0-40 cm bgs	1	14.7	4	2	3	1	0	1	1	46
77	IF3	STP 1	0-19 cm bgs	1	0.3	2	1	3	2	0	0	0	46
78	IF4	STP 1	0-10 cm bgs	1	2.5	3	1	3	2	0	3	1	46
79	IF4	STP 2	0-15 cm bgs	1	1.4	2	3	0	3	4	0	0	56
80	15E111	STP 1	0-15 cm bgs	1	2.4	3	3	0	3	0	0	0	111a



## **APPENDIX C. CORES AND TOOLS**





**Table C-1. Cores and Tools.**

Art #	Bag	Site	Unit #	Level	Depth	Count	Weight	D2 Class	D3 Tech	D4 Material	D5 Therm Alt	D6 CortexI	D7 CortexII	D8	D9	D10 Haft Mod	D11 Blade Mod	D12 Basal Shape	D13 Haft Shape	D14 Blank	D15 Edge Angle	Length	Blade	Thick	Comments
k15h8-01	42	15E177	GSC 6		- Surface	1	28.3	6		46	0	1		0								32.32	32.05	21.28	core, multidirectional
k15h8-02	53	15E178	STP 3		0-35 cm bgs	1	2.1	4		90	5	0	0	6	8	1	1	5	8	1	65	33.171	11.011	10.57	biface frag - soft hammer
k15h8-03	57	IF2	STP 1		0-30 cm bgs	1	4.5	4		98	5	1	1	4	6	1	2	5	9	1	65	38.011	22.71	6.93	biface frag - soft ham/pressure



## **APPENDIX D. HISTORIC MATERIALS RECOVERED**



Table D-1. Historic Materials Recovered.

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
001	15Mo174	STP 1	1	0-24 cm bgs	3	A	Flat Glass	Window Glass									FALSE	1					1915	1915	Moir 1987	
001	15Mo174	STP 1	1	0-24 cm bgs	4	A	Flat Glass	Plate Glass									FALSE	1					1917		Roenke 1978	
001	15Mo174	STP 1	1	0-24 cm bgs	2	D	Container Closures	Home Canning Jars	Liner for Mason zinc; Flat								FALSE	1			Body		1869	1950	Toulouse 1977:91, 96; Toulouse 1969a:350	
001	15Mo174	STP 1	1	0-24 cm bgs	1	D	Container Glass	Automatic Bottle Machine		Clear glass						Crown	FALSE	1			Lip with neck	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	
002	15Mo174	STP 2	1	0-10 cm bgs	5	A	Flat Glass	Window Glass									FALSE	1					1834	1834	Moir 1987	leaded
003	15Mo174	STP 3	1	0-25 cm bgs	8	A	Nails	Indeterminate	Fragment								FALSE	1							Jones & Sullivan 1985; Lindsey 2015	
003	15Mo174	STP 3	1	0-25 cm bgs	6	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	2			Body	Misc bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
003	15Mo174	STP 3	1	0-25 cm bgs	7	D	Glass Tableware	Press mold: unleaded		Late pastel pink glass			Molded design/ pattern		Depression glass		FALSE	1			Body		1920		Jones 2000:149	translucent peach
005	15Mo174	STP 5	1	0-17 cm bgs	12	A	Nails	Indeterminate	Fragment								FALSE	1							Majewski and O'Brien 1987:122	
005	15Mo174	STP 5	1	0-17 cm bgs	9	D	Ceramics	Ironstone	Undecorated								FALSE	1			Body	Bowl	1830		Majewski and O'Brien 1987:122	
005	15Mo174	STP 5	1	0-17 cm bgs	10	D	Container Glass	Automatic Bottle Machine		Clear glass		Embossed					FALSE	1			Body	Misc bottle	1903		Jones & Sullivan 1985; Lindsey 2015	embossed hatching
005	15Mo174	STP 5	1	0-17 cm bgs	11	D	Container Glass	Undiagnostic container fragment		Clear glass							FALSE	1			Body		1864		Lindsey 2015	
005	15Mo174	STP 5	1	0-17 cm bgs	13	F	Lighting	Chimney Lamp	Glass: leaded			Plain					FALSE	3					1854	1940	Faulkner 2008; Pullin 1986:356	
005	15Mo174	STP 5	1	0-17 cm bgs	14	U	Metal	Iron / Steel	Unspecified iron / steel	Amorphous							FALSE	1							Blaszczyk 2000:155; 1984:128	pink and green floral
008	15Mo174	STP 7	1	0-20 cm bgs	18	D	Ceramics	Porcelain: hard paste	Decal								FALSE	1			Body		1890	1940	Blaszczyk 2000:155; 1984:128	
008	15Mo174	STP 7	1	0-20 cm bgs	15	D	Container Glass	Blown in Mold		Aqua glass							FALSE	1			Body	Canning jar	1850	1920	Lindsey 2015; Miller & Sullivan 1984; Jones & Sullivan 1985; Toulouse 1977	
008	15Mo174	STP 7	1	0-20 cm bgs	16	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
008	15Mo174	STP 7	1	0-20 cm bgs	17	D	Container Glass	Undiagnostic container fragment		Clear glass							FALSE	1			Body		1864		Lindsey 2015	
008	15Mo174	STP 7	1	0-20 cm bgs	19	F	Lighting	Chimney Lamp	Glass: leaded			Plain					FALSE	1					1854	1940	Faulkner 2008; Pullin 1986:356	
009	15Mo174	STP 8	1	0-20 cm bgs	23	D	Ceramics	Whiteware	Chromatic glaze (monochrome)		Ivory						FALSE	1			Body		1923	1940	Blaszczyk 2000:121; Faulkner 2000	
009	15Mo174	STP 8	1	0-20 cm bgs	21	D	Container Closures	Home Canning Jars	Liner for Mason zinc; Flat								FALSE	1			Body		1869	1950	Toulouse 1977:91, 96; Toulouse 1969a:350	
009	15Mo174	STP 8	1	0-20 cm bgs	20	D	Container Glass	Automatic Bottle Machine		Light green glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
009	15Mo174	STP 8	1	0-20 cm bgs	20	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
009	15Mo174	STP 8	1	0-20 cm bgs	22	D	Glass Tableware	Press mold: unleaded		Clear unleaded glass			Molded design/ pattern				FALSE	1			Body	Tumbler	1864		Jones 2000:149; Miller & Sullivan 1984	
010	15Mo174	STP 8	1	30-39 cm bgs	24	D	Container Closures	Home Canning Jars	Liner for Mason zinc; Flat								FALSE	1			Body		1969	1950	Toulouse 1977:91, 96; Toulouse 1969a:350	

