



Metal Detector Survey and Battlefield Delineation of the Buford's Massacre (Waxhaws) Revolutionary War Battlefield, SC Route 9 and SC Route 522 Intersection Improvements

LANCASTER COUNTY, SOUTH CAROLINA
SA29(003)
PIN 30523

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South Carolina Department of Transportation
Columbia, South Carolina

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MANAGEMENT SUMMARY

During February and March 2010, Brockington and Associates conducted mitigative archaeological investigations and boundary delineation for the Waxhaws (Buford's Massacre) Battlefield (Site 38LA564) in Lancaster County, South Carolina. The South Carolina Department of Transportation (SCDOT) proposes highway improvements at the intersection of SC Route 9 and SC Route 522, in the Buford community. Campco Engineering Inc. was charged with developing this project. The proposed improvements include the addition of left turn lanes to both SC Route 9 and SC Route 522. This project is a part of several SCDOT statewide safety projects and will physically affect up to 20 meters (66 ft from the centerline) on both sides of the SC 9 and SC 522 intersection. Cultural resources survey was previously completed in 2006 by Brockington and Associates for the SCDOT in compliance with state and federal cultural resources legislation. Through consultation, it was determined that the proposed intersection improvements will adversely affect the Waxhaws battlefield.

The Battle of the Waxhaws (29 May 1780) was a significant event during the Revolutionary War. A portion of the battlefield is previously listed on the National Register of Historic Places (NRHP). The two-acre historic property, recorded as the Buford's Massacre NRHP District, is located approximately 100 feet south of the proposed intersection improvements southern terminus. It contains the mass grave of 84 Virginia Continental soldiers marked by a stone cairn and several historic monuments. As presently designed, the proposed intersection improvement project will not physically affect the previously defined NRHP property. However, survey investigations carried out by Brockington and Associates, Inc. during January 2006 (Butler 2006a) demonstrated that the Buford's Massacre Battlefield extends outside the NRHP boundaries into the Area of Potential Effect (APE). The proposed project will directly affect Site 38LA564 and will cause adverse effects to the Buford's Massacre (Waxhaws) battlefield.

Brockington recommended avoidance of the battlefield, but this option is not practical in this case

since the intersection improvements are a public safety issue. However, the adverse effects were minimized through redesign. Traditional Phase III data recovery is not an effective mitigation technique for historic battlefields. An on-site meeting was held 15 June 2009 between SCDOT and SCDAH staff to discuss the project effects and potential mitigation options. A Memorandum of Agreement (MOA) was signed between FHWA, SCDOT, and SCSHPO. The MOA outlines three key stipulations as appropriate mitigation; (1) comprehensive delineation (archival and archaeological) of the Buford's Massacre core battlefield boundary, (2) archaeological investigation of a potential second mass grave on land owned by the Lancaster County Parks and Recreation Department, and (3) development of interpretive signage to be placed at the Buford's Massacre NRHP District owned by Lancaster County. Stipulation 1 (battlefield delineation) and 2 (feature evaluation) are presented in this report; Stipulation 3, interpretive signage, is being undertaken and reviewed as a separate project.

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1.0 INTRODUCTION

During initial archival research carried out by Brockington and Associates, Inc. in August 2005, a portion of the Buford's Massacre Battlefield and NRHP district was identified within the Area of Potential Effect (APE) for proposed improvements to the intersection at SC Route 9 and SC Route 522 (Figure 1.1). Research showed the Buford's Massacre Battlefield district is located about one-quarter mile south of the SC 9/522 intersection, adjacent to (the west side of) SC 522. The NRHP district consists of a two-acre wooded site/tract with marble and granite monuments and a stone cairn marking a mass grave. The grave contains the remains of about 84 Virginia Continental troops killed May 29, 1780, at the Battle of the Waxhaws (Buford's Massacre). A marble grave marker was placed on the mass burial site in 1860. Lancaster County purchased the two-acre tract in 1940 for its maintenance and protection as a small historic park. The two-acre tract was listed in the NRHP as a historic district in 1990.

Project engineers were consulted, and they redesigned the southern end of the turn lane improvement to reduce physical impacts to the NRHP property. Mr. Wayne Roberts, the SCDOT archaeologist, suggested further evaluation of the battlefield was necessary. Accordingly, Brockington was tasked to conduct research and determine whether the proposed improvements could adversely affect the Buford's Massacre battlefield and/or related military archaeological deposits. Additional archival research and metal detector survey was completed by during the week of 24 January 2006. Musket balls and other artifacts were recovered within the improvements area, and the artifact scatter was defined as archaeological site (38LA564), the Buford's Massacre (Waxhaws) Revolutionary War Battlefield.

Brockington recommended the newly defined 38LA564 archaeological site area, outside the previously listed Buford's Massacre NRHP property, also be considered NRHP eligible under Criterion A (significant events), and Criterion D (archaeology). It was recognized by the consultant and reviewing agencies, however, that though no one had ever delineated the entire battlefield boundary and even the 38LA564

archaeological site did not likely comprise the entire Buford's Massacre battlefield. After consultation between the SCDOT, FHWA, and SCSHPO, it was determined that the proposed project would cause adverse effects to the Buford's Massacre Battlefield. Avoidance was recommended, but this option was not practical since the intersection improvements are a public safety issue. Mitigation options were discussed and a Memorandum of Agreement (MOA) was signed between the Federal Highways Administration (FHWA), South Carolina Department of Transportation (SCDOT), and South Carolina State Historic Preservation Office (SCSHPO).

Traditional Phase III data recovery is not an effective mitigation technique for historic battlefields. As stipulated in the MOA, an on-site meeting was held 15 June 2009 between SCDOT and SCSHPO staff to discuss the project effects and potential mitigation options. Three key components were identified as appropriate mitigation for adverse impacts to 38LA564; (1) comprehensive delineation (archival and archaeological) of the Buford's Massacre core battlefield boundary, (2) archaeological investigation of a potential second mass grave owned by the Lancaster County Parks and Recreation Department, and (3) development of interpretive signage to be placed at the Buford's Massacre NRHP District owned by Lancaster County. Stipulation 1 (battlefield delineation) and 2 (feature evaluation) are presented in this report; Stipulation 3, interpretive signage, is being undertaken and reviewed as a separate project.

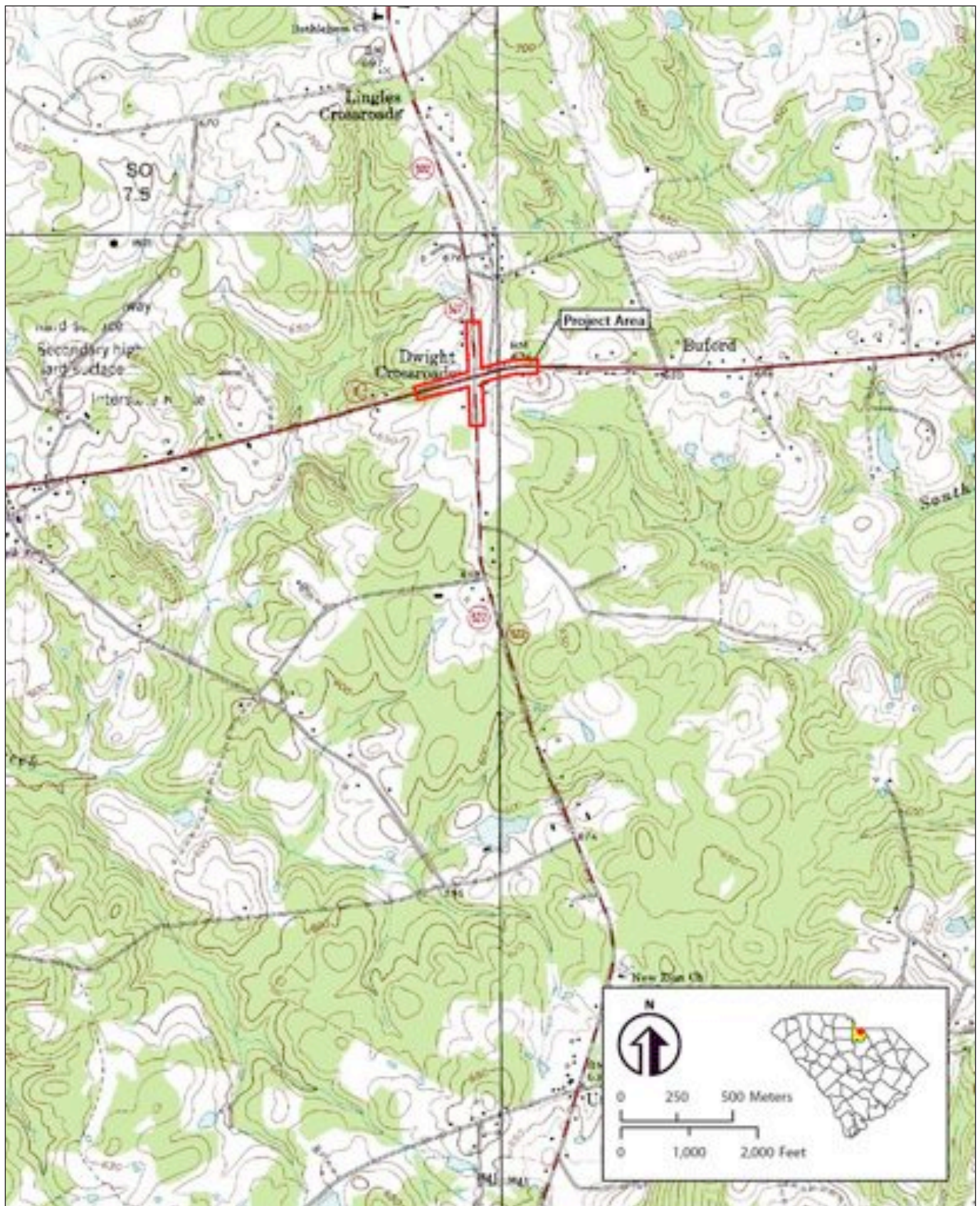


Figure 1.1 SC Route 9 and SC Route 522 Intersection improvements project area.

2.0 ENVIRONMENTAL SETTING AND HISTORIC CONTEXT

2.1 ENVIRONMENTAL SETTING

The project area is located in the Piedmont geographic province in Lancaster County, near the north-central boundary with North Carolina. It is in the Catawba River drainage, which forms the western boundary of Lancaster County. The Catawba River originates in the mountains of western North Carolina and flows through a series of lakes and free-flowing stretches for over 322 km (200 miles), ending where it meets the Wateree River to form the Santee River drainage (Kovacik and Winberry 1987:15). The vegetation in the study region is dominated by pine and hardwood forests, but the project area also is primarily agricultural pasture.

The main soils found in the study area are the Gills-Enon-Herndon association (Rogers 1973). These are well drained to moderately well drained soils that are clay in the main part of the subsoil, deep or moderately deep over weathered rock. Gills soils consist of deep, somewhat poorly drained upland soils that have firm, plastic subsoil. Enon soils consist of well-drained soils that are moderately deep over weathered rock material of the Piedmont Uplands. Herndon soils consist of deep, well-drained upland soils formed in residue weathered from sericitic schist and argillite. During the nineteenth and early twentieth centuries, poor agricultural practices caused major soil erosion and deflation throughout the Piedmont. Most of these eroded soils became alluvium in the major rivers and tributaries (Trimble 1974).

The local climate is generally mild and temperate, with mild winters (around 31 degrees Fahrenheit) and hot, humid summers (around 90 degrees Fahrenheit). The total annual precipitation in Lancaster County averages 45.7 inches. Thunderstorms occur on about 55 days each year, and most occur in the summer (Rogers 1973:124-125).

2.2 HISTORIC CONTEXT

2.2.1 Revolutionary War (1776-1780)

Following years of increasing tension due to unfair taxation and trade restrictions, the American colonies declared their independence from Britain in 1776. South

Carolinians were divided during the war, although most citizens eventually supported the American cause. Those individuals who remained loyal to the British government tended to reside in Charleston or in certain enclaves within the interior of the province (Lambert 1987). Britain's Royal Navy attacked Fort Sullivan (later renamed Fort Moultrie) near Charleston in 1776. The British failed to take the fort, and the defeat bolstered the morale of American revolutionaries throughout the colonies. The British military then turned their attention northward towards New England. They returned in 1778, however, and besieged and captured Savannah in late December. As the war turned to stalemate in the North, however, the British next endeavored to capture Charleston, so they could organize and utilize the Loyalists throughout the Carolinas (Fraser 1993).

A British expeditionary force under Sir Henry Clinton landed on Seabrook Island in February 1780. After some minor skirmishes, the British Forces crossed the Ashley to the Charleston peninsula above the city (Lumpkin 1981:42-46). The rebel South Carolinians were not prepared for an attack in this direction. The British besieged the city and captured it and its entire garrison in May. Charleston subsequently became a base of operations for British campaigns into the interior of South Carolina, Georgia, and North Carolina (Buchanan 1997). The British occupied the port cities of Savannah and Charleston. With no strong military force to oppose them, they began to garrison most of the larger towns and established a chain of forts in the South Carolina backcountry (Lumpkin 1981:70). The military situation was so favorable for the British that their commander, Sir Henry Clinton, boasted that "there are few men in South Carolina who not our prisoners, or in arms with us" (Edgar 2001:54).

2.2.2 Battle of the Waxhaws (Buford's Massacre), 29 May 1780

Before Charleston capitulated, a group of about 380 Virginia Continental troops under the command of Colonel Abraham Buford had been on its way to help relieve the city. The Virginians were organized as the

“Third Detachment,” and consisted of two companies of the Second Virginia Continental Line Regiment, 40 mounted troops of the Virginia Light Dragoons, and two six pounder artillery pieces (Wittenberg 2010:30). Buford’s troops got within thirty miles north of Charleston when they received word the besieged city had surrendered (Power 1992:6).

South Carolina Governor John Rutledge called out the state militia to relieve the city but few answered the summons. Meanwhile, about 300 Continental and South Carolina state cavalry gathered in Georgetown to continue resistance, and Colonel Anthony White arrived from Virginia and assumed command of these mounted troops. He planned to attack an isolated British foraging party, and asked Colonel Buford to provide infantry support (Piecuch 2010:14). However, Buford and his men failed to rendezvous at the appointed time and Colonel White proceeded without them. White’s cavalry successfully attached the foragers at Wambaw Plantation and captured an officer and 13 men. They returned to their camp at Lenud’s Ferry on the Santee River where they were attacked in turn by about 150 of Tarleton’s Legion. Buford’s command arrived in time to see White’s cavalymen decimated by the mounted Legion, while they watched helplessly from the north riverbank. The Americans lost about 41 killed and wounded and had 67 taken prisoner (Miskimon 2009:63). The British lost only two killed and a few wounded but were able to rescue the prisoners previously captured at Wambaw Plantation.

Buford’s unnerved Continentals now retreated northwards, escorting South Carolina Governor John Rutledge and several other government officials which they met on the way (Edgar 2001:55). Lord Cornwallis learned of Buford’s force and tasked Lieutenant Colonel Bannister Tarleton and 270 of his mounted Legion to catch them. It seemed hopeless, as the Continentals had a week’s head start, but Colonel Tarleton was an aggressive commander and drove his men and horses relentlessly over 150 miles toward his goal.

On the afternoon of 29 May 1780, Tarleton’s mounted force caught up to Buford’s men just south of the South Carolina-North Carolina boundary, in a region known as the Waxhaws (Figure 2.1). Tarleton sent ahead a message demanding their surrender, which

Buford refused. Colonel Buford ordered his advance guard, wagons, and artillery ahead, and chose his defensive position (Buchanan 1997:82). Tarleton’s ploy delayed the Virginians long enough to allow his advance guard to catch up with and capture Buford’s rear guard, consisting of only five dragoons- one sergeant and four men.

Tarleton (1787:31) relates that at a distance of three hundred yards “without any fire from the enemy though within three hundred yards of their front” he divided his attacking force into three groups:

He [Tarleton] confided his right wing, which consisted of 60 dragoons, and nearly as many mounted infantry, to Major Cochrane, desiring him to dismount the latter, to gall the enemy’s flank, before he moved against their front with their cavalry: Captains Corbet and Kinlock were directed, with the 17th Dragoons and part of the legion, to charge the center of the Americans; whilst Lieutenant Colonel Tarleton, with thirty chosen horse and some infantry assaulted their right flank and reserve.

Colonel Tarleton also arranged for his stragglers to form a reserve in case his assault went badly:

The dragoons, the mounted infantry, and three pounder in the rear, as they could come up with their tired horses, were ordered to form something like a reserve, opposite to the enemies’ center, upon a small eminence that commanded the road, which disposition which afforded the British light troops an object to rally to, in case of a repulse, and made no inconsiderable impression on the minds of their opponents. The disposition being completed, without any fire from the enemy, though within three hundred yards of their front... (Tarleton 1787:31).

