AN ARCHAEOLOGICAL ASSESSMENT OF THE CAROLINA NORTH DUCT CORRIDOR, THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA

By

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Research Report No. 31
Research Laboratories of Archaeology
University of North Carolina at Chapel Hill

September 2009

Report Submitted to
Facilities Planning Department
University of North Carolina at Chapel Hill

MANAGEMENT SUMMARY

The Carolina North duct corridor project area, part of the Horace Williams Airport property, is located in Orange County, North Carolina, within the city limits of Chapel Hill. The University of North Carolina at Chapel Hill plans to install utilities and an access road for the proposed Carolina North satellite campus within this corridor. This survey was undertaken to identify and evaluate the significance of any archaeological sites present in the area of potential effect for this activity, and to determine what, if any, additional investigation would be necessary to mitigate likely damage or destruction as a result of utility installation and road construction within the corridor.

Both archival research and archaeological fieldwork were undertaken during this investigation. The goal of archival research was to establish the land use and ownership history of the property, as well as to determine if any information about archaeological sites in the parcel had been previously collected and recorded. The archaeological fieldwork portion of the project involved the identification of nine specific locations in the area of potential effect that were likely to contain archaeological sites. These areas were systematically shovel tested at 20-meter intervals. In addition, the extent of the historic Gattis-Burch cemetery [31OR629 (RLA-Or460)] was determined and all identified graves and markers were mapped with a total station.

Four prehistoric archaeological sites [31OR630 (RLA-Or461) to 31OR633 (RLA-Or464)], two historic sites [31OR629 (RLA-Or460) and 31OR635 (RLA-Or466)], and one site with both prehistoric and historic components [31OR634 (RLA-Or465)] were identified in the area of potential effect for the proposed Carolina North duct corridor and access road. Four of the prehistoric sites [31OR630 (RLA-Or461) to 31OR632 (RLA-Or463) and 31OR634 (RLA-Or465)] are low-density lithic scatters that cannot be dated to any specific time period. Site 31OR633 (RLA-Or464) is the remains of a multi-component prehistoric campsite or settlement that yielded one partial Early Archaic (10,000 to 8,000 years ago) quartz crystal point and the base of one Late Archaic (5,000 to 3,000 years ago) dacite tuff Savannah River point along with 279 pieces of lithic debitage from stone tool production and maintenance.

Based on their limited archaeological research potential, four of the prehistoric sites [31OR630 (RLA-Or461) through 31OR632 (RLA-Or463) and the prehistoric component of 31OR634 (RLA-Or465)] are not considered eligible for listing in the *National Register of Historic Places*. The presence of deeper soils at site 31OR633 (RLA-Or464), along with diagnostic tools and a diverse debitage assemblage, suggest that this site may have the potential to yield important information about the lives of people living in the Carolina North property during the Early and Late Archaic periods. Given this potential, additional work will be necessary to assess the integrity of 31OR633 (RLA-Or464).

The three historic components identified in the area of potential effect are the Gattis-Burch Cemetery [31OR629 (RLA-Or460)], a trash dump and landscape features associated with the Bogan-Crow House [31OR635 (RLA-Or466)], and materials from an outbuilding possibly associated with the airport expansion in the 1940s [31OR634 (RLA-Or465)]. The Gattis-Burch Cemetery [31OR629 (RLA-Or460)] is protected under North Carolina statute G.S. 14-148. A 30-foot (10-meter) buffer between the edge of the cemetery and any ground disturbing activities

is recommended, and ground-disturbing activities in this area should by monitored by an archaeologist as additional, unidentified graves may be present. Any disinterment, if necessary, must be undertaken in accordance with North Carolina G.S. 65-106. Further work at sites 31OR635 (RLA-Or466) and 31OR634 (RLA-Or465) is unlikely to yield additional significant information about the past. Therefore, the historic component of site 31OR634 (RLA-Or465) and the Bogan-Crow site [31OR635 (RLA-Or466)] are not considered eligible for listing in the *National Register of Historic Places.*

Based on the results of this survey, additional archaeological work is recommended for assessing the integrity of the Crow Branch North site [31OR633 (RLA-Or464)]. In addition, an archaeologist should be present to monitor the Gattis-Burch Cemetery [31OR629 (RLA-Or460)] during ground-disturbing activities.

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Chapter 1

INTRODUCTION

The proposed Carolina North duct corridor is located in the eastern portion of the Horace Williams property in Orange County, North Carolina, within the city limits of Chapel Hill. The proposed duct corridor runs north to south through a presently wooded portion of the roughly 1,000-acre Horace Willams property, with terminal points at Homestead Road and Municipal Drive (Figure 1). The proposed utility corridor is also being considered as a potential access road for UNC's proposed Carolina North satellite campus. This survey was undertaken to identify and evaluate the significance of any archaeological sites present in the area of potential effect, and to determine what, if any, additional investigation would be necessary to mitigate their likely destruction, in whole or in part, as a result of utility installation and road construction. This project was conducted with the understanding that the remainder of the Horace Williams property will be surveyed during the planning of Carolina North in order to assure the proper management of cultural resources in the entire parcel. For the purposes of this particular project, area of potential effect is confined to an 88-acre area that contains the proposed utility corridor. Archaeological assessment of this area was limited to 76 acres, omitting 12 acres at the southern edge of the project area that contain a mid-twentieth century landfill closed in 1973. This project was conducted under Permit 61 of the North Carolina Archaeological Resources Protection Act.

Both archival research and archaeological fieldwork were undertaken during this investigation. The goal of archival research was to establish the land use and ownership history of the property, as well as to determine if any information about archaeological sites in the parcel had been previously collected and recorded. To this end, records maintained by the North Carolina Office of State Archaeology, Research Laboratories of Archaeology, and UNC Facilities Planning were consulted, as were materials in the North Carolina Collection and the Southern Historical Collection at Wilson Library.

The archaeological fieldwork portion of the project began with the identification of three specific areas that would be intensively surveyed (Figure 2). These areas were selected using a 2-ft contour map in consultation with regional patterns of archaeological site locations in similar topographic settings. Comprising roughly 46.5 acres, or about 61.2% of the project area, these areas were systematically shovel tested at 20-meter intervals. One nineteenth-century family cemetery was known to exist in the project area. Archaeological investigation of the Gattis-Burch Cemetery was undertaken to determine the physical limits of the cemetery, identify the locations of individual graves, and construct an accurate map of the cemetery. To this end, above-ground features of the cemetery were mapped with a total station. Eight north-south transects were placed where stone markers indicated probable graves and sampled using soil augers. Auger probes were made at 50 cm intervals along each transect, as well as to the east and west of the marked graves, in order to verify the likely limits of the cemetery.

Figure 1. Location of the Carolina North Duct Corridor Project Area.

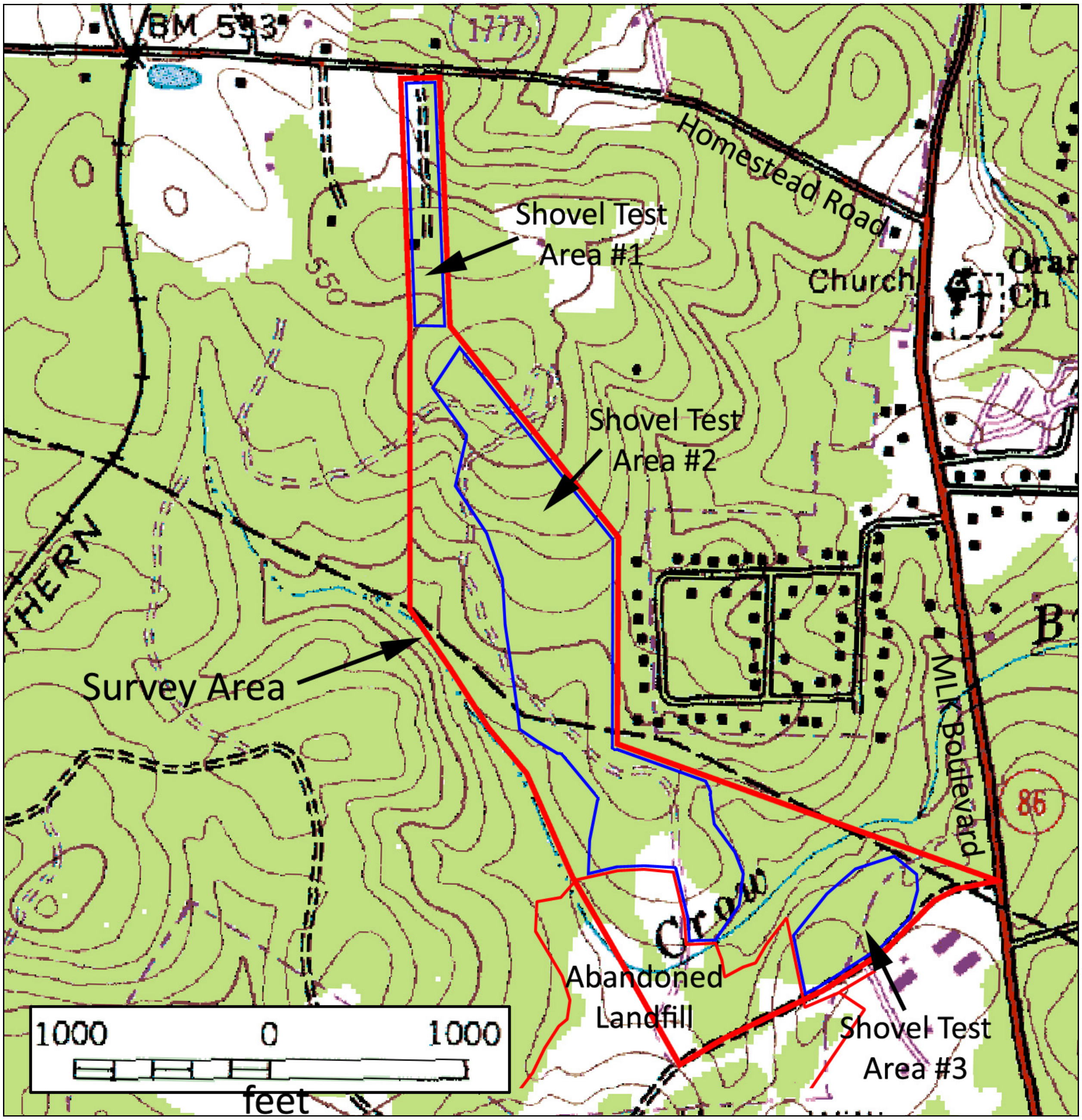

Figure 2. Proposed Survey Areas.

The Carolina North duct corridor was surveyed by the Research Laboratories of Archaeology, UNC-Chapel Hill, under contract to the University's Division of Finance and Administration. R. P. Stephen Davis, Jr. was the Principal Investigator of this project. Fieldwork was conducted from January 12 to March 28, 2009 under the supervision of Mary Elizabeth Fitts, with the assistance of UNC graduate students Karen Caffrey, David Cranford, Erik Johannesson, Meg Kassabaum, Will Meyer, Maggie Morgan-Smith, Claire Novotny, Malena Rousseau, Erin Stevens, Amanda Tickner. Mary Elizabeth Fitts conducted archival research, maintained field records, and produced the artifact inventory.

The following report is divided into four main sections. The first section provides contextual information about the physical environment of the project area and the archaeology and history of the region. This information is necessary for understanding both the research methods employed and the significance of the archaeological materials identified during the survey. The second section details the methods used to both identify archaeological sites in the field and classify archaeological materials in the laboratory. In the third section, the results of the survey are presented, along with archival findings as appropriate. Finally, the fourth section contains the recommendations for action based on the findings of the survey.

Chapter 2

CONTEXT

PHYSICAL ENVIRONMENT

Certain aspects of the physical environment are relevant to the study of the human past for two primary reasons. First, characteristics of the physical environment determine the location of resources that people may choose to use in the process of satisfying what they perceive to be their biological and social needs. The ways people think, act, and interact with each other in the process of obtaining these resources play a role in the creation of hand tools, political alliances, seasonal celebrations, and everything in between. Second, the physical environment also plays a role in transforming the characteristics and location of material evidence of the human past. These transformations need to be considered by archaeologists, who study past human societies based on material evidence that has been acted on by physical processes, often over periods of thousands of years.

Obviously, conditions of the physical environment throughout the timescale of human existence in a particular area are relevant to archaeological interpretation, and it cannot be automatically assumed that conditions in the past were the same as they are today. Archaeologists often consult information created by geologists and paleoecologists, who use characteristics of the present environment, along with other evidence like pollen from stratified sediment cores, to suggest what a particular region might have been like in the past. Finally, it is also important to consider modern land use practices, which often involve ground-disturbing activities that damage archaeological sites.

Topography and Hydrology

Orange County, North Carolina, is situated within the physiographic province known as the Piedmont. Located between the Appalachian Mountain range and the Coastal Plain, the Piedmont is characterized by gently rolling hills and streams with v-shaped valleys (Allen and Wilson 1968). Although the highest local elevation, Nun Mountain, is 625 feet above sea level, elevations within the project area do not exceed 572 feet above sea level. Two hilltops are present in the northern portion of the project area, and a southward sloping ridge parallel to Crow Branch occupies the central part of the project area. The southern portion of the project area contains toe slopes adjacent to Crow Branch. Slopes in project area range from less than 1 percent to 12 percent, with 12.7 acres (14%) of the project area exhibiting between 0 and 2 percent slopes, 36.5 acres (41%) between 2 and 6 percent slopes, and 40.8 acres (45%) between 6 and 12 percent slopes.

The hydrology of the Carolina North access road project area is characteristic of the rest of Orange County in that it contains a low-energy stream that has narrow floodplains (Daniel 1994:2). Crow Branch, part the Cape Fear River Basin, travels a parabolic route that first trends southeast from its springhead for slightly less than half a mile before turning northeast to join Booker Creek, which, along with Bolin Creek, empties into Little Creek. A dam constructed near the southernmost portion of Crow Branch in the 1970s maintains a 4.5-acre pond. Several intermittent drainages are also present in the parcel.

Geology

The area that is mapped in the USGS Chapel Hill, North Carolina 7-5-minute quadrangle contains a variety of igneous, metamorphic, and sedimentary rocks (Mann et al. 1965). The eastern edge of the Carolina Slate Belt dominates the area northwest of Chapel Hill, including the Carolina North access road project area. The metavolcanic and metasedimentary rocks of the Slate Belt, which trends to the northeast, are believed to be Ordovician in age (Allen and Wilson 1967). They are intruded upon by Devonian igneous plutonic rocks. These intrusive volcanic rocks, which formed in the weaker fault and fracture zones of the older Slate Belt deposit, have resulted in a region that is "extraordinarily diverse" geologically (Eligman 1987:39). This diversity is characterized by isolated rhyolite flows and basalts that are interbedded with other, more widespread, felsic to intermediate tuffs and flows. The geology of most of the Carolina North access road corridor is mapped as Carolina slates, which include non-bedded tuffs, greenstones, phyllites and rhyolites. The southern portion of the project area along the northeasterly trending section of Crow Branch is mapped as granodiorites and adamellites, "intimately mixed" rocks produced by the intrusion of diorite and plagiogranite into the surrounding slate deposit (Mann et al. 1965:12-14).

This underlying geology is a major determining factor in the types of soils present in the Carolina North access road project area. The fine-grained Carolina slates present in the central and northern portion of the proposed corridor have weathered into Georgeville and Herndon series soils (Dunn 1977). Both of these soils are well drained and moderately permeable. Georgeville soils, located on narrow side-slopes, typically have yellowish red silt loam A horizons and red clay loam B horizons. Herndon series soils are similar in texture but have yellowish brown to yellow A horizons and reddish yellow B horizons. Parent material in the southern portion of the proposed corridor consists of granodiorite. Soils developed on diorite and other parent materials that have a high content of ferromagnesian minerals form thick, clay-loam A horizons and reddish B horizons (Buol et al. 1973:37-39). One soil series of this type is located in the project area: the Enon series (Dunn 1977). Enon soils are well drained but slowly permeable and are located on the tops and sides of ridges between intermittent and perennial streams – in this case, Crow Branch. Enon loam A horizons consist of yellowish brown sandy loam over brownish yellow or reddish yellow clay loam B horizons. The Crow Branch floodplain itself is mapped as Congaree fine sandy loam. This well drained and moderately permeable alluvial soil is a fine sandy loam.

Rocks and soil have been important resources for people during both the prehistoric and historic periods, although they were used in different ways through time. In prehistory, metavolcanic and metasedimentary rocks were used as raw material for making stone tools. Since only certain types of rock are suitable for this purpose, outcrops of high quality lithic material were significant features of the landscape for prehistoric people. Known quarry sites in Chatham, Orange, and Durham counties contain a variety of distinctive materials (Steponaitis et al. 2006, Daniel and Butler 1994:34). The Chatham County quarries contain metasedimentary rocks, including mudstone, siltstone, and sandstone, as well as metavolcanic crystal-lithic tuff. In

Orange County, an outcrop on Bald Mountain at the edge of Duke Forest consists of dacite porphyry and crystal-lithic tuff. People living in this area would also have been able to obtain finer-grained dacite tuff from a quarry in northwest Durham. After people began to farm, floodplain soils, with their fertility maintained by periodic flooding, were favored field locations for prehistoric farmers and their historic era descendants (Scarry and Scarry 2005:262; Waselkov 1997:180).

European settlers in Orange County used whatever rocks they could find for building property boundary walls and foundations (Daniel and Ward 1993). They cleared and planted a variety of crops in the uplands, and quickly leaned that certain crops faired better when planted in specific soil-bedrock associations. Kenzer (1987:34–35) discusses the relationship between the distribution of soil types in Orange County and the types of crops that were grown on family farms in the nineteenth century. While all soils in the county could reliably produce corn and wheat, tobacco and cotton tended to produce low yields on the Georgeville silt and Davidson clay loams that overlay much of the Carolina Slate Belt area. Cotton was grown on Congaree silt loam along the lower New Hope Creek and Eno River in the nineteenth century (Kenzer 1987:35). The Crow Branch flood plain contains Congaree silt, but it is very narrow and unlikely to have been farmed.

Flora and Fauna

The natural biological communities of the Carolina Piedmont provided resources for historic and prehistoric farmers, and were obviously vital for prehistoric people that subsisted without maintaining fields of crops. The two most common upland natural communities in Orange County today are upland mixed hardwood forests and mesic oak-hickory forests (Sather and Hall 1988:4). Upland mixed hardwood forests, typically found on moderate to steep lower slopes, contain beech, tulip, poplar, and red oak trees with an herbaceous understory. Further upslope, white oaks and hickories become increasingly common, and are the dominant association on hilltops, accompanied by post oak. River birch, sweetgum, sycamore, tulip poplar, and hackberry are common species in floodplain bottomlands (Sather and Hall 1988:6–7).

The Carolina North duct corridor project area contains stands of trees that range in age from 30 to 110 years old. The older stands, located in the northern and central portions of the project area, contain a greater percentage of hardwoods than the younger stands. Pine dominates the southern portion of the project area and mixed hardwoods are present on the steeper slopes and intermittent drainages. It is possible that an oak-hickory forest may have existed in the northern portion of the project area prior to twentieth century land clearing activities. The character of plant communities in prehistory, however, would have varied with the extent to which people practiced land management activities such as prescribed burning and the removal of non-fruit-bearing trees to produce orchard-like environments (Hammett 1997:202).

Oak-hickory forests were an important source of food throughout much of prehistory, providing a mast crop of hickory, acorn, and walnuts (Gremillion 1993). A sizable array of animal species would also have been available in the Carolina Commons project area. Today in nearby Duke Forest there are approximately 30 species of mammals, 90 species of breeding birds, 24 amphibian and 30 reptile species (Edeburn 1981). White tailed deer were a favored target of prehistoric hunters, but animal bones from Piedmont sites suggest that a variety of other animals were also selected, including opossum, squirrel, beaver, muskrat, raccoon, turkey, passenger pigeon, turtles, gar, catfish, and sunfish (Ward and Davis 1993). The only fauna that were probably not available in the Carolina North vicinity are the larger fish species, given the local channel characteristics of Bolin Creek, Booker Creek, and Crow Branch.

Climate History

Orange County today has a temperate midcontinental climate, with an average daily high temperature of 72 and an average low temperature of 48° F (Dunn 1977:1). This has not always been the case, however, and differences in average temperatures over the past ten thousand years led to corresponding changes in the physical environment. Since people began living in the Carolina Piedmont during the Late Pleistocene, climate and associated ecological changes in the region from this point forward provide important contextual information for understanding prehistoric lifeways.

The Pleistocene-Holocene transition in North America is defined by the melting of the Wisconsin glacier, an event that led to significant geomorphic and biotic changes. Palynological data from the Southeast indicate that between 12,500 and 10,000 years ago, the Carolina Piedmont was probably supporting a mixed hardwood community including oak, maple, beech, basswood, elm, walnut, hemlock, and gum (Delcourt and Delcourt 1981:126). During the next two thousand years, erosion initiated by the disappearance of the glacier led to a period of hydrological adjustment. Sediments deposited by Piedmont rivers during this time are bedload-rich, implying the existence of "vigorous channel activity" (Schuldenrein 1996:21). This episode of channel reconfiguration doubtlessly destroyed many archaeological sites in riverine settings, which makes archaeological sites dating before 8,000 years ago both relatively rare and significant.

The time between 8,000 and 3,000 years ago was a period of adjustment during which postglacial environments stabilized, stream channels adjusted to newly-formed floodplains, hill and slope sedimentation rates diminished, and new aquatic communities were established (Schuldenrein 1996:3). As conditions became more humid in the Southeast, pine became more common. In the Carolinas, regional differences developed between the coastal plain, which became dominated by pine, and the Piedmont, where an oak-hickory-southern pine forest developed (Delcourt and Delcourt 1981:150). In sum, climate change during the mid-Holocene affected the abundance of mast producing trees and aquatic fauna, altering the previously existing environmental context within which people had been making decisions. Modern climatic conditions and sea level became established by approximately 5,000 years ago.

Modern Land Use

All of the land in the Carolina North duct corridor project area is wooded today, with the exception of a gas line that bisects the property, a yard area associated with an existing house built in 1963, and the old landfill. However, landscape features including old logging roads and rock piles suggest the land in the project area has been cleared, probably multiple times, for agricultural purposes. This is confirmed by an examination of a 1955 aerial photograph (Figure 3), which shows cleared fields in the southern portion of the project area, and old fields in the process of being reclaimed to the north. A soil map from the 1970s shows the project area to be reforested, with the exception of the landfill area immediately north of the airport runway (Dunn 1977) (Figure 4). The Town of Chapel Hill operated a sanitary landfill on 35 acres in this area until 1973, when the Orange County Regional Landfill was opened. The site was used for Chapel Hill and Carrboro garbage disposal, as well as disposal of solid waste and chemicals from the University's science labs and hospital from 1967 to 1972. Currently, this landfill supports a field-like habitat of primarily grasses and shrubs. Modifications to the landscape associated with landfill management, including the impoundment of Crow Branch, are visible on an aerial photograph taken in 1982 or 83 (Figure 5).

The most common use of the project area today is for running, biking, and dog walking along an unpaved road and network of trails. The northernmost parcel of land in the project area was obtained by the University in 1992 and contains the Gattis-Burch Cemetery as well as a house built in 1963 that is currently occupied. Residential properties are also located on the east side of the project area.

Summary

The range of activities people undertook in the subject Carolina North project area in the past was partly delimited by the physical characteristics of the area. From the perspective of prehistoric hunters and gatherers, the property would have supplied abundant food but does not contain any high-quality lithic raw material for making stone tools. The small amount of floodplain available in the parcel most likely limited the degree to which prehistoric farmers occupied the area, and the Georgeville silt and Enon loam present in the project area do not produce high yields of cotton and tobacco, limiting the potential for historic period farming. From a geomorphic perspective, hydrologic changes in the Crow Branch channel during the early Holocene may have altered or removed evidence of earlier human occupation, while modern land use activities associated with land clearing, the construction of a gas line, and landfill construction, maintenance, and closure may have disturbed archaeological sites.

REGIONAL ARCHAEOLOGY AND HISTORY

Writing in 1952, Joffre Coe criticized a view held by archaeologists of the time that in prehistory North Carolina was a homogeneous "no-man's land" between the Southeast and Northeast regions (Coe 1952:301). He argued instead for a more careful examination of the diversity of ways that the people of North Carolina interacted with their neighbors through time. Cross cut by three major environmental zones and located at the juncture between regions with different sociopolitical organization and material culture, the history of North Carolina can be viewed as a "social laboratory" for the anthropological examination of boundaries. More than a century of archaeological and historical research in North Carolina has led to the identification of at least eleven general cultural areas, each characterized by a different set of activities practiced by the people living within them, particularly during the last two thousand years (Ward and

Figure 3. A 1955 aerial photograph showing fields in various states of maintenance within the project area.

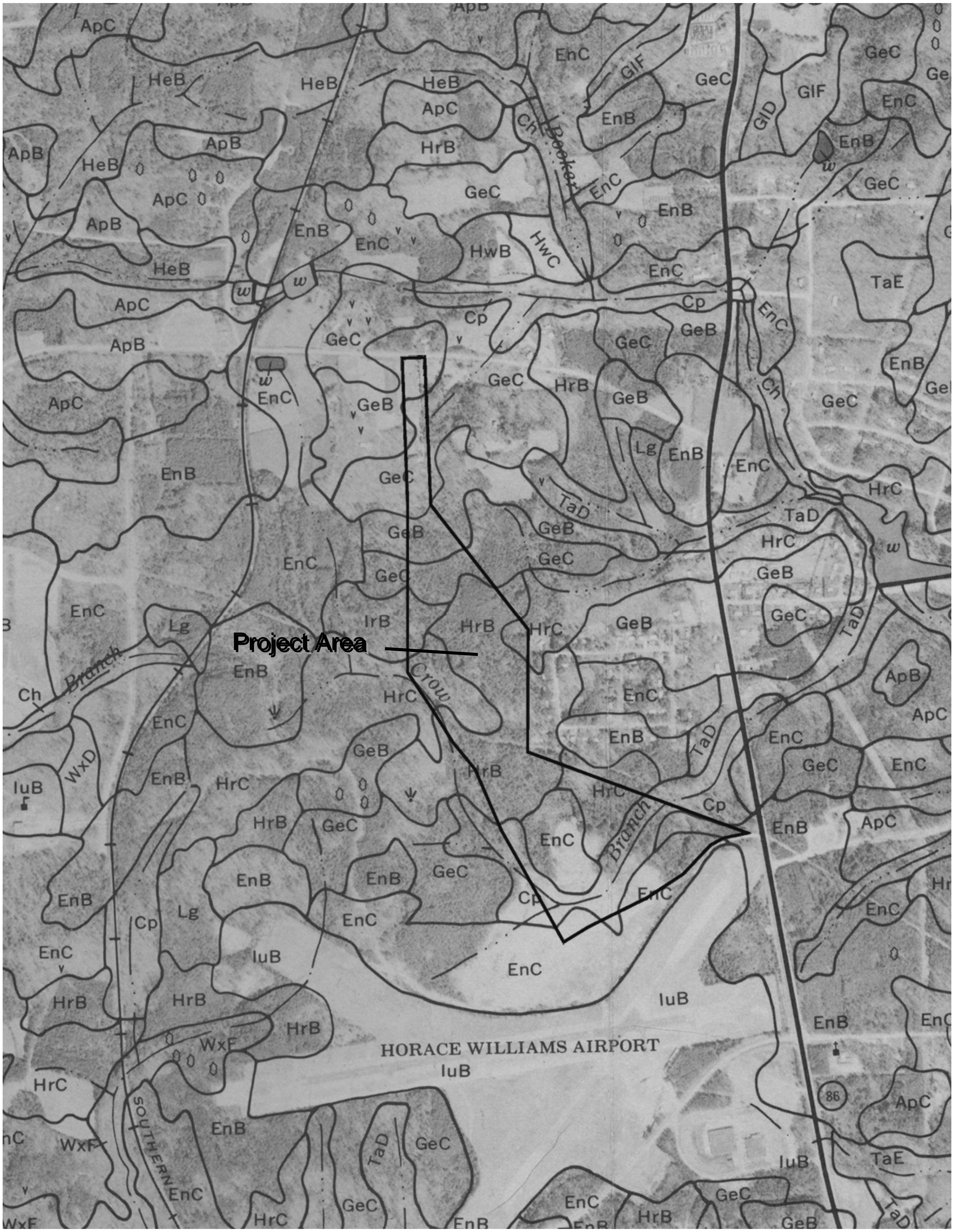

Figure 4. Aerial photograph showing most of the project area to be reforested by the 1970s (Dun 1977).