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
012	15Mo174	STP 10	I	0-32 cm bgs	25	D	Container Glass	Automatic Bottle Machine		Cobalt glass							FALSE	15			Body	Medicine	1903	1960	Fike 1987:13; Lindsey 2015; Jones & Sullivan 1985	
012	15Mo174	STP 10	I	0-32 cm bgs	25	D	Container Glass	Automatic Bottle Machine	Cup bottom mold	Cobalt glass							FALSE	2			Base	Medicine	1903	1960	Fike 1987:13; Lindsey 2015; Jones & Sullivan 1985	
012	15Mo174	STP 10	I	0-32 cm bgs	25	D	Container Glass	Automatic Bottle Machine		Cobalt glass		Embossed					FALSE	1			Body	Medicine	1903	1960	Fike 1987:13; Lindsey 2015; Jones & Sullivan 1985	"SKY" partial word
012	15Mo174	STP 10	I	0-32 cm bgs	25	D	Container Glass	Automatic Bottle Machine		Light green glass							FALSE	1			Body	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	
019	15Mo175	STP 1	I	0-15 cm bgs	3	A	Nails	Indeterminate	Fragment								FALSE	1								
019	15Mo175	STP 1	I	0-15 cm bgs	1	D	Ceramics	White ware	Undecorated								FALSE	1			Footring with base	Plate	1830		Majewski and O'Brien 1987:119	
019	15Mo175	STP 1	I	0-15 cm bgs	1	D	Ceramics	White ware	Undecorated								FALSE	1			Body	Plate	1830		Majewski and O'Brien 1987:119	
019	15Mo175	STP 1	I	0-15 cm bgs	2	D	Container Glass	Blown in Mold		Aqua glass							FALSE	1			Body		1800	1920	Faulkner 2000	
020	15Mo175	STP 2	I	0-30 cm bgs	5	A	Flat Glass	Window Glass									FALSE	1					1870	1870	Moir 1987	
020	15Mo175	STP 2	I	0-30 cm bgs	5	A	Flat Glass	Window Glass									FALSE	1					1873	1873	Moir 1987	
020	15Mo175	STP 2	I	0-30 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Amethyst glass							FALSE	1			Body		1903	1920	Jones & Sullivan 1985; Lindsey 2015; Lockhart 2006	
020	15Mo175	STP 2	I	0-30 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
020	15Mo175	STP 2	I	0-30 cm bgs	6	F	Lighting	Lamp Chimney					Plain				FALSE	1					1854	1940	Faulkner 2008; Pullin 1986:356	
021	15Mo175	STP 3	I	0-30 cm bgs	10	A	Flat Glass	Plate Glass	Glass: clear								FALSE	1					1917		Roenke 1978	
021	15Mo175	STP 3	I	0-30 cm bgs	9	A	Nails	Indeterminate	Fragment								FALSE	1								
021	15Mo175	STP 3	I	0-30 cm bgs	7	D	Ceramics	White ware	Undecorated								FALSE	1			Body		1830		Majewski and O'Brien 1987:119	
021	15Mo175	STP 3	I	0-30 cm bgs	7	D	Ceramics	White ware	Undecorated								FALSE	1			Footring with base	Plate	1830		Majewski and O'Brien 1987:119	
021	15Mo175	STP 3	I	0-30 cm bgs	8	D	Container Glass	Automatic Bottle Machine		Selenium glass							FALSE	1			Body		1914	1930	Faulkner 2000	
021	15Mo175	STP 3	I	0-30 cm bgs	8	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
021	15Mo175	STP 3	I	0-30 cm bgs	11	U	Metal	Iron / Steel	Unspecified iron / steel								FALSE	1								
021	15Mo175	STP 3	I	0-30 cm bgs	12	U	Plastic	Modern		Item / part							FALSE	1					1930		Meikle 1995	light brown
022	15Mo175	STP 4	I	0-30 cm bgs	15	D	Ceramics	White ware	Undecorated								FALSE	2			Body		1830		Majewski and O'Brien 1987:119	
022	15Mo175	STP 4	I	0-30 cm bgs	13	D	Container Glass	Blown in Mold		Aqua glass		Embossed recess panel					FALSE	1			Body	Medicine	1865	1920	Pullin 1985:355; Fike 1987:5; Berge 1980	emb 3 partial unk letters
022	15Mo175	STP 4	I	0-30 cm bgs	14	D	Container Glass	Automatic Bottle Machine		Aqua glass							FALSE	2			Body	Canning jar	1903		Jones & Sullivan 1985; Lindsey 2015	
022	15Mo175	STP 4	I	0-30 cm bgs	16	U	Glass	Amorphous									FALSE	1	59							
023	15Mo175	STP 5	I	0-17 cm bgs	17	D	Container Glass	Blown in Mold		Amethyst glass							FALSE	1			Body		1870	1920	Lockhart 2006	