Colonel Buford formed his men in a single line “to the right of the road,” Tarleton (1787:30) described how Buford organized his detachment:

Colonel Buford’s force consisted of three hundred

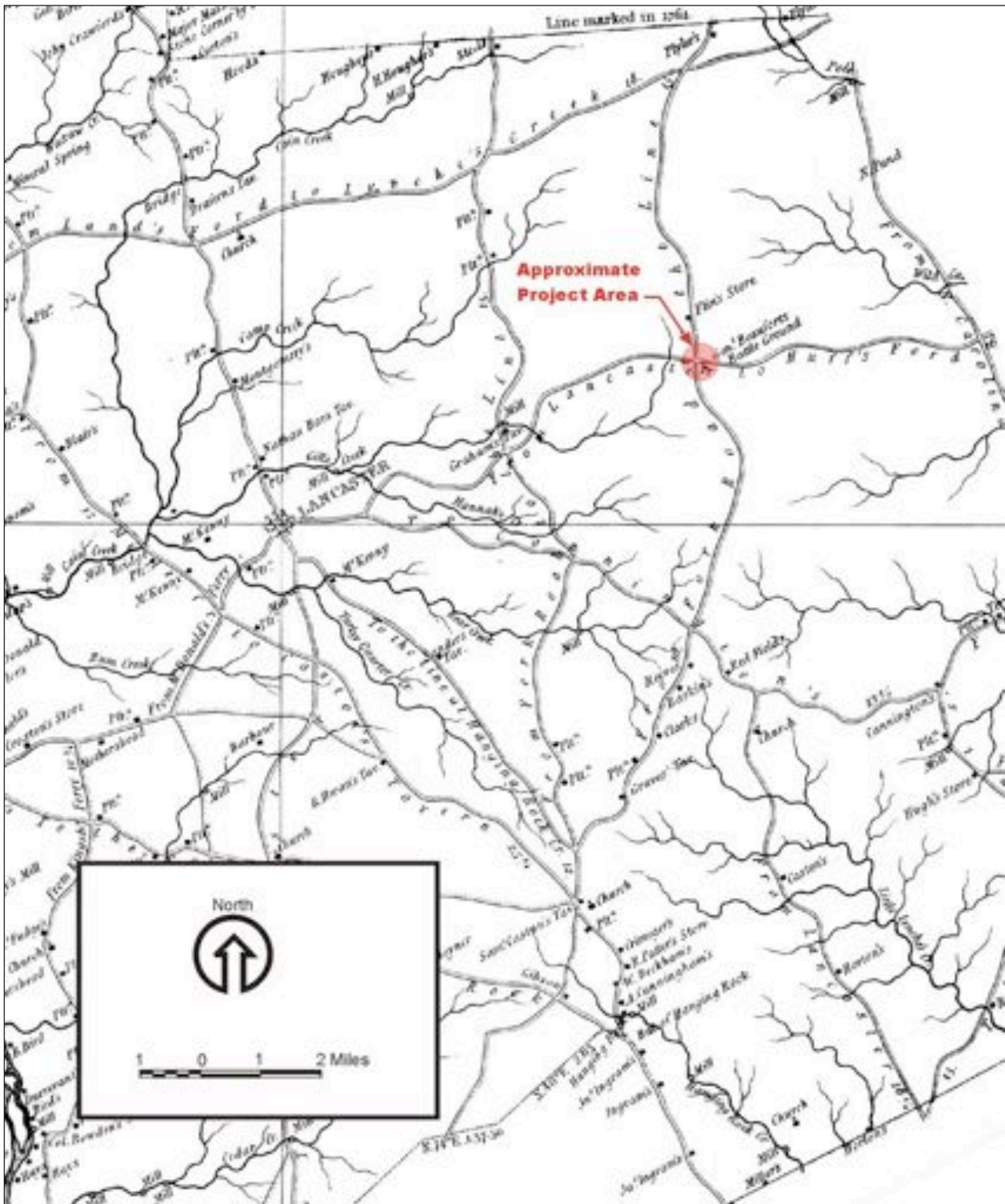


Figure 2.1 Mills (1825) Lancaster District map showing location of “Buford’s Massacre” and the Waxhaw region.

and eighty continental infantry of the Virginia line, a detachment of Washington's cavalry, and two six pounders: He chose his post in an open wood, to the right of the road; he formed his infantry in one line, with a small reserve; he placed his colours in the center, and he ordered his cannon, baggage, and waggons, to continue their march.

Buford ordered his men to withhold their fire until the British were ten yards from them. The tactics were a mistake, as Tarleton's divided force attacked each flank and center simultaneously. Buford's line was overrun almost immediately by the British cavalry, who began systematically sabering down the Americans (Edgar 2001:56). Some, including Buford, claimed that the killing went on even after they tried to surrender (Piecuch 2010:63). For his part, Tarleton stated that, "The loss of the officers and men was great on the part of the Americans, owing to the dragoons for effectually breaking the infantry, and to a report amongst the cavalry that they lost their commanding officer, which stimulated the soldiers to a vindictive asperity not easily restrained" (Tarleton 1787:32).

British casualties were minimal, with only five killed and fourteen wounded; Buford's losses 113 killed and 203 wounded (many of whom died later) and taken prisoner (Power 1992:9-10). Buford himself was able to escape on horseback. After the battle, Tarleton (1787:33) stated, "the wounded of both parties were collected with all possible dispatch, and treated with equal humanity." Most of the wounded were taken in wagons about two miles to the Waxhaws Presbyterian Church, where some died and were buried in the churchyard. It was reported that local citizens, including Reverend Jacob Carnes and a man named Usher, assisted with gathering the dead on the battlefield. Usher's son recalled in 1845 that 84 who were killed outright were buried in a mass grave that afternoon. The next day another 25 who died from their wounds were buried in a second, smaller mass grave about 300 yards from the first (Pettus n.d.:1).

The Americans called the action at the Waxhaws a "massacre" and denounced Tarleton as a "barbarous butcher." Others have stated that these claims were exaggerated; some historians have recently attempted to

objectively reconstruct the events of that day (Piecuch 2004, 2010; Rider 2002). As Power (1992:8) notes, "After the point of initial contact both the American and British accounts of the action are so dependent on the writers' prejudices that the sequence of events, and their details, are virtually impossible to reconstruct." What is certain is that the Americans began in a linear formation, but the fighting soon degenerated into confused and bloody hand-to-hand fighting between individuals and small groups. All accounts seem to agree, however, that at least some of the Virginia Continentals attempted to surrender, while others probably fought on, and that terrible slaughter followed.

The immediate effect of the battle was to create an overwhelming hatred for the occupying British and their Tory allies. Even those Backcountry residents who had been friendly to the King were appalled (Edgar 2001:62). The badly injured had been taken to a nearby Presbyterian meeting house, and most of these exhibited terrible wounds from bayonets and sabers. A young 13 year old Andrew Jackson helped tend the wounded, along with his mother and older brother Robert. Many dying soldiers told the local residents that they had been wounded after they tried to surrender. Stories of "Buford's Massacre" were told and retold by the outraged populace, which inflamed Patriot sympathies.

2.2.3 *The Southern Campaign (1780-1781)*

With their final victory over Buford's troops, the British and Loyalists had eradicated all organized military resistance in the South. However, they followed this with heavy-handed treatment of the rural population. Sir Henry Clinton revoked the paroles of the militia captured at Charleston and proclaimed that "every man to declare and evince his principles." Those who did not take an oath to the King and take an active part on restoring the royal government would be treated as "rebels and enemies to their country" (Edgar 2001:55; Scoggins 2005:50). The new British commander in America, Lord Cornwallis, let the proclamation stand when he took command. A string of forts were established in the Backcountry; British detachments plundered the countryside, taking what they wished and destroying the rest. Colonel Tarleton and his Loyal Legion were particularly brutal; his mounted infantry burned and

pillaged, and sometimes executed prisoners.

Clinton's proclamation, and news of the Waxhaws profoundly affected the war in the region. Across the Backcountry, men like Thomas Sumter, William Hill, William Bratton, Edward Lacey, and Richard Winn, rallied their angered neighbors and joined together to fight the British (Edgar 2001:57-58). These Patriot militia bands were as brutal as their Tory counterparts, and soon the ruthless practice of taking no prisoners was referred to as "Tarleton's Quarter" (Lumpkin 1981:50). Guerrilla leaders, such as Andrew Pickens and Francis Marion, gathered men to harass the enemy wherever they could. Marion, called "the Swamp Fox," became so notoriously illusive that even Banastre Tarleton suggested they forego their pursuit of Marion and focus instead on Sumter's forces. Like many others from the Waxhaws region, the young Andrew Jackson joined the militia and continued fighting. He served under Colonel William Davie and subsequently participated in an attack on a Tory encampment at Hanging Rock (Buchanan 1997:134).

Lord Cornwallis planned a major campaign in the South to crush this new militia uprising. He believed victories in the southern colonies would cause the backcountry Loyalists (and those not yet committed to either side) to rush to the King's cause (Edgar 2001). On August 16, his much smaller force thoroughly defeated a Patriot army under the command of General Horatio Gates at Camden (Edgar 2001:110). Only two days after the disaster at Camden, Banastre Tarleton and 160 mounted infantry attacked Thomas Sumter's command of 1200 militia at Fishing Creek (Lumpkin 1981:86). Tarleton's dragoons caught them unprepared. The horsemen killed or wounded 150 of Sumter's men, captured 310 prisoners and 800 horses, and released 150 British prisoners previously captured by Sumter. It seemed that Cornwallis had crushed all resistance except for those residing in the mountains in present day North Carolina and Tennessee.

In September, Major Patrick Ferguson defeated the local Patriot militia at Cane Creek, around Gilbertown, North Carolina. Ferguson sent a verbal message to the frontier militia that if they did not cease their opposition to the British, he would "march over the mountains, hang their leaders, and lay waste to their country with the fire and sword" (Draper 1881:169). Instead of being

intimidated, the frontiersmen were incensed. As word spread, they assembled to attack Ferguson's Loyalists. More partisan bands joined them on the march, until the combined force numbered some 940 men (Lumpkin 1981:98). At Kings Mountain, they attacked Ferguson's command of about 900 and virtually annihilated them. British losses were 119 killed, 123 wounded, and 664 captured (Lumpkin 1981:103). After this defeat, Cornwallis was forced to reassess plans he was making for invading North Carolina (Edgar 2001: 235-236).

George Washington sent his best general, Nathaniel Greene, to command the Southern theater. Greene took control of Gates' shattered army in Charlotte on 2 December 1780, and immediately organized and divided his forces, "partly of choice, partly of necessity" (Buchanan 1997:292). Greene assigned General Daniel Morgan the task of seeking food and supplies, and General Cornwallis sent Banastre Tarleton to destroy them. Another British defeat, this time at the Battle of Cowpens in January 1781, effectively ended Tarleton's threat to Backcountry colonists (Lumpkin 1981:113-115). In this battle, Daniel Morgan counted on Tarleton's aggressiveness and lured him into attacking his retreating militia. Even though Cowpens caused grievous losses to Cornwallis' army, he determined to move forward with his long planned invasion in North Carolina. At Guilford Court House, Cornwallis' small army of 2400 men attacked Nathaniel Greene's force of 4500. The British drove the Americans from the field, but with heavy loss (Babits and Howard 2009). Cornwallis lost 93 killed, 413 wounded, and 26 missing while Greene lost 78 killed and 195 wounded (Lumpkin 1981:175). Cornwallis then marched his command to Wilmington, North Carolina. He had determined he would march up the coast to Virginia to join with another British force operating in that area.

Lord Cornwallis then moved to Yorktown, where he was trapped by a French fleet and an American army and forced to surrender. After the United States won independence, many of the Loyalists left South Carolina for Canada, Britain, the Bahamas, Jamaica, or further west in America (Lambert 1987). Some of these Loyalists later returned to South Carolina. In many cases, their confiscated property was returned and their punishment for assisting the British was reduced to paying a fine.

3.0 METHODOLOGY

The archaeological fieldwork was completed during 1-5 and 22-26 February 2010. Mr. Scott Butler served as Principal Investigator and Field Director. Mr. Butler, Mr. James Page, and Mr. Patrick Severts completed the metal detector investigation and other fieldwork. Mr. Wayne Roberts, SCDOT staff archaeologist, visited the field crew during the project and received verbal updates throughout the investigation.

3.1 BACKGROUND RESEARCH

The Buford’s Massacre battlefield investigation initially began with archival research during an initial survey investigation (Butler 2006a). Much of the research was focused around the mass grave and monuments within

the Buford’s Massacre National Register of Historic Places (NRHP) district (Figure 3.1). We searched local libraries, state archives, and on-line resources. Previous histories and archaeological studies prepared by the South Carolina Department of Archives and History and the South Carolina Institute of Archaeology and Anthropology were also studied. Jim Picuch recently published a new reference book on the Waxhaws that contains primary source material (Picuch 2010).

During the present investigation, priority was given to reviewing early biographical accounts and first-person sources. A particularly useful resource is the “On-Line Library of the Southern Campaign for the Revolutionary War” at <http://lib.jrshelby.com>. This digital library is a collection of Southern Campaign source documents,



Figure 3.1 Stone cairn marking the mass grave of 84 Virginia Continentals killed at the Waxhaws Battlefield.

reports, and first-person histories- most of which are difficult to locate in their physical form. The purpose of our research is to gather information for understanding the battle and developing of a concise historic context. We particularly sought information on distances and physical characteristics to identify key battlefield features for investigation during the field survey.

3.2 FIELD INVESTIGATIONS

Butler (2006a) demonstrated that a portion of the Waxhaws battlefield surrounded the SC 9/522 intersection project. He defined Site 38LA564 as a portion of the battlefield extending outside the previously listed Buford's Massacre NRHP property, and recommended it be considered NRHP eligible under Criterion A (significant events), and Criterion D (archaeology). It was recognized by the consultant and reviewing agencies, however, that though no one had ever delineated the entire battlefield boundary and even the newly defined 38LA564 archaeological site did not likely comprise the entire Buford's Massacre battlefield. After consultation between the South Carolina Department of Transportation (SCDOT), Federal Highways Administration (FHWA), and South Carolina State Historic Preservation Office (SCSHPO), it was determined that the proposed project would cause adverse effects to the Buford's Massacre Battlefield. Avoidance was recommended, but there were no feasible or prudent alternatives. The avoidance option was not practical since the intersection improvements are a public safety issue. As a mitigation measure, delineation of the entire battlefield was thus the primary focus of this present investigation. Shovel tests are known to be ineffective for defining military site boundaries, so we instead employed metal detectors to investigate the presence or absence of Revolutionary War artifacts and/or deposits. Before fieldwork began we coordinated with SCDOT, and the Rights-of-Way section established landowner contacts and obtained permission for us to investigate surrounding privately owned tracts.

We conducted systematic metal detecting within the previously identified 38LA564 battlefield area at close five-meter intervals, and subsequently expanded our survey area (where we had landowner permission)

to determine the entire extent of the musketball/artifact scatter (Figure 3.2). In order to better locate battle-related artifacts (e.g., bullets, buttons, accouterments, gun parts, etc.), the discrimination of the machines was set to reject small iron objects and focus on non-ferrous metal and larger iron artifacts. Scott Butler, James Page, and Patrick Severts completed the metal detector survey; Mr. Butler used a Fisher F75, Mr. Page used a Minelab Explorer II, and Mr. Severts used a Whites SLIII.

Most of the study area was overgrazed cow pastures, which provided us with ideal metal detecting conditions (Figure 3.3). The initial five-meter interval systematic metal detecting was followed by more thorough, overlapping metal detection, especially in areas that produced battlefield-related artifacts. Information for each battlefield-related (or suspected) artifact was recorded in field notebooks. Investigators bagged and pinflagged each artifact. Non-historic metal objects were discarded in the field. All battle-related artifacts were recorded with a Trimble Geo XH 2005 Series Geographic Position System (GPS) receiver capable of sub-meter accuracy. The GPS coordinate information was downloaded into a Geographic Information System (GIS) and each battle related-artifact location was delineated on project maps.

3.3 LABORATORY METHODS

All recovered artifacts were transported to the Atlanta laboratory facilities of Brockington and Associates, Inc., where they were washed and cataloged. Distinct provenience numbers were assigned to each metal detected artifact. Artifacts from each provenience were subsequently divided by class/type, and assigned a catalog number. Diagnostic historic artifacts were identified according to published descriptions as identified in relevant material culture references.

Artifact analysis data were entered into a *Microsoft Access 2000* database for compilation and manipulation, and a computer-generated artifact catalog was produced. The catalog is arranged by site number and provenience number. Report graphics include the assigned provenience numbers for each shovel test and surface collection to facilitate review of the findings. The artifact catalog is presented as Appendix A.

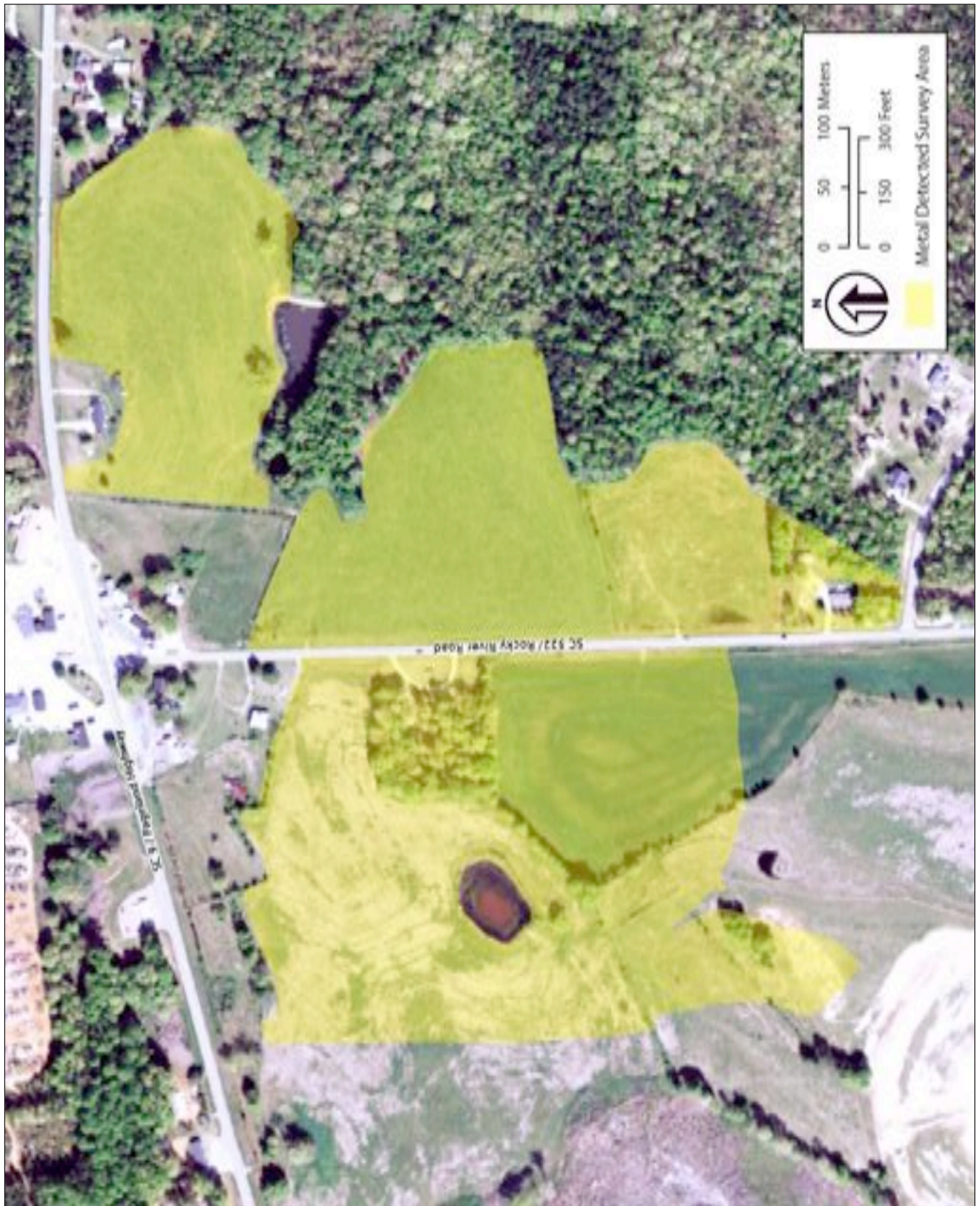


Figure 3.2 Aerial photograph showing areas investigated during the Waxhaws Battlefield metal detector survey.