Figure 5. Aerial photograph of project area taken in 1982 or 1983 that shows the closed landfill site and recently created Crow Branch Pond.

Davis 1999:22–23). The following discussion will provide a general chronological overview of prehistoric and historic lifeways of the Central Piedmont of North Carolina, within which the Carolina Commons property is located.

Prehistory of the Central Piedmont

Archaeologists refer to the earliest period of human occupation in North America as the Paleo-Indian period, which corresponds with the terminal Pleistocene (11,500 to 10,000 years before present). Based primarily on excavations in the western United States, Paleo-Indians are often facilely described as mobile big game hunters, who made their way across the continent pursuing mammoths and mastodons. While Paleo-Indian artifacts have been found in association with extinct megafauna in the Southeast (Anderson et al. 1996:3–4), it is likely that Paleo-Indians living in this region subsisted on a wide variety of resources (Byers and Ugan 2005; Meltzer 1988).

The characterization of these early people as highly mobile, on the other hand, appears to be relatively well supported, at least for the period between 11,500 and 11,000 years ago. During this time, Paleo-Indians produced lanceolate shaped fluted projectile points named "Clovis." At least three such points have been recorded for Orange County (Daniel 1994:9). All three were made from stone that does not appear to have come from near-by quarries: one was made of a purple-red mottled jasperchalcedony, possibly from a source in Stokes County; another was made of siliceous green metasiltstone, similar to raw material available 115 km away on the Yadkin River; and the third was produced from dark gray slate, probably obtained from a quarry in the Uwharrie Mountains. If it is assumed that early Paleo-Indians had not yet formed extensive economic and kinship networks, then the presence of "exotic" raw material in Orange County could be considered evidence for small band mobility.

The end of the Paleo-Indian period is characterized by increasing regional diversity in projectile point types. In the Central Piedmont, the Hardaway Site has yielded extensive information concerning the period between 10,500 and 10,000 years ago. Projectile points from this site, identified as the Hardaway-Dalton complex, show similarities to both the fluted Clovis points and later tool varieties. This situation has led some archaeologists to attribute it to the subsequent Early Archaic Period (Daniel 1994:10; Ward and Davis 1999:42–45). The Archaic Period in the Piedmont (10,000 to 3,000 years ago), broadly conceived, was a time when people traveled less than Paleo-Indians, but still lived as mobile foragers in small groups. This was clearly a very successful lifestyle, given the length of time it was practiced. Unfortunately, the Archaic is often defined in terms of what people living during this time did not do – produce pottery or practice agriculture. However, social and economic changes did take place during the Archaic, which is classified into three major divisions: the Early Archaic (10,000 to 8,000 years ago), the Middle Archaic (8,000 to 5,000 years ago), and the Late Archaic (5,000 to 3,000 years ago). An examination of projectile point frequencies suggests that population density increased throughout North Carolina during the Archaic Period as a whole (McReynolds 2005:19). In addition, the Archaic Piedmont appears to have been more densely occupied than either the mountains or coastal plain.

Early Archaic projectile points have triangular blades and corner-notched bases, reflecting changes in the ways these spear points were attached to wooden shafts in comparison to Paleo-Indian fluted points. The names "Kirk" and "Palmer" are used to identify Early Archaic points. The Early Archaic tool kit also consisted of other types of stone tools including end scrapers, adzes, gravers, drills, and perforators, which indicates that Early Archaic people were working wood, hide, and animal bone (Ward and Davis 1999:53–55). Other aspects of daily life during this time are debated by archaeologists, who have proposed a variety of models to characterize how Early Archaic people spent their time. In a scenario identified as the "bandmacroband model," Anderson (1996:39) proposes that groups of 50–150 people lived within a single drainage basin, but met with other such groups on a seasonal basis for "information exchange, notably for mating network maintenance." It has also been argued, however, that people may have regularly traveled across drainages, mainly to acquire high quality lithic material (Daniel 1994:10).

Researchers have divided the Middle Archaic period into three phases based on changes in projectile point morphology. During the Stanly phase, Archaic people produced "Christmas tree" shaped projectile points (Coe 1964:35). In the subsequent Morrow Mountain phase, they produced similar points, but with stems that became narrow at the bottom. The Guilford phase is classified as the terminal part of the Middle Archaic. Guilford points are spike-like, with narrow shoulders and little differentiation between the blade of the point and its stem (Daniel 1994:12). A second type of projectile point, the Halifax Side Notched, is similar in shape to Guilford points, but is typically shorter and has very shallow side notches. Points identified as Halifax are usually made of vein quartz, a circumstance that led Coe (1964:54–55) to interpret their presence in the Central Piedmont as evidence for the southward migration of people from southeast Virginia. Similarities in form between Guilford and Halifax points, on the other hand, can be considered evidence for cultural continuity (Ward and Davis 1999:61).

New technologies were also developed during the Middle Archaic period. Spear thrower, or atlatl, weights have been found in association with Stanly phase projectile points, and roughly made chipped-stone axes with lateral hafting notches have been found with Guilford spear points (Coe 1964:52–52, 113; Ward and Davis 1999:63). The use of flakes of stone as "expedient" tools was also practiced during this time.

Middle Archaic economies are thought to have been structured in part by decisions people made with regard to patchy, relatively unpredictable environmental conditions caused by a period of warmer, drier weather that began around 8,000 years ago (Ward and Davis 1999:63). Elsewhere in the Southeast, evidence suggests the Middle Archaic people were collecting plants such as bottle gourd, sunflower, and the starchy seeds sumpweed and chenopod (Gremillion 1996:108–111), while at the same time increasing their reliance on white-tailed deer and aquatic resources (Styles and Klippel 1996:133). In certain parts of the Southeast, such as the Savannah River Valley and the Central Tennessee-Upper Tombigbee Valleys, it appears that Middle Archaic groups were participating in regional exchange networks (Jefferies 1996). The degree to which Central Piedmont people may have practiced similar subsistence and social strategies during the Middle Archaic remains a matter of research.

The Late Archaic Period (5,000 to 3,000 years ago) coincides with the establishment of modern climatic conditions in the Southeast. During this time, people in the Piedmont began to live in more permanent settlements, evidenced by thick organic deposits from garbage disposal and small, circular pit hearths lined with stones (Ward and Davis 1999:66). Archaic people were intensifying their agricultural practices during this time, as well as beginning to experiment with the creation of durable containers for processing and storing food. In the Piedmont, the earliest such vessels were constructed out of steatite, or soapstone. Large, broad bladed Savannah River Stemmed projectile points were the standardized tool type of the Late Archaic.

The next major period of prehistory in the Eastern United States is called the Woodland Period. The Woodland Period in the Central Piedmont, which spanned the period between 3,000 and 400 years ago, has been described as a "continuum of cultural development" (Ward and

Davis 1999:79). With the exception of groups living in the southern Piedmont, Woodland societies of this region are characterized as being only marginally influenced by the ideas and practices of people living in neighboring areas. During the Early Woodland Period, evidence of pottery manufacture in the Piedmont comes in the form of sand-tempered Badin wares. The practice of tempering vessels with crushed quartz, beginning in this area between 2200 and 1950 years ago, has been attributed to the subsequent Yadkin phase. This cannot be described as a unified technological transition across the Piedmont region, however, as Badin-type ceramics are absent in some areas. It also appears that population densities were much lower at this time than they were during the previous Late Archaic Savannah River period, leading Ward and Davis to suggest that "the Piedmont was not a favorite place to live during the Early Woodland period" (1999:83).

Significant changes in projectile point technology took place during the Early Woodland Period, as people began to produce triangular stemless "Badin Crude Triangular" points (Coe 1964:45). Yadkin Large Triangular points, smaller and more angular than Badin points, are generally attributed to the Middle Woodland Period. This form of projectile point is typically associated with the adoption of bow and arrow technology (Blitz 1988). The production of quartz-tempered vessels by coiling and paddling became the dominant practice of pottery production during the Middle Woodland period, as population densities in the Piedmont increased coincident with the cultivation of starchy seeds. Other practices considered characteristic of northern Piedmont groups at this time include individual pit burials of both humans and dogs, group burials in ossuaries, and a reliance on fresh-water shellfish (Ward and Davis 1999:97). By 1200 years ago, people in the Piedmont were living in "scattered hamletlike settlements", but began, during the next few decades, to establish larger, more permanent villages (Ward and Davis 1999:99). This time of transition is referred to as the Late Woodland Uwharrie phase. Village life was supported by an increasing reliance on corn in conjunction with local crops, hunting, and fishing, as indicated by the presence of large storage pits at Uwharrie phase sites.

A divergence in sociopolitical organization took place in the Piedmont after A.D. 1000. In the north, post-Uwharrie communities formed nucleated settlements that appear to have been organized within the confines of specific river systems. Referred to collectively as the "Piedmont Village Tradition" (Ward and Davis 1999:101), examples of these groups of related villages include the Haw River phase in the central Piedmont, and the Dan River phase in the north-central Piedmont. In the south Piedmont, however, Woodland communities became engaged with a larger political entity termed the "South Appalachian Mississippian" tradition (Ward and Davis 1999:119). While the precise form of this engagement remains a matter of debate, models that posit an invasion of the Piedmont by southern groups have been replaced with notions of social, economic, and political interaction between regional centers (Ward and Davis 1999:125).

The most emblematic and archaeologically visible manifestation of participation in the Mississippian realm of ideas and social practices is the construction of earthen platform mounds, one of which was built at the southern Piedmont site of Town Creek (31Mg2-3). In the northern Central Piedmont, however, people were not compelled to produce similar works of civic architecture. They were living in small, dispersed households along the ridges and knolls bordering the narrow floodplains of secondary streams of the Eno, Haw and Flat Rivers. In this area, the time between A.D. 1000 and 1400 is referred to as the Haw River phase (Ward and Davis 1999:103–105). Although the people who lived in Haw River phase settlements were farmers who dug pits to hold their surplus maize, beans, squash, and sunflower stores, they also collected a variety of wild plants and animals including acorns, hickory nuts, deer, squirrel, and rabbit. During the first half of the Haw River phase, people continued to produce pottery that was very similar to that of the preceding Uwharrie phase. Between A.D. 1200 and 1400; however, the practice of net-impressing pottery became more common, as did vessels with more constricted and decorated necks (Ward and Davis 1993:408–409).

The relatively stable demographic history represented by the Uwharrie and Haw River phases ends with the beginning of the Hillsboro Phase. Sometime after 1400, the first of at least two population movements into the north Central Piedmont took place. This discontinuity is inferred from differences between Hillsboro and Haw River phase pottery, the former of which is almost 75 percent simple-stamped (Ward and Davis 1999:115). The people who produced these vessels lived in compact, nucleated villages with multiple palisades. After a few generations, however, they dispersed across the landscape and established small hamlets along valley margins. People living during the Hillsboro phase processed large amounts of food at once in "earth ovens," which archaeologists observe as large, shallow basins containing ash, charcoal, and fire-cracked rocks (Ward and Davis 2001:128).

The Hillsboro phase has been defined as ending around 1600. By this time, Europeans had entered the Southeast, if only intermittently, but effects of this interaction had not yet reached the people living in the north Central Piedmont. This changed during the next hundred years, when increasing numbers of European explorers and traders from Virginia and Charlestown passed through the area. Two phases have been identified in the Central Piedmont for the period between 1600 and 1680 based on excavations at the Mitchum and Jenrette sites, located on the Haw and Eno Rivers, respectively. The Mitchum phase is attributed to the Sissipahaw Indians and the Jenrette phase to the Shakori Indians (Ward and Davis 1999:235–237). While some aspects of daily life during the sixteenth century, like food preparation and pottery making, were similar to Hillsboro phase practices, the presence of European trade items at the Jenrette and Shakori sites are reminders of the transformations taking place in local economies during this time in response to the fur and slave trade.

Refugees arrived in the Central Piedmont during the late seventeenth century, as circumstances in Virginia, like elsewhere in the Southeast, became increasingly violent. One of the most well known of these groups is the Occaneechi, whose village in the Roanoke valley was attacked during Bacon's Rebellion in 1676. The Occaneechi established a stockaded village next to the Shakori/Jenrette community on the Eno River (Davis 2002:34). The remains of their village are the source of the Fredricks phase (1680–1710), characterized by the presence of check-stamped pottery and a wide array of European trade goods including knives, kettles, hoes, tobacco pipes, and guns. The number of burials at the Fredricks site, in comparison to the size of the village and duration of its occupation, suggests a very high mortality rate (Ward and Davis 1999:244).

The choices that faced the early eighteenth survivors of this dark time are almost unimaginable. Some moved to join coalescent communities, like the Catawba, that sought to remain politically autonomous from the European colonists, while others remained in the Central Piedmont, living largely unnoticed on the margins of growing European settlements. The archaeological remains of this latter group, who generally chose to adopt much of European material culture, are largely indistinguishable from those of the colonists who settled in the region that was to be named Orange County.

Chapel Hill, Orange Church, and the Airport

Academe, industry, and rural communities have all played an important role in shaping the history of southeastern Orange County. Beginning in the 1740s, settlers from the northern colonies obtained grants from Lord Granville to settle in Orange County. A veritable land rush took place between 1748 and 1752, when the number of tax paying residents of the county rose from 20 to 1113 (Kenzer 1987:6–7). The Orange County of 1752, however, was much larger than its current configuration, including present Chatham, Caswell, Person, and Alamance counties, as well as portions of what would become six other counties. Prior to the establishment of Chapel Hill in 1793, the only nucleated settlement in the region was the county seat, known as Orange in 1754 and renamed Hillsborough in 1766 (Lefler and Wager 1953:104–106). Kenzer (1987) argues that the fundamental unit for appropriately understanding the history of Orange County is the rural neighborhood. These communities developed from spatially and sometimes religiously and ethnically distinct settlements that were established in the mid to late eighteenth century. The greater Chapel Hill area is located at the intersection of three such communities: the New Hope, White Cross, and Patterson neighborhoods (Kenzer 1987:19). The New Hope community, originally called the Hawfields settlement, was established on the Haw River by Scotch-Irish Presbyterians who moved there from Pennsylvania between 1743 and 1745. These families, including the Blackwoods, Craigs, Freelands, and Kirlands, relocated their newly established community ten miles to the east when they learned that their land grants might be contestable, establishing a second settlement as their "New Hope" (Kenzer 1987:7–8). The White Cross neighborhood was a community of various settler families, the largest of which was the Lloyds. The Patterson neighborhood, named after the first mill-owner on lower New Hope Creek, consisted of families such as the Barbees who had migrated to Orange County from Virginia (Kenzer 1987:8–9).

These neighborhoods did not develop into villages or towns, retaining their rural, self-subsistent character. Despite their geographic and social autonomy, these communities were not completely isolated, and cooperated to further their perceived self-interests. Two such occasions during the late eighteenth century were the Regulator movement and the establishment of the University of North Carolina at Chapel Hill. The Regulator movement of the 1760s began as a protest against corruption in the local administration of colonial government, intensified with the establishment of a poll tax, and culminated in an armed conflict between 2,000 Regulators and a militia led by Governor Tryon at Alamance Creek in 1771 (Blackwelder 1961:45–48). Although the Regulators were defeated, most were later pardoned. After the Revolutionary War, more benevolent interactions between state government, county government, and local families resulted in the establishment of the University of North Carolina and the village of Chapel Hill in

1793. In addition to donating land, local residents contributed a total of $6,723.00 in subscriptions to the University fund (Robinson 1953:78).

Subsistence farming was the primary occupation of most Orange County residents in the eighteenth and nineteenth centuries, although a service industry of tanners, weavers, coopers, and wagon makers also existed. At the end of the eighteenth century, farms between 100 and 500 acres in size accounted for 75% of the land holdings in Orange County, while 5% of property owners held more than 1,000 acres (Blackwelder 1953:16). This trend only intensified through time, with the 1860 census showing that only 1% of landholdings in Orange County were over 1,000 acres in size. The number of slaves held by Orange County families was in part related to these landholding patterns. In 1755, 8% of families owned slaves, but this number increased to 48% by 1860, when approximately 33 percent of the population of Orange County consisted of slaves (Blackwelder 1961:9–10). At that time, 7% of slaveholders owned 20 or more slaves. The largest slaveholders in the county, including the Patterson, Whitted, and Cameron families, lived in the Patterson neighborhood in southeastern Orange County, where relatively fertile soils increased the profitability of plantation-style agriculture.

Political sentiment in Orange County was initially against secession, but this changed after the fall of Fort Sumter and Lincoln's call for troops (Hamilton 1953:107). After the Civil War, the larger planters of southeastern Orange County could not afford to maintain their farms without slave labor, and sold off the land they took out of production. This resulted in an increase in the number of farms in Orange County, but a decrease in their size (Powell 1989:417). These farms differed from those of the previous century because many were worked by tenant farmers, who either paid rent for a fixed price or as a proportion of the crop they produced. At the start of the twentieth century, the standing of living for small farmers, tenant and small land-holder alike, was relatively low.

Orange United Methodist Church, while omitted from Kenzer's (1987) investigation of Orange County neighborhoods, nevertheless played an important role for the community that developed in the rural area just north of Chapel Hill during the nineteenth century. The Church's significance can be inferred from the fact that prior to the construction of the airport, Highway 86 was called Orange Church Road. The relatively self-contained nature of antebellum Orange County neighborhoods tended to affect the composition of churches, such that one surname might make up a significant portion of a church's membership (Kenzer 1987:12). Orange United Methodist is no exception; in 1841, 31 of 99 individuals on the membership list had the surname "Gattis" (Blanchard 1992:8-9). While influenced by settlement patterns, churches in turn shaped communities by exerting disciplinary power that preserved bonds between families. This was particularly important because young people tended to find spouses from nearby neighbors, and the agrarian character of the economy encouraged the establishment of new households in close proximity to both sets of parents (Kenzer 1987:14-15).

The origins of Orange United Methodist Church are somewhat obscured by the fact that most of the early church records were lost either during the construction of the new church building in 1924 or in a house fire of a church member in 1940 (Blanchard 1992:130). Oral tradition has it, however, that in 1832 a number of people interested in forming a Methodist congregation gathered under a grape vine located in the general area of the present church.

Before a church was built, members met in the Davis School House. According to church member Margaret Burch Link, her great-aunt Alice Malette Gattis Craig (1859-1944) had been told that earlier church meetings were held in private homes (Blanchard 1992:6-7). Between 1836 and 1838, a one-room frame church was built to house the congregation on 4 acres of land donated by Alexander Gattis, Sr. and Thomas King. Charles Maddry granted access to a nearby spring. Identified by its sister Carrboro church as "the mother church of Methodism in this immediate vicinity," Orange United Methodist nevertheless lost its charismatic minister, Charles F. Deems, to the newly formed Chapel Hill congregation in 1940, and subsequently went without a full time minister for several years (Blanchard 1992:7-9). The first member of Orange Church to become a minister was Alexander Gattis, Jr., who is buried in the church cemetery. Besides the Gattis family, other frequent names on early church roles include Hogan, King, Potts, Davis, and Long.

Highway 86 went from being named Orange Church Road to Airport Road during the first half of the twentieth century. The Horace Williams Airport, owned by the University of North Carolina, has been a source of pride and controversy for the local community since its establishment in 1940. Among its conditions of possibility were Professor Henry Horace Williams' keen interest in real estate, as evidenced by the six folders of deeds he held at his death (Folders 76–81, Henry Horace Williams Papers, Southern Historical Collection), World War II, and the Works Progress Administration. In 1928, Mr. Charles L. Martindale constructed an airport on his property adjacent to present Estes Drive. Ten years later, the Martindale Airport consisted of two runways and a wooden hangar that held eight small craft (Williams 1961:1) (Figure 6). In 1940 the University's controller W. D. Carmichael, Jr. developed an interest in acquiring the Martindale Airport in partnership with the U. S. Civil Aeronautics Administration. Horace Williams agreed to donate 100 acres to the project before his death, and the University purchased Martindale's property and nearby holdings of the Lindsay, Sparrow, Dixon, Peace, and Crow families. On November 25, 1940, Carmichael requested $208,667 from the WPA for grading, drainage, runway construction, and a metal hangar to house twelve small aircraft. This request was approved on December 15, 1940 (Williams 1961:2). An access road to the airport from Highway 86 – then called Orange Church Road – was cleared by the Civil Conservation Corps and built by the North Carolina State Highway Commission.

Initially, Horace Williams Airport was self-sustaining thanks to a flight-training program that UNC operated in conjunction with North Carolina State University. In 1941 the old wooden hangar burned down, destroying all seven of the University's airplanes, and the training program was discontinued in 1943 (Williams 1961:3-4). While the program was still in operation, the U.S. Navy began a Naval Pre-Flight Pilot Training School at the airport, which trained 18,700 men during World War II, including future President Gerald Ford (Vickers 1985). From 1941 to 1945, cadets living on UNC's campus published a newspaper called the *Cloud Buster*, but according to Vickers (1985:143) "it was on the playing fields that the Pre-Flight School had its greatest immediate impact locally." The cadets played full schedules in football, baseball, and basketball.

Figure 6. Aerial photograph from 1937 showing Martindale Airport; note aircraft drawing by anonymous artist.

Beginning in the 1980s, UNC's proposals to close the airport due to safety and budgetary concerns have been met with resistance by private plane owners. Current plans for the development of Carolina North call for closing the airport and moving aircraft associated with the North Carolina Area Health Education Centers Program, operated by the UNC School of Medicine, to Raleigh-Durham International Airport.

Previous Archaeological Investigations

No previous archaeological investigations have been conducted within the Carolina North tract itself. Both the gas line that runs across the property and the former landfill operated by the

Town of Chapel Hill were constructed prior to the establishment of existing historical resource protection laws.

The closest archaeological site to the Carolina North duct corridor project area recorded in the North Carolina Site File is 31OR584, the remains of a late nineteenth through early twentieth century house and log outbuilding (Seibel 2006). It abuts the Carolina North property boundary and was recorded as part of an archaeological investigation of Orange County's Southern Human Services Campus, located immediately north of UNC's holdings. Due to low artifact density and thin soils, site 31OR584 was considered to have low potential for containing significant archaeological deposits and therefore not eligible for listing in the *National Register of Historic Places*.

Two previously recorded archaeological sites (31OR19 and 31OR524) are located within 0.8 km (approximately 1/2 mile) of the project area. Site 31OR19, located northeast of the Carolina North property, is the remains of an Early and Middle Archaic Period settlement recorded by UNC Research Laboratories of Archaeology archaeologist Stanley South in 1955. South collected one banded rhyolite biface fragment, one Middle Archaic Guilford projectile point made out of rhyolite, and one Early Archaic vein quartz projectile point. This site was revisited by Joseph M. Herbert in 1992 as part of a survey for widening a 1.9-mile section of Martin Luther King Road (historic Airport Road) in Chapel Hill (Herbert 1992). In addition to the recovery of 19 pieces of debitage and one point tip from 31OR19, one historic house site (31Or272) was also recorded. Due to ground disturbing activities associated with the construction of Martin Luther King Road, neither of these archaeological sites was observed to possess sufficient integrity to be considered eligible for listing in the *National Register of Historic Places*.

Site 31OR524 was recorded in 2000 by TRC Garrow Associates, Inc. during a survey of the Greene Tract, adjacent to the University Branch Southern Railroad (TRC Garrow 2000). This site, located north and slightly west of the Carolina North utility corridor project area, is the remains of the Potts House, inhabited from the mid-nineteenth century through the early twentieth century. Both 31OR524 and the nearby Byrd Farm House (31Or525), inhabited from the late nineteenth century through the mid-twentieth century, were considered potentially eligible for listing in the *National Register of Historic Places* given the presence of relatively intact structural remains. Although no roads run through this parcel today, a crossroads existed in the center of the Greene tract during the early twentieth century.

Prehistoric archaeological materials in the Greene Tract, primarily rhyolite flakes from stone tool production, were recovered from five locations (31Or522, 31Or523, 31Or527 – 31Or529). The landforms on which these materials were found include low terraces and hill slopes adjacent to first order drainages. One temporally diagnostic artifact, a Late Archaic Savannah River projectile point, was recovered from site 31Or522. Given the low density of prehistoric artifacts found on the Greene tract, these sites were considered unlikely to yield important information about the past, and therefore not eligible for listing in the *National Register of Historic Places*.

Three other systematic archaeological surveys have been conducted in the vicinity of the Carolina North property. Legacy Research Associates, Inc. investigated a proposed expansion of

Orange County's Eubanks Road Landfill (Joy 1999). One heavily disturbed archaeological site of Archaic origin was identified and evaluated as not eligible for listing in the *National Register*. Property for the Orange County Animal Shelter, also located on Eubanks Road, was surveyed by Environmental Services, Inc. resulting in the recovery of a single piece of rhyolite debitage (Russ 2007). Due to its low artifact density, this site (31OR609) was not considered eligible for listing in the *National Register*. The third survey was of the Carolina Commons property, located approximately one mile west of the subject project area within the township of Carrboro (Fitts 2007). Nine archaeological sites were identified in this 63-acre parcel, which is also owned by UNC. All of these sites are low-density lithic scatters, two of which – 31OR618 and 31OR616 – can be dated to the Middle Archaic and Middle Woodland periods, respectively. One of these sites was also the location of the early twentieth century Neville Homestead. Due to their limited artifact assemblages and therefore limited research potential, none of these archaeological sites were considered eligible for listing in the *National Register*.