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
023	15Mo175	STP 5	I	0-17 cm bgs	18	D	Glass Tableware	Press mold: unleaded		Opaque white glass							FALSE	1			Body		1830	1960	Husfloen 1992:163; Fike 1987:13	
024	15Mo175	STP 5	I	17-39 cm bgs	22	A	Construction Material	Brick	Machine made brick: non- vitrified				Molded design/ pattern				FALSE	4	31.9				1880		Holley 2009:97	
024	15Mo175	STP 5	I	17-39 cm bgs	21	A	Nails	Indeterminate	Fragment	Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
024	15Mo175	STP 5	I	17-39 cm bgs	19	D	Container Glass	Machine Automate Bottle		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
024	15Mo175	STP 5	I	17-39 cm bgs	19	D	Container Glass	Automate Bottle Machine		Clear glass		Embossed					FALSE	1			Rim	Paacker: jelly, meat, food tumbler	1903		Jones & Sullivan 1985; Lindsey 2015	Meat jar
024	15Mo175	STP 5	I	17-39 cm bgs	20	D	Container Glass	Undiagnostic container fragment		Aqua glass							TRUE	1			Body		1800	1920	Faulkner 2000	
025	15Mo175	STP 6	I	0-24 cm bgs	23	D	Container Glass	Blown in Mold		Amethyst glass							FALSE	1			Body		1870	1920	Lockhart 2006	
026	15Mo175	STP 7	I	0-20 cm bgs	27	A	Flat Glass	Plate Glass									FALSE	2					1917		Roenke 1978	
026	15Mo175	STP 7	I	0-20 cm bgs	24	D	Ceramics	Whiteware	Plain								FALSE	1			Rim	Plate	1860	1930	Faulkner 2000	
026	15Mo175	STP 7	I	0-20 cm bgs	24	D	Ceramics	Whiteware	Undecorated								FALSE	1			Body	Plate	1830		Majewski and O'Brien 1987:119	
026	15Mo175	STP 7	I	0-20 cm bgs	24	D	Ceramics	Whiteware	Undecorated								FALSE	1			Footring with base	Saucer	1830		Majewski and O'Brien 1987:119	
026	15Mo175	STP 7	I	0-20 cm bgs	25	D	Container Glass	Blown in Mold		Aqua glass			Embossed recess panel				FALSE	1			Body	Canning jar	1800	1920	Faulkner 2000	emb "IL"
026	15Mo175	STP 7	I	0-20 cm bgs	25	D	Container Glass	Blown in Mold		Aqua glass							FALSE	1			Body	Medicine	1865	1920	Pullin 1985:355; Fike 1987:5; Berge 1980	
026	15Mo175	STP 7	I	0-20 cm bgs	26	D	Container Glass	Automate Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
027	15Mo175	STP 8	I	0-30 cm bgs	28	D	Container Glass	Blown in Mold		Amethyst glass							FALSE	1			Body		1870	1920	Lindsey 2015; Miller & Sullivan 1984; Jones & Sullivan 1985	thickness index; burned
029	15Mo175	STP 10	I	0-28 cm bgs	31	A	Flat Glass	Window Glass									TRUE	1								
029	15Mo175	STP 10	I	0-28 cm bgs	29	D	Ceramics	Whiteware	Plain								FALSE	1			Rim	Saucer	1860	1930	Faulkner 2000	
029	15Mo175	STP 10	I	0-28 cm bgs	30	D	Glass Tableware	Press mold: unleaded		Clear unleaded glass			Molded design/ pattern				FALSE	1			Body		1864		Jones 2000:149; Miller & Sullivan 1984	
029	15Mo175	STP 10	I	0-28 cm bgs	32	M	General Hardware	Bolt	Indeterminate	Iron / Steel		Indet					FALSE	1								Fragment: highly corroded; could be a large nail frag, but more likely bolt
030	15Mo175	STP 11	I	0-15 cm bgs	33	A	Flat Glass	Window Glass									FALSE	1					1891	1891	Moir 1987	
031	15Mo175	STP 12	I	0-35 cm bgs	34	A	Nails	Cut Nail: unspecified	Fragment								FALSE	1					1800	1890	Nelson 1968	
032	15Mo175	STP 13	III	14-30 cm bgs	37	A	Nails	Wire Nail	Fragment								FALSE	1					1880		Nelson 1968	
032	15Mo175	STP 13	III	14-30 cm bgs	36	D	Container Closures	Home Canning Jars	Liner for Mason zinc: Flat								FALSE	1			Rim		1869	1950	Toulose 1969a:350, 1977:91, 96	
032	15Mo175	STP 13	III	14-30 cm bgs	35	D	Container Glass	Blown in Mold		Aqua glass							FALSE	1			Body	Canning jar	1850	1920	Faulkner 2000; Toulose 1977	
033	15Mo175	STP 13	IV	30-39 cm bgs	38	A	Nails	Indeterminate	Fragment								FALSE	1								
034	15Mo175	STP 14	II	5-20 cm bgs	39	A	Flat Glass	Window Glass									TRUE	1								burned; did not measure
034	15Mo175	STP 14	II	5-20 cm bgs	40	A	Nails	Cut Nail: unspecified	Fragment								FALSE	1					1800	1890	Nelson 1968	