Figure 3.3 Metal Detecting at the Buford's Massacre Battlefield (38LA564) with county-owned NRHP tract in distance.

The final curation package will be prepared for storage at a federally approved repository based on standards defined in 36 CFR Part 79, *Curation of Federally-Owned and Administered Archaeological Collections; Final Rule*. All artifacts, project maps, field notes, and photographs are temporarily stored at the Atlanta facilities of Brockington and Associates, Inc. Following acceptance of the final report of investigations, these materials will be transferred to the South Carolina Institute of Archaeology and Anthropology (SCIAA) in Columbia for long-term curation.

4.0 PROJECT RESULTS

4.1 BACKGROUND RESEARCH

The Buford's Massacre District is a previously listed National Register of Historic Places (NRHP) property located in the study area (Figure 4.1). Buford's Massacre, also known as the Battle of the Waxhaws, is well remembered in South Carolina history. Attempts were made to memorialize the Revolutionary War site and mass grave as early as 1845, but the plans were not realized until fifteen years later (Power 1992:12). In 1860, a prominent Charleston sculptor, William T. White, was commissioned to design and create a monument (Figure 4.2). The original inscription on the 1860 marble obelisk is barely legible, but is repeated on the granite monument erected in 1955 by the Daughters of the American Revolution:

Buford Battleground

Erected to the memory and in honor of the brave and patriotic American soldiers who fell in the battle which occurred at this place on the 29th of May 1780 between Col. Abraham Buford who commanded a regiment of 350 Virginians and Col. Tarleton of the British Army with 150 Cavalry and a like number of infantry.

Nearly the entire command of Col. Buford was either killed or wounded, 84 gallant soldiers are buried in this grave. They left their homes for the relief of Charleston, but hearing at Camden of the surrender of the city, were returning. Here their lives were ended in the service of their country.

The cruelty and barbarous massacre committed on this occasion by Tarleton and his command after the surrender of Col. Buford and his regiment, originated the American war cry, "Remember Tarleton's Quarter." A British historian confesses at this battle "The virtue of humanity was totally forgot."

The Buford Monument Associate Reformed Presbyterian Church was built on the site in 1894. There are several marked and unmarked individual graves from this period (Jim Bull, personal communication, 2006). The church was later moved to the Pleasant Hill community. In 1940, Lancaster County purchased two acres surrounding the mass grave containing the "84 gallant soldiers" for its protection and maintenance as a public park. A historic marker, entitled "Buford's Bloody Battle Ground" was placed at the intersection of SC 9 and SC 522 in 1941 (Figure 4.3).

Dr. Tracy Power, South Carolina Department of Archives and History (SCDAH) historian, prepared the Buford's Massacre District NRHP nomination in 1989. The district was officially listed under Criterion A (significant events) at the National level of significance in 1990. Dr. Power stated that the NRHP boundary as delineated at the Lancaster County-owned tract boundary, since no archaeological (or other) data was available at that time which defined the original battlefield (Tracy Power, personal communication 2006). In 1996, Mr. Jim Errante, Soil Conservation Service archaeologist, was requested by Lancaster County to investigate the mass burial gravesite, to ascertain whether it was, in fact, a burial place. Mr. Errante probed the area, and determined that the disturbed soil is indeed present which is consistent with a large grave (Jim Errante, personal communication, 2006).

4.2 TEST UNIT EXCAVATION

The archaeological fieldwork began with the excavation of a single one-by-two-meter unit on a rocky hill situated approximately 300 meters southwest of the mass grave. This area is owned by Lancaster County and presently utilized as a sports complex with baseball and soccer fields. A sunken area on the low hill was identified by Butler (2006b) as having potential for containing a second mass grave. Attempts were first made to memorialize the Buford's Massacre Revolutionary War site and primary mass grave in 1845, when local citizens

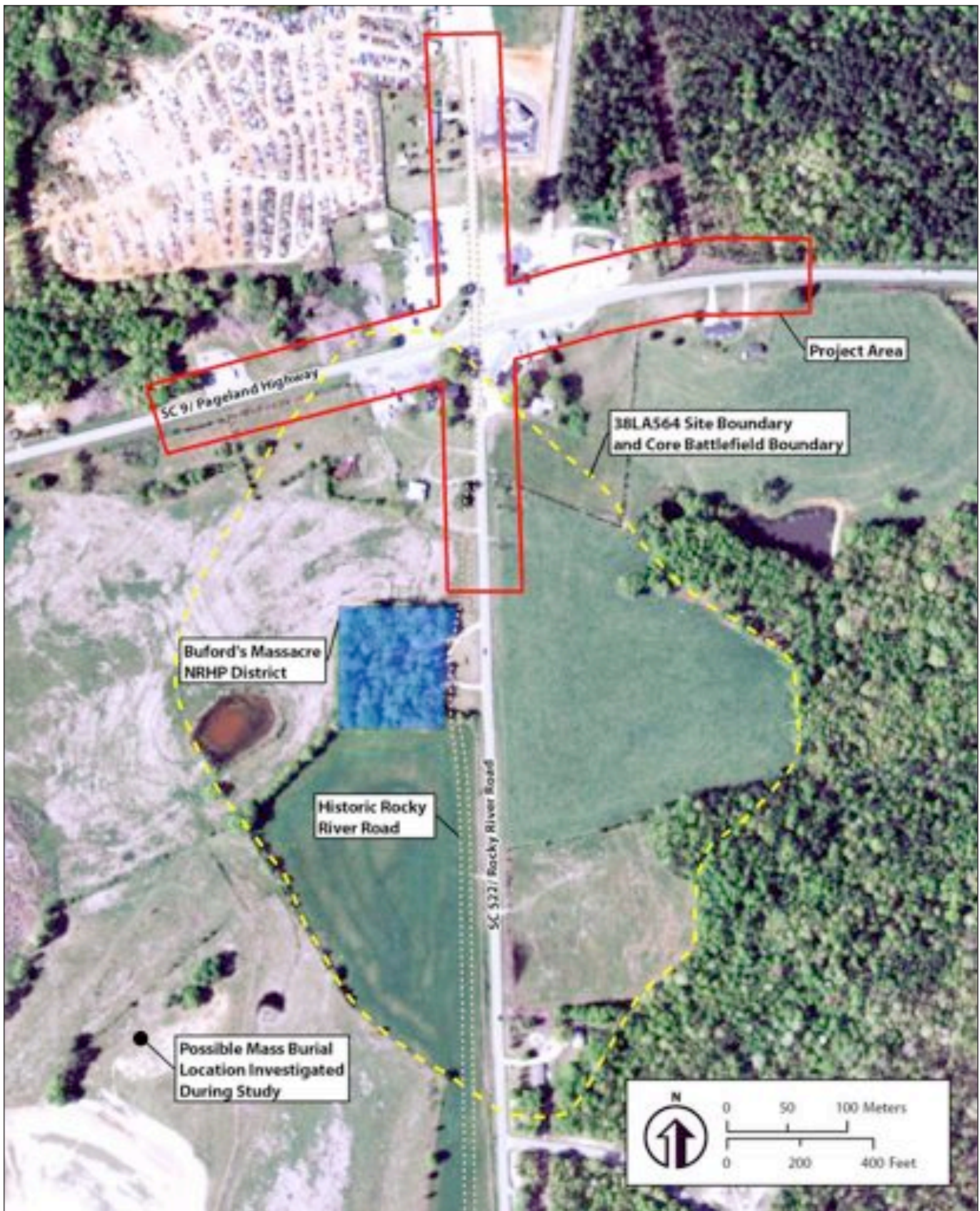


Figure 4.1 Aerial photograph showing SC Route 9 and SC Route 522 Intersection improvements study area and Buford's Massacre Battlefield NRHP District.



Figure 4.2 1860 obelisk marking mass grave of Virginia Continentals killed May 29, 1780.

began collecting money for a monument. James A. Witherspoon led the effort and recorded several local first-hand accounts, including this quote published in the 18 June 1845 *Camden Journal*:

Mr. Usher whose father, in company with the Rev. Jacob Carnes, and others assisted in burying the dead, states that 84, as well as he recollects who were killed on the day of battle were buried in one large pit or grave, and that 25 who died of their wounds the next day were buried in another grave about 300 yards distant from the others.

No one presently knows the location of the second mass grave. Butler (2006b:6) noted that a slightly sunken depression was present on a rocky hilltop, almost precisely 300 yards from the mass grave (Figure 4.4). We suggested that the second mass grave could be located

in this location, and recommended that it be avoided during construction of the sports complex. Lancaster County avoided the location and, in fact, purchased an additional acre to ensure its protection.

During an on-site meeting for the SCDOT intersection project, we stated that archaeological investigations could ascertain whether the depression contains human remains. Many people were interested in this possibility, and we suggested that excavating the depression would be a simple matter. Accordingly, test unit excavation in this location was included as another mitigation measure in the Programmatic Agreement.

During the present investigation, excavation of the one-by-two-meter unit quickly determined that a posthole feature and barbwire from a modern fence was at the bottom of the slight depression (Figure 4.5). There was no evidence of any substantive subsurface feature or human remains in this potential feature. The shallow depression was evidently formed in the recent past when a pasture fence was removed. These negative results leave us where we first started, and we do not know the location of the second mass grave. We hypothesize that a place where wounded were gathered would likely have been close to the road, perhaps closer to the present intersection of SC 9 and SC 522. If this were the case, the second ossuary may have already been adversely impacted by modern development. There is no effective way to search for these reported remains, though a late discovery clause is included in the PA. An inadvertent discovery of human remains during intersection improvements would be addressed as stipulated.

4.3 METAL DETECTOR SURVEY

Two hundred and two metal artifacts were recovered during the archaeological investigations at the Waxhaws Battlefield. This total includes 43 artifacts from the initial (Butler 2006a) investigation. We used the artifact locations to delineate and update the battlefield boundaries for Site 38LA564 (Figure 4.6). The artifact assemblage includes 154 lead shot/musketballs (76.24 percent), and 48 (23.76 percent) are other items. Many of the other items are battle-related artifacts. Some of the other artifacts, however, were later determined to post-date the eighteenth century, and a few objects

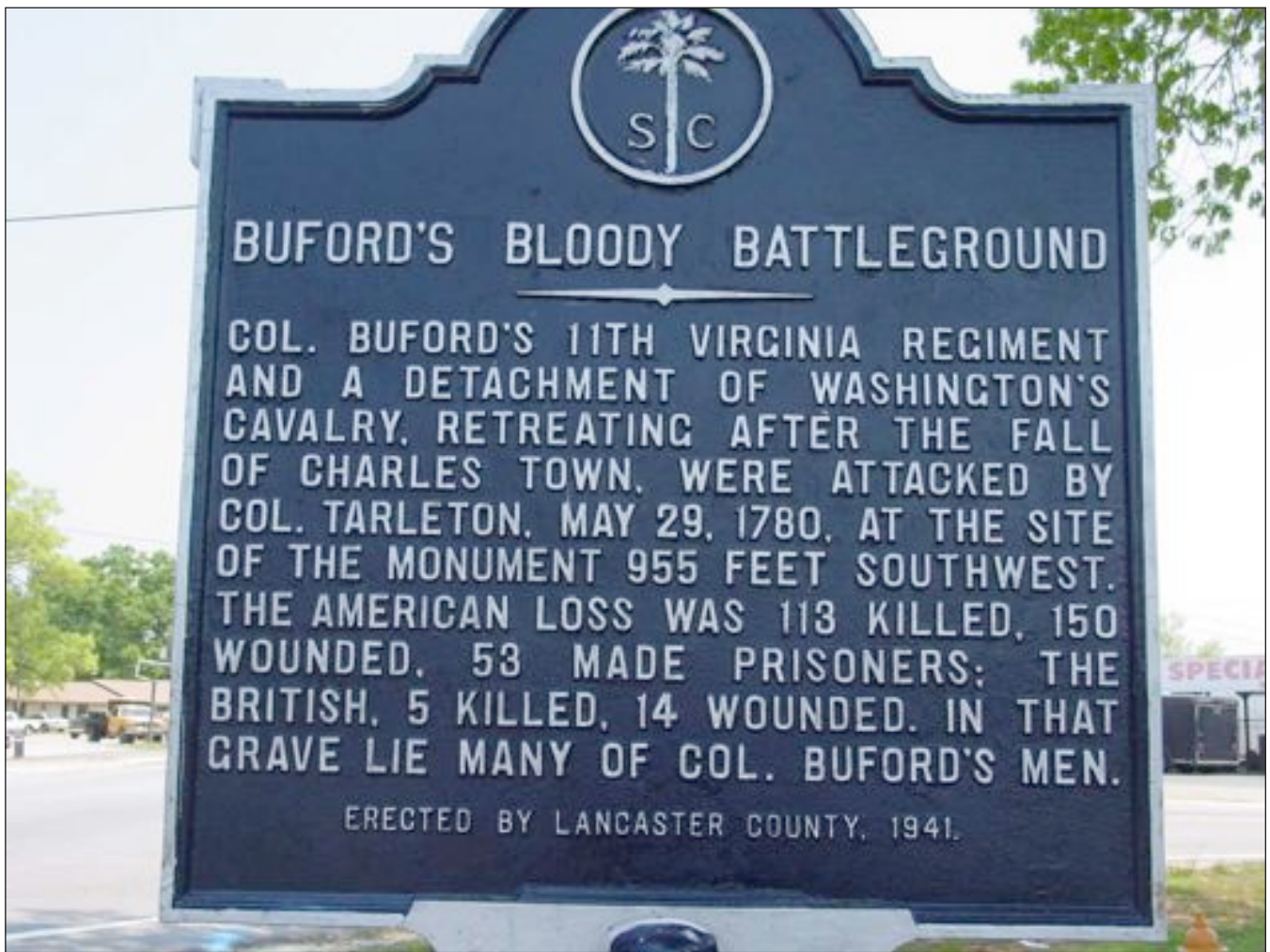


Figure 4.3 South Carolina Historic Marker "Buford's Bloody Battleground" at the intersection of SC 9 and SC 522 (east view).

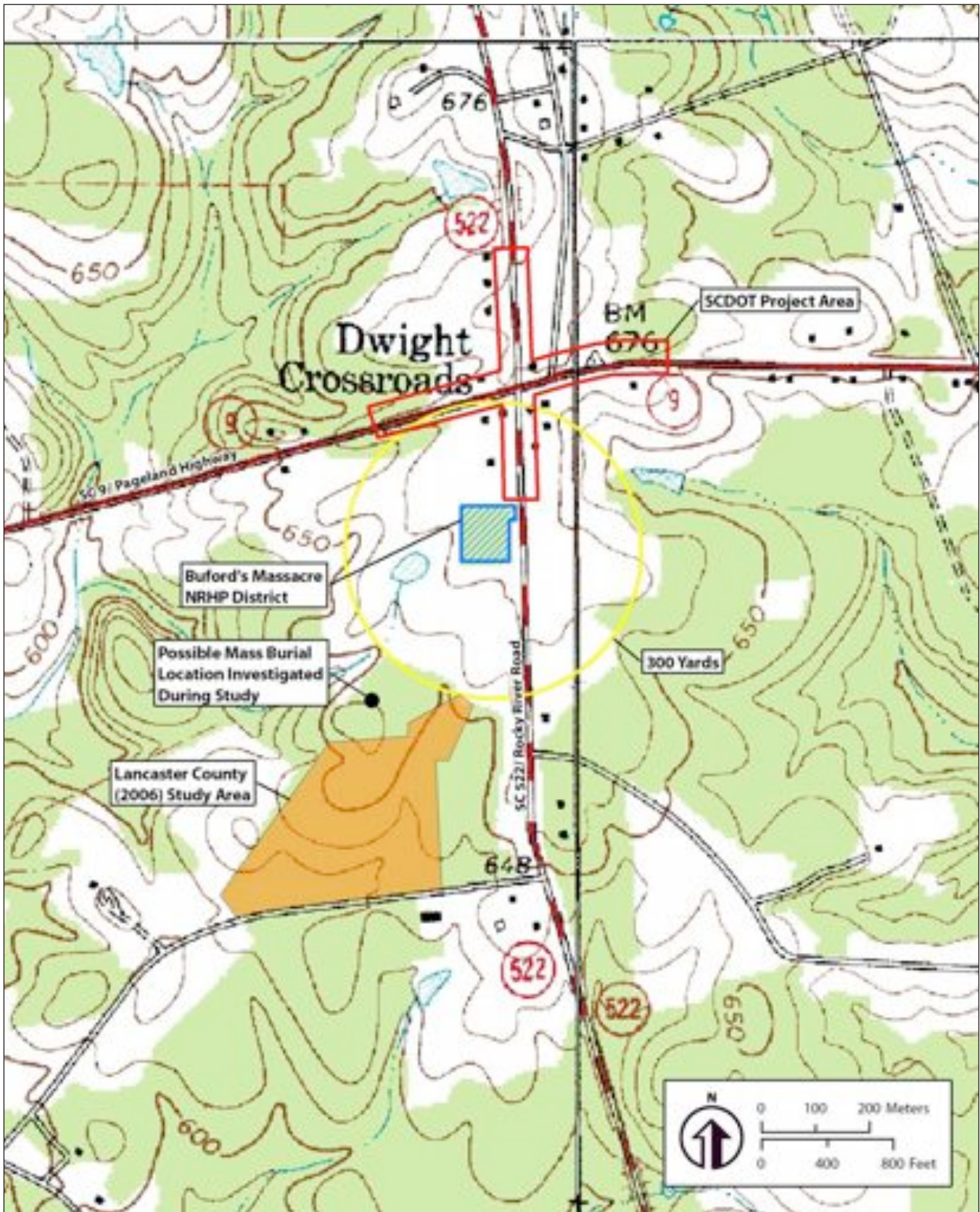


Figure 4.4 USGS map showing the location of possible mass grave (Butler 2006b:6).