Finally, a pedestrian survey of parts of Orange County, organized according to watersheds, resulted in the identification of 151 sites (Daniel 1994). This survey focused on the Little River and Back Creek drainage systems, as well as some areas along Cane Creek and within Duke Forest. The goal of this project was to generate a preliminary model for the prediction of site locations as part of the county's efforts to identify and assess its archaeological and historical resources. Using the results of the survey, Daniel (1994:95–98) defined three zones within which the types and density of archaeological sites present would be expected to differ. Zone I consists of river floodplain areas at least 100 meters wide, as well as terraces and ridges located immediately above floodplains. The density of large archaeological sites and historic industrial sites was expected to be highest in Zone I. Zone II consists of a 1 km buffer around the major drainages, excluding the areas contained in Zone I. Archaeological materials expected in Zone II include low-density ceramic and lithic scatters, historic structures, and cemeteries. Zone III, containing the remainder of the county, was expected to have the fewest archaeological materials. The density of significant archaeological sites in these zones is also expected to differ, with the greatest number occurring in Zone I, and the least in Zone III.

Chapter 3

METHODS AND TECHNIQUES

Site Prediction Criteria

Information from previous archaeological work in the project area can be used to suggest the types of archaeological sites to be expected in the Carolina North duct corridor project area, and their probable distribution across the landscape. According to Daniel's (1994) probability model, the Carolina North property would seem to fall into the Zone II category, primarily due to the prevalence of steep valley slopes within the parcel. Accordingly, it was considered likely that small lithic or ceramic scatters and historic structures would be present in the project area. In order to locate these sites, three areas in the parcel that were nearly level or had gentle slopes were selected for systematic shovel testing. This process was greatly facilitated though the use of a 2-meter contour map from a recent land survey of the property. These areas, which included one hilltop (Area 1), a southward sloping ridge from a hilltop to a toe slope north of Crow Branch (Area 2), and a toe slope south of Crow Branch (Area 3), comprised approximately 46.5 acres, roughly 61% of the area of potential effect as defined for this project.

Field Methods

The wooded character of the parcel necessitated the excavation of shovel tests to identify archaeological sites. Above ground historic materials, such as the Gattis-Burch cemetery, stone landscaping features, and a historic trash deposit and were recorded during the survey, but no prehistoric materials were observed on the ground surface, which is not surprising given the density of organic ground cover present throughout the parcel. Although systematic surface collection was not conducted, all portions of the area of potential effect were visually inspected during the process of traveling between the different intensive survey areas. All collected materials were recovered in shovel tests. It took a total of approximately 40 person days to complete the fieldwork portion of the survey.

Transects were established off a baseline in each survey area and shovel tests were excavated at 20-meter intervals along each transect, which were 20 meters apart. When artifacts were encountered, additional shovel tests were excavated at 10-meter intervals to determine the extent and character of the site. In two cases (31OR633 and 31OR634), the extent of the sites encountered warranted establishing a 10-meter grid. This was done across the southern portion of Survey Area 2 and the entirety of Survey Area 3. Nine planned shovel tests in Survey Area 2 could not be dug as they were located in close proximity to an intermittent drainage and contained extremely saturated soils. Excavated shovel tests were approximately 40 cm in diameter, and were dug until a yellowish red clayey "subsoil" was encountered, usually between 20 cm and 40 cm below ground surface in the uplands. A typical upland soil profile consisted of 20 cm of dark yellowish brown (10YR4/6) sandy loam on top of yellowish red (5YR5/8) sandy clay loam. All excavated soil was screened through ¼-inch wire mesh, and the stratigraphy of each shovel test was recorded (Appendix A).

All shovel tests were geographically referenced in ArcMap 9.2 (ESRI 2006). The extent of each excavation grid and transect was checked in ArcMap with reference to landscape features visible in a digital ortho-quarter quad (DOQQ) image of the area, as well as the 2-meter contour map. Archaeological sites were considered to be discrete loci of human activity evidenced by the presence of at least one artifact. Single artifacts were recorded as sites based on the low probability that a single shovel test would encounter a true “isolated find” – that is, an actual situation where only one artifact was deposited as the result of human activity. It seems more reasonable to conceive of these “single artifact” sites as having very low artifact densities. If at least 30 meters of negative shovel tests were excavated between artifact-bearing shovel tests in the same survey area, these finds were recorded as separate sites.

Archaeological investigation of the Gattis-Burch Cemetery was undertaken to determine the physical limits of the cemetery, identify the locations of individual graves, and construct an accurate map of the cemetery. To this end, above ground features of the cemetery were mapped with a total station. Eight north-south transects were placed where stone markers indicated probable graves and sampled using soil augers. Auger probes were made at 50 cm intervals along each transect, as well as to the east and west of the marked graves in order to verify the likely limits of the cemetery.

Laboratory Methods

All collected materials were brought to the Research Laboratories of Archaeology, Chapel Hill, where they were cleaned, cataloged, and curated. Contextual information that accompanies each artifact includes the RLA site number, survey area and grid location where the shovel test was excavated, the approximate depth below surface from which the artifact was recovered, and a description of the artifact.

The complete catalog of all materials collected during this survey is presented in Appendix B. Lithic debris was classified according to flake type, size, and portion represented (Whittaker 1994:14–17). Raw material types were identified with reference to a type collection of metavolcanic stone artifacts maintained in the RLA and descriptions of raw materials from quarries in Chatham, Orange, and Durham counties (Steponaitis et al. 2006). Stone tools were identified with reference to published descriptions (Daniel 1994; Ward and Davis 1999), as were historic artifacts (Noel Hume 1970; Jones and Sullivan 1989).

Chapter 4

RESULTS

A total of seven archaeological sites were identified in the Carolina North duct corridor project area [31OR629 (RLA-Or460) – 31OR635 (RLA-Or466)] (Figure 7). Five of these sites have prehistoric components [31OR630 (RLA-Or461) – 31OR634 (RLA-Or465)], and three sites [31OR629 (RLA-Or460) and 31OR634 (RLA-Or465) – 31OR635 (RLA-Or466)] have historic components. The following discussion presents the results of this project organized by survey area. Each site is described with reference to its setting, artifact assemblage, time of deposition, function, and eligibility for listing in the *National Register of Historic Places* based on the Criteria for Evaluation (36 CFR 60.4).

SURVEY AREA 1

Survey Area 1 is located in the northernmost portion of the Carolina North duct corridor project area on Georgeville series soils (Figure 8). Grass and yard plantings are present in the northern portion of the survey area, while the southern portion is covered in mixed hardwoods and pine. Two structures, a house built in 1963 and an associated shed, are located in the wooded portion of the lot. The central portion of Survey Area 1 is a hilltop that slopes off to the north and south. A total of 26 shovel tests were excavated in this approximately 4.5-acre area, none of which contained artifacts. Survey Area 1 does, however, contain the historic Gattis-Burch Cemetery 31OR629 (RLA-Or460), which was investigated by Dr. Steve Davis, Dr. Brett Riggs, and Mr. Archie C. Smith.

31OR629 (RLA-Or460)

Archaeological investigation of the Gattis-Burch Cemetery [31OR629 (RLA-Or460)] (Figure 9) sought to: (1) determine the physical limits of the cemetery; (2) identify the locations of individual graves; and (3) construct an accurate map of the cemetery. This was accomplished during two phases of fieldwork. During phase 1, above-ground features of the cemetery were mapped with a total station. These features consisted of *in situ* grave markers (i.e., headstones and footstones), dislodged and potentially dislodged stones thought to represent grave markers, and a modern line of stones surrounding the cemetery.

From conversations with the current residents of the adjacent house, it was learned that the cemetery had been substantially modified over the previous two decades, during which some stone markers were removed, several depressed grave pits were “topped off” with soil and stones, and the visible graves were delimited by a line of stones. Despite these disturbances, the cemetery is still relatively intact, though many graves are no longer as conspicuous as they apparently once were.

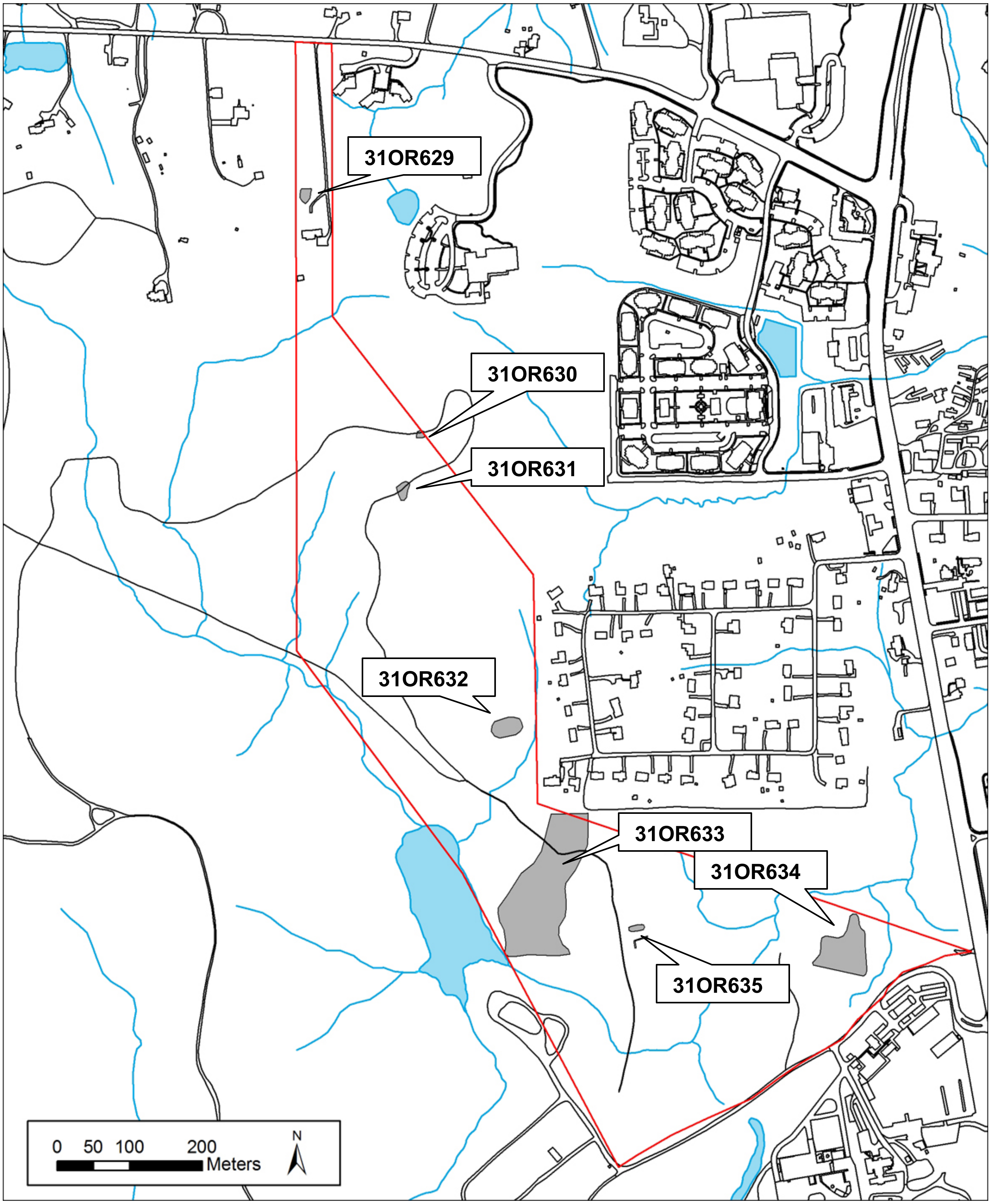

Figure 7. Archaeological sites identified in the Carolina North duct corridor project area.

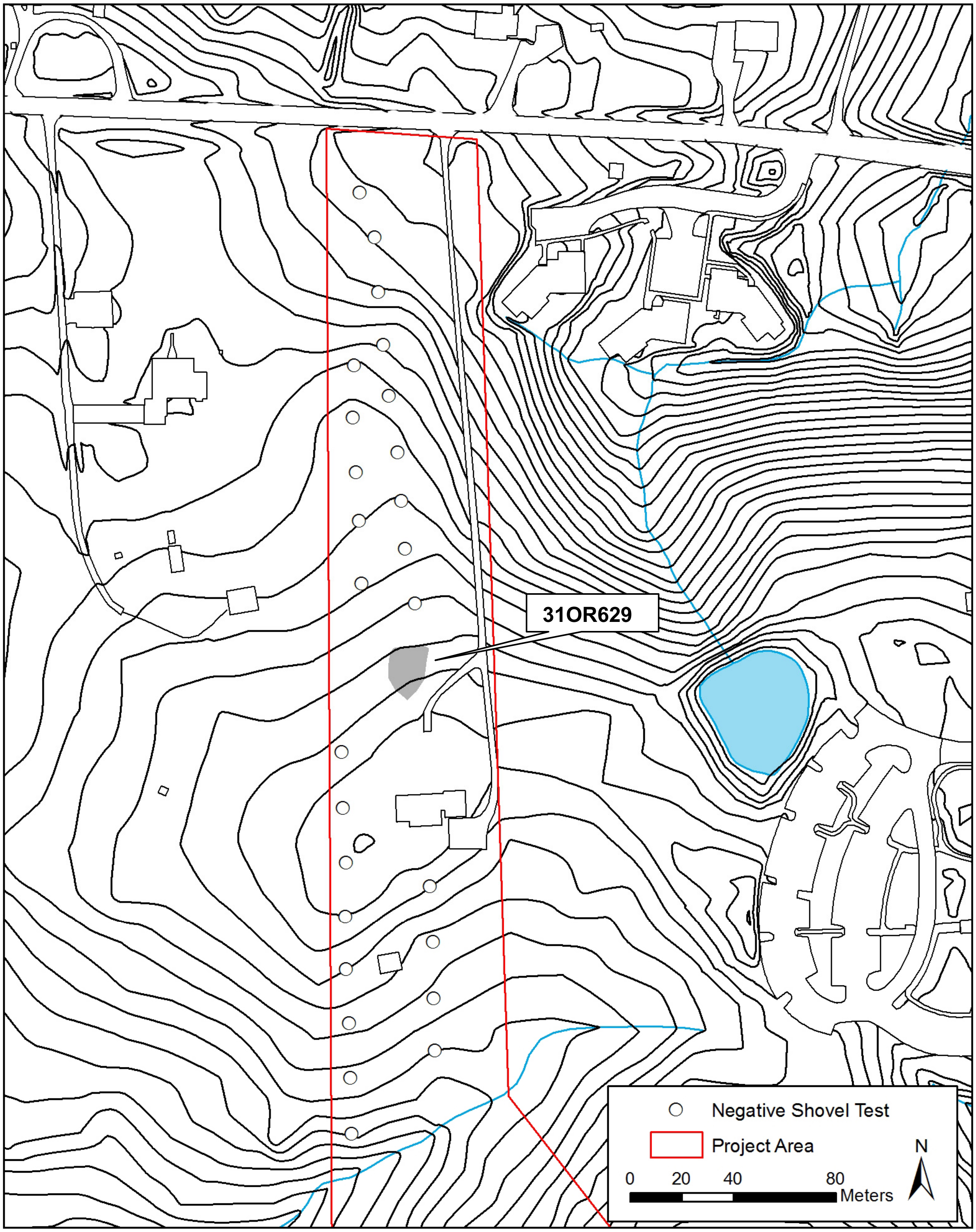

Figure 8. Survey Area 1 showing shovel test locations and the Gattis-Burch Cemetery (31OR629).

Figure 9. Archie C. Smith standing at the northern end of the Gattis-Burch Cemetery (31OR629).

Once a map had been constructed of the above-ground features, two distinct areas of interment were identified. In the west half of the cemetery, where James Gattis (1801-1851) is buried, two lines of graves are clearly visible. These contrast with the graves in the east half of the cemetery, which are clustered and less regularly placed. At the eastern edge is David Burch's (1820-1892) grave. James Gattis' headstone is a rectangular, tabular stone containing irregular lettering (Figure 10), while David Burch's headstone (Figure 11) is a rounded, tabular stone set into a rectangular stone base and with uniform lettering. All other headstones and footstones within the cemetery are irregular, unmarked stones of varying size and shape.

In order to verify the locations of graves indicated by the stone markers, a second phase of investigation was undertaken which involved sub-surface probing with soil augers in order to identify grave pits. Whereas the natural subsoil at the cemetery is stiff yellowish orange clay, grave pit fill has a more mottled color, is less compact, and is more friable when removed with a soil auger. These characteristics were clearly visible in fill samples taken from the uppermost 50-70 cm of fill, and often the auger encountered a hollow void, created by settling grave fill, at about this depth.

Eight transects running north to south, and placed where stone markers indicated probable graves, were sampled using soil augers. Auger probes were made at 50 cm intervals along each transect. Additional auger probes were placed both to the east and west of the marked graves in order to verify the likely limits of the cemetery.

Figure 10. Headstone of James Gattis, Gattis-Burch Cemetery [31OR629 (RLA-Or460)]. The inscription reads: “JAMES GATTIS / WAS.B.SEP.17:1801 / DIDE.MAY.3:1851.”

Figure 11. Headstone of David Burch, Gattis-Burch Cemetery [31OR629 (RLA-Or460)]. The inscription reads: “DAVID BURCH / BORN / Oct. 11, 1820; / DIED / Apr. 16, 1892.”

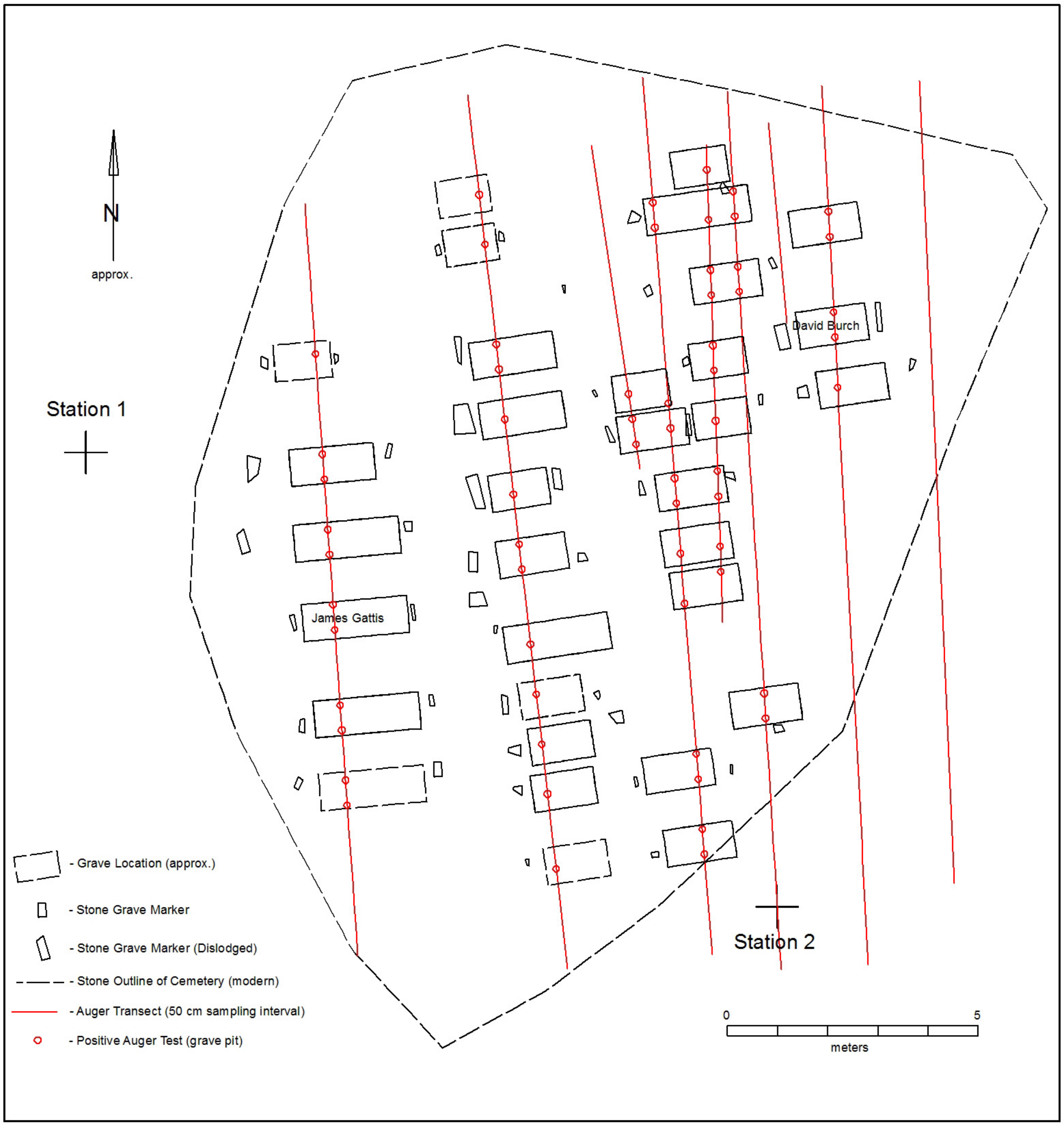

Figure 12. Map of the Gattis-Burch Cemetery [31OR629 (RLA-Or460)].

Sixty-one auger probes encountered grave fill and, based on their distribution and association with stone markers, indicate about 33 graves. While all of these graves are located within the modern outline of stones, the occurrence of stone rubble approximately coincident with this modern outline suggests that a low rock wall, probably rectangular in outline, may have once delimited the cemetery. Results of the mapping and auger testing are shown in Figure 12.

The land upon which the cemetery is located was part of the holdings of Alexander Gattis, Sr. (Figure 13). Local researchers Milton Forsyth and Margaret Jones (2009) have compiled genealogical information regarding Gattis, who was a veteran of the American

Revolution and both an elder of New Hope Presbyterian Church and one of the early members of Orange United Methodist Church (Murphy 2006, Blanchard 1992). The earliest marked grave at the Orange Church cemetery is dated 1859 and a one-room frame church was built between 1836 and 1838 on land donated by Alexander Gattis, Sr. and Thomas King (Blanchard 1992:7). The Gattis-Burch Cemetery – at least the western portion that contains the grave of James Gattis – seems to have been created and used by the family prior to the establishment of the church graveyard. Alexander Gattis, Sr. was married twice, and James Gattis was the only child of his first marriage to Rebecca Ann King. Three of Alexander Gattis' eight children from his second marriage to Rosanna are buried in the Orange United Methodist Church Cemetery. The name of one of these children, Jane Gattis Maddry (1813-1885), suggests that kinship alliances may have been influential in a transfer of a portion of Alexander Gattis' holdings to the Maddry family in 1839 (Orange County Deed Book 28 Page 333).

There is no similarly clear connection, based on existing archival research, between the Gattis and Burch families that might explain the existence of a joint cemetery. Many Burch family members were also members of Orange United Methodist, however, and twelve Burches are buried in the church cemetery. Oddly, David Burch died in 1892, after the church cemetery had been established. Forsyth and Jones speculate that David Burch's wives, Eleanor Mason Burch and Mary M. Long Burch, may also be buried in the Gattis-Burch Cemetery, along with James Gattis' wife Martha Mason Gattis.

The potential for architectural remains associated with the Gattis-Burch Cemetery was investigated, but if any exist, they are not located within the area of potential effect of the proposed project. During the early history of Orange United Methodist Church, community members probably met outdoors or in each other's houses (Blanchard 1992), so no church building is likely to have existed at or nearby the cemetery. There was a house on the property deeded by Alexander Gattis' son John to Josiah Madray in 1839. The entire property is described as

> adjoining the land of Jacob Potts, John Strain & others containing fifty-five acres more or less also a Waggon & a team of four horses with all the gear and waggoning equipage, also a year old colt, also four cattle, and three Calves together with fifteen head of sheep & twelve head of hogs all my household & kitchen furniture consisting of four beds & furniture, one clock one cupboard, one folding leaf table, together with evry other article of use and value in & about the house and kitchen, together with wheat bacon & other family provisions that may be on hand, with all the crop that may be gathered by the said Gattice either from his own land rented together with all his farming tools of evry description to have and to hold evry item of the forgoing property to him the said Josiah Madray his heirs & assigns, forever (Orange County Deed Book 22 Page 33, John Gattice to Josiah Madray)

In a sample of 16 late eighteenth and nineteenth century farmsteads in Kent County, Delaware, family cemeteries were located on low ridges or rises that fell within 400 to 1,000 feet from farmhouses (Bachman and Catts 1990). The cemeteries were typically located in the rearward 180º semi-circle with respect to the farmhouses and closest public roads or thoroughfares,

Figure 13. Eighteenth century land grants near Chapel Hill, NC (Markham 1973).

possibly a means of keeping the family dead out of the public way and in a more controllable space (Bachman and Catts 1990:87). Since the old Chapel Hill-Hillsboro Road ran to the west of the subject parcel, following this model the Gattis house would have been located on a ridge or hilltop to the west of the cemetery, outside of the Carolina North duct corridor project area.

The Gattis-Burch Cemetery [31OR629 (RLA-Or460)] does not meet any of the special criteria that may indicate a cemetery is potentially eligible for listing on the *National Register of Historic Places*. It is protected, however, under North Carolina statute G.S. 14-148. A 30-foot (10-meter) buffer between the edge of the cemetery and any ground disturbing activities is recommended, and such activities should by monitored by an archaeologist since additional, unidentified graves may be present. Any disinterment, if necessary, must be undertaken in accordance with North Carolina G.S. 65-106, which specifies required notifications, recording procedures, and personnel.

SURVEY AREA 2

Survey Area 2 is located on Georgeville and Herndon series soils in the central portion of the Carolina North duct corridor project area (Figure 14). It covers approximately 35.5 acres, most of which is covered in pine with mixed hardwoods in older stands and at higher elevations. This survey area is a ridge that runs generally north to south, such that the northern portion of the area is a hilltop and the southern portion is a toe slope adjacent to Crow Branch. Bedrock outcrops are present on each of these landforms. Survey Area 2 contains a dirt road and trail network, a utility corridor oriented southeast-northwest, and is bounded to the south by an impounded portion of Crow Branch and an overgrown modern landfill. Evidence of logging in the form of ruts from skidders is particularly evident in the southern portion of the survey area.

A total of 314 shovel tests were excavated in Survey Area 2, 49 of which contained prehistoric artifacts. The portion of the survey area located east of the modern landfill contains above ground features including a linear arrangement of stones and an early twentieth century trash deposit. Materials from the latter were photographed but not collected. As a result of these activities, five archaeological sites were identified. Three are low-density lithic scatters [31OR630 (RLA-Or461) – 31OR632 (RLA-Or463)], one is an Archaic Period settlement [31OR633 (RLA-Or464)], and one is an early nineteenth century home site [31OR635 (RLA-Or46)].