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
035	15Mo175	STP 15	I	0-20 cm bgs	41	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
036	15Mo175	STP 16	I	10-20 cm bgs	42	D	Ceramics	Whiteware	Undecorated								FALSE	1			Body	Plate	1830		Majewski and O'Brien 1987:119	
037	15E177	GSC 1	Surf	-Surface	1	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
037	15E177	GSC 1	Surf	-Surface	1	D	Container Glass	Automatic Bottle Machine		Green glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
037	15E177	GSC 1	Surf	-Surface	1	D	Container Glass	Automatic Bottle Machine		Aqua glass							FALSE	1			Body	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	
037	15E177	GSC 1	Surf	-Surface	1	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
038	15E177	GSC 2	Surf	-Surface	2	D	Container Glass	Automatic Bottle Machine	Cup bottom mold	Green glass		Embossed					FALSE	1			Base	Soda / Mineral water	1938		Jones & Sullivan 1985; Lindsey 2015; Toulouse 1972:48	Anchor Hocking maker's mark (1938+); embossed "35" and "72" on it and may date to 1972.
039	15E177	GSC 3	Surf	-Surface	3	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
039	15E177	GSC 3	Surf	-Surface	3	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
039	15E177	GSC 3	Surf	-Surface	4	M	General Hardware	Bolt	Machine	Iron / Steel		Hex					FALSE	1								includes washer
040	15E177	GSC 4	Surf	-Surface	5	D	Container Glass	Automatic Bottle Machine	Valve mark	Clear glass							FALSE	1			Base	Misc bottle	1930	1950	Lindsey 2015; Rock 1980:7; Toulouse 1969b	
040	15E177	GSC 4	Surf	-Surface	5	D	Container Glass	Automatic Bottle Machine	Cup bottom mold	Clear glass		Embossed					FALSE	1			Base	Misc bottle	1933	1971	Lockhart et al. 2015	Fairmount Glass Works makers mark
041	15E177	GSC 5	Surf	-Surface	6	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body	Misc bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
041	15E177	GSC 5	Surf	-Surface	6	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
041	15E177	GSC 5	Surf	-Surface	6	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	2			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
042	15E177	GSC 6	Surf	-Surface	7	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body	Misc bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
043	15E177	GSC 7	Surf	-Surface	8	D	Ceramics	Whiteware	Plain								FALSE	1			Body	Plate	1860	1930	Faulkner 2000	
044	15E177	GSC 8	Surf	-Surface	9	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
047	15E177	STP 2	I	0-34 cm bgs	10	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
048	15E177	STP 3	I	0-35 cm bgs	11	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	4			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
050	15E177	STP 5	I	0-13 cm bgs	12	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
055	IF1	STP 1	II	12-17 cm bgs	1	A	Nails	Wire Nail	7d	Pulled							FALSE	1					1880		Nelson 1968	
055	IF1	STP 1	II	12-17 cm bgs	1	A	Nails	Wire Nail	8d	Pulled							FALSE	1					1880		Nelson 1968	



Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
058	15Mo176	STP 1	I	0-16 cm bgs	1	A	Nails	Wire Nail	12d	Pulled							FALSE	1					1880		Nelson 1968	
059	15Mo176	STP 2	I	0-20 cm bgs	2	A	Nails	Wire Nail	3d	Pulled		Roofing					FALSE	1					1880		Nelson 1968	
059	15Mo176	STP 2	I	0-20 cm bgs	3	P	Toys and Games	Doll / Doll Part	Porcelain: bisque (slip cast)								FALSE	3			Doll: multiple parts		1860	1925	Coleman et al. 1968:74 & 582	head and body parts
060	15Mo176	STP 3	I	0-20 cm bgs	5	A	Flat Glass	Security Glass	Flat glass								FALSE	1					1891		IMACS 1992	
060	15Mo176	STP 3	I	0-20 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
061	15Mo176	STP 4	II	6-21 cm bgs	12	A	Nails	Wire Nail	Fragment								FALSE	2					1880		Nelson 1968	
062	15Mo176	STP 5	I	0-20 cm bgs	7	A	Nails	Wire Nail	8d	Unaltered							FALSE	1					1880		Nelson 1968	
062	15Mo176	STP 5	I	0-20 cm bgs	6	D	Container Glass	Automatic Bottle Machine		Light green glass							FALSE	1			Body	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	
063	15Mo176	GSC 1	Surf	0-0 cm bgs	9	A	Flat Glass	Window Glass									FALSE	1					1912	1912	Moir 1987	
063	15Mo176	GSC 1	Surf	0-0 cm bgs	10	A	Flat Glass	Security Glass	Flat glass								FALSE	1					1891		IMACS 1992	brown
063	15Mo176	GSC 1	Surf	0-0 cm bgs	8	D	Ceramics	Ironstone	Undecorated								FALSE	1			Rim	Cup	1830		Majewski and O'Brien 1987:122	
063	15Mo176	GSC 1	Surf	0-0 cm bgs	11	U	Glass	Amorphous									TRUE	1					1880		Nelson 1968	
064	15E179	STP 1	I	0-20 cm bgs	2	A	Nails	Wire Nail	Fragment								FALSE	1					1903		Jones & Sullivan 1985; Lindsey 2015	
064	15E179	STP 1	I	0-20 cm bgs	1	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
064	15E179	STP 1	I	0-20 cm bgs	1	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Lip	Packer: jelly, meat, food tumbler	1903		Jones & Sullivan 1985; Lindsey 2015	
065	15E179	STP 2	I	0-20 cm bgs	3	D	Ceramics	Whiteware	Undecorated								FALSE	1			Body		1830		Majewski and O'Brien 1987:119	
065	15E179	STP 2	I	0-20 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
066	15E179	STP 3	I	0-24 cm bgs	5	D	Ceramics	Whiteware	Undecorated								FALSE	1			Body		1830		Majewski and O'Brien 1987:119	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1912	1912	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1891	1891	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1900	1900	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1903	1903	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1873	1873	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	8	A	Flat Glass	Window Glass									FALSE	1					1901	1901	Moir 1987	
067	15E179	STP 4	I	0-14 cm bgs	9	A	Flat Glass	Clear acrylic Plexiglas									FALSE	2					1933		Professional Plastics 2015	
067	15E179	STP 4	I	0-14 cm bgs	6	A	Nails	Indeterminate	Fragment								FALSE	3								
067	15E179	STP 4	I	0-14 cm bgs	7	A	Nails	Cut Nail: late machine headed	9d	Pulled							FALSE	1					1830	1890	Nelson 1968	
067	15E179	STP 4	I	0-14 cm bgs	10	F	Lighting	Lamp Chimney	Glass: clear			Plain					FALSE	1					1854	1940	Faulkner 2008; Pullin 1986:356	
068	15E179	STP 5	I	0-11 cm bgs	14	A	Flat Glass	Window Glass									FALSE	1					1907	1907	Moir 1987	
068	15E179	STP 5	I	0-11 cm bgs	15	A	Nails	Indeterminate	Fragment								FALSE	1								