Figure 4.5 Test Unit 201, showing modern posthole depression.

were not identified. The artifact catalog (Appendix A) contains a complete description of each artifact, along with provenience information.

In general, most of the artifact assemblage was recovered on a level field east of the abandoned roadbed (Figure 4.7). This location matches Tarleton's (1787:31) account that Buford formed his men in a single line "to the right of the road." This archaeological evidence clarifies that Tarleton meant to his own right (east), though some historians have previously questioned this assumption. However, musketballs and other battle related artifacts were also recovered west of the historic roadbed, enough to ascertain that the mass grave area likely marks the location of the American right flank. Based on the archaeological evidence, Colonel Buford

did not leave the road corridor open (and thus his right flank exposed) as has been supposed by many historians.

4.4 AMMUNITION ANALYSIS

Lead shot ammunition was the predominate artifact type (n=154) recovered during the field investigations. The recovered lead shot sizes are diverse, ranging from large to small, and were fired, unfired, and modified (Table 4.1). Many of the fired (or otherwise modified) lead shot are not measurable using the normal caliper method (Figure 4.8). For these we used the Sivilich formula to estimate their original diameters. Archaeologist Dan Sivilich developed this formula after recovering many

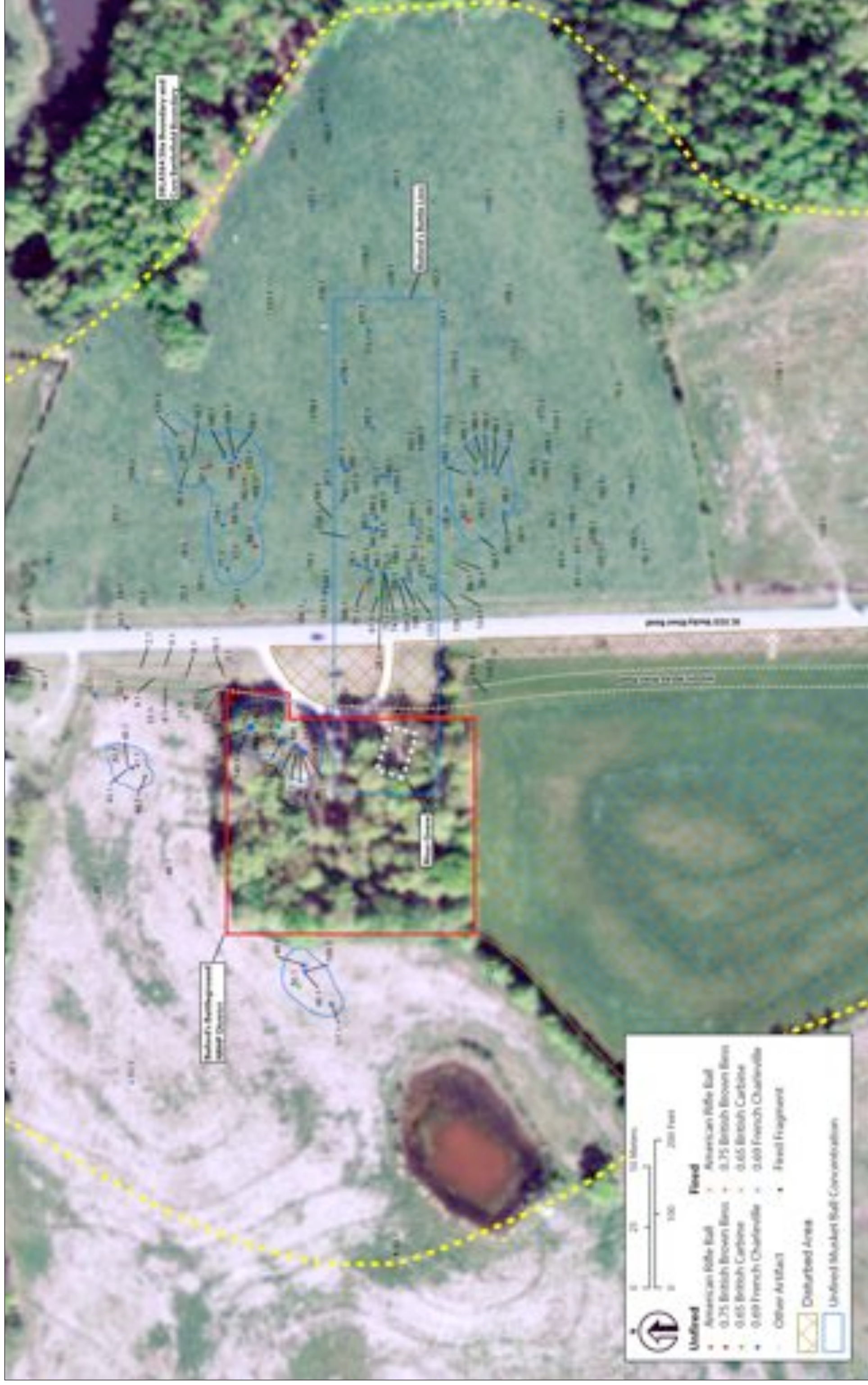


Figure 4.6 Waxhaws battlefield map (Site 38LA564) showing artifact locations.



Figure 4.7 Area where most of the Waxhaws battle-related artifacts were recovered- south view towards direction from which Tarleton's men charged. Wooded rise in distance was probably the location of the British reserve.

fired and chewed musket balls on the Monmouth (New Jersey) Revolutionary War battlefield (Sivilich 1996):

$$\text{Diameter in inches} = 0.223204 \times (\text{weight in grams})^{1/3}$$

The Sivilich formula allows archaeologists to interpret the original caliber weapon for which the distorted lead shot was designed. In our experience, the formula does not always yield precise results because of internal cavities and occasional use of varying lead alloys. Thus, we calculated the formula even for the measurable (unfired) musket balls. For the present unfired examples, the calculated diameters are very close to the actual diameters.

It is well documented that a diverse array of firearms were used in the American Revolution. These weapons included muskets, fusils, fowlers, musketoons, carbines, pistols, and rifles, all with a bewildering variety of calibers (Neumann 1967; Grinslade 2005). Our archival research did not provide detailed arms inventories for individual units at the Waxhaws. Mr. Todd Post, living history historian for the Second Virginia Continental Regiment, provided information from Lieutenant Colonel Josiah Harmar's diary (Harmer 1780) that led him to believe that Buford's Third Detachment was supplied with old British weapons before their journey to South Carolina in 1780:



Figure 4.8 Fired musketballs recovered from the Waxhaws battlefield.

Table 4.1 Lead shot ammunition recovered from 38LA564.

Provenience Number	Diameter (in) (Actual)	Calculated Diameter (in) (Sivilich1)	Caliber and Weapon Attribution
6.1:1	Fired	0.597	.65 British Carbine
10.1:1	0.63	0.625	.69 French Charleville
11.1:1	Chewed	0.609	British Carbine
13.1:2	0.695, Chewed	0.693	.75 British Brown Bess
16.1:1	Fired	0.628	.69 French Charleville
18.1:1	Fired	0.639	.69 French Charleville
22.1:1	Chewed	0.693	.75 British Brown Bess
23.1:1	Fired	0.628	.69 French Charleville
24.1:1	Chewed	0.610	.65 British Carbine
25.1:1	0.622	0.622	.65 British Carbine
26.1:1	Fired	0.604	.65 British Carbine
27.1:1	0.646, Chewed	0.634	.69 French Charleville
30.1:1	0.635	0.634	.69 French Charleville
31.1:1	0.684	0.679	.75 British Brown Bess
34.1:1	Fired	0.464	American rifle ball
38.1:1	Fired	0.387	Buckshot for .69 French Charleville
39.1:1	Fired and Chewed	0.544	American rifle ball
40.1:1	Fired	0.392	American rifle ball
41.1:1	0.65	0.652	.69 French Charleville
44.1:1	Chewed	0.558	American rifle ball
49.1:1	0.63	0.625	.69 French Charleville
50.1:1	0.620, Rodent Chewed	n/a	.65 British Carbine
51.1:1	Fired	0.366	Buckshot for .69 French Charleville
52.1:1	Fired (fragment)	n/a	n/a
53.1:1	Fired	0.580	American rifle ball
57.1:1	0.68	0.691	.75 British Brown Bess
58.1:1	0.66	0.660	.69 French Charleville
59.1:1	0.66	0.660	.69 French Charleville
60.1:1	0.68	0.687	.75 British Brown Bess
61.1:1	Fired	0.644	.69 French Charleville
62.1:1	0.44	0.433	American rifle ball
63.1:1	Chewed	0.660	.69 French Charleville
64.1:1	Fired	0.625	.65 British Carbine
65.1:1	0.33	0.332	Buckshot for .69 French Charleville
66.1:1	Fired	0.616	.65 British Carbine
67.1:1	0.62	0.621	.65 British Carbine

Provenience Number	Diameter (in) (Actual)	Calculated Diameter (in) (Sivilich1)	Caliber and Weapon Attribution
69.1:1	0.610, Rodent Chewed	n/a	.65 British Carbine
70.1:1	Fired and Chewed	0.618	.65 British Carbine
71.1:1	Fired	0.679	.75 British Brown Bess
72.1:1	Fired	0.610	.65 British Carbine
73.1:1	0.29	0.290	Buckshot for.69 French Charleville
74.1:1	0.3	0.295	Buckshot for.69 French Charleville
75.1:1	0.63	0.629	.69 French Charleville
76.1:1	0.596	0.596	.65 British Carbine
77.1:1	0.35	0.360	Buckshot for.69 French Charleville
78.1:1	0.38	0.382	Buckshot for.69 French Charleville
79.1:1	Fired	0.612	.65 British Carbine
80.1:1	0.33	0.332	Buckshot for.69 French Charleville
81.1:1	Fired	0.360	Buckshot for.69 French Charleville
82.1:1	Fired	0.329	Buckshot for.69 French Charleville
84.1:1	Chewed	0.615	.65 British Carbine
85.1:1	Fired	0.685	.75 British Brown Bess
86.1:1	0.68	0.689	.75 British Brown Bess
87.1:1	Fired	0.587	American rifle ball
88.1:1	Fired	0.329	Buckshot for.69 French Charleville
89.1:1	Fired	0.622	.65 British Carbine
90.1:1	0.29	0.286	Buckshot for.69 French Charleville
92.1:1	0.68	0.684	.75 British Brown Bess
93.1:1	0.33	0.332	Buckshot for.69 French Charleville
94.1:1	0.33	0.336	Buckshot for.69 French Charleville
95.1:1	Fired	0.608	.65 British Carbine
96.1:1	0.33	0.332	Buckshot for.69 French Charleville
98.1:1	Fired	0.620	.65 British Carbine
99.1:1	0.62	0.620	.65 British Carbine
100.1:1	Fired	0.318	Buckshot for.69 French Charleville
101.1:1	0.33	0.329	Buckshot for.69 French Charleville
102.1:1	Fired	0.295	Buckshot for.69 French Charleville
103.1:1	0.62	0.629	.65 British Carbine
104.1:1	0.63	0.631	.69 French Charleville
105.1:1	0.55	0.549	American rifle ball
106.1:1	0.64	0.647	.69 French Charleville
107.1:1	Fired	0.596	.65 British Carbine

Table 4.1 Lead shot ammunition recovered from 38LA564 (continued)

Provenience Number	Diameter (in) (Actual)	Calculated Diameter (in) (Sivilich1)	Caliber and Weapon Attribution
108.1:1	0.63	0.630	.69 French Charleville
109.1:1	0.68	0.692	.75 British Brown Bess
110.1:1	Fired and Chewed	0.626	.65 British Carbine
111.1:1	Fired	0.641	.69 French Charleville
112.1:1	Chewed	0.501	American rifle ball
113.1:1	0.3	0.295	Buckshot for.69 French Charleville
117.1:1	0.66	0.657	.69 French Charleville
119.1:1	0.43	0.425	American rifle ball
120.1:1	Fired	0.652	.69 French Charleville
121.1:1	Fired	0.277	Buckshot for.69 French Charleville
122.1:1	Fired	0.384	Buckshot for.69 French Charleville
123.1:1	Fired	0.421	American rifle ball
125.1:1	Fired	0.329	Buckshot for.69 French Charleville
126.1:1	Chewed	0.671	.75 British Brown Bess
127.1:1	0.630, Lightly Chewed	0.625	.69 French Charleville
128.1:1	0.33	0.336	Buckshot for.69 French Charleville
129.1:1	Fired	0.290	Buckshot for.69 French Charleville
130.1:1	Chewed	0.281	Buckshot for.69 French Charleville
133.1:1	0.62	0.624	.65 British Carbine
134.1:1	0.630, Lightly Chewed	0.630	.69 French Charleville
136.1:1	Fired	0.613	.65 British Carbine
137.1:1	Fired	0.524	American rifle ball
138.1:1	Fired	0.379	Buckshot for.69 French Charleville
139.1:1	0.624	0.623	.65 British Carbine
140.1:1	Fired	0.299	Buckshot for.69 French Charleville
141.1:1	Chewed	0.651	.69 French Charleville
142.1:1	0.291	0.290	Buckshot for.69 French Charleville
143.1:1	0.63	0.628	.69 French Charleville
144.1:1	Chewed	0.646	.69 French Charleville
145.1:1	0.631	0.631	.69 French Charleville
147.1:1	0.6	0.595	.65 British Carbine
148.1:1	0.37	0.377	Buckshot for.69 French Charleville
149.1:1	0.37	0.366	Buckshot for.69 French Charleville
150.1:1	0.37	0.366	Buckshot for.69 French Charleville
151.1:1	0.37	0.379	Buckshot for.69 French Charleville
152.1:1	0.376	0.392	Buckshot for.69 French Charleville

Provenience Number	Diameter (in) (Actual)	Calculated Diameter (in) (Sivilich1)	Caliber and Weapon Attribution
153.1:1	Chewed	0.654	.69 French Charleville
154.1:1	Fired	0.683	.75 British Brown Bess
155.1:1	0.376	0.382	Buckshot for.69 French Charleville
156.1:1	Chewed	0.625	.65 British Carbine
157.1:1	Fired	0.329	Buckshot for.69 French Charleville
158.1:1	Fired	0.318	Buckshot for.69 French Charleville
159.1:1	Fired	0.329	Buckshot for.69 French Charleville
160.1:1	0.298	0.286	Buckshot for.69 French Charleville
161.1:1	Chewed	0.628	.69 French Charleville
162.1:1	Fired	0.632	.69 French Charleville
163.1:1	0.63	0.629	.69 French Charleville
164.1:1	Fired	0.318	Buckshot for.69 French Charleville
165.1:1	Chewed	0.624	.65 British Carbine
166.1:1	Fired	0.627	.69 French Charleville
167.1:1	0.33	0.332	Buckshot for.69 French Charleville
168.1:1	0.298	0.290	Buckshot for.69 French Charleville
169.1:1	0.304	0.286	Buckshot for.69 French Charleville
170.1:1	0.306	0.295	Buckshot for.69 French Charleville
171.1:1	Fired	0.624	.65 British Carbine
172.1:1	0.560, Fired	0.543	American rifle ball
173.1:1	Fired	0.290	Buckshot for.69 French Charleville
174.1:1	Fired	0.621	.65 British Carbine
175.1:1	Fired	0.610	.65 British Carbine
176.1:1	0.633	0.627	.69 French Charleville
177.1:1	0.626	0.625	.65 British Carbine
178.1:1	Fired	0.572	American rifle ball
179.1:1	Fired	0.311	Buckshot for.69 French Charleville
180.1:1	Fired	0.660	.69 French Charleville
181.1:1	Flattened fragment	n/a	
182.1:1	Fired	0.392	American rifle ball
183.1:1	0.332	0.329	Buckshot for.69 French Charleville
184.1:1	Fired	0.332	Buckshot for.69 French Charleville
185.1:1	0.624	0.621	.65 British Carbine
186.1:1	Fired	0.623	.65 British Carbine
187.1:1	0.286	0.277	Buckshot for.69 French Charleville
188.1:1	0.335	0.332	Buckshot for.69 French Charleville
189.1:1	Chewed	0.627	.65 British Carbine
1Sivilich (1996)			

May 19th: [1779]...the nominal British Arms turn'd out mere Patch Work Old Arms cobbled up – refused them...May 21st. ...The Virginians have accepted the Nominal British Arms

These “nominal British Arms” may have been repaired and upgraded Long Land Pattern muskets, many of which could have seen upwards of four decades of service prior to the Revolution (Bailey 1971:14-15; Ahearn 2005:24). Mr. Post was careful to note that Buford's command was not formally organized as a regiment, but instead was a conglomeration of survivors from remnant companies and new levies. He stated that they could have been issued other arms prior to their march south, but as yet he has found no records confirming such an issuance (Todd Post, personal communication 2010).