31OR630 (RLA-Or461)

The Northfield North site [31OR630 (RLA-Or461)] was identified by the recovery of a single 1-1/4-inch interior (tertiary) flake of an indeterminate metavolcanic material from shovel test 2-29-1. Shovel tests excavated at 10-meter intervals around this find did not yield additional artifacts. The geographic extent of site 31OR630 (RLA-Or461), which may represent a single episode of tool maintenance, is probably less than 100 square meters. Given its small size, lack of diagnostic artifacts, and very light artifact density, this site is unlikely to yield important information about the people or person who produced it. Therefore, site 31OR630 (RLA-Or461) does not appear to be eligible for listing in the *National Register of Historic Places*.

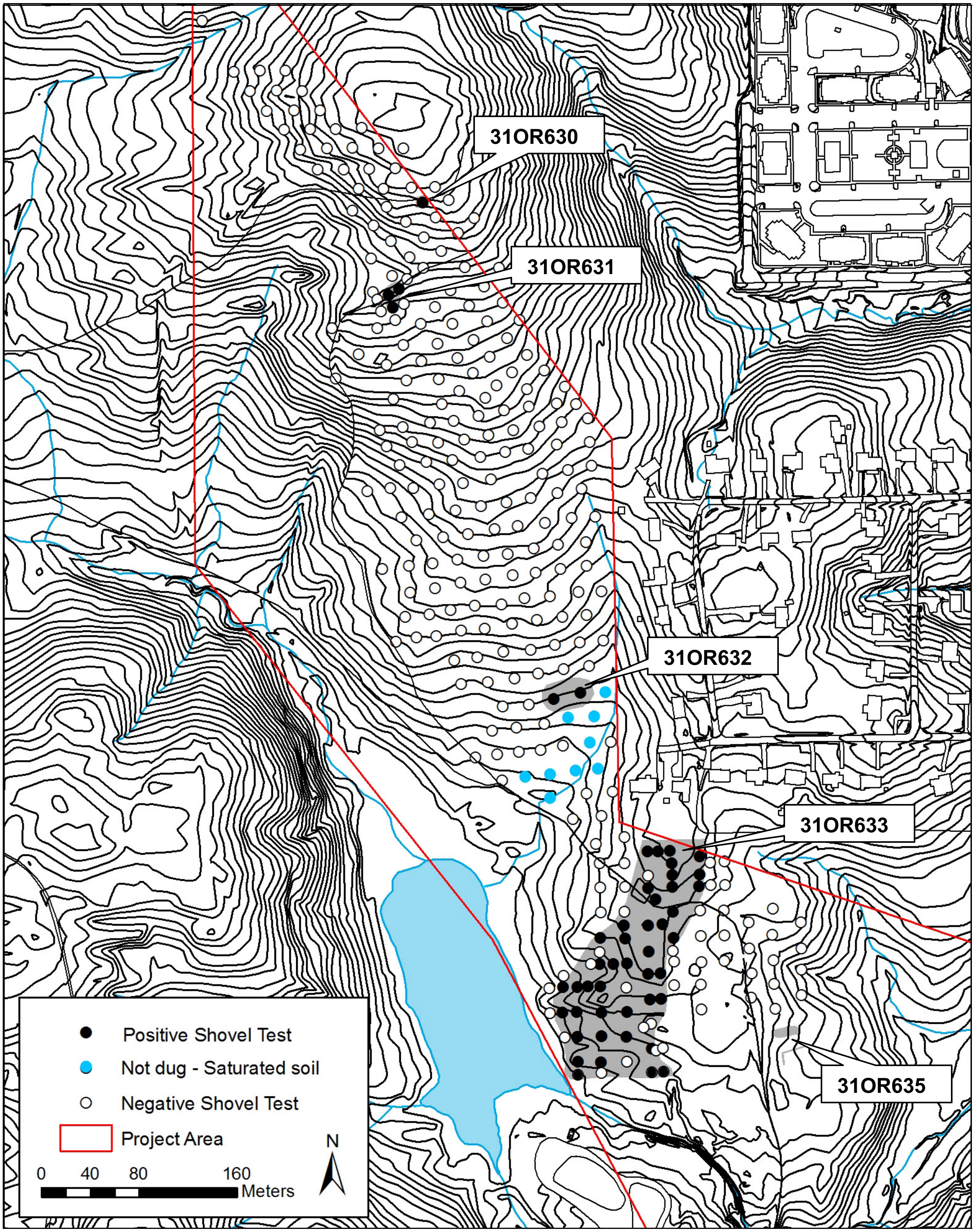

Figure 14. Survey Area 2.

31OR631 (RLA-Or462)

The Northfield South site [31OR631 (RLA-Or462)] was identified in three shovel tests, each of which contained a single lithic flake. The three flakes, which were recovered from between 0 and 20 cm below the ground surface, were created during the production of metasedimentary stone and crystal-lithic tuff tools. The spatial extent of site 31OR631 (RLA-Or462), which seems to be the remains of a temporary campsite, is approximately 300 square meters. As no temporally diagnostic artifacts were recovered from 31OR631 (RLA-Or462), it is not possible to assign this site to a specific time period. Site 31OR631 (RLA-Or462) is unlikely to yield important information about the past given its low artifact density and lack of diagnostic artifacts, and does not appear to be eligible for listing in the *National Register of Historic Places*.

31OR632 (RLA-Or463)

The Windsor West site [31OR632 (RLA-Or463)] was identified in two shovel tests. Shovel tests 2-7-2 and 2-7-3 each yielded a single 1/2" vein quartz flake from between 0 and 20 cm below the ground surface. Site 31OR632 (RLA-Or463) may be the remains of a temporary campsite covering approximately 900 square meters. As no temporally diagnostic artifacts were recovered from 31OR632 (RLA-Or463), it is not possible to assign this site to a specific time period. Site 31OR632 (RLA-Or463) is unlikely to yield important information about the past given its low artifact density and lack of diagnostic artifacts, and does not appear to be eligible for listing in the *National Register of Historic Places*.

31OR633 (RLA-Or464)

The Crow Branch North site [31OR633 (RLA-Or464)] is located on a toe slope adjacent to Crow Branch, which has been impounded to form a roughly 4.5-acre pond (Figure 15). The portion of the site in the project area covers approximately 14,000 square meters (3.5 acres) and yielded a sample of 281 artifacts from 43 shovel tests (Figure 16). The complete size of 31OR633 (RLA-Or464) could not be determined because it extends into private property to the north and the former landfill area to the south. Most of the site area now supports 30-40 year old pines, and evidence of previous timber harvesting activities, like elsewhere in the project area, is present in the form skidder ruts. Small outcrops of metavolcanic rock, probable granodiorite, are located in the central and southern portions of 31OR633 (RLA-Or464), but a lack of quarrying debris in the recovered artifact assemblage suggests this material was not of particular interest to people living in the area. As can be observed in Figure 16, artifacts are not uniformly distributed across the site. Rather, three shovel tests contained between 20 and 35 artifacts, and shovel tests both up-slope and down-slope from this cluster contained between 6 and 19 artifacts. Most positive shovel tests in the southern and northernmost portions of the site contained less than 5 artifacts.

The artifact assemblage from Crow Branch North consists primarily of lithic debitage from stone tool production and maintenance (Table 1). Ten percent of the debitage assemblage consists of flakes that exhibit cortex, indicating that some raw materials were transported to the site prior to the initial and secondary stages of flake removal. In most cases, however, people transported cores and tools to 31OR633 (RLA-Or464) that had been prepared elsewhere. No

Figure 15. The southwestern portion of site 31OR633 (RLA-Or464) facing north, showing Crow Branch Pond and a rock outcrop.

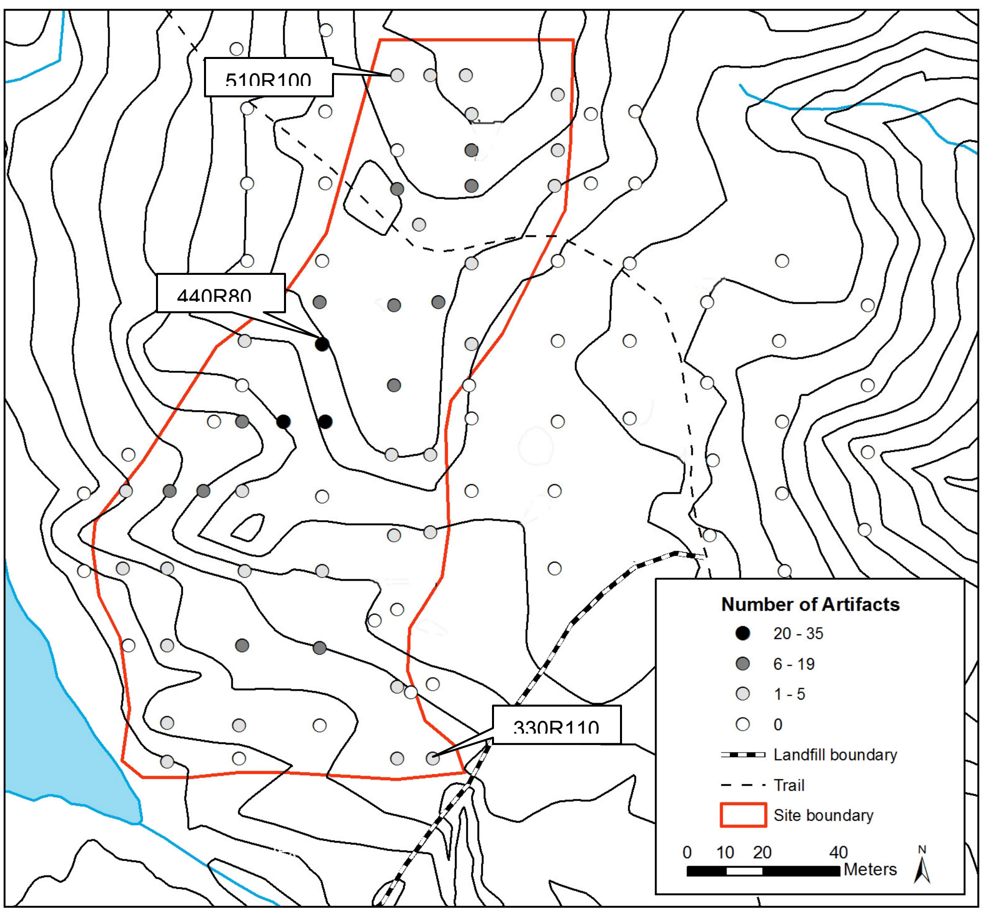

Figure 16. Map of site 31OR633 (RLA-Or464) showing artifact density.

Table 1. General Characteristics of the Lithic Sample from 31OR633 (RLA-464).

Debitage size	1/4”	1/2”	3/4”	1”	>1”	Total
Percent	34	34	19	7	7	100
(N)	94	94	52	19	20	279
Reduction stage	Tertiary +	Secondary	Primary	Shatter	Total	
Percent	85	8	2	5	100	
(N)	234	21	15	15	278	
Raw Material	Metavolcanic	Metasedimentary	Quartz	Total		
Percent	59	17	24	100		
(N)	166	47	68	281		

correlation between reduction stage and raw material is apparent in the assemblage, although a variety of raw materials were used by people living at the site. Varieties of metavolcanic rock make up 59% of the assemblage, with the remainder consisting of 17% metasedimentary rocks and 24% vein quartz and quartz crystal. While a range of metavolcanic rock types are present in the assemblage, most are consistent with descriptions of materials available from outcrops in Orange, Durham, and Chatham counties (Steponaitis et al. 2006). The most abundant (23%) rock collected from 31OR633 (RLA-Or464) is a rhyolite (dacite) porphyry similar to material available two and a half to three miles from the project area (Table 2). Rhyolite (dacite) tuff, which makes up 15% of the assemblage, may have been obtained from sources in Durham County, while crystal-lithic tuffs (12%) have been identified at the nearby Orange County quarry and in Chatham County. The closest known metasedimentary quarry sites are in Durham and Chatham Counties.

The formal tool assemblage from 31OR633 (RLA-Or464) consists of two temporally diagnostic bifaces (Figure 17), one end scraper (Figure 18a), and one bifacial core. One of the temporally diagnostic artifacts, the base of a Late Archaic (5,000 to 3,000 years before present) Savannah River projectile point made from rhyolite (dacite) tuff, was recovered from shovel test 400R40. The other is an Early Archaic (10,000 to 8,000 years before present) quartz crystal Palmer projectile point found in shovel test 450R100. The end scraper, recovered from shovel test 360R60, was made from a secondary 2” flake of rhyolite (dacite) porphyry, and the core is a 2.5” piece of crystal-lithic tuff collected from shovel test 450R100.

The artifacts recovered from Crow Branch North [31OR633 (RLA-Or464)] suggest that it may have been an Early Archaic campsite, and subsequently a Late Archaic settlement. The bulk of the assemblage, which consists primarily of locally available lithic material, coincides with existing knowledge about the Late Archaic period that suggests this was a time when people began to live in more permanent settlements and travel less widely than was common earlier in the Archaic Period (Ward and Davis 1999:64).

Table 2. Raw Material Types Present in the 31OR633 (RLA-Or464) Lithic Sample.

Rock Type	Percent	Count
Vein quartz	19	53
Quartz crystal	5	15
Rhyolite tuff	15	43
Rhyolite porphyry	23	66
Crystal-lithic tuff	12	34
Indeterminate metavolcanic	7	20
Vitric metavolcanic	1	3
Metasedimentary	15	43
Vitric metasedimentary	1	4
Total	100	281

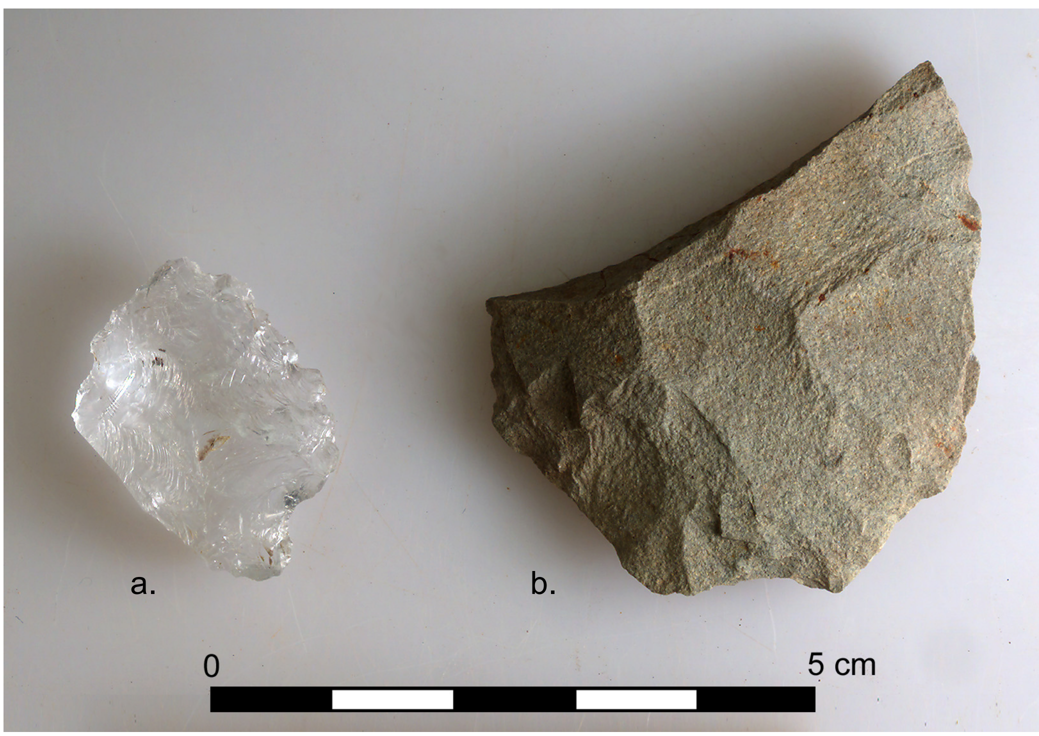

Figure 17. Quartz crystal Palmer projectile point (a) and the base of a Savannah River rhyolite tuff projectile point (b) from Crow Branch North [31OR633 (RLA-Or464)].

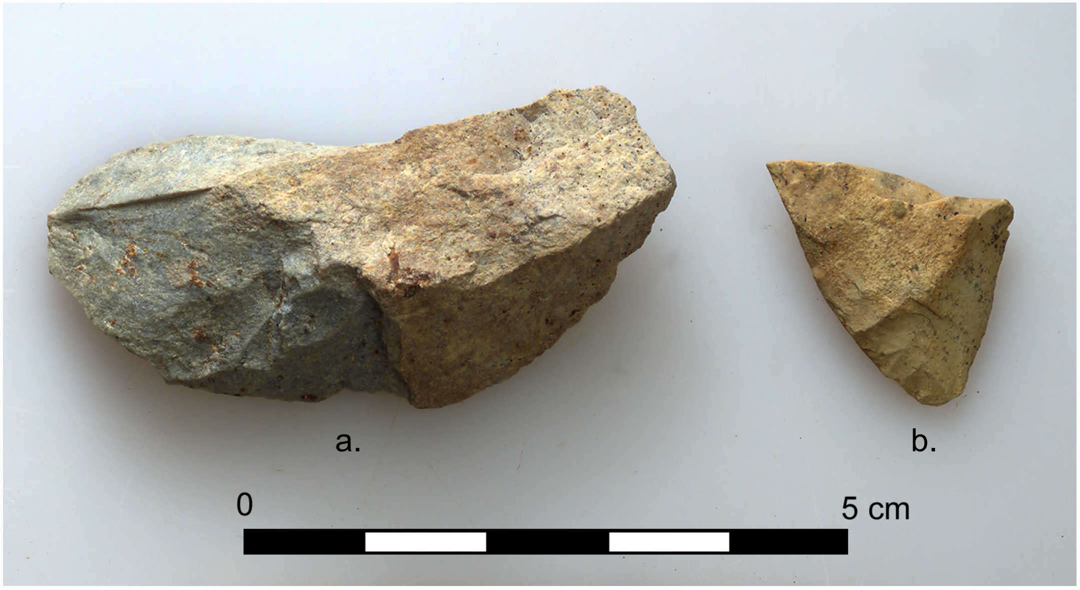

Figure 18. End scraper of rhyolite (dacite) porphyry (a) from Crow Branch North [31OR633 (RLA-Or464)] and metasedimentary flake tool (b) from Crow Branch South [31OR634 (RLA-Or465)].

Lithic materials are frequently the only evidence of settlements inhabited during the period of human history prior to the development of ceramic technology identified by archaeology surveys simply because they are the most durable. Under the right preservation conditions and with appropriate excavation techniques, other kinds of materials used and features produced by Archaic period people have been recovered, including plant and animal remains, burials, and hearths. The preservation of these other materials is dependent upon the existence of soils that have not been disturbed by plowing, erosion, or any other significant ground-disturbing activities. Many soils in the Carolina Piedmont have been plowed and eroded to the point that the archaeological sites present retain little of their integrity. While historic aerial photographs and skidder marks document that the Crow Branch North site area has been subject to clearing and likely plowing as well, the deepest soils present in the project area were encountered at this site (Figure 19). In most parts of the Carolina North duct corridor project area, subsoil clay was encountered less than 35 cm below ground surface. Within 31OR633 (RLA-Or464), however, several shovel tests exceeded 45 cm in depth, and in once case a shovel test approached 60 cm without reaching subsoil. If these deeper deposits are buried soils, it is possible that intact Late Archaic features such as small stone-lined hearths (Ward and Davis 1999:66) may be present in the 31OR633 (RLA-Or464) site area.

Intact deposits, if present at 31OR633 (RLA-Or464), would make it possible to address questions about the Late Archaic and possibly the Early Archaic periods in the Piedmont. It has been observed that although population density during the Late Archaic was relatively high in the Piedmont, many archaeological features produced by people during this period – including large shell middens, cooking hearths, sand floors, and human and dog burials – are typically encountered only on the South Atlantic coast and on the broad shoals of rivers (Ward and Davis 1999:64). Most knowledge about the Late Archaic is derived from excavations at such sites.

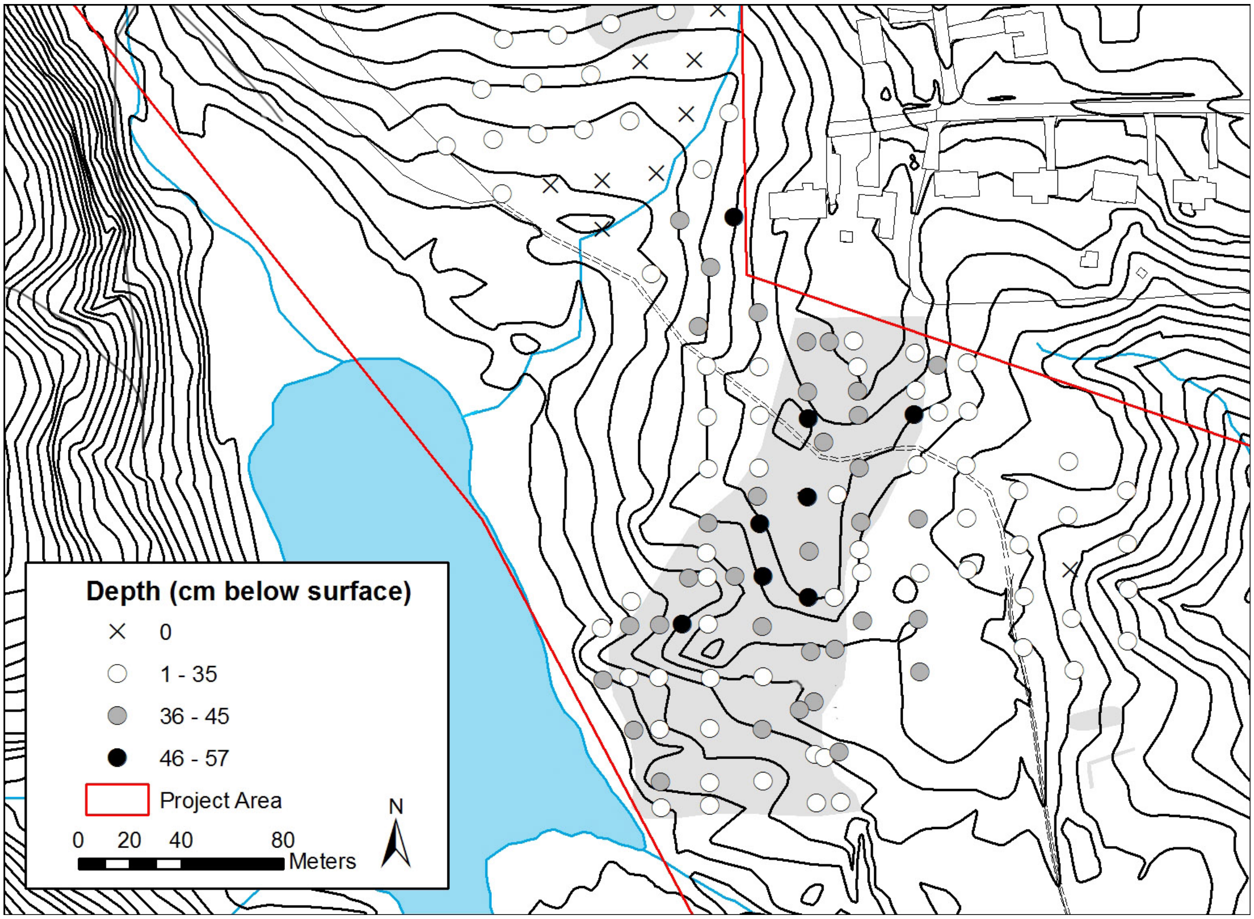

Figure 19. Depth of shovel tests excavated in the Crow Branch North site [31OR633 (RLA-Or464)].

Large shell middens, in particular, may be the remains of special meeting places where people congregated on a periodic basis. Other Late Archaic sites, such as Neuse Levee (31WA1137) in Wake County, have been described as construction workshops based on the recovery of Savannah River points of two distinctive morphologies, bihafted scrapers, and hafted perforators (Gunn and Stanyard 1999). Understanding the nature of Late Archaic site variability is important because this period of time corresponds to the intensification of floodplain agricultural practices in the Southeast that resulted in the domestication of sunflower (*Helianthus annuus*), sumpweed (*Iva annua*), and goosefoot (*Chenopodium sp.*). Upland Piedmont Archaic sites like Crow Branch North [31OR633 (RLA-Or464)] are frequently interpreted as resource extraction campsites. Yet this site clearly was not a quarry, nor was it well situated for acquiring riverine resources. The presence of intact deposits at 31OR633 (RLA-Or464) would indicate the potential for learning more about the nature of such seemingly marginal sites. The omission of North Carolina Archaic archaeology from regional syntheses about the Archaic Southeast (e.g., Kidder and Sassaman 2009) highlights the potential significance of intact Archaic deposits at Crow Branch North.

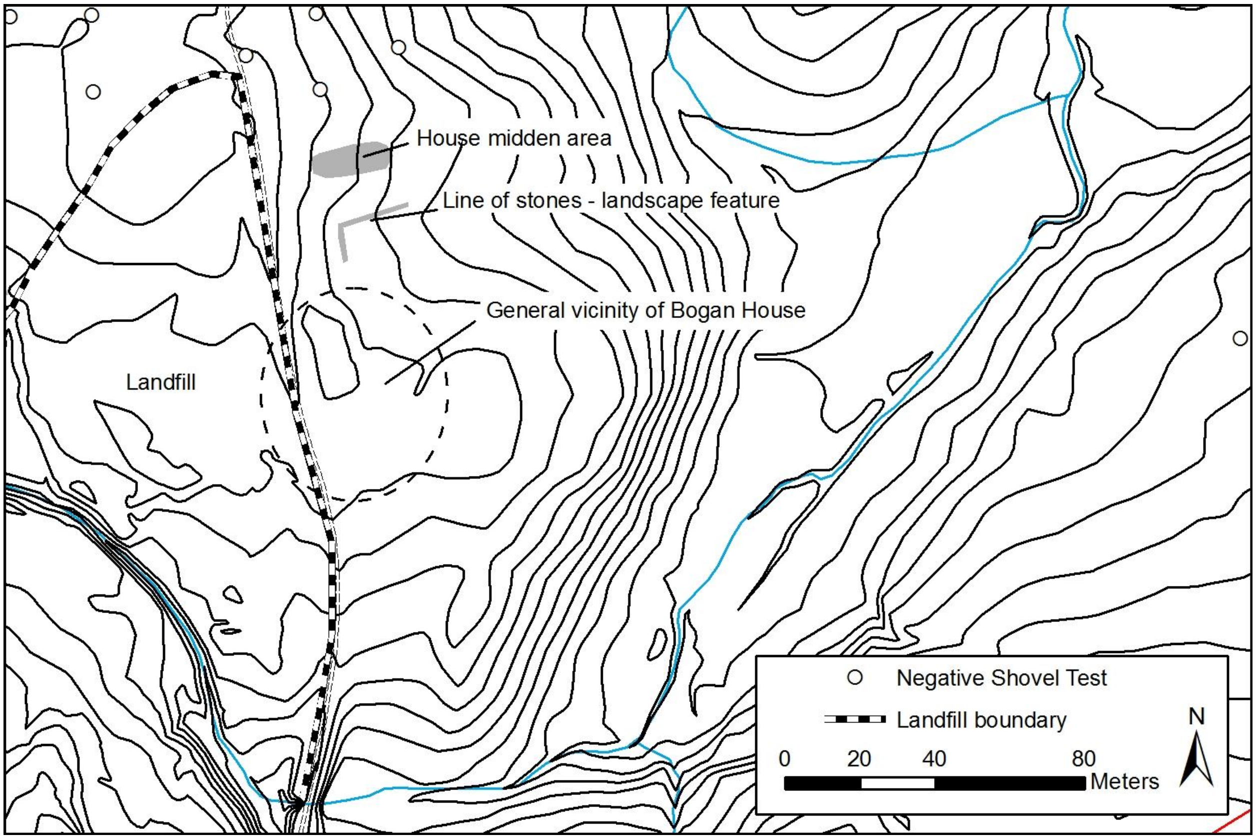

Figure 20. The Bogan-Crow homestead [31OR635 (RLA-Or466)].