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
068	15E179	STP 5	I	0-11 cm bgs	16	A	Nails	Wire Nail	Fragment								FALSE	2		1880			1880	Nelson 1968		
068	15E179	STP 5	I	0-11 cm bgs	16	A	Nails	Wire Nail	2d	Unaltered		Roofing					FALSE	1		1880			1880	Nelson 1968		
068	15E179	STP 5	I	0-11 cm bgs	12	D	Container Closures	Home Canning Jars	Liner for Mason zinc: flat								FALSE	4		1869	Whole vessel		1869	Toulouse 1977:91, 96; Toulouse 1969a:350		
068	15E179	STP 5	I	0-11 cm bgs	13	D	Container Closures	Home Canning Jars	Mason zinc								FALSE	3		1858			1950	Toulouse 1977:96; Jones & Sullivan 1985:165	frags	
068	15E179	STP 5	I	0-11 cm bgs	11	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1		1903	Body		1903	Jones & Sullivan 1985; Lindsey 2015		
069	15E179	STP 6	I	0-15 cm bgs	18	A	Nails	Wire Nail	Fragment								FALSE	1		1880			1880	Nelson 1968		
069	15E179	STP 6	I	0-15 cm bgs	18	A	Nails	Wire Nail	6d	Pulled		Roofing					FALSE	1		1880			1880	Nelson 1968		
069	15E179	STP 6	I	0-15 cm bgs	17	D	Ceramics	Whiteware	Undecorated								FALSE	1		1830	Body	Plate	1830	Majewski and O'Brien 1987:119		
070	15E179	STP 7	I	0-17 cm bgs	22	A	Nails	Wire Nail	Fragment								FALSE	1		1880			1880	Nelson 1968		
070	15E179	STP 7	I	0-17 cm bgs	23	D	Beverage Cans	Ring pull only	Tab								FALSE	1		1965			1965	Busch 1981; Rock 1980, 1984, 1987		
070	15E179	STP 7	I	0-17 cm bgs	19	D	Ceramics	Whiteware	Undecorated								FALSE	1		1830	Body	Platter	1830	Majewski and O'Brien 1987:119		
070	15E179	STP 7	I	0-17 cm bgs	20	D	Ceramics	Ironstone	Molded / Embossed (early)								FALSE	1		1860	Footring with base	Cup	1860	Faulkner 2000		
070	15E179	STP 7	I	0-17 cm bgs	21	F	Lighting	Lamp Chimney	Glass: clear	Plain							FALSE	2		1854			1940	Faulkner 2008; Pullin 1986:356		
070	15E179	STP 7	I	0-17 cm bgs	24	P	Money	Penny									FALSE	1		1942			1942		1942 wheat penny	
071	15E179	STP 8	I	0-22 cm bgs	25	D	Ceramics	Whiteware	Undecorated								FALSE	1		1830	Body	Cup	1830	Majewski and O'Brien 1987:119		
071	15E179	STP 8	I	0-22 cm bgs	25	D	Ceramics	Whiteware	Undecorated								FALSE	1		1830	Body	Plate	1830	Majewski and O'Brien 1987:119		
072	15E179	STP 9	I	0-20 cm bgs	26	D	Container Glass	Automatic Bottle Machine	Cup bottom mold	Light green glass							FALSE	1		1903	Base	Soda / Mineral water	1903	Jones & Sullivan 1985; Lindsey 2015		
072	15E179	STP 9	I	0-20 cm bgs	26	D	Container Glass	Automatic Bottle Machine		Clear glass		Recessed panel					FALSE	1		1903	Body	Medicine	1903	Jones & Sullivan 1985; Lindsey 2015		
073	15E179	STP 10	I	0-40 cm bgs	27	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2		1903	Body		1903	Jones & Sullivan 1985; Lindsey 2015		
073	15E179	STP 10	I	0-40 cm bgs	27	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1		1903	Body		1903	Jones & Sullivan 1985; Lindsey 2015		
074	15E179	STP 11	I	0-20 cm bgs	28	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1		1903	Body		1903	Jones & Sullivan 1985; Lindsey 2015		
074	15E179	STP 11	I	0-20 cm bgs	28	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1		1903	Lip	Packer: jelly, meat, food tumbler	1903	Jones & Sullivan 1985; Lindsey 2015		
075	15E179	STP 12	I	0-24 cm bgs	29	D	Ceramics	Whiteware	Transfer printed		Dark blue						FALSE	1		1860	Body	Cup	1860	1930	Faulkner 2000	likely early 20th c
075	15E179	STP 12	I	0-24 cm bgs	30	D	Glass Tableware	Press mold: unleaded		Clear unleaded glass			Other				FALSE	1		1864	Body		1864	Jones 2000:149; Miller & Sullivan 1984	Brushed stripes	
076	15E179	STP 13	I	0-20 cm bgs	31	D	Ceramics	Stoneware	Bristol slipped exterior			Bristol slipped interior		Cobalt decoration			FALSE	1		1880	Body with base	Mixing bowl	1880	1925	Greer 1999; Ketchum 1983	
076	15E179	STP 13	I	0-20 cm bgs	32	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2		1903	Body		1903	Jones & Sullivan 1985; Lindsey 2015		
076	15E179	STP 13	I	0-20 cm bgs	32	D	Container Glass	Automatic Bottle Machine		Clear glass		Embossed					FALSE	1		1920	Body	Canning jar	1920	1925	Leybourne 2001:116; Toulouse 1977:24	embossed "squa...mason"; Drey mason jar