Tarleton's force at the Waxhaws totaled about 270 men and officers. They were a mixture of about 130 Loyalist Legion cavalry and 100 infantry (mounted for this assignment), a detachment of about forty troopers from the 17th Dragoons, and a 3 pounder gun and crew. Based on archival sources, it is difficult to say conclusively which weapons were used by Tarleton's command. British arms historian Dr. De Witt Bailey (1971:15) stated, “it is folly to attempt precise enumeration of what some companies of some regiments may have had on a given date.” In the past decade, however, intrepid researchers (including Dr. Bailey) have made significant contributions based on the study of surviving unit marked weapons but much is still not known, especially with the Southern Campaign of 1780-1781 (Ahearn 2005; Bailey 2002; Bailey 2009).

Still, archaeologists can make some determination regarding weapons for specific commands. Prior to the war, the British standardized their bore calibers for muskets (.75), carbines (.65), and pistols (.56 and .66) (Neumann 1967:36). The French also standardized their martial firearms to .69 for muskets and .67 for carbines and pistols (Neumann 1967:37). To facilitate fast loading, the smoothbore muzzle loading weapons of the period typically fired lead shot measuring about .05 inch less than the bore caliber (Neumann 1967:14). The difference between the shot diameter and weapon caliber is called windage.

Archaeologically recovered musket ball diameters from Revolutionary War battlefields typically measure about .68-.70 inch diameter for the .75 caliber British muskets and .63-.66 inch for the .69 French/American muskets (Sivilich 1996:104-105). The French .69 caliber “Charleville” muskets were imported in large quantities as early as 1777 and issued to Continental infantry troops throughout the war. American musket cartridges typically included a musketball with three additional .30 to .32 inch diameter lead buckshot; the resulting load was called “buck and ball” (Peterson 1968:60). Archaeologically recovered buck and ball loads from Revolutionary War battlefields show great diversity. For instance, archaeological investigations at Camden (SC) recovered buckshot ranging from .27 to .36 (Legg et al. 2005:104). At Eutaw Springs, Butler (2008:35-36) recovered buckshot size lead shot ranging from .29 to .38, though the larger of these shot could have been intended either as large buckshot or small rifle balls.

In the field (and by mapping the ammunition assemblage), we discerned what we believe is Buford's original battle line. The area is noted on the site map as “Buford's Battle Line,” and consists primarily of an unfired concentration of .63 to .66 diameter musketballs and .30 to .38 buckshot extending in an east/west 120-meter (400-foot) long linear pattern (see Figure 4.3). These size musketballs and smaller buckshot are typical .69 buck and ball cartridges for the .69 caliber Charleville muskets (Figure 4.9). Based on the historic context (militia were not present, at least not in significant numbers), we believe the .36-.38 lead shot represent large buckshot and not small rifle balls. The musketballs exhibit mold seams and sprue cut scars typical of American manufacture. Based on the archaeological finds, it is evident that Buford's Continentals were using French made muskets with standard American buck and ball ammunition.

The lead shot/musketball concentration marking Buford's line extends somewhat to the west side of the road (SC 522) to the NRHP tract/mass grave location, but in not in as great numbers as on the east side. Modern trash (e.g., shotgun shells, rimfire .22 cartridge cases, etc.) was largely absent in the wooded NRHP tract, which suggest that this area has been previously heavily metal detected. Regardless, we recovered a number of unfired

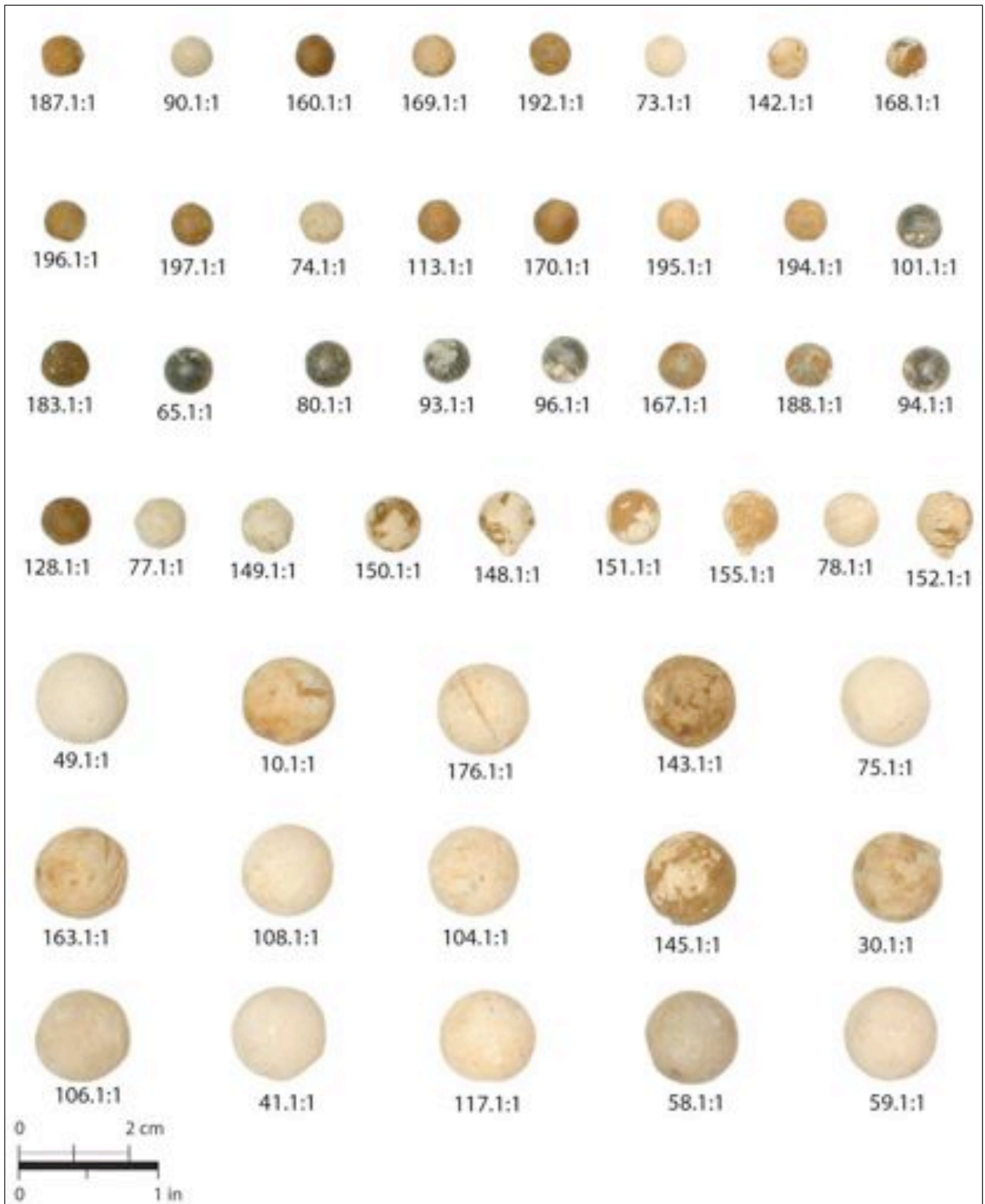


Figure 4.9 Unfired ammunition recovered from 38LA564: .30 to .38 diameter buckshot and .63 to .66 diameter musketballs representing buck and ball cartridges for the .69 caliber French Charleville muskets.

lead shot among numerous pull-tabs and bottle caps around a concrete picnic table; this area was probably avoided by previous searchers because of the high trash concentration. The mowed lawn and wayside area between the wooded NRHP tract and SC 522 is heavily disturbed and was likely bulldozed during highway construction and subsequent road improvements. Likewise, the soils in the field immediately south of the NRHP tract have been deep plowed and are markedly different from the other surrounding fields. We believe this soil disturbance is the reason few battle-related artifacts were recovered in this area.

A few (n=6) unfired .68 to .70 diameter musketballs for the .75 Brown Bess were also recovered. These musketballs appear to be uniformly spherical with no evidence of mold seams or sprue scars (Figure 4.10). Other archaeologists have noted the exterior of these type musketballs have been tumbled or “rolled” to remove irregularities and are diagnostic of British manufacture (Legg et al. 2005:101; Sivilich 1996:107). These .75 caliber Long Land or Short Land muskets may have been used by Tarleton’s Legion infantry who had

obtained horses for this expedition, though Tarleton ordered them to attack dismounted.

During the fieldwork, we noted several other smaller, unfired ammunition concentrations located north and south of the identified battle line. These small concentrations consist of lead musketballs for both .69 French/American Charleville and the .75 the British Brown Bess muskets, as well as other artifacts. We believe these concentrations indicate where survivors stood or fled during the melee, and may mark where these individuals were captured or killed. One concentration, located about 50 meters “behind” (north of) the main line, may represent a rally point described by Buford in his report:

At half past three o’Clock we was attack in rear by the Horse, my men & officeres behav’d with the greatest coolness & Bravery tho a double number of horse to oppose they soon flankd & their infantry or rather dismounted cavalry approach’d on our left made a charge on us our men gave way but by the activity of the officers

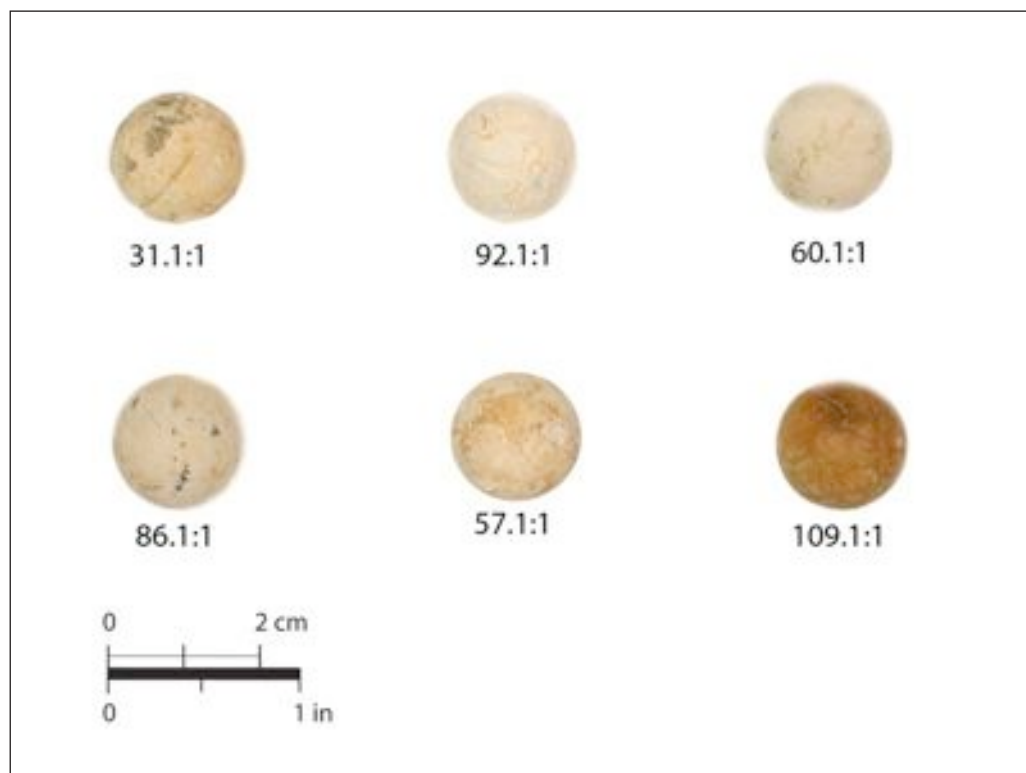


Figure 4.10 Unfired .68 to .70 diameter musketballs for the .75 British Brown Bess muskets.

were within fifty yards ralleyd and form'd again... (Piecuch 2010:62).

The artifact concentration is less dense on the left of Buford's line; this paucity of artifacts and the concentration to the north may be physical evidence of Buford's left flank giving way quickly then reforming fifty yards to the rear.

Other unfired .60-.63 diameter musketballs (n=10) for the .65 caliber British carbines were also recovered in and around the concentrations; these were likely dropped by Tarleton's mounted troopers during the engagement (Figure 4.11). The standard ball diameter for British carbines was later standardized to .625. It should be noted that it is difficult to ascertain whether balls measuring just around .63 were intended for the .65 British carbine or .69 French/American Charlevilles, or perhaps even for non-standard fowlers or fusils. We noted the unfired .60-.63 diameter musketballs tended to exhibit the same uniform characteristics of British manufacture as the .68-.70 musketballs for the .75 Brown Bess. For fired (and otherwise distorted) examples, we

attributed the calculated diameters of .60-.63 as British carbines, and .63-.66 as .69 Charlevilles.

Several unfired (n=3) .40 to .60 diameter rifle balls were also recovered (Figure 4.12). Primarily these were from the American left flank area. Other fired rifle balls were also recovered in the vicinity. Generally, rifle balls indicate the presence of militia. Buford's command, however, were all Continentals and presumably armed with muskets. Several sources suggest a few South Carolina militia also accompanied Buford's column as it retreated north. These rifle balls may represent these individuals.

Numerous musketballs were recovered throughout that exhibit shallow teeth marks over their surface (Figure 4.13). Chewed musketballs have traditionally been associated with field surgery as a way to help the wounded bear the pain, or "bite the bullet." Considering the violent history of the Waxhaws engagement, one could easily reach this conclusion. However, chewed musketballs are common battlefield finds, and these are more likely attributed to nervousness, boredom, or to promote salivation when water is not readily available



Figure 4.11 Unfired .60 to .63 diameter musketball ammunition for the .65 British carbine.

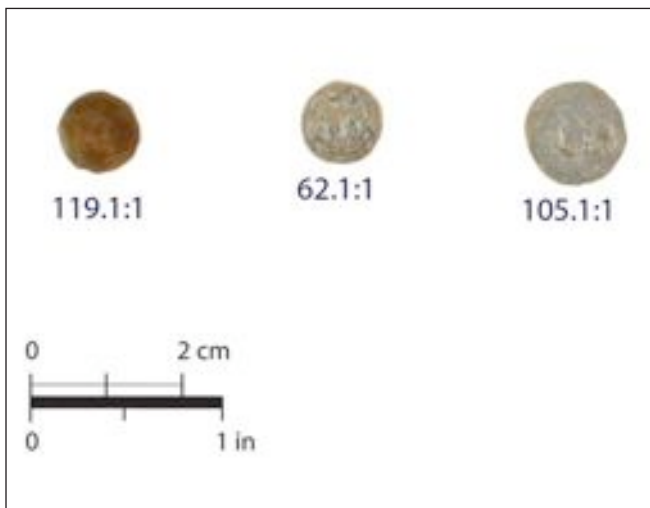


Figure 4.12 Unfired .40 to 60 diameter rifle balls for American made rifles.

(Sivilich 1996:105). Others have suggested that at least some chewed musketballs have been rooted up and chewed by hogs decades after a battle. It is difficult to determine the difference between chewing by human and pig teeth. Several other musketballs have clear evidence of rodent gnawing, by either rats or squirrels.

4.5 OTHER ARTIFACTS

Besides lead shot ammunition, other artifacts (n=48) were recovered at the Waxhaws battlefield (Table 4.2). Some of these items were later determined not to be battle-related artifacts, including iron kettle fragments, iron pot hooks, iron horse shoes, a brass/bronze spring, an iron/steel buggy step, a chromed Ford Model T hubcap, iron stove parts, iron/steel ball bearings. Most of these artifacts post-date the eighteenth century.

Battle-related artifacts include a broken fragment from a British brass bayonet frog stud (Prov. 21.1), a cast brass British Brown Bess musket nose cap (Prov. 48.1), five copper rivets, possibly from British bayonet scabbards (Gale 2007:4) (Prov. 14.1 54.1, 55.1, 56.1, 115.1), brass and steel pocket knife fragments (Prov. 114, 116.1), iron roller buckles - probably from cartridge boxes (Neuman and Kravic 1989:67) (Prov. 42.1, 45.1, 118.1), plow damaged stamped brass shoe buckles (Provs 83.1 and 68.1), an iron ramrod fragment (Prov.

29.1), a cast brass neck stock buckle fragment (Gale 2007:44) (Prov. 43.1), melted lead (Prov. 91.1), a brass tack- possibly from a cartridge box liner, and a brass ramrod pipe (Prov. 146.1)- brass furniture used to hold a ramrod in Brown Bess type musket (Figure 4.14).

Careful scrutiny of the ramrod pipe indicated it could be a “Pratt pipe,” though we were unsure as it is in crushed and in relatively poor condition. The tapered Pratt rammer pipes were designed to facilitate reloading speed and are a diagnostic feature beginning with Pattern 1777 British Short Land Brown Bess muskets (Bailey 2009:43). About 15,000 of the British made muskets were delivered to various American theaters in March 1779, though there is debate among arms historians whether these were issued before the end of hostilities (Goldstein and Mowbray 2010:113). We contacted Mr. Erik Goldstein, Curator of Mechanical Arts and Numismatics at Colonial Williamsburg and co-author of *The Brown Bess: An Identification Guide and Illustrated Study of Britain’s Most Famous Musket* (Goldstein and Mowbray 2010). Mr. Goldstein kindly agreed to examine our pipe to determine its origin.