Shovel testing, even at close intervals, is not always sufficient for assessing the integrity of Archaic period sites because it is difficult to examine stratigraphic relationships between components with this sampling method (Austin 2002). For this reason, additional work is recommended at 31OR633 (RLA-Or464). Excavation units not smaller than 1 meter by 1 meter should be used to test the areas that exhibited deeper soils to determine whether intact Archaic period surfaces, possibly buried by colluvium, are present.

31OR635 (RLA-Or466)

The Bogan-Crow homestead [31OR635 (RLA-Or466)] was identified through a combination of surface inspection and archival research. It is located on a toe slope adjacent to Crow Branch in the southern portion of Survey Area 2, across from the old landfill (Figure 20). Shovel testing was initially planned for this area, but surface inspection and preliminary shovel testing revealed it to be considerably disturbed by activities associated with the landfill and bedding of the unpaved road that bisects the landform. While no evidence of a structure itself is present in the area, surface inspection resulted in the identification of a line of stones that appear to be some kind of landscaping feature (Figure 21), and a midden, or garbage disposal area approximately 10 meters by 20 meters in size (Figure 22).

Figure 21. Landscaping feature associated with the Bogan-Crow Homestead (31OR635).

Figure 22. Midden area likely associated with the Bogan-Crow Homestead (31OR635).

Several lines of evidence allow for the identification of these features as being associated with a homestead, and the Bogan-Crow homestead in particular. A house is indicated in the vicinity of 31OR635 (RLA-Or464) on the 1918 soil map (Figure 23), and an aerial photograph of the airport taken the early 1940s shows a house on the landform that today contains the old landfill and site 31OR635 (RLA-Or464) (Figure 24). One of the last parcels of property near the airport to be acquired by UNC, this landform is part of a 40-acre parcel purchased by the University Athletic Association in 1942 (Williams 1961). It is described as

> Being the same land conveyed by Sarah Crow (with reservation of life estate) to Dora Crow Ford and Mamie Crow Bogan by deed dated November 4, 1935, and recorded in Book 104, page 15 of the Records of Deeds of Orange County, North Carolina.
>
> It is the intention of Sarah Crow to convey this deed all her right title and interest in the residue of the original tract conveyed to Aaron Crow and Sarah Crow, his wife, by James Webb, Jr., and brother by deed dated October 1, 1898, subject only to the deeds to parts of the said original tract previously conveyed by the said Sarah Crow and husband, or by the said Sarah Crow personally. (Orange County Deed Book 116 Page 306)

The 1898 transaction between Webb and Crow was not registered in the Orange County Deed Book, making it difficult to trace ownership of this parcel back through the nineteenth century. Regardless, no artifacts from the nineteenth century were observed the vicinity of 31OR635 (RLA-Or464), which was known as the Bogan House to local residents. Cotton was grown in the fields surrounding the house (Brenda Moore, per com. 2009).

Two above ground features possibly associated with the Bogan-Crow homestead were identified in Survey Area 2. A line of stones that appear to have been the edge of a planting bed run approximately 20 meters east-west and 10 meters north-south. Approximately 30 meters north of this feature is a midden that consists primarily of green glass bottles. Also observed but not collected were a hexagonal Astringosol bottle; mason jars; a Coca-Cola bottle embossed with "Durham, NC"; stoneware; a porcelain doorknob; a tea cup from the Onondaga Pottery Company in Syracuse, NY; three Shenago China mugs from New Castle, PA; a Paul Jones Whiskey bottle; scissors; gears possibly from a clock; and a battery rod. These artifacts seem to represent both materials discarded when the house was in use and materials discarded when it was being cleared out prior to its removal. The house is not mapped on the 1947 USGS Chapel Hill Quadrangle, suggesting it had been taken down shortly after the University acquired the property in 1942.

Wilson (1990:30) identifies several characteristics important for evaluating the significance of single-family farmsteads like the Bogan-Crow homestead 31OR635 (RLA-Or464), including the presence of county records, the length of occupation, and the possibility of superstructure demolition using manual labor. Cases where a substantial amount of archival and oral history documentation exists for a particular homestead that was occupied for a limited amount of time by a single family are more likely to yield important information than sites that lack these characteristics. However, the circumstances surrounding the end of occupation at a given homestead are particularly important for shaping the character of the archaeological

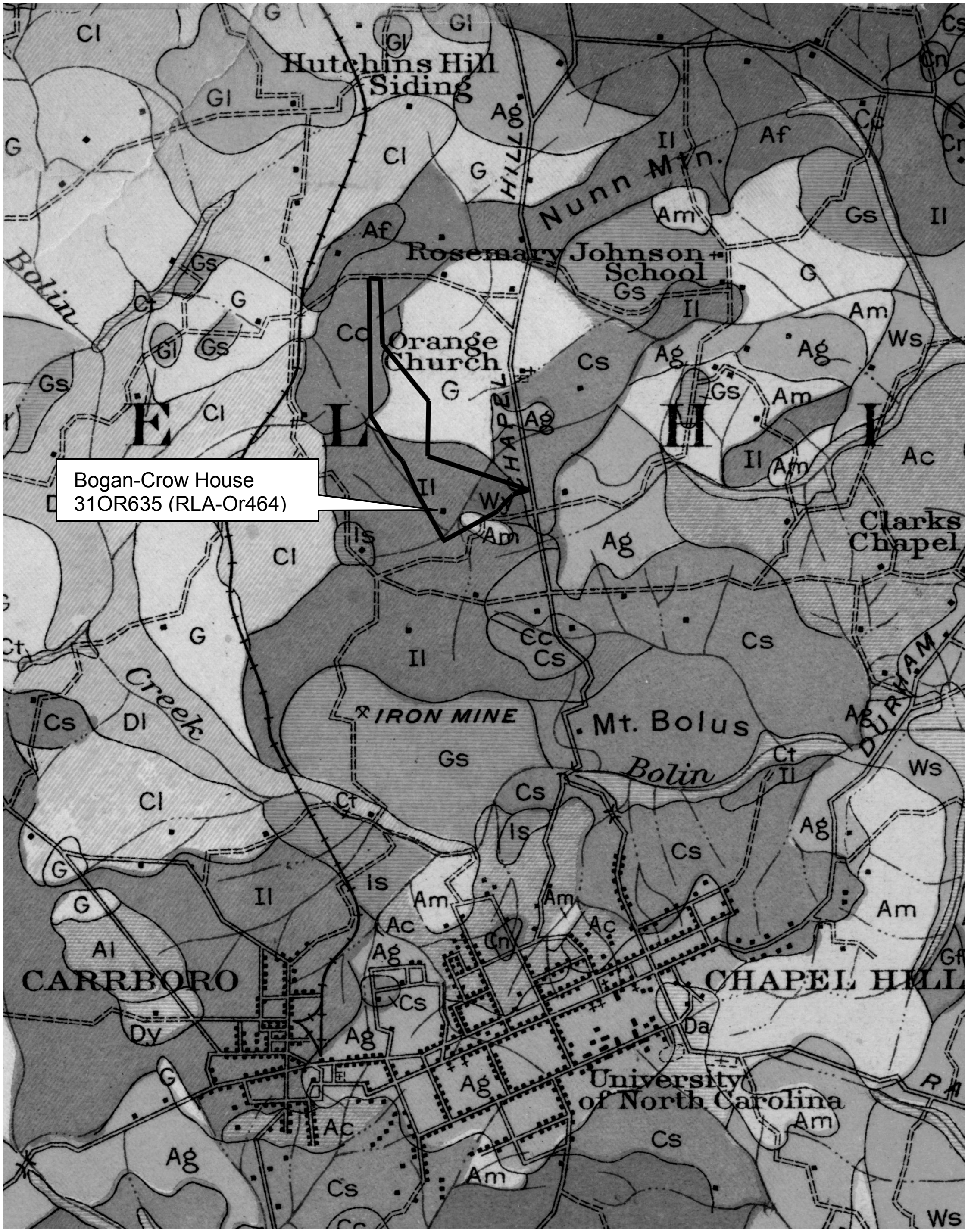

Figure 23. Soil map from 1918 showing a building located in the vicinity of the Bogan-Crow Homestead [31OR635 (RLA-Or464)].

Figure 24. Aerial image of the newly-graded Horace Williams Airport from the early 1940s, facing southwest and showing the Bogan-Crow Homestead [31OR635 (RLA-Or464)] (North Carolina Collection, Photographic Archives, Collection P4 No. 88-514).

deposit that remains. Catastrophic destruction of a homestead, although tragic for those living at the time, will result in an archaeological assemblage that is easier to interpret than a site where buildings are either intentionally destroyed or carefully salvaged.

The Bogan-Crow Homestead [31OR635 (RLA-Or464)] was inhabited from at least 1898 to 1942. This does not represent a temporally circumscribed occupation, and thus far little documentation regarding the farm has been identified. In addition, the Bogan House appears to have been subject to careful removal, leaving only a line of stones from a planting bed and a trash dump. Given these factors the Bogan-Crow Homestead [31OR635 (RLA-Or464)] is unlikely to yield significant information about American history and is not considered eligible for listing in the *National Register of Historic Places*.

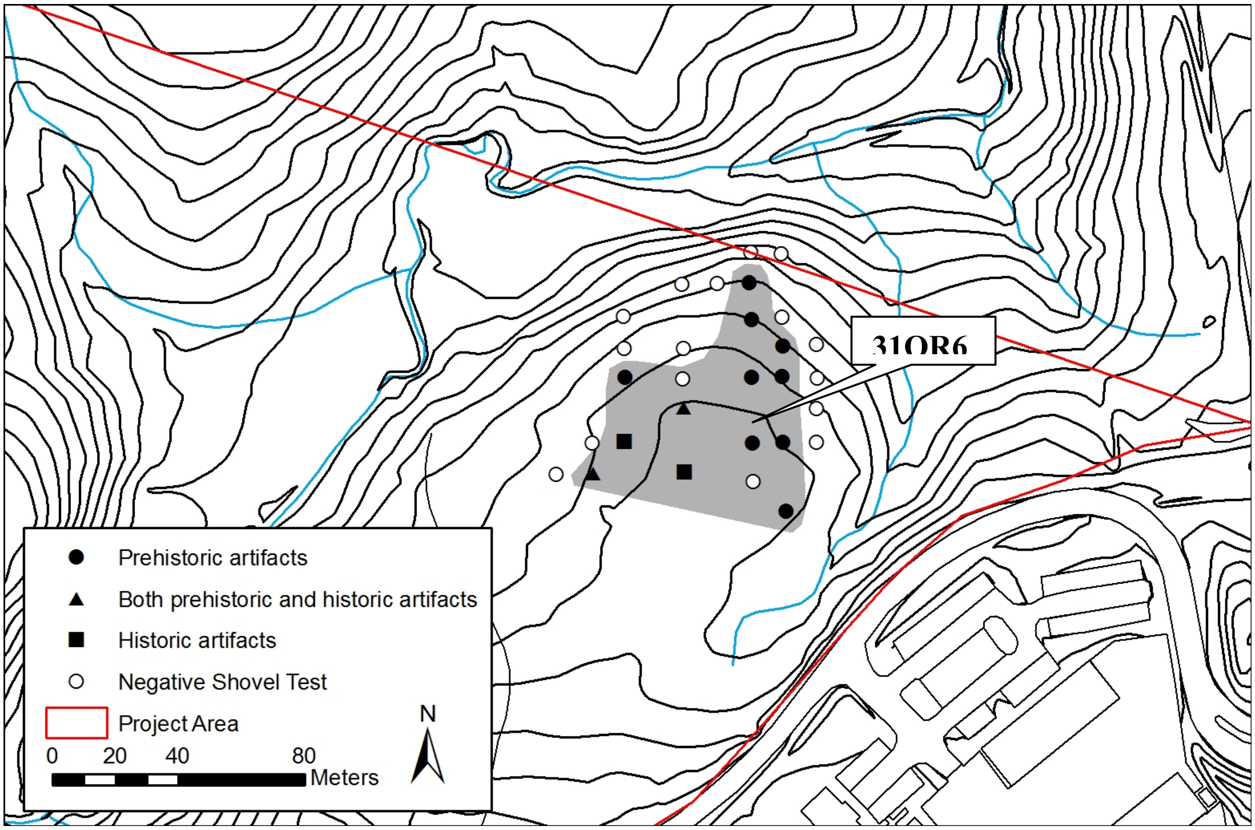

Figure 25. Survey Area 3, the location of Crow Branch South site [31OR634 (RLA-Or465)].

SURVEY AREA 3

Survey Area 3 is located on Enon series soils in the southernmost portion of the Carolina North duct corridor project area (Figure 25). It covers approximately 6.5 acres of a toe slope on the south side of Crow Branch. Pine and mixed hardwoods cover the eastern portion of the project area, while the western portion contains a dense thicket. The area examined during this survey was bounded by a small drainage that empties into Crow Branch to the east and south, Crow Branch to the north, a gas line to the east, and a line of water sampling wells to the west. These wells were installed to monitor the effects of a former chemical waste dump, located west of Survey Area 3, on groundwater quality.

31OR634 (RLA-Or465)

The Crow Branch South site [31OR634 (RLA-Or465)] was identified through the recovery of 23 prehistoric artifacts and 44 historic artifacts from 13 shovel tests over an area of approximately 3,650 square meters (just under one acre) (Figure 25). The prehistoric component of site consists of 22 pieces of lithic debitage and one 3/4" secondary flake tool of metasedimentary stone (Figure 18b). The majority of the assemblage (n=17) consists of interior flakes that are less than 1" in size. The stone types used by people at 31OR634 (RLA-Or465) are similar to those used across the creek at the Crow Branch North site [31OR633 (RLA-

Or464)]. Rhyolite (dacite) poryphry and metasedimentary stone each make up 35% of the assemblage, followed by rhyolite (dacite) tuff at 13%, and crystal-lithic tuff and vein quartz each at 8.5%. As no temporally diagnostic artifacts were recovered from the prehistoric component of 31OR634 (RLA-Or465), it is not possible to assign this component to a specific time period. Site 31OR631 (RLA-Or462) is unlikely to yield important information about the past given its low artifact density and lack of diagnostic artifacts, and does not appear to be eligible for listing in the *National Register of Historic Places*.

The historic component of site 31OR634 (RLA-Or465) is located in the western portion of the site and was identified both through the observation of above ground features, including a pile of bricks, a block of concrete, and a toilet, and 44 artifacts from four shovel tests. The artifact sample consists of 9 brick fragments, 1 piece of concrete, 19 pieces of colorless flat glass, 4 pieces of curved glass, 6 bottle caps, 1 bone fragment, and 6 smoothed quartz pebbles.

Aerial photographs show that this area was cleared in 1937 (Figure 6), but a building is not visible in the clearing and no documentary evidence of a structure in this area was located. In addition, UNC staff familiar with the project area had no recollection of a building being in this area. The historic component of 31OR634 (RLA-Or465) may be the remains of a small outbuilding associated with the airport, but may also be redeposited material. In either case, the historic component 31OR634 (RLA-Or465) lacks research potential and therefore does not appear to be eligible for listing in the *National Register of Historic Places*.

Chapter 5

RECOMMENDATIONS

Four prehistoric archaeological sites [31OR630 (RLA-Or461) to 31OR633 (RLA-Or464)], two historic sites [31OR629 (RLA-Or460) and 31OR635 (RLA-Or466)], and one site with both prehistoric and historic components [31OR634 (RLA-Or465)] were identified in the area of potential effect for the proposed Carolina North duct corridor and access road. Four of the prehistoric components [31OR630 (RLA-Or461) to 31OR632 (RLA-Or463) and 31OR614 (RLA-Or465)] are low-density lithic scatters that cannot be dated to any specific time period. Site 31OR633 (RLA-Or464) is the remains of a multi-component prehistoric campsite or settlement that yielded one partial Early Archaic (10,000 to 8,000 years ago) quartz crystal point and the base of one Late Archaic (5,000 to 3,000 years ago) dacite tuff Savannah River point along with 279 pieces of lithic debitage from stone tool production and maintenance.

Based on their limited archaeological research potential, four of the prehistoric sites [31OR630 (RLA-Or461) through 31OR632 (RLA-Or463) and the prehistoric component of 31OR634 (RLA-Or465)] are not considered eligible for listing in the *National Register of Historic Places*. The presence of deeper soils at site 31OR633 (RLA-Or464), along with diagnostic tools and a diverse debitage assemblage, suggest that this site may have the potential to yield important information about the lives of people living in the Carolina North property during the Early and Late Archaic periods. Given this potential, additional excavation will be necessary to assess the integrity of 31OR633 (RLA-Or464).

The three historic components identified in the area of potential effect are the Gattis-Burch Cemetery [31OR629 (RLA-Or460)], a trash dump and landscape features associated with the Bogan-Crow Homestead [31OR635 (RLA-Or466)], and materials from an outbuilding possibly associated with the airport expansion in the 1940s [31OR634 (RLA-Or465)]. The Gattis-Burch Cemetery [31OR629 (RLA-Or460)] is protected under North Carolina statute G.S. 14-148. A 30-foot (10-meter) buffer between the edge of the cemetery and any ground-disturbing activities is recommended, and such activities should by monitored by an archaeologist as additional, unidentified graves may be present. Any disinterment, if necessary, must be undertaken in accordance with North Carolina G.S. 65-106. Further work at sites 31OR635 (RLA-Or466) and 31OR634 (RLA-Or465) is unlikely to yield additional significant information about the past. Therefore, the historic component of site 31OR634 (RLA-Or465) and the Bogan-Crow site [31OR635 (RLA-Or466)] are not considered eligible for listing in the *National Register of Historic Places.*

In conclusion, additional archaeological excavation is recommended for assessing the integrity of the Crow Branch North site [31OR633 (RLA-Or464)], and an archaeologist should be present to monitor ground-disturbing activities near the Gattis-Burch Cemetery [31OR629 (RLA-Or460)].

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APPENDIX A

Carolina North Duct Corridor Archaeological Survey Field Notes

Survey Area 1

Day 1
12 Jan 2009, 12:30p -4:30p
partly sunny high 30s (˚F)
Mary Beth Fitts and Amanda Tickner

Day 2
26 Feb 2009, 12:00-5:00p
partly cloudy high 60s (˚F)
Mary Beth Fitts and Amanda Tickner

Transect 1, ST 1 (30 m east and 10 m north of Transect 2, ST 2)
Day 2
0-16 cm brown clay loam
16-19 cm red clay, large root at 20 cmbs
NCR

Transect 1, ST 2
Day 2
0-18 cm brown clay loam
18-24 cm red clay, large root at 24 cmbs
NCR

Transect 1, ST 3
Day 2
0-15 cm brown clay loam
15-25 cm red clay
NCR

Transect 1, ST 4
Day 2
0-15 cm brown clay loam
15-22 cm red clay
NCR

Transect 1, ST 5
Day 1
0-20 cm brown clay loam
20-33 cm yellowish red clay
NCR

Transect 1, ST 6 (18 m west of road)
Day 1
0-22 cm brown clay loam
20-29 cm yellowish red clay
NCR

Transect 1, ST 7
Day 1
0-20 cm brown clay loam
20-30 cm yellowish red clay
NCR

Transect 1, ST 8
Day 1
0-30 cm brown clay loam
30-36 cm yellowish red clay
NCR

Transect 1, ST 9
Day 1
0-20 cm brown clay loam
20-38 cm yellowish red clay (pretty fat clay, possibly workable)
NCR

Transect 1, ST 10
Day 1
0-18 cm brown clay loam
18-25 cm yellowish red clay
NCR

Transect 1, ST 11
Day 1
0-30 cm yellowish red clay
NCR

Transect 1, ST 12
Day 1
0-27 cm brown clay loam
27-30 cm yellowish red clay
NCR

Transect 1, ST 13 (27 m from driveway)
Day 1
0-26 cm brown clay loam
26-34 cm yellowish red clay
NCR

Transect 2, ST 1 (4 m south of property corner/tall pipe)
Day 2
0-15 cm brown clay loam
15-21 cm red clay
NCR

Transect 2, ST 2
Day 2
0-20 cm brown clay loam
20-25 cm red clay
NCR

Transect 2, ST 3
Day 2
0-17 cm brown clay loam
17-20 cm red clay
NCR

Transect 2, ST 4
Day 2
0-19 cm brown clay loam
19-27 cm red clay
NCR

Transect 2, ST 5
Day 2
0-16 cm brown clay loam
16-24 cm red clay
NCR

Transect 2, ST 6
Day 2
0-15 cm brown clay loam
15-28 cm red clay
NCR

Transect 2, ST 7
Day 2
0-13 cm brown clay loam
13-23 cm red clay
NCR

Transect 2, ST 8
Day 2
0-20 cm brown clay loam
20-30 cm red clay
NCR

Transect 2, ST 9 (20 m west, 10 m south of Transect 1, ST2)
Day 1
0-20 cm brown clay loam
20-25 cm yellowish red clay
NCR

Transect 2, ST 10
Day 2
0-23 cm brown clay loam
23-28 cm red clay
NCR

Transect 2, ST 11
Day 2
0-25 cm brown clay loam
25-30 cm red clay
NCR

Transect 2, ST 12
Day 2
0-19 cm reddish brown clay loam
19-30 cm red clay
NCR

Transect 2, ST 13
Day 2
0-14 cm dark reddish brown clay loam
14-30 cm red clay
NCR

Survey Area 2

Day 1
14 Jan 2009, 9:00a –3:00p
Partly sunny mid-high 30s (˚F)
Mary Beth Fitts, Erik Johanesson, Will Meyer, Meg Kassabaum

Day 2
15 Jan 2009, 9:00a-4:00p
Sunny low 40s-high 30s (˚F)
Mary Beth Fitts, Erik Johanneson, Amanda Tickner, Maggie Morgan-Smith

Day 3
1 February 2009, 8:30a-5:00p
Sunny, mid 60s (˚F)
Mary Beth Fitts, Claire Novotny, Erin Stevens, David Cranford

Day 4
6 February 2009, 9:00a-4:30p
Sunny, below freezing am, 50˚F pm
Mary Beth Fitts, Erik Johanesson, Amanda Tickner

Day 5
7 February 2009, 8:30a-4:30p
Sunny, mid 60s(˚F)
Mary Beth Fitts, Erik Johanesson, Erin Stevens, Claire Novotny

Day 6
12 February 2009, 8:30a-4:30p
Sunny, windy, mid 50s(˚F)
Mary Beth Fitts, David Cranford (am), Erik Johanesson (pm)

Day 7
20 February 2009, 9:30a-2:45p
Sunny, low-mid 40s(˚F)
Mary Beth Fitts, Erik Johanesson

Day 8
21 February 2009, 12:00p-4:30p
Sunny, 50˚F
Mary Beth Fitts, Amanda Tickner

Day 9
9 March 2009, 8:30a-4:00p
Sunny, about 80˚F, pleasant breeze
Mary Beth Fitts, Amanda Tickner (am), Meg Kassabaum, Karen Caffrey

Day 10
11 March 2009, 8:30a-4:30p
Part sun, mid 70s
Mary Beth Fitts, Amanda Tickner, Meg Kassabaum, Karen Caffrey, David Cranford, Malena Rousseau, Will Meyer, Erin Stevens

Day 11
28 March 2008, 8:30a-3:00p
overcast, 60s
Mary Beth Fitts, David Cranford

Transect 1, ST 1
Day 1
Mary Beth, Erik
0-13 cmbs brownish gray clay loam
13-33 cmbs light yellowish brown clay loam
33-40 cmbs yellowish brown loamy clay
NCR

Transect 1, ST 2 (very wet soil)
Day 1
Mary Beth, Erik
0-10 cmbs brownish gray clay loam
10-38 cmbs light yellowish brown clay loam
38-40 cmbs yellowish brown loamy clay
NCR

Transect 2, ST 1 (very wet soil)
Day 1
Mary Beth, Erik
0-19 cmbs brownish gray clay loam
19-34 cmbs light yellowish brown clay loam
34-38 cmbs yellowish brown loamy clay
NCR

Transect 2, ST 2 (very wet soil)
Day 1
Mary Beth, Erik
0-12 cmbs brownish gray clay loam
12-30 cmbs light yellowish brown clay loam
NCR

Transect 3, ST 1
Day 1
Meg, Will
0-13 cmbs dark brown clay loam
13-55 cmbs yellowish brown clayey loam with quartzite
NCR

Transect 3, ST 2
Day 1
Meg, Will
0-14 cmbs dark brown clay loam
14-37 cmbs yellowish brown clayey loam with noticeably less quartzite
NCR

Transect 3, ST 3
Day 1
Meg, Will
Waterlogged – not dug

Transect 4, ST 1
Day 1
Mary Beth, Erik
0-10 cmbs wet gray muck
NCR

Transect 4, ST 2
Day 1
Mary Beth, Erik
Soil determined too wet to dig

Transect 4, ST 3
Day 1
Mary Beth, Erik
Soil determined too wet to dig

Transect 4, ST 4
Day 1
Mary Beth, Erik
Soil determined too wet to dig

Transect 4, ST 5
Day 1
Mary Beth, Erik
0-2 cmbs dark brown humic loam
2-20 cmbs yellowish brown clay – wet, very wet
NCR

Transect 5, ST 1
Day 1
Meg, Will
0-5 cmbs dark brown clay loam
5-17 cmbs brownish gray clayey loam
17-31 cmbs light yellowish gray clayey loam with yellowish red mottles
NCR

Transect 5, ST 2
Day 1
Meg, Will
Waterlogged – not dug

Transect 5, ST 3
Day 1
Meg, Will
0-22 cmbs wet gray clay
NCR

Transect 5, ST 4
Day 1
Mary Beth, Erik
0-5 cmbs dark gray humic loam
5-15 cmbs brownish gray clay loam
15-25 cmbs light yellowish brown clay loam
NCR