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments
081	15Mo177	STP 1	I	0-20 cm bgs	1	D	Container Glass	Automatic Bottle Machine		Clear glass		Embossed					FALSE	1			Body	Misc bottle	1903		Jones & Sullivan 1985; Lindsey 2015	embossed hatching
081	15Mo177	STP 1	I	0-20 cm bgs	1	D	Container Glass	Automatic Bottle Machine		Green glass		Embossed					FALSE	2			Body	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	stippled
082	15Mo177	STP 2	I	0-20 cm bgs	2	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	5			Body		1903		Jones & Sullivan 1985; Lindsey 2015	black, blue, and white patch ("Brushed Patch"); Master Marble Company
082	15Mo177	STP 2	I	0-20 cm bgs	3	P	Toys and Games	Marble (dia in mm)	Glass								FALSE	1	15				1930	1973	Basinet 2012	
083	15Mo177	STP 2	II	20-50 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Light green glass							FALSE	1			Body	Soda / Mineral water	1903		Jones & Sullivan 1985; Lindsey 2015	
083	15Mo177	STP 2	II	20-50 cm bgs	4	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
084	15Mo177	STP 3	I	0-12 cm bgs	5	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	3			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
084	15Mo177	STP 3	I	0-12 cm bgs	5	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
084	15Mo177	STP 3	I	0-12 cm bgs	6	P	Toys and Games	Figure: other	Plastic: modern								FALSE	1					1930		Meikle 1995	gold plastic figurine base, feet partially missing. Made in Italy stamped on the bottom
085	15Mo177	STP 3	II	12-50 cm bgs	9	A	Flat Glass	Plate Glass									FALSE	1					1917		Roenke 1978	
085	15Mo177	STP 3	II	12-50 cm bgs	7	D	Ceramics	Whiteware	Plain								FALSE	1			Body	Plate	1860	1930	Majewski and O'Brien 1987:119	
085	15Mo177	STP 3	II	12-50 cm bgs	7	D	Ceramics	Whiteware	Embossed (late)								FALSE	1			Footring with base	Plate	1900		Faulkner 2000	
085	15Mo177	STP 3	II	12-50 cm bgs	8	D	Container Glass	Automatic Bottle Machine		Amber glass							FALSE	1			Body	Beer bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
085	15Mo177	STP 3	II	12-50 cm bgs	8	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	4			Body		1903		Jones & Sullivan 1985; Lindsey 2015	
085	15Mo177	STP 3	II	12-50 cm bgs	10	U	Plastic	Modern		Item / part							FALSE	1					1930		Meikle 1995	clear
086	IF 5	BA 13	III	40-45 cm bgs	1	D	Ceramics	Stoneware	Salt glazed exterior								FALSE	1			Body		1800	1925	Greer 1999; Ketchum 1983	
087	15E181	STP 1	I	0-23 cm bgs	3	A	Flat Glass	Window Glass									FALSE	1					1912	1912	Moir 1987	
087	15E181	STP 1	I	0-23 cm bgs	3	A	Flat Glass	Window Glass									FALSE	1					1913	1913	Moir 1987	
087	15E181	STP 1	I	0-23 cm bgs	4	A	Nails	Wire Nail		Pulled							FALSE	1					1800		Nelson 1968	
087	15E181	STP 1	I	0-23 cm bgs	4	A	Nails	Wire Nail		Pulled							FALSE	1					1880		Nelson 1968	
087	15E181	STP 1	I	0-23 cm bgs	1	D	Container Glass	Undiagnostic container fragment		Clear glass							FALSE	1			Body		1864		Lindsey 2015	
087	15E181	STP 1	I	0-23 cm bgs	2	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body	Miscellaneous bottle	1903		Jones & Sullivan 1985; Lindsey 2015	
087	15E181	STP 1	I	0-23 cm bgs	5	U	Plastic	Modern		Item / part							FALSE	1					1930		Meikle 1995	white