Based on Mr. Goldstein’s identification, our ramrod pipe (Prov. 146.1) is indeed a Pratt pipe. However, he stated its dimensions are not consistent with a British Board of Ordnance manufactured pipe for either the Pattern 1777 or Pattern 1779 Short Land muskets. Instead, its shape and 37 mm length match identically with Liege 1778 Short Land muskets manufactured in Belgium during 1778-1783 (Goldstein and Mowbray 2010:122).

During the American Revolution, the British Ordnance Board found that its production capacity was not sufficient to meet the global demand. The Board of Ordnance contracted with Liege in 1778 to meet the shortfall, with the total number of 76,000 to 110,000 Short Land muskets delivered by 1783 (Goldstein and Mowbray 2010:123). These weapons were of cheaper cost to the British government, but it was reported they were also of inferior quality and therefore deemed unacceptable for service by regular line regiments. Goldstein and Mowbray (2010:124) thus theorized that the majority of the Liege muskets were issued to Loyalist units and Provincial militias- the fact that Tarleton’s Legion was just such a Loyalist unit seems to add credence to their theory.

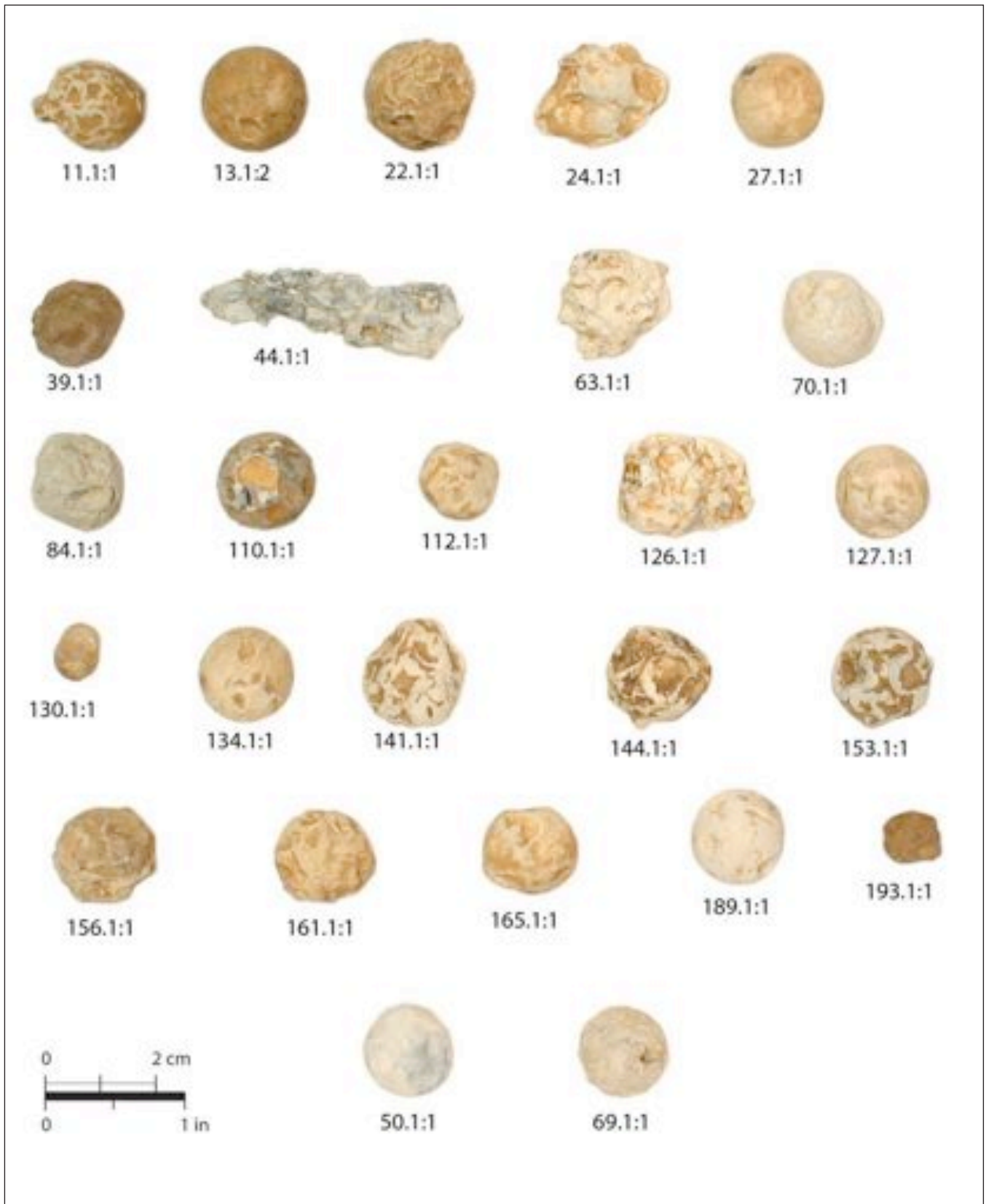


Figure 4.13 Chewed musketballs recovered from the Waxhaws Battlefield.

Table 4.2 Other metal detected artifacts from 38LA564.

Provenience	Artifact	Count	Provenience	Artifact	Count
2.1	Iron Horseshoe	1	43.1	Brass Neck Stock Clasp, fragment	1
3.1	Iron Hook	1	45.1	Iron Buckle Fragment	1
4.1	Iron Hinge	1	47.1	Iron Pot Hook	1
5.1	Iron Kettle Fragment	1	48.1	Brass Musket Nose Cap	1
7.1	Brass Harmonica Part	2	54.1	Brass Rivet	1
8.1	Brass Spring	1	55.1	Brass Rivet	1
9.1	Iron Axe Fragment	1	56.1	Brass Rivet	1
12.1	Cast Iron Stove Part	1	68.1	Brass Shoe Buckle	1
13.1	Iron Unidentified Object	1	83.1	Brass Shoe Buckle	1
14.1	Brass Rivet	1	91.1	Lead, Melted	1
15.1	Iron Horseshoe	1	97.1	Iron Ball Bearing	1
17.1	Iron Unidentified Object	1	103.1	Brass Rimfire Cartridge	1
19.1	Iron Horseshoe Fragment	1	114.1	Brass bolster, pocketknife	1
20.1	Iron Carriage Step	1	115.1	Brass Rivet	1
21.1	Brass Bayonet Frog Fragment	1	116.1	Brass Knife Handle	1
28.1	Iron Ball Bearing	1	118.1	Iron Cartridge Box Buckle	1
29.1	Iron, possible ramrod fragment	1	124.1	Brass Tack	1
30.1	Iron Ball Bearing	1	131.1	Brass Rivet	1
32.1	Iron Bridle Bit	2	132.1	Brass Rivet	1
33.1	Brass Hubcap, "Ford"	1	135.1	Brass Unidentified Object	1
35.1	Sheet Brass Lid	1	146.1	Brass Ramrod Pipe	1
36.1	Lead, Melted	1	182.1	Brass Furniture Finial	1
36.1	Aluminum, Melted	1			
42.1	Iron Buckle	1	Total		48

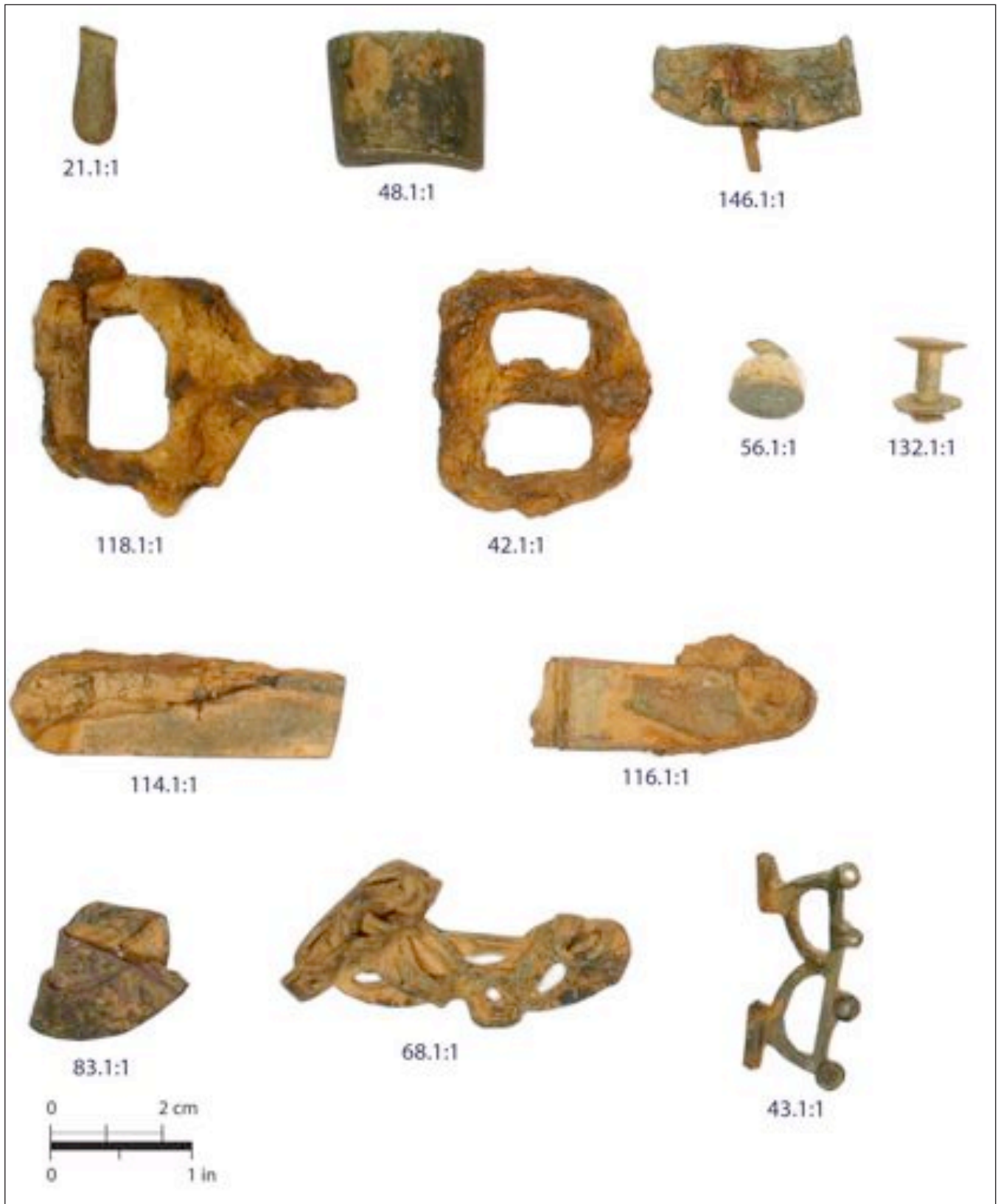


Figure 4.14 Other battle-related artifacts recovered from the Waxhaws Battlefield (38LA564). From left to right, Prov. 21.1:1- Brass Brown Bess bayonet frog (fragment); Prov. 48.1:1- Brass musket nose cap (unknown pattern); Prov. 146.1:1 brass musket ramrod pipe from Liege Pattern 1778 Short Land Brown Bess musket; Provs. 118.1:1 and 42.1:1- iron roller buckles; Provs. 56.1:1 and 132.1:1- brass or copper rivets; Provs. 114.1:1 and 116.1:1 iron and steel pocket knife fragments; Provs. 83.1:1 and 68.1:1- stamped brass shoe buckles (both plow damaged); Prov. 43.1:1 cast brass neck stock buckle (fragment).

4.6 KOCOA ANALYSIS

The military terrain analysis is a process to meaningfully define landscape elements that comprise a historic battlefield. The National Park Service (NPS) first borrowed this identification process from the US military, who denotes it as the KOCOA system (Key Terrain, Obstacles, Cover and Concealment, Observation and Fields of Fire, Avenues of Approach and Retreat) (Lowe 2000:8). Careful study of military terrain allows battlefield surveyors to identify all key defining features (natural, cultural, engineering) and take a holistic approach when evaluating battlefield integrity and significance. Where possible, we correlated key defining landscape features described in the first-hand accounts with those that could be identified in the field. We reevaluated the battlefield boundaries to ensure all significant features and associated resources are included (Figure 4.15).

Compared with other battlefields, however, there are scant historic descriptions for the engagement at the Waxhaws. The primary account is Bannister Tarleton's (1787) own report, though many historians have suggested Tarleton was not always entirely factual, especially when his credibility was at stake. Abraham Buford's report to the Virginia Assembly is another useful source not widely available until the recent publication of Jim Piecuch's book on the Waxhaws (Piecuch 2010). However, Buford's report describes no clear geographical references. Other primary accounts include those by Major Henry Bower and Dr. Robert Brownfield, though these were recorded over forty years after the incident; historians have also noted numerous discrepancies in both (Piecuch 2010:63). As a whole, a small number of landscape elements are described in the few available first-hand accounts, making the KOCOA analysis problematic. In fact, the historic account is so sparse that the archaeological record was crucial to identification of the core battlefield boundary.

4.6.1 Rocky River Road

Buford's command bivouacked the night of 28 May 1780 near Hanging Rock, about 25 miles north of Camden. The previous day, Buford had chosen to take the Rocky River Road towards Salisbury, North Carolina (Piecuch 2010:17). Tarleton had sent an officer ahead

with a surrender demand in the hopes of delaying the Virginians. Tarleton's messenger caught up with Buford on the afternoon of May 29, though Buford dismissed the demand. Tarleton's main force caught up with Buford's slow moving column about 14 miles north of the Hanging Rock camp (Piecuch 2010:19).

The historic Rocky River Road corridor roughly follows the present day SC Highway 522 alignment, which still bears the same name. Traces of the historic roadbed can be observed at various points from Pleasant Hill, South Carolina to the North Carolina state line. The old wagon road is visible adjacent to (east of) the Virginia Continental mass grave and is clearly evident on aerial photographs (see Figure 4.15).

The location of Buford's Battle Line has previously been the subject of much scholarly debate. Tarleton (1787: 30) stated that Buford formed his men in a single line "to the right of the road; he formed his infantry in one line, with a small reserve; he placed his colours in the center..." Many historians assumed the mass grave at the road marked Buford's left flank and his line extended on his right to the west. Some argued that the dead were moved after the battle and the battle line was a mile or more to the south. Others believed it was in some other location, and cited the fact that no one had found musketballs or other artifacts near the grave cairn.

Based on the archaeological evidence from the present investigation, it is clear that the battle occurred at the mass grave and Buford's line extended to Tarleton's right, or east from the road. Also, it is evident that Colonel Buford's right flank blocked the road; he was not so inept as to leave it completely exposed to a cavalry attack. The length of the battle line archaeological scatter extends about 220 meters.

4.6.2 British Reserve

Colonel Tarleton also made arrangements for his stragglers to form a reserve in case his assault went badly:

The dragoons, the mounted infantry, and three pounder in the rear, as they could come up with their tired horses, were ordered to form something like a reserve, opposite to the enemies' center, upon a small eminence that commanded

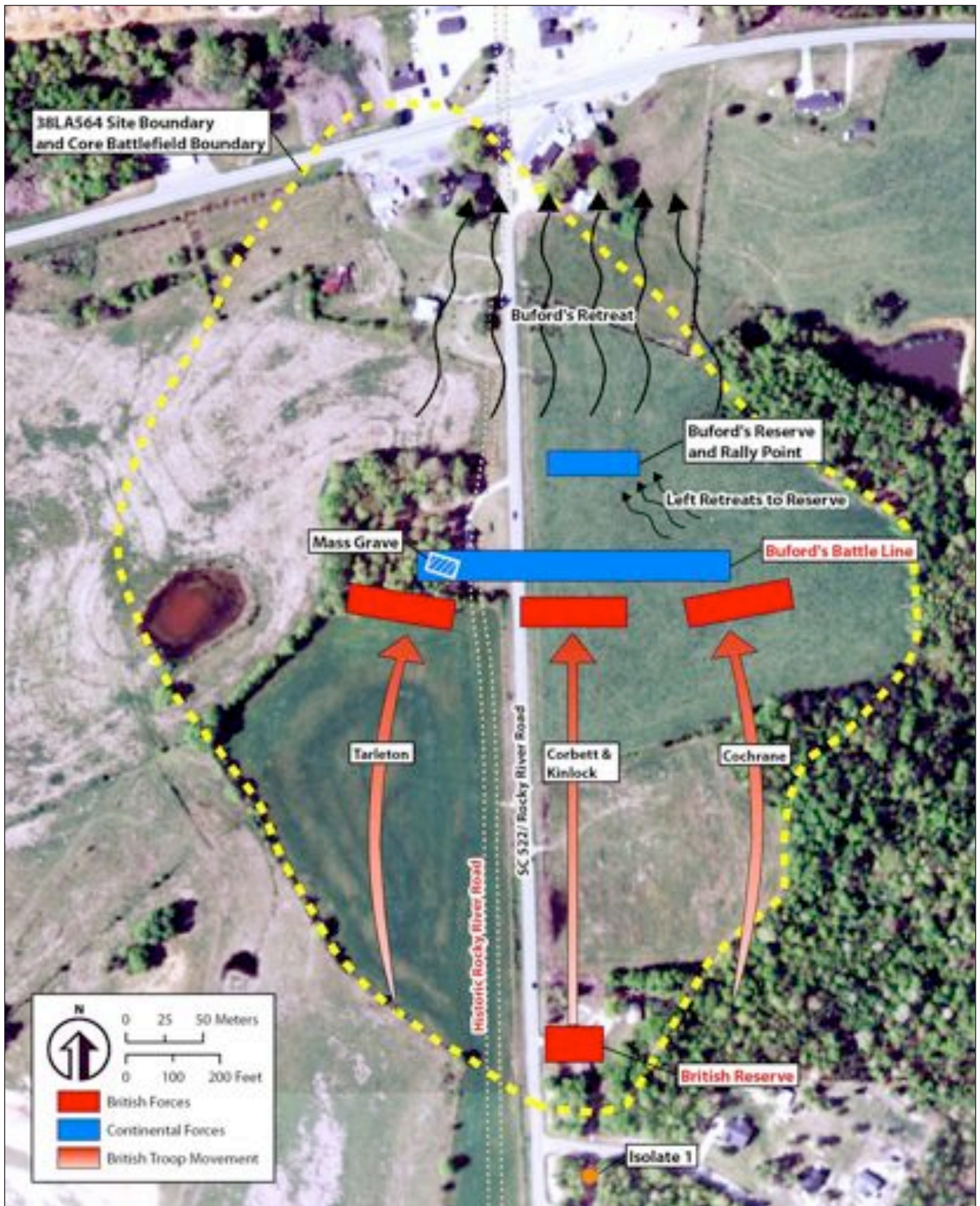


Figure 4.15 Waxhaws Core Battlefield Boundary; Buford's Battle Line.

the road, which disposition which afforded the British light troops an object to rally to, in case of a repulse, and made no inconsiderable impression on the minds of their opponents. (Tarleton 1787:31).