Transect 5, ST 5
Day 1
Mary Beth, Erik
0-12 cmbs brownish gray clay loam
2-23 cmbs light yellowish brown clay loam mottled with yellowish brown clay
NCR

Transect 5, ST 6
Day 1
Mary Beth, Erik
0-7 cmbs dark brown humic loam
7-23 cmbs yellowish brown clay – wet, very wet
NCR

Transect 5, ST 7
Day 1
Mary Beth, Erik
0-5 cmbs dark brown humic loam
5-20 cmbs yellowish brown clay – wet, very wet
NCR

Transect 6, ST 1
Day 1
Mary Beth, Erik
Not dug: low and mucky

Transect 6, ST 2
Day 1
Mary Beth, Erik
Not dug: low and mucky

Transect 6, ST 3
Day 1
Mary Beth, Erik
0-4 cmbs grayish brown clay loam
4-18 cmbs yellowish gray clayey muck
NCR

Transect 6, ST 4
Day 1
Mary Beth, Erik
0-10 cmbs grayish brown clay loam
10-20 cmbs light yellowish brown wet clay
NCR

Transect 6, ST 5
Day 1
Mary Beth, Erik
0-10 cmbs grayish brown clay loam
10-20 cmbs light yellowish brown wet clay
NCR

Transect 7, ST 1
Day 1
Meg, Will
Waterlogged – not dug

Transect 7, ST 2
Day 1
Meg, Will
0-8 cmbs grayish brown clay loam
8-21 cmbs wet gray clay
1 quartz flake 0-20 cmbs

Transect 7, ST 3
Day 1
Mary Beth, Erik
0-13 cmbs grayish brown clay loam
13-23 cmbs light yellowish brown wet clay
23-27 cmbs yellowish brown clay
1 quartz flake 0-20 cmbs

Transect 7, ST 4
Day 1
Meg, Will
0-10 cmbs grayish brown clay loam
10-22 cmbs wet yellowish gray with lots of very small pebbles
22-31 cmbs yellowish brown clay (a little drier)
NCR

Transect 7, ST 5
Day 1
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-12 cmbs grayish brown clay loam
12-20 cmbs grayish yellow mucky wet clay
NCR

Transect 8, ST 1
Day 1
Mary Beth, Erik
Too wet to dig

Transect 8, ST 2
Day 1
Mary Beth, Erik
0-18 cmbs dark grayish brown humic clay loam
18-30 cmbs light yellowish brown clay loam with gravel
30-36 cmbs yellowish brown clay
NCR

Transect 8, ST 3
Day 2
Erik, Amanda
0-17 cmbs dark grayish brown humic clay loam
17-25 cmbs light yellowish brown clay loam
25 cmbs yellowish brown clay
NCR

Transect 8, ST 3
Day 2
Erik, Amanda
0-17 cmbs dark grayish brown humic clay loam
17-25 cmbs light yellowish brown clay loam
25 cmbs yellowish brown clay
NCR

Transect 8, ST 4
Day 2
Erik, Amanda
0-19 cmbs dark grayish brown humic clay loam
19-21 cmbs light yellowish brown clay loam, pebbly
21 cmbs yellowish brown clay
NCR

Transect 8, ST 5
Day 2
Erik, Amanda
0-23 cmbs dark grayish brown humic clay loam
23-30 cmbs light yellowish brown clay loam, pebbly
30 cmbs yellowish brown clay
NCR

Transect 8, ST 6
Day 2
Erik, Amanda
0-12 cmbs dark grayish brown humic clay loam
12-15 cmbs light yellowish brown clay loam, wet
NCR

Transect 9, ST 1
Day 2
Erik, Amanda
0-11 cmbs dark grayish brown humic clay loam
11-29 cmbs light yellowish brown clay, quartz pebbbles
29 cmbs yellowish brown clay
NCR

Transect 9, ST 2
Day 2
Erik, Amanda
0-15 cmbs dark grayish brown humic clay loam
15-30 cmbs light yellowish brown clay loam
30 cmbs yellowish brown clay
NCR

Transect 9, ST 3
Day 2
Erik, Amanda
0-10 cmbs dark grayish brown humic clay loam
10-25 cmbs light yellowish brown clay loam
25 cmbs yellowish brown clay
NCR

Transect 9, ST 4
Day 2
Erik, Amanda
0-16 cmbs dark grayish brown humic clay loam
16-26 cmbs light yellowish brown clay loam
26 cmbs yellowish brown clay
NCR

Transect 9, ST 5
Day 2
Erik, Amanda
0-5 cmbs dark grayish brown humic clay loam
5-10 cmbs light yellowish brown clay loam, wet with stones
NCR

Transect 9, ST 6
Day 2
Erik, Amanda
0-8 cmbs dark grayish brown humic clay loam
8-28 cmbs light yellowish brown clay loam, wet with quartz
NCR

Transect 9, ST 7
Day 2
Erik, Amanda
0-20 cmbs dark grayish brown humic clay loam
20-30 cmbs light yellowish brown clay loam, wet and lots of rocks
NCR

Transect 10, ST 1
Day 2
Mary Beth, Maggie
0-10 cmbs dark brown humic clay loam
10-17 cmbs yellowish brown clay loam
17-26 cmbs yellow clay
NCR

Transect 10, ST 2
Day 2
Mary Beth, Maggie
0-14 cmbs dark brown humic clay loam
14-30 cmbs yellowish brown clay loam
NCR

Transect 10, ST 3
Day 2
Mary Beth, Maggie
0-12 cmbs dark brown humic clay loam
12-22 cmbs yellowish brown clay loam
NCR

Transect 10, ST 4
Day 2
Mary Beth, Maggie
0-10 cmbs dark brown humic clay loam
10-20 cmbs yellowish brown clay loam
NCR

Transect 10, ST 5
Day 2
Mary Beth, Maggie
0-10 cmbs yellowish gray muck
NCR

Transect 10, ST 6
Day 2
Mary Beth, Maggie
0-12 cmbs dark brownish gray humic clay loam
10-21 cmbs yellowish brown clay loam, lots of gravel
21-27 cmbs yellowish brown clay with reddish brown mottles
NCR

Transect 10, ST 7
Day 2
Mary Beth, Maggie
0-16 cmbs dark grayish brown humic clay loam
10-20 cmbs light yellowish brown clay loam, lots of gravel
NCR

Transect 10, ST 8
Day 2
Mary Beth, Maggie
0-20 cmbs dark brown humic clay loam
20-30 cmbs yellowish brown clay loam
30-34 cmbs yellowish brown clay with reddish brown mottles
NCR

Transect 10, ST 9
Day 2
Erik, Amanda
0-14 cmbs dark grayish brown humic clay loam
14-30 cmbs light yellowish brown clay loam, pebbly glop with flecks of charcoal
NCR

Transect 11, ST 1
Day 2
Erik, Amanda
0-15 cmbs dark grayish brown humic clay loam
15-25 cmbs light yellowish brown clay loam, wet
NCR

Transect 11, ST 2
Day 2
Erik, Amanda
0-10 cmbs dark brown humic clay loam
10-35 cmbs yellowish brown clay loam, very wet
NCR

Transect 11, ST 3
Day 2
Erik, Amanda
0-12 cmbs dark grayish brown humic clay loam
12-22 cmbs light yellowish brown clay loam, wet
NCR

Transect 11, ST 4
Day 2
Erik, Amanda
0-13 cmbs dark grayish brown humic clay loam
13-28 cmbs light yellowish brown clay loam, wet
NCR

Transect 11, ST 5
Day 2
Erik, Amanda
0-12 cmbs dark brown humic clay loam
12-27 cmbs light yellowish brown clay loam
NCR

Transect 11, ST 6
Day 2
Erik, Amanda
0-11 cmbs dark grayish brown humic clay loam
11-30 cmbs yellowish brown clay loam, very wet with quartz
NCR

Transect 11, ST 7
Day 2
Erik, Amanda
0-10 cmbs dark grayish brown humic clay loam
10-30 cmbs light yellowish brown clay loam, with yellow clay mottles
NCR

Transect 11, ST 8
Day 3
Erin, David
0-24 cmbs dark grayish brown humic clay loam
24-29 cmbs light yellowish brown clay loam, with yellow clay mottles
NCR

Transect 11, ST 9
Day 3
Erin, David
0-15 cmbs dark grayish brown humic clay loam
15-17 cmbs light yellowish brown clay loam
NCR

Transect 12, ST 1
Day 2
Mary Beth, Maggie
0-10 cmbs dark grayish brown humic clay loam
10-23 cmbs yellowish brown clay loam, wet
NCR

Transect 12, ST 2
Day 2
Mary Beth, Maggie
0-10 cmbs dark grayish brown humic clay loam
10-28 cmbs yellowish brown clay loam, wet
NCR

Transect 12, ST 3
Day 2
Mary Beth, Maggie
0-13 cmbs dark grayish brown humic clay loam
13-27 cmbs yellowish brown clay loam muck, wet
NCR

Transect 12, ST 4
Day 2
Mary Beth, Maggie
0-12 cmbs dark brown humic clay loam
10-30 cmbs reddish brown clay loam
NCR

Transect 12, ST 5
Day 2
Mary Beth, Maggie
0-14 cmbs dark grayish brown humic clay loam
14-30 cmbs yellowish brown clay loam, wet
NCR

Transect 12, ST 6
Day 3
Mary Beth, Claire
0-12 cmbs dark grayish brown humic clay loam
12-20 cmbs yellowish brown clay loam, wet
NCR

Transect 12, ST 7
Day 3
Mary Beth, Claire
0-13 cmbs dark grayish brown humic clay loam & rocks
13-21 cmbs yellowish brown clay loam, wet
NCR

Transect 12, ST 8
Day 3
Erin, David
0-15 cmbs dark grayish brown humic clay loam
15-24 cmbs yellowish brown clay loam, wet
NCR

Transect 13, ST 1
Day 3
Erin, David
0-18 cmbs dark grayish brown humic clay loam
18-25 cmbs yellowish brown clay loam, wet
NCR

Transect 13, ST 2
Day 3
Erin, David
0-25 cmbs dark grayish brown humic clay loam
25-30 cmbs yellowish brown clay loam
NCR

Transect 13, ST 3
Day 3
Erin, David
0-17 cmbs dark grayish brown humic clay loam
17-29 cmbs yellowish brown clay
NCR

Transect 13, ST 4
Day 3
Erin, David
0-16 cmbs dark grayish brown humic clay loam
16-28 cmbs yellowish brown clay
NCR

Transect 13, ST 5
Day 3
Erin, David
0-18 cmbs dark grayish brown humic clay loam
18-23 cmbs yellowish brown clay
NCR

Transect 13, ST 6
Day 3
Erin, David
0-1 cmbs dark grayish brown humic clay loam
1-23 cmbs yellowish brown clay
(almost all subsoil)
NCR

Transect 13, ST 7
Day 3
Erin, David
0-11 cmbs dark grayish brown humic clay loam
11-18 cmbs yellowish brown clay loam
NCR

Transect 13, ST 8
Day 3
Erin, David
0-17 cmbs dark grayish brown humic clay loam
17-26 cmbs yellowish brown clay
NCR

Transect 13, ST 9
Day 3
Erin, David
0-15 cmbs dark grayish brown humic clay loam
15-21 cmbs yellowish brown clay
NCR

Transect 14, ST 1
Day 3
Mary Beth, Claire
0-15 cmbs dark grayish brown humic clay loam, rocky
15-24 cmbs yellowish brown clay loam, wet
NCR

Transect 14, ST 2
Day 3
Mary Beth, Claire
0-8 cmbs dark grayish brown humic clay loam, rocky
8-22 cmbs yellowish brown clay loam, wet
NCR

Transect 14, ST 3
Day 3
Mary Beth, Claire
0-10 cmbs dark grayish brown humic clay loam
10-20 cmbs yellowish brown clay
NCR

Transect 14, ST 4
Day 3
Mary Beth, Claire
0-13 cmbs dark grayish brown humic clay loam
13-22 cmbs yellowish brown clay loam
NCR

Transect 14, ST 5
Day 3
Mary Beth, Claire
0-9 cmbs dark grayish brown humic clay loam
9-24 cmbs yellowish brown clay loam
NCR

Transect 14, ST 6
Day 3
Mary Beth, Claire
0-9 cmbs dark brown humic clay loam
9-16 cmbs reddish brown clay
NCR

Transect 14, ST 7
Day 3
Mary Beth, Claire
0-13 cmbs dark grayish brown humic clay loam
13-23 cmbs yellowish brown clay
NCR

Transect 14, ST 8
Day 3
Mary Beth, Claire
0-13 cmbs dark grayish brown humic clay loam
13-14 cmbs yellowish brown clay loam, very wet
NCR

Transect 15, ST 1
Day 3
Mary Beth, Claire
0-7 cmbs dark grayish brown humic clay loam
7-15 cmbs yellowish brown clay loam, WET
NCR

Transect 15, ST 2
Day 3
Mary Beth, Claire
0-18 cmbs dark brown humic clay loam
18-22 cmbs yellowish brown clay loam, wet
NCR

Transect 15, ST 3
Day 3
Mary Beth, Claire
0-13 cmbs dark brown humic clay loam
13-23 cmbs yellowish brown clay loam, wet
NCR

Transect 15, ST 4
Day 3
Mary Beth, Claire
0-14 cmbs dark grayish brown humic clay loam
14-25 cmbs reddish brown clay with iron concretions
NCR

Transect 15, ST 5
Day 3
Mary Beth, Claire
0-24 cmbs dark brown humic clay loam
24-26 cmbs yellowish brown clay loam, lots of rocks
NCR

Transect 15, ST 6
Day 3
Mary Beth, Claire
0-13 cmbs dark brown humic clay loam
13-23 cmbs yellowish brown wet gooey clay loam
NCR

Transect 15, ST 7
Day 3
Mary Beth, Claire
0-20 cmbs grayish brown wet gooey clay
NCR

Transect 15, ST 8
Day 3
Mary Beth, Claire
0-15 cmbs dark brown humic clay loam
15-20 cmbs yellowish brown clay loam, wet
NCR

Transect 16, ST 1
Day 3
Erin, David
0-17 cmbs dark brown humic clay loam
17-23 cmbs yellowish brown clay
NCR

Transect 16, ST 2
Day 3
Erin, David
0-16 cmbs dark brown humic clay loam
16-27 cmbs yellowish brown clay
NCR

Transect 16, ST 3
Day 3
Erin, David
0-12 cmbs dark brown humic clay loam
12-22 cmbs yellowish brown clay
NCR

Transect 16, ST 4
Day 3
Erin, David
Skipped due to blow downs

Transect 16, ST 5
Day 3
Erin, David
0-19 cmbs dark brown humic clay loam
19-26 cmbs yellowish brown clay with iron concretions
NCR

Transect 16, ST 6
Day 3
Erin, David
0-11 cmbs dark brown humic clay loam
11-19 cmbs yellowish brown clay
NCR

Transect 16, ST 7
Day 3
Erin, David
0-12 cmbs dark brown humic clay loam
12-24 cmbs yellowish brown clay
NCR

Transect 16, ST 8
Day 3
Erin, David
0-5 cmbs dark brown humic clay loam
5-21 cmbs yellowish brown clay
NCR

Transect 16, ST 9
Day 3
Erin, David
0-2 cmbs dark brown humic clay loam
2-23 cmbs yellowish brown clay
NCR

Transect 16, ST 10
Day 3
Erin, David
0-10 cmbs dark brown humic clay loam
10-23 cmbs yellowish brown clay
NCR

Transect 17, ST 1 (not offset)
Day 3
Erin, David
0-35 cmbs dark brown humic clay loam
35-42 cmbs yellowish brown clay
NCR

Transect 17, ST 2
Day 3
Erin, David
0-15 cmbs dark brown humic clay loam
15-20 cmbs yellowish brown clay
NCR

Transect 17, ST 3
Day 3
Erin, David
0-18 cmbs dark brown humic clay loam
18-25 cmbs yellowish brown clay
NCR

Transect 17, ST 4
Day 3
Erin, David
0-17 cmbs dark brown humic clay loam
17-22 cmbs yellowish brown clay
NCR

Transect 17, ST 5
Day 3
Erin, David
0-15 cmbs dark brown humic clay loam
15-26 cmbs yellowish brown clay
NCR

Transect 17, ST 6
Day 3
Mary Beth, Claire
0-15 cmbs dark brown humic clay loam
15-35 cmbs yellowish brown clay with iron concretions
NCR

Transect 17, ST 7
Day 3
Mary Beth, Claire
0-10 cmbs dark brown humic clay loam
10-20 cmbs yellowish brown clay with iron concretions
NCR

Transect 17, ST 8
Day 3
Mary Beth, Claire
0-15 cmbs dark grayish brown humic clay loam
15-27 cmbs yellowish brown clay with iron concretions
NCR

Transect 18, ST 1
Day 4
Erik, Amanda
0-10 cmbs dark grayish brown humic clay loam
10-32 cmbs yellowish brown clay with iron concretions
NCR

Transect 18, ST 2
Day 4
Erik, Amanda
0-15 cmbs dark grayish brown humic clay loam
15-30 cmbs yellowish brown clay, wet
NCR

Transect 18, ST 3
Day 4
Erik, Amanda
0-16 cmbs dark brown humic clay loam
16-26 cmbs dark grayish brown clay loam
26-33 cmbs gray clay loam with iron concretions
NCR

Transect 18, ST 4
Day 4
Erik, Amanda
0-12 cmbs dark brown humic clay loam
12-20 cmbs yellowish brown clay loam
20-31 cmbs yellowish brown clay with iron concretions
NCR

Transect 18, ST 5
Day 4
Erik, Amanda
0-8 cmbs dark brown humic clay loam
8-26 cmbs grayish brown clay loam
26-30 cmbs yellowish brown clay
NCR

Transect 18, ST 6
Day 4
Erik, Amanda
0-4 cmbs dark brown humic clay loam
4-27 cmbs grayish brown clay loam
27-36 cmbs yellowish brown clay
NCR

Transect 18, ST 7
Day 4
Erik, Amanda
0-27 cmbs yellowish brown loamy clay, wet
NCR

Transect 18, ST 8
Day 4
Erik, Amanda
0-17 cmbs yellowish brown clay loam
17-23 cmbs yellowish brown clay, wet
NCR

Transect 18, ST 9
Day 4
Erik, Amanda
0-10 cmbs dark brown humic clay loam
10-24 cmbs yellowish brown clay
NCR

Transect 19, ST 1
Day 4
Erik, Amanda
0-12 cmbs grayish brown humic clay loam
12-27 cmbs yellowish brown clay with iron concretions
NCR

Transect 19, ST 2
Day 4
Erik, Amanda
0-3 cmbs dark brown humic clay loam
3-23 cmbs yellowish brown clay loam
23-28 cmbs yellowish brown clay with iron concretions
NCR

Transect 19, ST 3
Day 4
Erik, Amanda
0-5 cmbs dark brown humic clay loam
5-22 cmbs yellowish brown clay loam
22-27 cmbs yellowish brown clay, wet
NCR

Transect 19, ST 4
Day 5
Erin, Claire
0-12 cmbs dark brown humic clay loam
12-20 cmbs yellowish brown clay
NCR

Transect 19, ST 5
Day 5
Erin, Claire
0-8 cmbs dark brown humic clay loam
8-29 cmbs yellowish brown clay
NCR

Transect 19, ST 6
Day 5
Erin, Claire
0-7 cmbs dark brown humic clay loam
7-35 cmbs yellowish brown clay
NCR

Transect 19, ST 7
Day 5
Erin, Claire
0-19 cmbs dark brown humic clay loam
19-33 cmbs yellowish brown clay
NCR

Transect 19, ST 8
Day 5
Erin, Claire
0-16 cmbs dark brown humic clay loam
16-26 cmbs yellowish brown clay with iron concretions and pooling water
NCR

Transect 19, ST 9
Day 5
Erin, Claire
0-20 cmbs dark brown humic clay loam
20-32 cmbs yellowish brown clay
NCR

Transect 20, ST 1
Day 4
Erik, Amanda
0-10 cmbs dark brown humic clay loam
10-27 cmbs yellowish brown clay loam
27-34 cmbs reddish brown clay
NCR

Transect 21, ST 1
Day 4
Erik, Amanda
0-14 cmbs yellowish brown clay loam
14-32 cmbs reddish brown clay
NCR

Transect 21, ST 2
Day 5
Mary Beth, Erik
0-22 cmbs grayish brown clay loam
22-40 cmbs reddish brown clay
NCR

Transect 22, ST 1
Day 4
Erik, Amanda
0-8 cmbs yellowish brown clay loam
8-35 cmbs reddish brown clay, pooling water
NCR

Transect 22, ST 2
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-18 cmbs reddish brown clay
NCR

Transect 22, ST 3
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-20 cmbs reddish brown clay loam
20-30 cmbs red clay
NCR

Transect 22, ST 4
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-14 cmbs reddish brown clay loam
14-37 cmbs red clay
NCR

Transect 23, ST 1
Day 5
Mary Beth, Erik
0-30 cmbs red clay
NCR

Transect 23, ST 2
Day 4
Erik, Amanda
0-3 cmbs dark brown humic clay loam
3-23 cmbs reddish brown clay loam
23-26 cmbs red clay
NCR

Transect 23, ST 3
Day 5
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-20 cmbs reddish brown clay loam
20-30 cmbs red clay
NCR

Transect 23, ST 4
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-17 cmbs reddish brown clay loam, lots of rocks
17-27 cmbs red clay
NCR

Transect 23, ST 5
Day 5
Mary Beth, Erik
0-5 cmbs dark brown humic clay loam
5-24 cmbs reddish brown clay loam
24-33 cmbs red clay
Old roadbed 8 m SW

Transect 23, ST 6
Day 5
Mary Beth, Erik
0-12 cmbs dark brown humic clay loam
12-30 cmbs yellowish brown clay loam with rocks
Old roadbed 4 m NE

Transect 24, ST 1
Day 5
Erin, Claire
0-33 cmbs reddish brown clay loam
33-38 cmbs red clay
NCR

Transect 24, ST 2
Day 4
Erik, Amanda
0-4 cmbs dark brown humic clay loam
4-26 cmbs reddish brown clay loam
26-30 cmbs red clay
NCR

Transect 24, ST 3
Day 5
Erin, Claire
0-22 cmbs reddish brown clay loam
22-30 cmbs red clay
NCR

Transect 24, ST 4
Day 5
Erin, Claire
0-22 cmbs reddish brown clay loam
22-28 cmbs red clay
NCR

Transect 24, ST 5
Day 5
Erin, Claire
0-25 cmbs reddish brown clay loam
25-33 cmbs red clay
NCR

Transect 25, ST 1
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-17 cmbs reddish brown clay loam
17-26 cmbs red clay
NCR

Transect 25, ST 2
Day 5
Mary Beth, Erik
0-5 cmbs dark brown humic clay loam
5-23 cmbs reddish brown clay loam
23-33 cmbs red clay
Dead toad and (unassociated) shotgun shell

Transect 25, ST 3
Day 4
Erik, Amanda
0-4 cmbs dark brown humic clay loam
4-18 cmbs reddish brown clay loam
18-40 cmbs red clay
NCR

Transect 25, ST 4 (3 m south of transect)
Day 5
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-20 cmbs reddish brown clay loam
20-30 cmbs red clay
NCR

Transect 25, ST 5
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-20 cmbs reddish brown clay loam
20-28 cmbs red clay
NCR

Transect 25, ST 6
Day 5
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-17 cmbs reddish brown clay loam
17-26 cmbs red clay with concretions
NCR

Transect 25, ST 7
Day 5
Mary Beth, Erik
0-12 cmbs yellowish brown clay loam, rocky
12-25 cmbs yellowish brown clay
NCR

Transect 25, ST 8
Day 5
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-38 cmbs brown clay loam, rocky
38-45 cmbs yellowish brown clay, wet
NCR

Transect 26, ST 1
Day 5
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-27 cmbs reddish brown clay loam
27-31 cmbs red clay
NCR

Transect 26, ST 2 (14 m S of road)
Day 4
Erik, Amanda
0-5 cmbs dark brown humic clay loam
5-30 cmbs reddish brown clay loam
30-38 cmbs red clay
NCR

Transect 26, ST 3
Day 5
Erin, Claire
0-25 cmbs reddish brown clay loam
25-29 cmbs red clay
NCR

Transect 26, ST 4
Day 5
Erin, Claire
0-17 cmbs reddish brown clay loam
17-30 cmbs red clay with iron concretions
NCR

Transect 26, ST 5
Day 5
Erin, Claire
0-30 cmbs reddish brown clay loam
30-34 cmbs red clay
NCR

Transect 26, ST 6
Day 5
Erin, Claire
0-25 cmbs reddish brown clay loam
25-34 cmbs red clay
NCR

Transect 27, ST 1
Day 6
Mary Beth, David
0-5 cmbs dark brown humic clay loam
5-28 cmbs reddish brown clay with red and yellow clay inclusions
NCR

Transect 27, ST 2
Day 6
Mary Beth, David
0-4 cmbs dark brown humic clay loam
4-14 cmbs reddish brown clay loam
14-28 cmbs red clay
NCR

Transect 27, ST 3
Day 6
Mary Beth, David
0-3 cmbs dark brown humic clay loam
3-17 cmbs reddish brown clay loam
17-26 cmbs red clay
NCR

Transect 27, ST 4 (immediately north of rd)
Day 4
Erik, Amanda
0-3 cmbs dark brown humic clay loam
3-30 cmbs yellowish brown clay loam, very rocky
NCR

Transect 27, ST 5
Not dug – in Road

Transect 27, ST 6
Day 6
Mary Beth, David
0-17 cmbs reddish brown clay loam
17-30 cmbs red clay
1 flake 0-17 cmbs

Transect 27, ST 6a, 10 m E of ST 6
Day 6
Mary Beth, David
0-4 cmbs dark brown humic clay loam
4-20 cmbs reddish brown clay loam
20-27 cmbs red clay
NCR

Transect 27, ST 6b, 10 m S of ST 6
Day 6
Mary Beth, Erik
0-8 cmbs dark brown humic clay loam
8-18 cmbs reddish brown clay loam
18-30 cmbs red clay
NCR

Transect 27, ST 6c, 10 m W of ST 6
Day 6
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-15 cmbs reddish brown clay loam
15-28 cmbs red clay
NCR

Transect 27, ST 6d, 10 m N of ST 6
Day 6
Mary Beth, Erik
0-15 cmbs brown clay loam
15-23 cmbs reddish brown clay loam, 80% rock
1 flake 0-15 cmbs

Transect 27, ST 6e, 10 m W of ST 6d
Day 6
Mary Beth, Erik
0-3 cmbs dark brown humic clay loam
3-15 cmbs reddish brown clay loam
15-23 cmbs red clay
NCR

Transect 27, ST 6f, 10 m E of ST 6d
Day 6
Mary Beth, Erik
0-20 cmbs reddish brown clay loam
20-31 cmbs red clay
1 flake 0-20 cmbs