Bag	Site	Unit #	Zone	Depth	Cat #	Group	Class	Type	Attr 1a Def	Attr 1b Def	Attr 1c Def	Attr 2a Def	Attr 2b Def	Attr 3a Def	Attr 3b Def	Attr 4a Def	Burned	N=	Wt (g)	Dia (mm)	Vessel Part	Vessel Type	Min Date	Max Date	References	Comments	
087	15E181	STP 1	I	0-23 cm bgs	6	U	Metal	Lead	Metal	Item / part							FALSE	1									unk
088	15E181	STP 2	I	0-24 cm bgs	8	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	1			Body		1903		Jones & Sullivan 1985; Lindsey 2015		
088	15E181	STP 2	I	0-24 cm bgs	7	U	Glass	Amorphous									FALSE	1									
089	15E181	STP 2	II	24-35 cm bgs	9	D	Ceramics	Whiteware	Plain								FALSE	2			Body	Plate	1860	1930	Majewski and O'Brien 1987:119		
089	15E181	STP 2	II	24-35 cm bgs	9	D	Ceramics	Whiteware	Plain								FALSE	1			Rim	Plate	1860	1930	Majewski and O'Brien 1987:119		clear
089	15E181	STP 2	II	24-35 cm bgs	10	D	Container Glass	Undiagnostic container fragment		Opaque white glass							FALSE	1			Body		1850	1960	Fike 1987:13; Lindsey 2015; Jones & Sullivan 1985		
090	15E181	STP 3	I	0-29 cm bgs	13	A	Nails	Wire Nail	30d	Clinched							FALSE	1					1880		Nelson 1968		
090	15E181	STP 3	I	0-29 cm bgs	11	D	Container Glass	Automatic Bottle Machine		Clear glass							FALSE	2			Body		1903		Jones & Sullivan 1985; Lindsey 2015		
090	15E181	STP 3	I	0-29 cm bgs	12	D	Container Closures	Home Canning Jars	Mason zinc								FALSE	1			Body		1858	1950	Toulouse 1977:96; Jones & Sullivan 1985:165		
090	15E181	STP 3	I	0-29 cm bgs	14	U	Plastic	Modern		Item / part							FALSE	2					1930		Meikle 1995	green	
090	15E181	STP 3	I	0-29 cm bgs	14	U	Plastic	Modern		Item / part							FALSE	2					1930		Meikle 1995	flat, translucent olive green	
091	15E181	STP 4	I	0-14 cm bgs	17	A	Construction Material	Brick	Machine made brick: vitrified								FALSE	1	219.3				1880		Holley 2009:97		
091	15E181	STP 4	I	0-14 cm bgs	15	D	Ceramics	Whiteware	Undecorated								FALSE	5			Body	Plate	1830		Majewski and O'Brien 1987:119		
091	15E181	STP 4	I	0-14 cm bgs	16	D	Container Glass	Automatic Bottle Machine	Knurled/stippled base	Green glass							FALSE	1			Base	Soda / Mineral water	1940		Lindsey 2015		
091	15E181	STP 4	I	0-14 cm bgs	18	P	Health and Grooming	Lipstick Tube		Plastic: modern							FALSE	1					1960		Avon Products Inc. 2016	Avon lipstick sample, white case, "persimmon."	

## **APPENDIX E. GRAVE MARKER FORMS**



## Kentucky Grave Marker Documentation Form

Cemetery Farley County: Elliott Site No.: 15E180

**Burial** 1a Name: Donald Farley  
DOB 11/15/1950 DOD 11/15/1950 Material: granite  
Inscription: none

Comments: Footer present with initials. Headstone for burials 1a and 2a.

Photos: Roll Week 5 Frame 5544

Sketch Marker



**Burial** 1b Name: Donald Farley  
DOB 11/15/1950 DOD 11/15/1950 Material: granite  
Inscription: D.F.

Comments: Footer for burial 1a.

Photos: Roll Week 5 Frame 5544

Sketch Marker



**Burial** 2a Name: Ronald Farley  
DOB 11/15/1950 DOD 11/15/1950 Material: granite  
Inscription: none

Comments: Footer present with initials. Headstone for burials 1a and 2a.

Photos: Roll Week 5 Frame 5544

Sketch Marker



**Burial** 2b Name: Ronald Farley  
DOB 11/15/1950 DOD 11/15/1950 Material: granite  
Inscription: R.F.

Comments: Footer for burial 2a.  
2.

Photos: Roll Week 5 Frame 5544

Sketch Marker



**Burial** 3 Name: Dewy Baxter Farley  
DOB 9/14/1929 DOD 2/10/1930 Material: concrete  
Inscription: Our darling

Comments: Footer present with initials. Lamb statue on top of  
headstone.

Photos: Roll Week 5 Frame 5546

Sketch Marker



**Burial** 4 Name: Dott F. Adkins  
DOB 10/5/1893 DOD 7/4/1932 Material: granite  
Inscription: Having finished life's duty, she now sweetly rests.

Comments: Footer present with initials. Carving of leaves at top of  
headstone.

Photos: Roll Week 5 Frame 5555

Sketch Marker





**Burial** 5 Name: Edward Adkins  
DOB 10/28/1915 DOD 10/28/1915 Material: granite  
Inscription: Son of N.L. and Dott Adkins (rest was illegible)

Comments: Footer present with initials. Carving of dove at top of headstone.

Photos: Roll Week 5 Frame 5549

Sketch Marker



**Burial** 6 Name: Cletis Dale Adkins  
DOB 6/11/1932 DOD 10/5/1933 Material: granite  
Inscription: none

Comments: Headstone consists of stone plaque.

Photos: Roll Week 5 Frame 5548

Sketch Marker



**Burial** 7 Name: Willie Ellis  
DOB 10/22/1893 DOD 10/22/1985 Material: Field stone  
Inscription: The son of Ballard and Cinth(?)

Comments: Hand-carved. Star carved between birth and death dates. Footer present.