A low rise is located about three hundred yards south of Buford's Battle Line, on the east side of the Rocky River Road. A modern residence is located on the low hill, and we sought permission and searched the surrounding area with metal detectors. No battle related artifacts were recovered in this vicinity, though we believe that it represents the "low eminence" to which Colonel Tarleton referred in his account. In this area, we recovered one Isolated Find (Isolate 1); it is a Late Archaic Savannah River metavolcanic stemmed projectile point observed on the exposed surface of a tree fall.

5.0 SUMMARY AND CONCLUSIONS

As presently designed, the proposed SC Route 9/522 intersection improvements will directly affect Site 38LA564 and cause adverse effects to the Waxhaws Revolutionary War battlefield. A Memorandum of Agreement (MOA) was signed between FHWA, SCDOT, and SCSHPO which outlines three key stipulations as appropriate mitigation; (1) comprehensive delineation (archival and archaeological) of the Buford's Massacre core battlefield boundary, (2) archaeological investigation of a potential second mass grave owned by the Lancaster County Parks and Recreation Department, and (3) development of interpretive signage to be placed at the Buford's Massacre NRHP District owned by Lancaster County.

Unit excavation at a potential second mass grave location demonstrated that this is not the location of an ossuary, or other battle-related feature. The archaeological testing showed this depression is evidence of a modern fence line removal; the fence was probably taken down within the past two decades. At present (2010), the location of a second mass grave is unknown. Stipulations for the late discovery of human remains remain in effect in the Programmatic Agreement, and construction contractors should be made aware this is a possibility.

The metal detector survey and KOCO analysis allowed us to conclusively delineate the core boundary for the Waxhaws Battlefield. The metal detector survey demonstrated the Waxhaws (Buford's Massacre) battlefield is larger than previously recorded. As presently defined, the core boundary area measures approximately 52.9 acres, situated on the south side of SC 9 and the both sides of SC 522. This archaeological investigation was completed to mitigate adverse impacts to the battlefield from highway intersection improvements to SC 9 and SC 522.

We recommend that Site 38LA564 (outside the already listed portion) is eligible for the NRHP under Criterion A (significant events) and Criterion D (archaeological potential), at the national level of significance. It may be desirable for local preservation groups to expand the NRHP battlefield district based

on information in this report. At present, members of the Katwba Valley Land Trust are discussing long-term preservation options with the present landowners.

SCDOT has contracted with the History Workshop, a division of Brockington and Associates, Inc., to create interpretive outdoor signage at the Lancaster County owned NRHP parcel. Once approved, we expect the outdoor signage will be installed by July 2011. Emplacement of the interpretive panels will fulfill the final mitigation stipulation outlined in the MOA.

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Order of Battle
Waxhaws, May 29, 1780

American

Colonel Abraham Buford

Third Virginia Detachment (380 Virginia Continentals)

Second Virginia Continental Line (two companies)

Virginia Light Dragoons (40 horsemen)

Artillery- Two six pounders and crews (not present at battle)

British

Lieutenant Colonel Banistre Tarleton

Tarleton's Loyalist Legion (130 dragoons and 100 mounted infantry- 230 total)

17th Dragoons (detachment of 40 horsemen)

One 3 pounder

Right Flank

Major Cochrane

60 Loyalist Legion Dragoons

50 Loyalist Legion Infantry (dismounted)

Center

Captain Corbet

40 17th Dragoons

Captain Kinlock

40 Loyalist Legion Dragoons

Left Flank

Lieutenant Colonel Banistre Tarleton

30 chosen Loyalist Legion (dragoons and infantry, all mounted)

Reserve

One 3 pounder

Loyalist Legion Dragoons and Infantry "on tired horses"

APPENDIX A: ARTIFACT CATALOG

Artifact Catalog

Brockington and Associates, Inc. uses the following proveniencing system. Provenience 1 designates general surface collections. Numbers after the decimal point designate subsequent surface collections, or trenches. Proveniences 2 to 40 designate previous metal detector finds; proveniences 41 to 197 designate metal detector finds from the current mitigation. For all provenience numbers except 1, the numbers after the decimal point designate levels. Provenience X.0 is a surface collection at a shovel test or unit, X.1 designates level one, and X.2 designates level two. When a shovel test or metal detector find is excavated as a whole instead of levels, X.1 is used. For example, 41.1 is a metal detector find.

Table of Contents

Site Number	Page Number
38LA564	A - 1
Projectile Point Forms	A - 16

Site Number: 38LA564

Catalog # Count Weight (in g) Artifact Description

Lead Ball Diameter Sivilich Diameter Temporal Range Comments

SITE NUMBER: 38LA564

Provenience Number: 2. 1 Metal Detector 1, 0-35cmbs

1 1 322.4 Iron Horseshoe

Provenience Number: 3. 1 Metal Detector 2, 0-20cmbs

1 1 112.2 Iron Hook

Provenience Number: 4. 1 Metal Detector 3, 0-35cmbs

1 1 72.1 Iron Hinge

Provenience Number: 5. 1 Metal Detector 4, 0-35cmbs

1 1 325.8 Iron Kettle Fragment

Provenience Number: 6. 1 Metal Detector 5, 0-15cmbs

1 1 19.1 Lead Ball, Fired

0.5966

Provenience Number: 7. 1 Metal Detector 6, 0-15cmbs

1 2 6.9 Brass Harmonica Part

Provenience Number: 8. 1 Metal Detector 7, 0-5cmbs

1 1 21.4 Brass Carriage Spring

Provenience Number: 9. 1 Metal Detector 8, 0-5cmbs

1 1 862.4 Iron Axe Fragment

Provenience Number: 10. 1 Metal Detector 9, 0-10cmbs

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Shvlich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	22	Lead Ball	0.630	0.6254		
Provenience Number: 11. 1 Metal Detector 10, 0-20cmbs							
1	1	20.3	Lead Ball, Chewed		0.6089		
Provenience Number: 12. 1 Metal Detector 11, 0-20cmbs							
1	1	259.6	Iron Stove Part				
Provenience Number: 13. 1 Metal Detector 12, 0-15cmbs							
1	1	28.5	Possible Iron Ramrod Fragment				
2	1	29.9	Lead Ball, Chewed	0.695	0.6928		
Provenience Number: 14. 1 Metal Detector 13, 0-20cmbs							
1	1	4	Brass Rivet				
Provenience Number: 15. 1 Metal Detector 14, 0-30cmbs							
1	1	119.4	Iron Horseshoe				
Provenience Number: 16. 1 Metal Detector 15, 0-15cmbs							
1	1	22.3	Lead Ball, Fired		0.6283		
Provenience Number: 17. 1 Metal Detector 16, 0-35cmbs							
1	1	51.5	Iron Unidentified Object				
Provenience Number: 18. 1 Metal Detector 17, 0-20cmbs							
1	1	23.5	Lead Ball, Fired		0.6393		
Provenience Number: 19. 1 Metal Detector 18, 0-20cmbs							
1	1	43.8	Iron Horseshoe Fragment				
Provenience Number: 20. 1 Metal Detector 19, 35cmbs							
1	1	528.9	Iron Carriage Step				
Provenience Number: 21. 1 Metal Detector 20, 0-10cmbs							
1	1	2.3	Brass Bayonet Frog				
Provenience Number: 22. 1 Metal Detector 21, 0-15cmbs							
1	1	29.9	Lead Ball, Chewed		0.6928		
Provenience Number: 23. 1 Metal Detector 22, 0-20cmbs							
1	1	22.3	Lead Ball, Fired		0.6283		

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Shvlich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
Provenience Number: 24 . 1 Metal Detector 23, 0-20cmbs							
1	1	20.4	Lead Ball, Chewed		0.6099		
Provenience Number: 25 . 1 Metal Detector 24, 0-30cmbs							
1	1	21.6	Lead Ball	0.622	0.6216		
Provenience Number: 26 . 1 Metal Detector 25, 0-15cmbs							
1	1	19.8	Lead Ball, Fired		0.6038		
Provenience Number: 27 . 1 Metal Detector 26, 0-15cmbs							
1	1	22.9	Lead Ball, Chewed	0.646	0.6338		
Provenience Number: 28 . 1 Metal Detector 27, 0-15cmbs							
1	1	3.8	Iron Ball				
Provenience Number: 29 . 1 Metal Detector 28							
1	1	67.3	Iron Unidentified Object				Possible Knife Fragment
Provenience Number: 30 . 1 Metal Detector 1, 10-30cmbs							
1	1	22.9	Lead Ball	0.635	0.6338		
2	1	7.4	Iron Ball				
Provenience Number: 31 . 1 Metal Detector 2, 5-10cmbs							
1	1	28.1	Lead Ball	0.684	0.6786		
Provenience Number: 32 . 1 Metal Detector 3, 0-50cmbs							
1	2	44	Iron Bridle Bit				
Provenience Number: 33 . 1 Metal Detector 4, 25cmbs							
1	1	72.4	Brass Hubcap, "Ford"				"Ford/Made in USA"
Provenience Number: 34 . 1 Metal Detector 5, 10-20cmbs							
1	1	9	Lead Ball, Fired		0.4643		
Provenience Number: 35 . 1 Metal Detector 6, 10-15cmbs							
1	1	3	Sheet Brass Lid, Silver Washed, Possible Snuff Box Lid				
Provenience Number: 36 . 1 Metal Detector 7, 10-15cmbs							
1	1	29.4	Lead, Melted				
2	1	1.7	Tin, Melted				

Site Number: 38LA564

Catalog # **Count** **Weight (in g)** **Artifact Description** **Lead Ball Diameter** **Swilich Diameter** **Temporal Range** **Comments**

Provenience Number: 37. 1
1 1 4.4 Area B, transect C, shovel test 1, 0-10cmbs
Rhyolite Broken Flake

Provenience Number: 38. 1 **Metal Detector 1**
1 1 5.2 Lead Ball, Fired 0.3867

Provenience Number: 39. 1 **Metal Detector 2, 0-5cmbs**
1 1 14.5 Lead Ball, Fired and Chewed 0.5443

Provenience Number: 40. 1 **Metal Detector 3, 0-10cmbs**
1 1 5.4 Lead Ball, Fired 0.3916

Provenience Number: 41. 1 **Metal Detect A1, 10cm**
1 1 24.9 Lead Ball 0.650

Provenience Number: 42. 1 **Metal Detect A2, 15cm**
1 1 24.9 Iron Buckle

Provenience Number: 43. 1 **Metal Detect A3, 25cm**
1 1 6.9 Brass Clasp

Provenience Number: 44. 1 **Metal Detect A4, 0-20cm**
1 1 15.6 Lead Ball, Chewed 0.5577

Provenience Number: 45. 1 **Metal Detect A5, 20cm**
1 1 11.6 Iron Buckle Fragment

Provenience Number: 46. 1 **Metal Detect A6, 0-25cm**
1 1 8.3 Lead Ball, Flattened/Pounded 0.4519

Provenience Number: 47. 1 **Metal Detect A7, 10cm**
1 1 46 Iron Pot Hook

Provenience Number: 48. 1 **Metal Detect A8, 0-20cm**
1 1 16.2 Brass Gun Nose Cap Brown Bess Nose Cap

Provenience Number: 49. 1 **Metal Detect A9, 0-20cm**
1 1 21.9 Lead Ball 0.630 0.6245

Provenience Number: 50. 1 **Metal Detect A10, 10cm**
1 1 16.7 Lead Ball, Rodent Chewed 0.620

Site Number: 38LA564

Catalog # **Count** **Weight (in g)** **Artifact Description** **Lead Ball Diameter** **Shellch Diameter** **Temporal Range** **Comments**

Provenience Number:	51 . 1	4.4	Metal Detect A11, 25cm				
1	1		Lead Ball, Fired	0.3658			
Provenience Number:	52 . 1	13.6	Metal Detect A12, 0-20cm				
1	1		Lead Ball, Fired				
Provenience Number:	53 . 1	17.5	Metal Detect A13, 0-15cm				
1	1		Lead Ball, Fired	0.5795			
Provenience Number:	54 . 1	2.2	Metal Detect A14, 0-15cm				
1	1		Brass Rivet				
Provenience Number:	55 . 1	4.1	Metal Detect A15, 0-20cm				
1	1		Brass Rivet				
Provenience Number:	56 . 1	3.8	Metal Detect A16, 0-20cm				
1	1		Brass Rivet				Fibers Attached
Provenience Number:	57 . 1	29.6	Metal Detect A17, 20cm				
1	1		Lead Ball	0.680			0.6905
Provenience Number:	58 . 1	25.8	Metal Detect A18, 10cm				
1	1		Lead Ball	0.660			0.6595
Provenience Number:	59 . 1	25.9	Metal Detect A19, 0-30cm				
1	1		Lead Ball	0.660			0.6604
Provenience Number:	60 . 1	29.1	Metal Detect A20, 0-20cm				
1	1		Lead Ball	0.680			0.6865
Provenience Number:	61 . 1	24	Metal Detect A21, 10cm				
1	1		Lead Ball, Fired				0.6438
Provenience Number:	62 . 1	7.3	Metal Detect A22, 25cm				
1	1		Lead Ball	0.440			0.4330
Provenience Number:	63 . 1	25.9	Metal Detect A23, 35cm				
1	1		Lead Ball, Chewed				0.6604
Provenience Number:	64 . 1	21.9	Metal Detect A24, 30cm				
1	1		Lead Ball, Fired				0.6245

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Slivich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
<i>Provenience Number:</i>	65 . 1		Metal Detect A25, 10cm				
1	1	3.3	Lead Ball	0.330	0.3323		
<i>Provenience Number:</i>	66 . 1		Metal Detect A26, 0-20cm				
1	1	21	Lead Ball, Fired		0.6158		
<i>Provenience Number:</i>	67 . 1		Metal Detect A27, 30cm				
1	1	21.5	Lead Ball	0.620	0.6207		
<i>Provenience Number:</i>	68 . 1		Metal Detect A28, 15cm				
1	1	14.1	Brass Shoe Buckle				
<i>Provenience Number:</i>	69 . 1		Metal Detect A29, 25cm				
1	1	17.8	Lead Ball, Rodent Chewed	0.610			
<i>Provenience Number:</i>	70 . 1		Metal Detect A30, 25cm				
1	1	21.2	Lead Ball, Fired and Chewed		0.6178		
<i>Provenience Number:</i>	71 . 1		Metal Detect A31, 0-25cm				
1	1	28.1	Lead Ball, Fired		0.6786		
<i>Provenience Number:</i>	72 . 1		Metal Detect A32, 0-25cm				
1	1	20.4	Lead Ball, Fired		0.6099		
<i>Provenience Number:</i>	73 . 1		Metal Detect A33, 0-20cm				
1	1	2.2	Lead Ball	0.290	0.2903		
<i>Provenience Number:</i>	74 . 1		Metal Detect A34, 0-20cm				
1	1	2.3	Lead Ball	0.300	0.2946		
<i>Provenience Number:</i>	75 . 1		Metal Detect A35, 0-20cm				
1	1	22.4	Lead Ball	0.630	0.6292		
<i>Provenience Number:</i>	76 . 1		Metal Detect A36, 30cm				
1	1	19	Lead Ball	0.596	0.5956		
<i>Provenience Number:</i>	77 . 1		Metal Detect A37, 0-15cm				
1	1	4.2	Lead Ball	0.350	0.3601		
<i>Provenience Number:</i>	78 . 1		Metal Detect A38, 20cm				
1	1	5	Lead Ball	0.380	0.3817		