Transect 27, ST 6g, 10 m E of ST 6f
Day 6
Mary Beth, Erik
0-19 cmbs brown clay loam
19-23 cmbs reddish brown clay loam, very compact and rocky
NCR

Transect 27, ST 7
Day 6
Mary Beth, David
0-18 cmbs reddish brown clay loam
18-27 cmbs red clay
NCR

Transect 27, ST 8
Day 6
Mary Beth, David
0-4 cmbs dark brown humic clay loam
4-14 cmbs reddish brown clay loam, very rocky
14-28 cmbs red clay
NCR

Transect 27, ST 9
Day 6
Mary Beth, David
0-18 cmbs dark brown clay loam, very rocky
18-26 cmbs yellowish brown loamy clay
NCR

Transect 28, ST 1
Day 6
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-20 cmbs light brown clay loam
20-28 cmbs reddish brown clay loam
NCR

Transect 28, ST 2
Day 6
Mary Beth, Erik
0-20 cmbs light brown clay loam
20-31 cmbs reddish brown clay loam
NCR

Transect 28, ST 3
Day 6
Mary Beth, Erik
0-2 cmbs dark brown humic clay loam
2-20 cmbs light brown clay loam
20-28 cmbs reddish brown clay loam
NCR

Transect 28, ST 4
Day 4
Erik, Amanda
0-8 cmbs dark brown humic clay loam
8-27 cmbs yellowish brown clay loam, very rocky
NCR

Transect 28, ST 5
Day 6
Mary Beth, Erik
0-20 cmbs brown clay loam
20-32 cmbs reddish brown clay loam
NCR

Transect 28, ST 6
Day 6
Mary Beth, Erik
0-4 cmbs dark brown humic clay loam
4-20 cmbs light brown clay loam
20-28 cmbs reddish brown clay loam
NCR

Transect 28, ST 7
Not dug – in road

Transect 28, ST 8
Day 6
Mary Beth, Erik
0-6 cmbs brownish gray humic clay loam
6-20 cmbs yellowish brown clay loam
20-30 cmbs gray clay
NCR

Transect 29, ST 1
Day 7
0-3 cmbs dark brown humic clay loam
3-15 cmbs reddish brown clay loam
15-20 cmbs red clay
1 flake 0-15 cmbs

Transect 29, ST 1a
10 m east of Transect 29, ST 1
Day 11
0-17 cmbs reddish brown clay loam
17-22 cmbs red clay
NCR

Transect 29, ST 1b
10 m west of Transect 29, ST 1
Day 11
0-8 cmbs reddish brown clay loam
8-12 cmbs red clay
NCR

Transect 29, ST 1c
10 m south of Transect 29, ST 1
Day 11
0-12 cmbs reddish brown clay loam
12-22 cmbs red clay
NCR

Transect 29, ST 1d
10 m north of Transect 29, ST 1
Day 11
0-20 cmbs grayish brown clay loam
20-24 cmbs reddish brown clay loam
NCR

Transect 29, ST 2
Day 6
Mary Beth, Erik
0-6 cmbs dark brown humic clay loam
6-20 cmbs light brown clay loam
20-27 cmbs reddish brown clay loam
NCR

Transect 29, ST 3
Day 4
Erik, Amanda
0-13 cmbs dark grayish brown humic clay loam
13-35 cmbs reddish brown clay loam, gravel
NCR

Transect 29, ST 4
Day 5
Mary Beth, Erik
0-24 cmbs light brown clay loam
24-33 cmbs reddish brown clay loam
NCR

Transect 30, ST 1
Day 6
Mary Beth, Erik
0-6 cmbs brown clay loam
6-20 cmbs reddish brown clay loam
20-27 cmbs red clay
NCR

Transect 30, ST 2
Day 4
Erik, Amanda
0-12 cmbs dark grayish brown humic clay loam
12-30 cmbs reddish brown clay loam, gravel
NCR

Transect 31, ST 1
Day 4
Erik, Amanda
0-10 cmbs dark grayish brown humic clay loam
10-21 cmbs reddish brown clay loam
21-33 cmbs red clay
NCR

Transect 32, ST 1 (transect now with 8˚ declination)
Day 7
Not dug – in road

Transect 32, ST 2
Day 7
0-6 cmbs dark brown humic clay loam
6-22 cmbs grayish brown clay loam
22-38 cmbs reddish brown clay loam
38-45 cmbs red clay
NCR

Transect 32, ST 3
Day 7
0-8 cmbs dark brown humic clay loam
8-28 cmbs grayish brown clay loam, with rocks
28-32 cmbs reddish brown clay loam, wet
NCR

Transect 32, ST 4
Day 7
0-10 cmbs brown clay loam
10-24 cmbs reddish brown clay loam, wet
NCR

Transect 32, ST 5
Day 7
0-3 cmbs dark brown humic clay loam
3-16 cmbs brown clay loam
16-26 cmbs reddish brown clay loam
26-32 cmbs red clay
NCR

Transect 33, ST 1
Day 7
0-3 cmbs dark brown humic clay loam
3-15 cmbs brown clay loam
15-37 cmbs reddish brown clay loam, wet with concretions
37-41 cmbs red clay
NCR

Transect 33, ST 2
Day 7
0-2 cmbs dark brown humic clay loam
2-17 cmbs grayish brown clay loam
17-29 cmbs reddish brown clay loam
29-33 cmbs red clay
NCR

Transect 33, ST 3
Day 7
0-3 cmbs dark brown humic clay loam
3-17 cmbs brown clay loam
17-40 cmbs reddish brown clay loam
NCR

Transect 33, ST 4
Day 7
0-4 cmbs dark brown humic clay loam
4-24 cmbs grayish brown clay loam
24-34 cmbs reddish brown clay loam
34-39 cmbs red clay
NCR

Transect 34, ST 1
Day 7
0-14 cmbs brown clay loam
14-25 cmbs reddish brown clay loam
25-34 cmbs red clay
NCR

Transect 34, ST 2
Day 7
0-10 cmbs grayish brown clay loam
10-18 cmbs reddish brown clay loam
18-30 cmbs red clay
NCR

Transect 34, ST 3
Day 7
0-14 cmbs grayish brown clay loam
14-44 cmbs yellowish brown clay loam, with rocks, wet
NCR

Transect 34, ST 4
Day 7
0-18 cmbs grayish brown clay loam
18-29 cmbs reddish brown clay loam
29-33 cmbs red clay
NCR

Transect 34, ST 5
Day 7
0-20 cmbs grayish brown clay loam
20-31 cmbs reddish brown clay loam
31-36 cmbs red clay
NCR

Transect 35, ST 1
Day 8
0-16 cmbs grayish brown clay loam
16-27 cmbs yellowish brown clay loam
27-32 cmbs reddish brown clay loam
NCR

Transect 35, ST 2
Day 8
0-5 cmbs dark brown humic clay loam
5-20 cmbs grayish brown clay loam
20-30 cmbs red clay
NCR

Transect 35, ST 3
Day 8
0-19 cmbs grayish brown clay loam
19-32 cmbs yellowish brown clay loam
32-34 cmbs reddish brown clay loam
NCR

Transect 35, ST 4
Day 8
0-6 cmbs dark brown humic clay loam
6-18 cmbs grayish brown clay loam
18-27 cmbs redidsh brown clay loam
27-33 cmbs red clay
NCR

Transect 36, ST 1
Day 8
0-12 cmbs brown clay loam
12-25 cmbs red clay
NCR

Transect 36, ST 2
Day 8
0-14 cmbs grayish brown clay loam
14-26 cmbs reddish brown clay loam
26-31 cmbs red clay
NCR

Transect 36, ST 3
Day 8
0-2 cmbs dark brown humic clay loam
2-15 cmbs grayish brown clay loam
15-28 cmbs reddish brown clay loam
28-33 cmbs red clay
NCR

Transect 37, ST 1
Day 8
0-15 cmbs grayish brown clay loam
15-27 cmbs reddish brown clay loam
27-31 cmbs red clay
NCR

Transect 37, ST 2
Day 8
0-15 cmbs grayish brown clay loam
15-25 cmbs reddish brown clay loam
25-31 cmbs red clay
NCR

Transect 37, ST 3
Day 8
0-14 cmbs brown clay loam
14-30 cmbs red clay loam
NCR

Transect 38, ST 1, 10 M north of ST 37-1
Day 8
0-12 cmbs brown clay loam
12-21 cmbs red clay loam
NCR

Transect 38, ST 2
Day 8
0-16 cmbs grayish brown clay loam
16-27 cmbs reddish brown clay loam
27-32 cmbs red clay
NCR

Transect 38, ST 3
Day 8
0-14 cmbs grayish brown clay loam
14-29 cmbs reddish brown clay loam
29-36 cmbs red clay
NCR

330R40
Day 9
Meg, Karen, Mary Beth
0-7 cmbs grayish brown clay loam
7-19 cmbs pale yellowish brown clay loam
19-32 cmbs yellowish brown clay loam, gravel
1 flake

330R60
Day 10
Meg, Karen
0-11 cmbs grayish brown clay loam
11-27 cmbs yellowish brown clay loam, gravel
NCR

330R100
Day 10
Erin, Will
0-19 cmbs grayish brown sandy loam
19-32 cmbs yellowish brown clay
4 flakes

330R110
Day 10
Erin, Will
0-18 cmbs grayish brown sandy loam
18-26 cmbs yellowish brown clay
1 flake

340R40
Day 9
Meg, Karen, Mary Beth
0-16 cmbs grayish brown sandy loam
16-35 cmbs pale yellowish brown clay loam
35-41 cmbs yellowish brown clay loam with concretions, wet
1 flake, 1 shatter

340R60
Day 10
Meg, Karen
0-13 cmbs grayish brown clay loam
13-27 cmbs yellowish brown clay loam, gravel
1 flake

340R80
Day 10
Mary Beth, Malena
0-16 cmbs grayish brown sandy loam
16-23 cmbs light yellowish brown clay loam
23-27 cmbs yellowish brown clay
NCR

340R80a, -8º from ST 380R80
Day 10
David, Amanda
0-20 cmbs grayish brown clay loam
20-35 cmbs yellowish brown clay loam
NCR

350R100
Day 10
Erin, Will
0-29 cmbs grayish brown grading to yellowish brown sandy loam
29-34 cmbs light yellowish brown clay
1 flake

350R110
Day 10
Erin, Will
0-25 cmbs grayish brown sandy loam
25-37 cmbs yellowish brown clay
NCR

360R20
Day 9
Meg, Karen, Mary Beth
0-20 cmbs grayish brown clay loam
20-38 cmbs yellowish brown clay loam
NCR

360R40
Day 9
Meg, Karen, Mary Beth
0-3 cmbs grayish brown clay loam
3-12 cmbs pale yellowish brown clay loam
12-33 cmbs yellowish brown clay loam, wet and filled with decaying quartzite
3 flakes

360R60
Day 10
Meg, Karen
0-12 cmbs grayish brown clay loam
12-26 cmbs yellowish brown clay loam
5 flakes, 1 flake tool

360R80
Day 10
Mary Beth, Malena
0-20 cmbs grayish brown sandy loam
20-30 cmbs light yellowish brown clay loam
30-36 cmbs yellowish brown clay
7 flakes, 1 shatter

360R80a, -8º from ST 380R80
Day 10
David, Amanda
0-15 cmbs grayish brown clay loam
15-37 cmbs yellowish brown clay loam
NCR

370R100
Day 10
Erin, Will
0-19 cmbs grayish brown sandy loam
19-29 cmbs light yellowish brown clay loam
29-39 cm yellowish brown clay
NCR

380R20
Day 9
Meg, Karen, Mary Beth
0-18 cmbs grayish brown sandy loam
18-30 cmbs pale yellowish brown clay loam
30-38 cmbs yellowish brown clay
NCR

380R30
Day 9
Meg, Karen, Mary Beth
0-12 cmbs grayish brown clay loam
12-26 cmbs yellowish brown clay loam
3 flakes

380R40
Day 9
Meg, Karen, Mary Beth
0-10 cmbs grayish brown clay loam
10-20 cmbs pale yellowish brown clay loam
20-34 cmbs yellowish brown clay loam, gravel
4 flakes

380R60
Day 10
Meg, Karen
0-10 cmbs grayish brown clay loam
10-32 cmbs yellowish brown clay loam, gravel
2 flakes

380R80
Day 10
David, Amanda
0-24 cmbs grayish brown clay loam
24-33 cmbs yellowish brown clay loam
1 flake

380R120
Day 10
Mary Beth, Malena
0-10 cmbs gray clay loam
10-24 cmbs light gray clay loam
24-30 cmbs mottled gray and reddish brown clay
NCR

380R140, tire nearby
Day 10
David, Amanda
0-27 cmbs yellowish brown clay loam
27-38 cmbs gray clay loam
NCR

380R200
Day 9
Meg, Karen
0-5 cmbs grayish brown clay loam
5-19 cmbs yellowish brown clay loam
NCR

390R100
Day 10
Erin, Will
0-37 cmbs grayish brown sandy loam
37-44 cmbs yellowish brown clay loam with iron concretions
5 flakes

390R110
Day 10
Mary Beth, Malena
0-15 cmbs grayish brown loam
15-30 cmbs light yellowish brown clay loam
30-37 cmbs yellowish brown clay
1 flake

390R180
Day 10
Meg, Karen
0-8 cmbs light yellowish brown clay – no A horizon, scraped area between road beds
NCR

390R220
Day 10
David, Amanda
0-13 cmbs yellowish brown clay loam
13-30 cmbs reddish brown clay loam
iron objects not collected

400R20
Day 9
Meg, Karen, Mary Beth
0-20 cmbs grayish brown clay loam
20-32 cmbs pale yellowish brown clay
NCR

400R30
Day 9
Meg, Karen, Mary Beth
0-12 cmbs grayish brown clay loam
12-23 cmbs pale yellowish brown clay loam
23-41 cmbs yellowish brown clay loam, gravel
5 flakes

400R40
Day 9
Meg, Karen, Mary Beth
0-9 cmbs grayish brown clay loam
9-24 cmbs pale yellowish brown clay loam
24-38 cmbs yellowish brown clay loam, gravel
6 flakes, one bifacial tool fragment

400R50
Day 9
Meg, Karen, Mary Beth
0-9 cmbs grayish brown clay loam
9-32 cmbs mottled grayish brown clay loam and yellowish brown clay loam
32-49 cmbs yellowish brown clay loam, gravel
14 flakes

400R60
Day 9
Meg, Karen
0-12 cmbs grayish brown clay loam
12-29 cmbs yellowish brown clay loam, gravel
2 flakes

400R80
Day 10
David, Amanda
0-15 cmbs grayish brown clay loam
15-37 cmbs yellowish brown clay loam
NCR

400R120
Day 10
Mary Beth, Malena
0-20 cmbs yellowish gray clay loam
20-40 cmbs yellowish brown wet clay loam
NCR

400R140
Day 10
David, Amanda
0-20 cmbs grayish brown clay loam
20-36 cmbs yellowish brown clay loam
NCR

400R200
Day 10
Meg, Karen
0-7 cmbs grayish brown clay loam
7-17 cmbs light yellowish brown clay loam, wet
NCR

410R30
Day 9
Meg, Karen, Mary Beth
0-5 cmbs dark brown humic sandy loam
5-14 cmbs brown sandy loam
14-29 cmbs yellowish brown clay loam, gravel
NCR

410R100
Day 10
Erin, Will
0-20 cmbs grayish brown sandy loam
20-50 cmbs light yellowish brown clay loam grading into clay with concretions
5 flakes

410R110
Day 10
Mary Beth, Malena
0-10 cmbs grayish brown sandy loam
10-30 cmbs light yellowish brown clay loam
3 flakes, 1 shatter

410R180
Day 10
Meg, Karen
0-29 cmbs grayish brown clay loam, disturbed
9-22 cmbs light yellowish brown clay, very wet
NCR

410R220
Day 10
David, Amanda
0-30 cmbs yellowish brown clay loam, wet
NCR

420R50
Day 9
Meg, Karen
0-9 cmbs grayish brown clay loam
9-29 cmbs yellowish brown clay loam, compact with concretions
29-37 cmbs yellowish brown clay
NCR

420R60
Day 9
Meg, Karen
0-10 cmbs grayish brown clay loam
10-35 cmbs yellowish brown clay loam
12 flakes

420R70
Day 9
Meg, Karen
0-11 cmbs grayish brown clay loam
11-21 cmbs pale yellowish brown clay loam
11-39 cmbs yellowish brown clay loam
35 flakes

420R80
Day 9
Mary Beth, Amanda
0-20 cmbs brown sandy loam
20-50 cmbs light yellowish brown clay loam
50-55 cmbs yellowish brown loamy clay, wet
25 flakes, 4 shatter

420R120
Day 10
Mary Beth, Malena
0-19 cmbs yellowish gray clay loam
19-32 cmbs yellowish brown wet clay loam
NCR

420R140
Day 10
David, Amanda
0-18 cmbs grayish brown clay loam
18-27 cmbs yellowish brown clay loam
NCR

420R160
Day 10
Meg, Karen
0-12 cmbs grayish brown clay loam
12-28 cmbs light yellowish brown clay loam, abundant gravel, decomposing quartz
NCR

420R200
Day 10
Meg, Karen
No dig – in built up road bed

430R60
Day 9
Meg, Karen
0-9 cmbs grayish brown clay loam
9-28 cmbs yellowish brown clay loam
NCR

430R100
Day 10
Erin, Will
0-17 cmbs grayish brown sandy loam
17-30 cmbs light yellowish brown clay loam
30-40 cm yellowish brown clay
5 flakes, 2 shatter

430R120
Day 10
Mary Beth, Malena
0-18 cmbs yellowish gray clay loam
18-33 cmbs yellowish brown wet clay loam
NCR

430R180
Day 10
Meg, Karen
0-11 cmbs grayish brown clay loam
11-29 cmbs light yellowish brown clay, very wet
NCR

430R220
Day 10
David, Amanda
0-20 cmbs yellowish brown clay loam
20-28 cmbs reddish brown clay loam
NCR

440R60
Day 9
Meg, Karen
0-9 cmbs grayish brown clay loam
29-38 cmbs yellowish brown clay loam
1 flake

440R80
Day 9
Mary Beth, Amanda
0-10 cmbs brown sandy loam
10-50 cmbs light yellowish brown clay loam
50-57 cmbs yellowish brown loamy clay
23 flakes, 2 shatter, 0-57 cmbs

440R120
Day 10
Mary Beth, Malena
0-13 cmbs grayish brown sandy loam
13-39 cmbs light yellowish brown clay loam
1 flake

440R140
Day 10
David, Amanda
0-15 cmbs grayish brown clay loam
15-37 cmbs yellowish brown clay loam
NCR

440R160
Day 10
Meg, Karen
0-14 cmbs grayish brown clay loam
14-27 cmbs light yellowish brown clay loam, wet
NCR

440R200
Day 10
Meg, Karen
0-2 cmbs grayish brown clay loam
2-10 cmbs light yellowish brown clay loam, wet
NCR

450R180
Day 10
Meg, Karen
0-2 cmbs grayish brown clay loam
2-10 cmbs light yellowish brown clay, very wet
NCR

450R80
Day 9
Mary Beth, Amanda
0-12 cmbs brownish gray clay loam
12-36 cmbs yellowish gray clay loam with rocks, large rock at 25 cmbs
5 flakes, 2 shatter 0-25 cmbs

450R100
Day 10
Erin, Will
0-16 cmbs grayish brown sandy loam
16-37 cmbs light yellowish brown clay loam
37-48 cmbs yellowish brown clay
18 flakes, one partial bifacial tool

450R100a, -8º declination from 490R100
Day 10
Erin, Will
0-22 cmbs grayish brown grading to yellowish brown sandy loam
22-34 cmbs reddish brown clay
13 flakes, 1 shatter

450R180
Day 10
Meg, Karen
0-9 cmbs grayish brown clay loam
9-22 cmbs light yellowish brown clay, very wet
NCR

450R220
Day 10
David, Amanda
0-15 cmbs yellowish brown clay loam
15-35 cmbs reddish brown clay loam
NCR

460R60
Day 9
Meg, Karen
0-8 cmbs grayish brown clay loam
8-25 cmbs yellowish brown clay loam, increasing gravel
NCR

460R80
Day 9
Mary Beth, Amanda
0-13 cmbs grayish brown clay loam
13-26 cmbs light yellowish brown clay loam with rocks
NCR

460R120 (really @ 458R120, 460 in road)
Day 10
Mary Beth, Malena
0-10 cmbs brown sandy loam
10-33 cmbs reddish brown clay loam
33-38 cmbs reddish brown clay
2 flakes

460R140
Day 10
David, Amanda
0-16 cmbs grayish brown clay loam
16-34 cmbs yellowish brown clay loam
NCR

460R160
Day 10
Meg, Karen
0-15 cmbs grayish brown clay loam
15-34 cmbs light yellowish brown clay loam
NCR

460R200
Day 10
Meg, Karen
0-8 cmbs grayish brown clay loam
8-22 cmbs light yellowish brown clay, very wet
NCR

470R100
Day 10
Erin, Will
No dig – in road

470R100, -8º declination from 490R100
Day 10
Erin, Will
0-20 cmbs grayish brown sandy loam
20-37 cmbs reddish brown clay
4 flakes, 1 shatter

480R60
Day 9
Meg, Karen
0-16 cmbs grayish brown clay loam
16-26 cmbs yellowish brown clay loam, small amount of gravel
NCR

480R80
Day 9
Mary Beth, Amanda
0-10 cmbs grayish brown clay loam
10-30 cmbs light yellowish brown clay loam
NCR

480R100, -8º declination from 490R100
Day 10
Erin, Will
0-30 cmbs grayish brown grading to yellowish brown sandy loam
30-50 cmbs reddish brown clay
7 flakes

480R120
Day 10
Mary Beth, Malena
0-18 cmbs grayish brown sandy loam
18-34 cmbs light yellowish brown clay loam
34-40 cmbs mottled yellowish brown clay loam and yellowish brown clay
7 flakes, 0-40 cmbs

480R140
Day 10
David, Amanda
0-25 cmbs grayish brown clay loam
25-45 cmbs light yellowish brown clay loam
45-48 cmbs yellowish brown clay
1 flake

480R140
Day 10
David, Amanda
0-15 cmbs grayish brown clay loam
15-24 cmbs yellowish brown clay loam
NCR

480R160
Day 10
Meg, Karen
0-11 cmbs grayish brown clay loam
11-32 cmbs light yellowish brown clay loam, wet
NCR

490R100
Day 10
Erin, Will
0-20 cmbs grayish brown sandy loam
20-36 cmbs yellowish sandy silt
36-42 cmbs reddish brown clay
NCR

490R120
Day 10
Mary Beth, Malena
0-14 cmbs grayish brown sandy loam
14-38 cmbs light yellowish brown clay loam
5 flakes, 1 shatter

490R140
Day 10
David, Amanda
0-19 cmbs grayish brown clay loam
19-33 cmbs yellowish brown clay loam
1 flake

500R60
Day 9
Meg, Karen
0-12 cmbs grayish brown clay loam
12-30 cmbs yellowish brown clay loam, small amount of gravel
NCR

500R80
Day 9
Mary Beth, Amanda
0-15 cmbs grayish brown clay loam
15-26 cmbs light yellowish brown clay loam
26-30 cmbs yellowish brown loamy clay
NCR

500R120
Day 10
Mary Beth, Malena
0-13 cmbs grayish brown sandy loam
13-29 cmbs light yellowish brown clay loam
29-35 cmbs yellowish brown clay
4 flakes, 0-30 cmbs

500R140
Day 10
David, Amanda
0-15 cmbs grayish brown clay loam
15-33 cmbs yellowish brown clay loam
3 flakes

500R150
Day 10
David, Amanda
0-16 cmbs grayish brown clay loam
16-30 cmbs yellowish brown clay loam
30-38 cmbs yellowish brown clay loam mottled with reddish brown clay
NCR

500R160
Day 10
Meg, Karen
0-10 cmbs grayish brown clay loam
10-30 cmbs light yellowish brown clay loam, wet
NCR

510R100
Day 10
Erin, Will, Malena
0-16 cmbs grayish brown sandy loam
16-29 cmbs light yellowish brown compact clay loam
29-36 cmbs dark yellowish brown hard packed clay loam with iron concretions
3 flakes

510R110
Day 10
Mary Beth, Malena
0-14 cmbs grayish brown sandy loam
14-28 cmbs light yellowish brown clay loam
28-38 cmbs yellowish brown clay
3 flakes

510R120
Day 10
Mary Beth, Malena
0-10 cmbs grayish brown sandy loam
10-25 cmbs yellowish brown clay loam
25-33 cmbs mottled yellowish brown clay loam and reddish brown clay
3 flakes

Survey Area 3

Day 1
18 March 2009, 12:00p -4:00p
partly sunny 60s (˚F)
Mary Beth Fitts and Amanda Tickner

Day 2
28 March 2008, 8:30a-3:00p
overcast, 60s
Mary Beth Fitts, Erin Stevens, David Cranford, Will Meyer

220R130
Day 2
Erin, Will
0-11 cmbs light brown silty clay
11-26 cmbs yellowish red clay loam
ground water @ 26 cmbs
1 flake tool

220R140
Day 2
Erin, Will
No dig – swamp!