Photos: Roll Week 5 Frame 5547

Sketch Marker



**Burial** 8 Name: Elbert D. Farley  
DOB 7/27/1912 DOD 1/9/1943 Material: granite  
Inscription: Heaven holds all. There is nothing between.

Comments: Large carved 'F' at top of headstone.

Photos: Roll Week 5 Frame 5550

Sketch Marker



**Burial** 9 Name: Rachel L. Farley  
DOB 10/18/1874 DOD none Material: granite  
Inscription: There is no parting in heaven.

Comments: Headstone for grave 9a and 10a. Footer present with initials. Large carved 'F' at top-center of headstone. Carved flowers  
Separate names and death dates for the individuals. Death records  
Indicate Rachel Fraley was buried in Sandy Hook Cemetery.

Photos: Roll Week 5 Frame 5551

Sketch Marker



**Burial** 9b Name: Rachel L. Farley  
DOB 10/18/1874 DOD none Material: granite  
Inscription: R.F.

Comments: Footer for headstone 9a.

Photos: Roll Week 5 Frame 5552

Sketch Marker



**Burial** 10a Name: Joseph F. Farley  
DOB 7/17/1851 DOD 5/14/1933 Material: granite  
Inscription: There is no parting in heaven.

Sketch Marker



Comments: Headstone for grave 9a and 10a. Footer present with initials. Large carved 'F' at top-center of headstone. Carved flowers  
Separate the names and death dates for each individual.

Photos: Roll Week 5 Frame 5551

**Burial** 10b Name: Joseph F. Farley  
DOB 7/17/1851 DOD 5/14/1933 Material: granite  
Inscription: J.F.

Sketch Marker



Comments: Footer for headstone 10a.

Photos: Roll Week 5 Frame 5552

**Burial** 11 Name: Chester L. Farley  
DOB 9/9/1902 DOD 7/29/1929 Material: granite  
Inscription: We know no sorrow have no grief till thy bright face  
was missed

Sketch Marker



Comments: Footer present with initials. Carved dove at top of  
headstone

Photos: Roll Week 5 Frame 5553

**Burial** 12 Name: Mabel B. Farley

DOB 2/6/1910 DOD 7/24/1910 Material: granite

Inscription: I sleep in Jesus. Oh how sweet. From when none ever  
wake to weep

Comments: Degraded ornamentation at top of headstone. Footer  
present with initials

Photos: Roll Week 5 Frame 5554

Sketch Marker



**Burial** 13 Name: \_\_\_\_\_

DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: Metal plaque

Inscription: \_\_\_\_\_

Comments: Illegible

Photos: Roll Week 5 Frame 5560

Sketch Marker



**Burial** 14 Name: Robert Elliot

DOB 1916 DOD 1964 Material: Metal plaque

Inscription: \_\_\_\_\_

Comments: \_\_\_\_\_

Photos: Roll Week 5 Frame 5559

Sketch Marker



**Burial** 15 Name: \_\_\_\_\_  
DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: Metal plaque  
Inscription: \_\_\_\_\_

Comments: Illegible

Photos: Roll Week 5 Frame 5558

Sketch Marker



**Burial** 16 Name: \_\_\_\_\_  
DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: \_\_\_\_\_  
Inscription: \_\_\_\_\_

Comments: Unmarked depressions

Photos: Roll Week 5 Frame 5557

Sketch Marker



**Burial** 17 Name: \_\_\_\_\_  
DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: \_\_\_\_\_  
Inscription: \_\_\_\_\_

Comments: Unmarked depressions

Photos: Roll Week 5 Frame 5556

Sketch Marker



**Burial** 18 Name: \_\_\_\_\_

DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: \_\_\_\_\_

Inscription: \_\_\_\_\_

\_\_\_\_\_

Comments: Unmarked depressions

\_\_\_\_\_

Photos: Roll Week 5 Frame 5556

Sketch Marker



**Burial** 19 Name: Wilma K Meadows

DOB 5/5/1956 DOD none Material: marble

Inscription: daughter

\_\_\_\_\_

Comments: Headstone for burials 19 and 20. Carved cross and flower separates the names and dates for each individual. Wilma K. Meadows appears to still be living based on absence of death date.

Photos: Roll Week 5 Frame 5561

Sketch Marker



**Burial** 20 Name: Cloteen Meadows

DOB 10/1/1922 DOD 10/27/2007 Material: marble

Inscription: mother

\_\_\_\_\_

Comments: Headstone for burials 19 and 20. Carved cross and flower separates the names and dates for each individual

\_\_\_\_\_

Photos: Roll Week 5 Frame 5561

Sketch Marker



**Burial** 21 Name: Clyde Meadows

DOB 8/31/1901 DOD 4/21/1961 Material: granite

Inscription: Kentucky PVT 1534 SVC COMD

World War II

Comments: Plastic flowers in a glass box sitting on base of headstone. Metal plaque footer present. Carved cross at top of headstone.

Photos: Roll Week 5 Frame 5562

Sketch Marker



**Burial** 22a Name: Jewell Cassity

DOB 8/20/1904 DOD 6/8/1946 Material: granite

Inscription: She faltered by the wayside and the angels took her home

Comments: Footer present with initials

Photos: Roll Week 5 Frame 5564

Sketch Marker



**Burial** 23 Name: Henry

DOB \_\_\_\_\_ DOD \_\_\_\_\_ Material: Wood plaque

Inscription: \_\_\_\_\_

Comments: Stone dogs behind plaque. Likely represents the burial of a dog.

Photos: Roll Week 5 Frame 5563

Sketch Marker