Site Number: 38LA564

Catalog #	Count	Weight (in g)	Artifact Description	Lead Ball Diameter	Slivlich Diameter	Temporal Range	Comments
Provenience Number: 79 . 1 Metal Detect A39, 35cm							
1	1	20.6	Lead Ball, Fired		0.6119		
Provenience Number: 80 . 1 Metal Detect A40, 5cm							
1	1	3.3	Lead Ball	0.330	0.3323		
Provenience Number: 81 . 1 Metal Detect A41, 0-20cm							
1	1	4.2	Lead Ball, Fired		0.3601		
Provenience Number: 82 . 1 Metal Detect A42, 15cm							
1	1	3.2	Lead Ball, Fired		0.3289		
Provenience Number: 83 . 1 Metal Detect A43, 0-35cm							
1	1	7.2	Brass Shoe Buckle				
Provenience Number: 84 . 1 Metal Detect A44, 15cm							
1	1	20.9	Lead Ball, Chewed		0.6148		
Provenience Number: 85 . 1 Metal Detect A45, 15cm							
1	1	28.9	Lead Ball, Fired		0.6850		
Provenience Number: 86 . 1 Metal Detect A46, 20cm							
1	1	29.4	Lead Ball	0.680	0.6889		
Provenience Number: 87 . 1 Metal Detect A47, 25cm							
1	1	18.2	Lead Ball, Fired		0.5871		
Provenience Number: 88 . 1 Metal Detect A48, 0-20cm							
1	1	3.2	Lead Ball, Fired		0.3289		
Provenience Number: 89 . 1 Metal Detect A49, 0-30cm							
1	1	21.6	Lead Ball, Fired		0.6216		
Provenience Number: 90 . 1 Metal Detect A50, 0-15cm							
1	1	2.1	Lead Ball	0.290	0.2858		
Provenience Number: 91 . 1 Metal Detect A51, 0-20cm							
1	1	9.6	Lead, Melted				
Provenience Number: 92 . 1 Metal Detect A52, 0-25cm							
1	1	28.8	Lead Ball	0.680	0.6842		

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Shilich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
<i>Provenience Number:</i>	93 . 1		Metal Detect A53, 5cm				
1	1	3.3	Lead Ball	0.330	0.3323		
<i>Provenience Number:</i>	94 . 1		Metal Detect A54, 5cm				
1	1	3.4	Lead Ball	0.330	0.3356		
<i>Provenience Number:</i>	95 . 1		Metal Detect A55, 0-20cm				
1	1	20.2	Lead Ball, Fired		0.6079		
<i>Provenience Number:</i>	96 . 1		Metal Detect A56, 5cm				
1	1	3.3	Lead Ball	0.330	0.3323		
<i>Provenience Number:</i>	97 . 1		Metal Detect A57, 10cm				
1	1	3.5	Iron Ball	0.400	0.3389		
<i>Provenience Number:</i>	98 . 1		Metal Detect A58, 30cm				
1	1	21.4	Lead Ball, Fired		0.6197		
<i>Provenience Number:</i>	99 . 1		Metal Detect A59, 15cm				
1	1	21.4	Lead Ball	0.620	0.6197		
<i>Provenience Number:</i>	100 . 1		Metal Detect A60, 0-10cm				
1	1	2.9	Lead Ball, Fired		0.3183		
<i>Provenience Number:</i>	101 . 1		Metal Detect A61, 10cm				
1	1	3.2	Lead Ball	0.330	0.3289		
<i>Provenience Number:</i>	102 . 1		Metal Detect A62, 0-10cm				
1	1	2.3	Lead Ball, Fired		0.2946		
<i>Provenience Number:</i>	103 . 1		Metal Detect A63, 10cm				
1	1	22.4	Lead Ball	0.620	0.6292		
2	1	0.6	Brass Rimfire Cartridge	0.280		1866-	
<i>Provenience Number:</i>	104 . 1		Metal Detect A64, 20cm				
1	1	22.6	Lead Ball	0.630	0.6311		
<i>Provenience Number:</i>	105 . 1		Metal Detect A65, 0-30cm				
1	1	14.9	Lead Ball	0.550	0.5492		Belted .54 caliber
<i>Provenience Number:</i>	106 . 1		Metal Detect A66, 10cm				

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Slivich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	24.3	Lead Ball	0.640	0.6465		
Provenience Number: 107. 1 Metal Detect A67, 25cm							
1	1	19	Lead Ball, Fired		0.5956		
Provenience Number: 108. 1 Metal Detect A68, 0-20cm							
1	1	22.5	Lead Ball	0.630	0.6301		
Provenience Number: 109. 1 Metal Detect A69, 25 cm							
1	1	29.8	Lead Ball, Unfired	0.680	0.6920		
Provenience Number: 110. 1 Metal Detect A70, 0-20 cm							
1	1	22.1	Lead Ball, Fired and Chewed		0.6264		
Provenience Number: 111. 1 Metal Detect A71, 0-25 cm							
1	1	23.7	Lead Ball, Fired		0.6411		
Provenience Number: 112. 1 Metal Detect A72, 25 cm							
1	1	11.3	Lead Ball, Chewed		0.5009		
Provenience Number: 113. 1 Metal Detect A73, 0-10 cm							
1	1	2.3	Lead Ball, Unfired	0.300	0.2946		
Provenience Number: 114. 1 Metal Detect A74, 45 cmbs							
1	1	19	Copper Knife Handle				
Provenience Number: 115. 1 Metal Detect A75, 40 cm							
1	1	2.5	Brass Rivet				
Provenience Number: 116. 1 Metal Detect A76, 0-40 cmbs							
1	1	25.2	Brass Knife Handle				
Provenience Number: 117. 1 Metal Detect A77, 0-10 cm							
1	1	25.5	Lead Ball, Unfired	0.660	0.6570		
Provenience Number: 118. 1 Metal Detect A78, 15 cmbs							
1	1	24.3	Iron Buckle Cartridge Box				
Provenience Number: 119. 1 Metal Detect A79, 25 cm							
1	1	6.9	Lead Ball, Unfired	0.430	0.4249		
Provenience Number: 120. 1 Metal Detect A80, 30 cm							

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Shivlich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	24.9	Lead Ball, Fired		0.6518		
Provenience Number: 121 . 1 Metal Detect A81, 0-10 cm							
1	1	1.9	Lead Ball, Fired		0.2765		
Provenience Number: 122 . 1 Metal Detect A82, 0-15 cm							
1	1	5.1	Lead Ball, Fired		0.3842		
Provenience Number: 123 . 1 Metal Detect A83, 0-20 cm							
1	1	6.7	Lead Ball, Fired		0.4208		
Provenience Number: 124 . 1 Metal Detect A84, 0-20 cm							
1	1	1.2	Brass Tack				
Provenience Number: 125 . 1 Metal Detect A85, 0-15 cm							
1	1	3.2	Lead Ball, Fired		0.3289		
Provenience Number: 126 . 1 Metal Detect A86, 35 cm							
1	1	27.2	Lead Ball, Chewed		0.6713		
Provenience Number: 127 . 1 Metal Detect A87, 40 cm							
1	1	22	Lead Ball, Lightly Chewed	0.630	0.6254		
Provenience Number: 128 . 1 Metal Detect A88, 25 cm							
1	1	3.4	Lead Ball, Unfired	0.330	0.3356		
Provenience Number: 129 . 1 Metal Detect A89, 0-15 cm							
1	1	2.2	Lead Ball, Fired		0.2903		
Provenience Number: 130 . 1 Metal Detect A90, 0-15 cm							
1	1	2	Lead Ball, Chewed		0.2812		
Provenience Number: 131 . 1 Metal Detect A91, 0-20 cm							
1	1	2.7	Brass Rivet				
Provenience Number: 132 . 1 Metal Detect A92, 15 cm							
1	1	3.9	Brass Rivet				
Provenience Number: 133 . 1 Metal Detect A93, 25 cm							
1	1	21.8	Lead Ball, Unfired	0.620	0.6235		
Provenience Number: 134 . 1 Metal Detect A94, 10 cm							

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Shellch Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	22.5	Lead Ball, Lightly Chewed	0.630	0.6301		
Provenience Number: 135. 1 Metal Detect A95, 30 cm							
1	1	1.3	Sheet Brass Unidentified Object				
Provenience Number: 136. 1 Metal Detect A96, 10 cm							
1	1	20.7	Lead Ball, Fired		0.6129		
Provenience Number: 137. 1 Metal Detect A97, 5 cm							
1	1	12.9	Lead Ball, Fired		0.5235		
Provenience Number: 138. 1 Metal Detect A98, 0-15 cm							
1	1	4.9	Lead Ball, Fired		0.3791		
Provenience Number: 139. 1 Metal Detect A99, 5 cm							
1	1	21.7	Lead Ball, Unfired	0.624	0.6226		
Provenience Number: 140. 1 Metal Detect A100, 0-5 cm							
1	1	2.4	Lead Ball, Fired		0.2988		
Provenience Number: 141. 1 Metal Detect A101, 0-10 cm							
1	1	24.8	Lead Ball, Chewed		0.6509		
Provenience Number: 142. 1 Metal Detect A102, 0-10 cm							
1	1	2.2	Lead Ball, Unfired	0.291	0.2903		
Provenience Number: 143. 1 Metal Detect A103, 0-5 cm							
1	1	22.3	Lead Ball, Unfired	0.630	0.6283		
Provenience Number: 144. 1 Metal Detect A104, 5 cm							
1	1	24.2	Lead Ball, Chewed		0.6456		
Provenience Number: 145. 1 Metal Detect A105, 10 cm							
1	1	22.6	Lead Ball, Unfired	0.631	0.6311		
Provenience Number: 146. 1 Metal Detect A106, 5 cm							
1	1	15.5	Brass Ramrod Pipe				from Brown Bess Rifle, middle section
Provenience Number: 147. 1 Metal Detect A107, 5 cm							
1	1	18.9	Lead Ball, Unfired	0.600	0.5946		
Provenience Number: 148. 1 Metal Detect A108, 10 cm							

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Slivich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	4.8	Lead Ball, Unfired	0.370	0.3765		with sprue
Provenience Number: 149 . 1 Metal Detect A109, 7 cm							
1	1	4.4	Lead Ball, Unfired	0.370	0.3658		with sprue
Provenience Number: 150 . 1 Metal Detect A110, 3 cm							
1	1	4.4	Lead Ball, Unfired	0.370	0.3658		
Provenience Number: 151 . 1 Metal Detect A111, 3 cm							
1	1	4.9	Lead Ball, Unfired	0.370	0.3791		with sprue
Provenience Number: 152 . 1 Metal Detect A112, 10 cm							
1	1	5.4	Lead Ball, Unfired	0.376	0.3916		with sprue
Provenience Number: 153 . 1 Metal Detect A113, 0-10 cm							
1	1	25.2	Lead Ball, Chewed		0.6544		
Provenience Number: 154 . 1 Metal Detect A114, 15 cm							
1	1	28.7	Lead Ball, Fired		0.6834		
Provenience Number: 155 . 1 Metal Detect A115, 5 cm							
1	1	5	Lead Ball, Unfired	0.376	0.3817		with sprue
Provenience Number: 156 . 1 Metal Detect A116, 15cm							
1	1	22	Lead Ball, Chewed		0.6254		
Provenience Number: 157 . 1 Metal Detect A117, 0-10 cm							
1	1	3.2	Lead Ball, Fired		0.3289		
Provenience Number: 158 . 1 Metal Detect A118, 0-10 cm							
1	1	2.9	Lead Ball, Fired		0.3183		
Provenience Number: 159 . 1 Metal Detect A119, 10 cm							
1	1	3.2	Lead Ball, Fired		0.3289		
Provenience Number: 160 . 1 Metal Detect A120, 0-10 cm							
1	1	2.1	Lead Ball	0.298	0.2858		
Provenience Number: 161 . 1 Metal Detect A121, 0-15 cm							
1	1	22.3	Lead Ball, Chewed		0.6283		
Provenience Number: 162 . 1 Metal Detect A122, 10 cm							

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Slivich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
1	1	22.7	Lead Ball, Fired		0.6320		
Provenience Number: 163 . 1 Metal Detect A123, 35 cm							
1	1	22.4	Lead Ball, Unfired	0.630	0.6292		
Provenience Number: 164 . 1 Metal Detect A124, 20 cm							
1	1	2.9	Lead Ball, Fired		0.3183		
Provenience Number: 165 . 1 Metal Detect A125, 10 cm							
1	1	21.8	Lead Ball, Chewed		0.6235		
Provenience Number: 166 . 1 Metal Detect A126, 15 cm							
1	1	22.2	Lead Ball, Fired		0.6273		
Provenience Number: 167 . 1 Metal Detect A127, 5 cm							
1	1	3.3	Lead Ball, Unfired	0.330	0.3323		
Provenience Number: 168 . 1 Metal Detect A128, 0-15 cm							
1	1	2.2	Lead Ball, Unfired	0.298	0.2903		
Provenience Number: 169 . 1 Metal Detect A129, 0-15 cm							
1	1	2.1	Lead Ball, Unfired	0.304	0.2858		
Provenience Number: 170 . 1 Metal Detect A130, 0-10 cm							
1	1	2.3	Lead Ball, Unfired	0.306	0.2946		
Provenience Number: 171 . 1 Metal Detect A131, 15 cm							
1	1	21.8	Lead Ball, Fired		0.6235		
Provenience Number: 172 . 1 Metal Detect A132, 10 cm							
1	1	14.4	Lead Ball, Fired	0.560	0.5430		Belted .54 caliber
Provenience Number: 173 . 1 Metal Detect A133, 0-10 cm							
1	1	2.2	Lead Ball, Fired		0.2903		
Provenience Number: 174 . 1 Metal Detect A134, 20 cm							
1	1	21.5	Lead Ball, Fired		0.6207		
Provenience Number: 175 . 1 Metal Detect A135, 0-25 cm							
1	1	20.4	Lead Ball, Fired		0.6099		
Provenience Number: 176 . 1 Metal Detect A136, 0-25 cm							

Site Number: 38LA564

Catalog #	Count	Weight (in g)	Artifact Description	Lead Ball Diameter	Shivlich Diameter	Temporal Range	Comments
1	1	22.2	Lead Ball, Unfired	0.633	0.6273		
Provenience Number: 177 . 1 Metal Detect A137, 15 cm							
1	1	22	Lead Ball, Unfired	0.626	0.6254		
Provenience Number: 178 . 1 Metal Detect A138, 15 cm							
1	1	16.8	Lead Ball, Fired		0.5717		
Provenience Number: 179 . 1 Metal Detect A139, 25 cm							
1	1	2.7	Lead Ball, Fired		0.3108		
Provenience Number: 180 . 1 Metal Detect A140, 20 cm							
1	1	25.9	Lead Ball, Fired		0.6604		
Provenience Number: 181 . 1 Metal Detect A141, 0-40 cm							
1	1	13.2	Lead Ball, Flattened/Pounded				
Provenience Number: 182 . 1 Metal Detect A142, 8 cm							
1	1	5.4	Lead Ball, Fired		0.3916		
2	1	6.7	Brass Finial				
Provenience Number: 183 . 1 Metal Detect A143, 5 cm							
1	1	3.2	Lead Ball, Unfired	0.332	0.3289		
Provenience Number: 184 . 1 Metal Detect A144, 0-15 cm							
1	1	3.3	Lead Ball, Fired		0.3323		
Provenience Number: 185 . 1 Metal Detect A145, 30 cm							
1	1	21.5	Lead Ball, Unfired	0.624	0.6207		
Provenience Number: 186 . 1 Metal Detect A146, 10 cm							
1	1	21.7	Lead Ball, Fired		0.6226		
Provenience Number: 187 . 1 Metal Detect A147, 0-20 cm							
1	1	1.9	Lead Ball, Unfired	0.286	0.2765		
Provenience Number: 188 . 1 Metal Detect A148, 0-5 cm							
1	1	3.3	Lead Ball, Unfired	0.335	0.3323		
Provenience Number: 189 . 1 Metal Detect A149, 30 cm							
1	1	22.2	Lead Ball, Chewed		0.6273		

Site Number: 38LA564

<i>Catalog #</i>	<i>Count</i>	<i>Weight (in g)</i>	<i>Artifact Description</i>	<i>Lead Ball Diameter</i>	<i>Swilich Diameter</i>	<i>Temporal Range</i>	<i>Comments</i>
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<i>Provenience Number:</i>	190 . 1		Metal Detect A150, 0-10 cm				
1	1	3.3	Lead Ball, Fired		0.3323		

<i>Provenience Number:</i>	191 . 1		Metal Detect A151, 20 cm				
1	1	6.9	Lead Ball, Fired		0.4249		

<i>Provenience Number:</i>	192 . 1		Metal Detect A152, 0-10 cm				
1	1	2.1	Lead Ball	0.298	0.2858		

<i>Provenience Number:</i>	193 . 1		Metal Detect A153, 0-20 cm				
1	1	4.2	Lead Ball, Chewed		0.3601		

<i>Provenience Number:</i>	194 . 1		Metal Detect A154, 0-10 cm				
1	1	2.4	Lead Ball, Unfired	0.303	0.2988		

<i>Provenience Number:</i>	195 . 1		Metal Detect A155, 0-10 cm				
1	1	2.3	Lead Ball, Unfired	0.301	0.2946		

<i>Provenience Number:</i>	196 . 1		Metal Detect A156, 0-10 cm				
1	1	2.2	Lead Ball, Unfired	0.303	0.2903		

<i>Provenience Number:</i>	197 . 1		Metal Detect A157, 0-15 cm				
1	1	2.2	Lead Ball, Unfired	0.302	0.2903		

<i>Provenience Number:</i>	198 . 0		Surface Collection, Jack Byrd Collection				
1	3	9.9	Iron Buckle Fragments				

SITE NUMBER: Isolate 1

<i>Provenience Number:</i>	2 . 0		Surface Collection				
1	1	38.9	Metavolcanic Projectile Point Tool				Late Archaic/Early Woodland (2200-1850 BC)

Oversized Projectile Point/Biface Forms

Site Number: Isolate 1

Provenience #: 2 . 0

Catalog Number: 1

All measurements are in mm.

Complete Tool Length: 87.8

Complete Tool Width: 44.6

Complete Tool Thickness: 10.7

Haft Element Length: 12.2

Haft Element Width: 21.6

Haft Element Thickness: 8.8

Shoulder Length: 8.7

Lithic Type: Metavolcanic

Point Type: Savannah River Stemmed

Period: Late Archaic/Early Woodland (2200-1850 BC)

Remarks:



Actual Size/Scanned Image