230R100
Day 2
Mary Beth, David
0-20 cmbs dark brown sandly loam
20-23 reddish brown clay
very wet
bottle cap, brick fragments, small bone frag

230R120
Day 1
0-14 cmbs dark brown humic sandy loam
14-30 cmbs reddish brown clay loam, <u>wet</u>
NCR

240R80
Day 2
Mary Beth, David
0-14 cmbs dark brown sandy loam
14-22 cmbs reddish brown clay
wet, water in bottom of hole
2 brick fragments, 1 bottle glass

240R120
Day 1
0-15 cmbs dark brown humic sandy loam
15-43 cmbs yellowish brown clay loam, <u>wet</u>
2 flakes

240R130
Day 2
Erin, Will
0-15 cmbs brown silty clay
15-40 cmbs yellowish red clay loam
31-38 cmbs reddish brown clay
1 flake

240R140
Day 2
Erin, Will
0-20 cmbs brown silty clay
20-35 cmbs yellowish brown clay loam
35-45 cmbs yellowish red clay
NCR

250R60
Day 2
Mary Beth, David
0-14 cmbs dark brown sandy loam
14-22 cmbs yellowish brown clay loam
33-41 cmbs reddish brown clay
NCR

250R70
Day 2
Mary Beth, David
0-25 cmbs dark brown sandy loam
25-37 cmbs yellowish brown clay loam
37-39 cmbs reddish brown clay
1 flake, brick frags, glass

250R100
Day 1
0-24 cmbs dark brown humic sandy loam
24-37 cmbs reddish brown clay loam
37-42 cmbs reddish brown clay
5 flakes, window glass, rounded quartz stones, metal

250R140
Day 2
Erin, Will
0-32 cmbs brown silty clay
32-50 cmbs yellowish brown clay loam grading into yellowish red clay
NCR

260R70
Day 2
Mary Beth, David
0-9 cmbs dark brown sandy loam
9-33 cmbs brown clay loam
33-41 cmbs reddish brown clay
NCR

260R80
Day 2
Mary Beth, David
0-14 cmbs dark brown sandy loam
14-28 cmbs brown clay loam
28-33 cmbs reddish brown clay
1 flake

260R100
Day 1
0-16 cmbs dark grayish brown sandy loam
16-37 cmbs yellowish brown clay loam
very large rocks 30-37 cmbs, 1/3 matrix is rock
NCR

260R120
Day 1
0-18 cmbs dark brown humic sandy loam
18-35 cmbs brown clay loam
35-40 cmbs reddish brown clay
6 flakes

260R130
Day 2
Erin, Will
0-15 cmbs brown silty clay with large rocks
15-35 cmbs yellowish brown clay loam
35-47 cmbs reddish brown clay
2 flakes

260R140
Day 2
Erin, Will
0-15 cmbs brown silty clay
15-30 cmbs yellowish brown clay loam
30-35 cmbs yellowish red clay
NCR

270R80
Day 2
Mary Beth, David
0-22 cmbs dark brown sandy loam
22-32 cmbs brown clay loam
32-35 cmbs reddish brown clay
NCR

270R100
Day 1
0-15 cmbs dark brown humic sandy loam
15-35 cmbs brown clay loam
35-40 cmbs reddish brown clay
NCR, rocks 1/4 of matrix

270R130
Day 2
Erin, Will
0-15 cmbs brown silty clay with large rocks
15-38 cmbs yellowish brown clay loam
1 flake

270R140
Day 2
Erin, Will
0-20 cmbs brown silty clay
20-25 cmbs yellowish brown clay loam
25-35 cmbs yellowish red clay
NCR

280R80
Day 2
Mary Beth, David
0-15 cmbs dark brown sandy loam
15-20 cmbs yellowish brown clay loam
1/4 matrix is rock, large rock at 20 cmbs
NCR

280R120
Day 1
0-17 cmbs dark brown humic sandy loam
17-27 cmbs brown clay loam
27-40 cmbs reddish brown clay
1 flake

280R130
Day 2
Erin, Will
0-15 cmbs brown silty clay with large rocks
15-31 cmbs yellowish brown clay loam
31-38 cmbs reddish brown clay
NCR

290R100
Day 1
0-13 cmbs dark brown humic sandy loam
13-26 cmbs reddish brown clay
NCR

290R110
Day 1
0-18 cmbs dark brown humic sandy loam
18-32 cmbs reddish brown clay
NCR, rocks 1/4 of matrix

290R120
Day 1
0-10 cmbs dark brown humic sandy loam
10-20 cmbs brown clay loam
20-29 cmbs reddish brown clay
1 quartz shatter

290R130
Day 2
Erin, Will
No dig – in roadbed

300R120
Day 1
0-15 cmbs dark brown humic sandy loam
15-45 cmbs brown clay loam
NCR, rocks 1/3 of matrix

300R130
Day 2
Erin, Will
0-31 cmbs brown silty clay with large rocks
31-45 cmbs reddish brown clay
NCR

APPENDIX B

Carolina North Duct Corridor Archaeological Survey Artifact Catalog

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m1	31OR630	Or 461	2-29-1	15	2	20-Feb-09	MBF/EJ	1	1.25	Interior distal flake	indet metavolcanic
2551m2	31OR631	Or 462	2-27-6	17	2	2-Feb-09	MBF/DC	1	1.00	Interior proximal flake	crystal-lithic tuff
2551m3	31OR631	Or 462	2-27-6d	15	2	2-Feb-09	MBF/EJ	1	0.50	Interior flake	metasedimentary
2551m4	31OR631	Or 462	2-27-6f	20	2	2-Feb-09	MBF/EJ	1	0.75	Interior medial flake	crystal-lithic tuff
2551m5	31OR632	Or 463	2-7-2	20	2	14-Jan-09	MK/WM	1	0.50	Interior flake	vein quartz
2551m6	31OR632	Or 463	2-7-3	20	2	14-Jan-09	MBF/EJ	1	0.50	Secondary flake	vein quartz
2331m7	31OR633	Or 464	330R100	32	2	11-Mar-09	ES/WM	1	0.25	Interior flake	crystal-lithic tuff
2331m7	31OR633	Or 464	330R100	32	2	11-Mar-09	ES/WM	1	0.50	Interior flake	vitric metasedimentary
2331m7	31OR633	Or 464	330R100	32	2	11-Mar-09	ES/WM	1	0.25	Interior distal flake	rhyolite porphyry
2331m7	31OR633	Or 464	330R100	32	2	11-Mar-09	ES/WM	1	0.75	Secondary flake	metasedimentary
2331m8	31OR633	Or 464	330R110	26	2	11-Mar-09	ES/WM	1	1.00	Interior distal flake	rhyolite tuff
2551m9	31OR633	Or 464	330R40	32	2	9-Mar-09	MBF/MK	1	0.25	Interior flake	vein quartz
2551m10	31OR633	Or 464	340R40	41	2	9-Mar-09	MBF/MK	1	0.50	Interior flake	rhyolite tuff
2551m11	31OR633	Or 464	340R40	41	2	9-Mar-09	MBF/MK	1	1.00	Shatter flake	quartz crystal
2551m12	31OR633	Or 464	340R60	27	2	11-Mar-09	MK/KC	1	0.75	Interior flake	crystal-lithic tuff
2551m13	31OR633	Or 464	350R100	34	2	11-Mar-09	ES/WM	1	0.25	Interior flake	vein quartz
2551m14	31OR633	Or 464	360R40	33	2	9-Mar-09	MBF/MK	1	0.50	Interior flake	rhyolite tuff
2551m14	31OR633	Or 464	360R40	33	2	9-Mar-09	MBF/MK	1	0.25	Interior flake	quartz crystal
2551m14	31OR633	Or 464	360R40	33	2	9-Mar-09	MBF/MK	1	0.75	Interior proximal flake	crystal-lithic tuff
2551a15	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	2.00	Secondary flake tool	rhyolite tuff
2551m16	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	0.25	Interior flake	crystal-lithic tuff
2551m16	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	0.50	Interior flake	metasedimentary
2551m16	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	0.25	Interior flake	vein quartz
2551m16	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	0.50	Interior flake	vein quartz
2551m16	31OR633	Or 464	360R60	26	2	11-Mar-09	MK/KC	1	0.75	Interior distal flake	crystal-lithic tuff
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	0.25	Interior flake	rhyolite porphyry
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	2.00	Interior flake	rhyolite tuff
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	0.50	Interior flake	vein quartz
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	0.25	Interior distal flake	rhyolite tuff
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	0.50	Interior medial flake	rhyolite porphyry
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	2	0.50	Interior proximal flake	crystal-lithic tuff
2551m17	31OR633	Or 464	360R80	36	2	11-Mar-09	MBF/MR	1	0.25	Interior proximal flake	vitric metavolcanic
2551m18	31OR633	Or 464	380R30	26	2	9-Mar-09	MK/KC	2	0.50	Interior flake	rhyolite porphyry
2551m18	31OR633	Or 464	380R30	26	2	9-Mar-09	MK/KC	1	0.75	Interior flake	rhyolite porphyry
2551m19	31OR633	Or 464	380R40	34	2	9-Mar-09	MK/KC	1	0.50	Interior distal flake	metasedimentary
2551m19	31OR633	Or 464	380R40	34	2	9-Mar-09	MK/KC	1	0.75	Interior medial flake	metasedimentary
2551m19	31OR633	Or 464	380R40	34	2	9-Mar-09	MK/KC	1	1.00	Secondary distal flake	indet metavolcanic
2551m19	31OR633	Or 464	380R40	34	2	9-Mar-09	MK/KC	1	1.25	Secondary medial flake	indet metavolcanic
2551m20	31OR633	Or 464	380R60	32	2	11-Mar-09	MK/KC	1	1.25	Interior flake	indet metavolcanic
2551m20	31OR633	Or 464	380R60	32	2	11-Mar-09	MK/KC	1	0.50	Interior flake	vein quartz
2551m21	31OR633	Or 464	380R80	33	2	11-Mar-09	AT/DC	1	0.75	Secondary flake	quartz crystal
2551m22	31OR633	Or 464	390R100	44	2	11-Mar-09	ES/WM	1	0.50	Interior distal flake	crystal-lithic tuff
2551m22	31OR633	Or 464	390R100	44	2	11-Mar-09	ES/WM	1	0.75	Interior distal flake	vein quartz

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m22	31OR633	Or 464	390R100	44	2	11-Mar-09	ES/WM	1	0.25	Interior medial flake	rhyolite tuff
2551m22	31OR633	Or 464	390R100	44	2	11-Mar-09	ES/WM	1	0.75	Interior medial flake	rhyolite tuff
2551m22	31OR633	Or 464	390R100	44	2	11-Mar-09	ES/WM	1	0.25	Secondary flake	rhyolite tuff
2551m23	31OR633	Or 464	390R110	37	2	11-Mar-09	MBF/MR	1	0.50	Interior distal flake	metasedimentary
2551m24	31OR633	Or 464	400R30	41	2	11-Mar-09	MK/KC	1	0.25	Interior flake	metasedimentary
2551m24	31OR633	Or 464	400R30	41	2	11-Mar-09	MK/KC	2	0.25	Interior distal flake	rhyolite porphyry
2551m24	31OR633	Or 464	400R30	41	2	11-Mar-09	MK/KC	1	0.25	Interior medial flake	crystal-lithic tuff
2551m24	31OR633	Or 464	400R30	41	2	11-Mar-09	MK/KC	1	0.25	Secondary flake	metasedimentary
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.25	Interior flake	metasedimentary
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.50	Interior flake	metasedimentary
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.25	Interior distal flake	vitric metasedimentary
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.50	Interior distal flake	vitric metasedimentary
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.50	Interior proximal flake	crystal-lithic tuff
2551m25	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1	0.25	Primary flake	metasedimentary
2551a26	31OR633	Or 464	400R40	38	2	9-Mar-09	MK/KC	1		Savannah River biface	rhyolite tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	1	1.25	Interior flake	crystal-lithic tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	2	0.25	Interior flake	rhyolite tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	1	0.25	Interior flake	metasedimentary
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	2	0.25	Interior distal flake	rhyolite porphyry
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	3	0.50	Interior distal flake	rhyolite tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	1	0.75	Interior medial flake	rhyolite tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	3	0.50	Interior proximal flake	rhyolite tuff
2551m27	31OR633	Or 464	400R50	49	2	9-Mar-09	MK/KC	1	0.25	Secondary flake	vein quartz
2551m28	31OR633	Or 464	400R60	29	2	9-Mar-09	MK/KC	1	0.25	Interior medial flake	rhyolite porphyry
2551m28	31OR633	Or 464	400R60	29	2	9-Mar-09	MK/KC	1	0.25	Interior medial flake	vein quartz
2551m29	31OR633	Or 464	410R100	50	2	11-Mar-09	ES/WM	3	0.25	Interior medial flake	vein quartz
2551m29	31OR633	Or 464	410R100	50	2	11-Mar-09	ES/WM	2	0.50	Interior medial flake	vein quartz
2551m30	31OR633	Or 464	410R110	30	2	11-Mar-09	MK/KC	1	0.50	Interior flake	vein quartz
2551m30	31OR633	Or 464	410R110	30	2	11-Mar-09	MK/KC	1	0.25	Interior medial flake	vein quartz
2551m30	31OR633	Or 464	410R110	30	2	11-Mar-09	MK/KC	1	0.25	Secondary flake	metasedimentary
2551m31	31OR633	Or 464	410R110	30	2	11-Mar-09	MK/KC	1	1.25	Shatter flake	vein quartz
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.50	Interior flake	metasedimentary
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	2	0.50	Interior flake	vein quartz
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.50	Interior flake	vitric metavolcanic
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.75	Interior flake	vitric metavolcanic
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.25	Interior distal flake	crystal-lithic tuff
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.75	Interior distal flake	rhyolite porphyry
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.25	Interior distal flake	rhyolite tuff
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.50	Interior medial flake	rhyolite porphyry
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.50	Interior medial flake	indet metavolcanic
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	0.25	Interior proximal flake	rhyolite tuff
2551m32	31OR633	Or 464	420R60	35	2	9-Mar-09	MK/KC	1	1.00	Secondary flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.25	Interior flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.25	Interior flake	rhyolite tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	4	0.25	Interior flake	vein quartz

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior flake	vein quartz
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior flake	vitric metasedimentary
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	1.25	Interior distal flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.25	Interior distal flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior distal flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior distal flake	quartz crystal
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.75	Interior medial flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.75	Interior medial flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior medial flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.25	Interior medial flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.25	Interior medial flake	rhyolite tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.75	Interior medial flake	indet metavolcanic
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.75	Interior medial flake	metasedimentary
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior medial flake	metasedimentary
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.25	Interior medial flake	vein quartz
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.50	Interior proximal flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.25	Interior proximal flake	crystal-lithic tuff
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.25	Interior proximal flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior proximal flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	0.50	Interior proximal flake	rhyolite porphyry
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	2	0.50	Interior proximal flake	metasedimentary
2551m33	31OR633	Or 464	420R70	39	2	9-Mar-09	MK/KC	1	1.00	Secondary flake	crystal-lithic tuff
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Interior flake	crystal-lithic tuff
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.25	Interior flake	rhyolite porphyry
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	2	0.25	Interior flake	rhyolite tuff
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	2	0.25	Interior flake	metasedimentary
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Interior flake	metasedimentary
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	2	0.75	Interior flake	metasedimentary
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	2.00	Interior flake	metasedimentary
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Interior flake	vein quartz
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.75	Interior flake	vein quartz
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.25	Interior distal flake	rhyolite porphyry
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.25	Interior distal flake	rhyolite tuff
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.25	Interior distal flake	vein quartz
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Interior medial flake	indet metavolcanic
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.75	Interior medial flake	indet metavolcanic
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	1.00	Interior proximal flake	rhyolite porphyry
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.75	Primary flake	rhyolite porphyry
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Primary flake	indet metavolcanic
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	2	0.75	Primary flake	quartz crystal
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.75	Secondary flake	vein quartz
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Secondary distal flake	rhyolite porphyry
2551m34	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.50	Secondary medial flake	metasedimentary
2551m35	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	2	0.50	Shatter flake	vein quartz
2551m35	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	0.75	Shatter flake	vein quartz
2551m35	31OR633	Or 464	420R80	55	2	9-Mar-09	MBF/AT	1	1.00	Shatter flake	vein quartz

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m36	31OR633	Or 464	430R100	40	2	11-Mar-09	ES/WM	1	0.25	Interior flake	vein quartz
2551m36	31OR633	Or 464	430R100	40	2	11-Mar-09	ES/WM	2	0.50	Interior distal flake	vein quartz
2551m36	31OR633	Or 464	430R100	40	2	11-Mar-09	ES/WM	2	0.50	Secondary flake	vein quartz
2551m37	31OR633	Or 464	430R100	40	2	11-Mar-09	ES/WM	2	0.75	Shatter flake	vein quartz
2551m38	31OR633	Or 464	440R120	39	2	11-Mar-09	MBF/MR	1	0.25	Interior distal flake	indet metavolcanic
2551m39	31OR633	Or 464	440R60	38	2	9-Mar-09	MK/KC	1	0.50	Interior flake	rhyolite tuff
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.50	Interior flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.75	Interior flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	1.00	Interior flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	1.25	Interior flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.75	Interior flake	rhyolite tuff
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.25	Interior flake	metasedimentary
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.75	Interior flake	quartz crystal
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.25	Interior distal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	0.25	Interior distal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	1.00	Interior distal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.25	Interior medial flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	3	0.50	Interior medial flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.50	Interior medial flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	0.75	Interior medial flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	1.00	Interior medial flake	rhyolite tuff
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	0.50	Interior proximal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.50	Interior proximal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	0.50	Interior proximal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	1.00	Interior proximal flake	rhyolite porphyry
2551m40	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	2	0.75	Interior proximal flake	rhyolite tuff
2551m41	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	1.25	Shatter flake	vein quartz
2551m41	31OR633	Or 464	440R80	57	2	11-Mar-09	MBF/AT	1	1.50	Shatter flake	vein quartz
2551a42	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1		Palmer PPK	quartz crystal
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	2.50	Core	crystal-lithic tuff
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	1.00	Interior flake	crystal-lithic tuff
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	1.50	Interior flake	crystal-lithic tuff
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.25	Interior flake	rhyolite porphyry
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	1.50	Interior flake	rhyolite porphyry
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.75	Interior flake	rhyolite tuff
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	1.00	Interior flake	rhyolite tuff
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	2	0.25	Interior flake	metasedimentary
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.75	Interior flake	metasedimentary
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.25	Interior flake	vein quartz
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.50	Interior flake	vein quartz
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	2	0.75	Interior distal flake	rhyolite porphyry
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	1.00	Interior medial flake	rhyolite porphyry
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.25	Interior medial flake	metasedimentary
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.50	Interior medial flake	metasedimentary
2551m43	31OR633	Or 464	450R100	48	2	11-Mar-09	ES/WM	1	0.50	Interior medial flake	metasedimentary
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	2	0.25	Interior flake	rhyolite porphyry

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.25	Interior flake	indet metavolcanic
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.50	Interior flake	indet metavolcanic
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.50	Interior flake	metasedimentary
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.75	Interior flake	metasedimentary
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.75	Interior distal flake	rhyolite tuff
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.25	Interior medial flake	rhyolite porphyry
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	3	0.25	Interior medial flake	indet metavolcanic
2551m44	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	0.75	Secondary distal flake	rhyolite tuff
2551m45	31OR633	Or 464	450R100a	34	2	11-Mar-09	ES/WM	1	1.50	Shatter flake	vein quartz
2551m46	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	1	0.50	Interior flake	rhyolite porphyry
2551m46	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	1	0.75	Interior flake	metasedimentary
2551m46	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	2	0.50	Interior flake	vein quartz
2551m46	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	1	0.50	Interior medial flake	indet metavolcanic
2551m47	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	1	0.50	Shatter flake	quartz crystal
2551m47	31OR633	Or 464	450R80	36	2	9-Mar-09	MBF/AT	1	1.00	Shatter flake	quartz crystal
2551m48	31OR633	Or 464	460R120	38	2	11-Mar-09	MBF/MR	1	0.75	Interior flake	vein quartz
2551m48	31OR633	Or 464	460R120	38	2	11-Mar-09	MBF/MR	1	1.25	Secondary flake	metasedimentary
2551m49	31OR633	Or 464	470R100	37	2	11-Mar-09	ES/WM	1	0.25	Interior flake	vein quartz
2551m49	31OR633	Or 464	470R100	37	2	11-Mar-09	ES/WM	1	0.50	Interior flake	vein quartz
2551m49	31OR633	Or 464	470R100	37	2	11-Mar-09	ES/WM	2	0.25	Interior medial flake	indet metavolcanic
2551m50	31OR633	Or 464	470R100	37	2	11-Mar-09	ES/WM	1	0.75	Shatter flake	vein quartz
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	1	0.25	Interior flake	rhyolite porphyry
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	1	0.75	Interior flake	indet metavolcanic
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	1	0.25	Interior distal flake	indet metavolcanic
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	1	0.50	Interior medial flake	metasedimentary
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	1	0.50	Interior medial flake	quartz crystal
2551m51	31OR633	Or 464	480R100	50	2	11-Mar-09	ES/WM	2	0.25	Secondary flake	crystal-lithic tuff
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	1	0.50	Interior flake	crystal-lithic tuff
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	1	0.50	Interior flake	rhyolite porphyry
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	2	0.75	Interior flake	rhyolite porphyry
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	1	0.25	Interior flake	rhyolite tuff
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	1	0.25	Interior distal flake	crystal-lithic tuff
2551m52	31OR633	Or 464	480R120	40	2	11-Mar-09	MBF/MR	1	0.25	Interior medial flake	rhyolite tuff
2551m53	31OR633	Or 464	480R140	48	2	11-Mar-09	DC/AT	1	0.50	Interior medial flake	metasedimentary
2551m54	31OR633	Or 464	490R120	38	2	11-Mar-09	MBF/MR	2	0.25	Interior flake	rhyolite porphyry
2551m54	31OR633	Or 464	490R120	38	2	11-Mar-09	MBF/MR	1	1.75	Interior flake	metasedimentary
2551m54	31OR633	Or 464	490R120	38	2	11-Mar-09	MBF/MR	1	0.25	Interior medial flake	rhyolite tuff
2551m54	31OR633	Or 464	490R120	38	2	11-Mar-09	MBF/MR	1	0.50	Secondary flake	rhyolite porphyry
2551m55	31OR633	Or 464	490R120	38	2	11-Mar-09	MBF/MR	1	0.75	Shatter flake	quartz crystal
2551m56	31OR633	Or 464	490R140	33	2	11-Mar-09	DC/AT	1	0.75	Interior flake	metasedimentary
2551m57	31OR633	Or 464	500R120	35	2	11-Mar-09	MBF/MR	1	0.50	Interior flake	rhyolite porphyry
2551m57	31OR633	Or 464	500R120	35	2	11-Mar-09	MBF/MR	1	0.25	Interior flake	indet metavolcanic
2551m57	31OR633	Or 464	500R120	35	2	11-Mar-09	MBF/MR	1	0.75	Interior flake	metasedimentary
2551m57	31OR633	Or 464	500R120	35	2	11-Mar-09	MBF/MR	1	0.50	Interior medial flake	rhyolite tuff
2551m58	31OR633	Or 464	500R140	33	2	11-Mar-09	DC/AT	1	0.50	Interior flake	rhyolite porphyry
2551m58	31OR633	Or 464	500R140	33	2	11-Mar-09	DC/AT	1	0.50	Interior flake	quartz crystal

Cat. No.	State Site	RLA Site	Test No.	Depth (cm)	Area	Date	Collectors	Count	Size	Morphology	Material
2551m59	31OR633	Or 464	510R100	36	2	11-Mar-09	ES/WS	1	0.50	Interior flake	vein quartz
2551m59	31OR633	Or 464	510R100	36	2	11-Mar-09	ES/WS	1	0.50	Interior distal flake	rhyolite porphyry
2551m59	31OR633	Or 464	510R100	36	2	11-Mar-09	ES/WS	1	0.50	Interior proximal flake	metasedimentary
2551m60	31OR633	Or 464	510R110	38	2	11-Mar-09	MBF/MR	2	0.25	Interior flake	quartz crystal
2551m60	31OR633	Or 464	510R110	38	2	11-Mar-09	MBF/MR	1	0.50	Interior distal flake	metasedimentary
2551m61	31OR633	Or 464	510R120	33	2	11-Mar-09	MBF/MR	1	0.75	Interior flake	crystal-lithic tuff
2551m61	31OR633	Or 464	510R120	33	2	11-Mar-09	MBF/MR	1	0.50	Interior flake	rhyolite tuff
2551m61	31OR633	Or 464	510R120	33	2	11-Mar-09	MBF/MR	1	1.25	Interior distal flake	crystal-lithic tuff
2551a62	31OR634	Or 465	220R130	26	3	28-Mar-09	ES/WM	1	0.75	Secondary flake tool	metasedimentary
2551a63	31OR634	Or 465	230R100	23	3	28-Mar-09	DC/MBF	1		Bottle cap	iron
2551b64	31OR634	Or 465	230R100	23	3	28-Mar-09	DC/MBF	1		Fragment	bone
2551m65	31OR634	Or 465	230R100	23	3	28-Mar-09	DC/MBF	4		Fragment	brick
2551m66	31OR634	Or 465	240R120	43	3	18-Mar-09	MBF/AT	1	0.25	Interior flake	rhyolite porphyry
2551m66	31OR634	Or 465	240R120	43	3	18-Mar-09	MBF/AT	1	0.75	Interior distal flake	crystal-lithic tuff
2551m67	31OR634	Or 465	240R130	38	3	28-Mar-09	ES/WM	1	0.25	Interior medial flake	rhyolite porphyry
2551a68	31OR634	Or 465	240R80	22	3	28-Mar-09	MBF/DC	1		Curved fragment	amber glass
2551m69	31OR634	Or 465	240R80	22	3	28-Mar-09	MBF/DC	2		Fragment	brick
2551a70	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	19		Pane	colorless glass
2551a71	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	2		Curved fragment	colorless glass
2551a72	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	2		Bottle cap	iron
2551m73	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	1	1.00	Interior flake	rhyolite porphyry
2551m73	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	1	0.25	Interior distal flake	rhyolite porphyry
2551m73	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	1	0.50	Interior distal flake	rhyolite porphyry
2551m73	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	2	0.75	Interior distal flake	rhyolite porphyry
2551m73	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	1	0.75	Secondary flake	vein quartz
2551m74	31OR634	Or 465	250R100	42	3	18-Mar-09	MBF/AT	6		Pebble	quartz
2551a75	31OR634	Or 465	250R70	39	3	28-Mar-09	MBF/DC	1		Curved fragment	colorless glass
2551a76	31OR634	Or 465	250R70	39	3	28-Mar-09	MBF/DC	1		Bottle cap	iron
2551m77	31OR634	Or 465	250R70	39	3	28-Mar-09	MBF/DC	3		Fragment	brick
2551m78	31OR634	Or 465	250R70	39	3	28-Mar-09	MBF/DC	1		Fragment	concrete
2551m79	31OR634	Or 465	250R70	39	3	28-Mar-09	MBF/DC	1	0.50	Interior flake	crystal-lithic tuff
2551m80	31OR634	Or 465	260R120	40	3	18-Mar-09	MBF/AT	1	0.25	Interior flake	rhyolite tuff
2551m80	31OR634	Or 465	260R120	40	3	18-Mar-09	MBF/AT	1	1.00	Interior flake	rhyolite tuff
2551m80	31OR634	Or 465	260R120	40	3	18-Mar-09	MBF/AT	1	0.25	Interior flake	metasedimentary
2551m80	31OR634	Or 465	260R120	40	3	18-Mar-09	MBF/AT	2	1.00	Interior conjoining flake	metasedimentary
2551m80	31OR634	Or 465	260R120	40	3	18-Mar-09	MBF/AT	1	1.00	Secondary flake	metasedimentary
2551m81	31OR634	Or 465	260R130	47	3	28-Mar-09	ES/WM	2	0.25	Interior flake	metasedimentary
2551m82	31OR634	Or 465	260R80	33	3	28-Mar-09	MBF/DC	1	0.25	Interior distal flake	rhyolite porphyry
2551m83	31OR634	Or 465	270R130	38	3	28-Mar-09	ES/WM	1	2.25	Interior flake	rhyolite tuff
2551m84	31OR634	Or 465	280R120	40	3	18-Mar-09	MBF/AT	1	0.75	Interior flake	metasedimentary
2551m85	31OR634	Or 465	290R120	29	3	18-Mar-09	MBF/AT	1	0.50	Shatter flake	vein quartz