

THE IMPACT OF METAL DETECTORS: PRESERVATION LESSONS FROM THE BATTLEFIELD

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We all know that metal detectors have had an adverse impact on historic sites of all types, including battlefields. In addition to diminishing the number of metal artifacts present, the activities of metal detectors may have skewed the patterns left on sites either in terms of disproportionately removing certain classes of artifacts from the site, or by disproportionately removing artifacts from certain areas of a site. Because Civil War detectorists typically collect all metal, battle-related artifacts, these sites present the opportunity to examine spatial skewing that may have resulted from differential land access and from the tendency of metal detectors to focus on "hot spots." Information derived from archaeological distribution studies and information from metal detectors informants are used to assess the affects of differential access to land and the "mining" of hot spots have had on remaining patterns at the Mine Creek, Kansas, and Honey Springs, Oklahoma, Civil War battlefields.

In conceiving this paper, my goal was to examine two battlefields to determine if they provided evidence for the impact of metal detectors on historic sites. The conclusions so boldly predicted in my abstract were in one case not so bold after the data were in but are nonetheless important. This is particularly true for those engaged in the study of battlefields and other large-scale sites preyed upon by metal detectors.

I approach this topic with the knowledge that metal detectors do have an undeniable adverse impact on our nation's historic sites. I also gladly acknowledge that were it not for metal detectors I would be unable to present this paper. Engaged as I have been in battlefield studies since 1989, and now including two Civil War and one Indian Wars sites, I have come to rely on a group of volunteers whom I know in their other spare time are looting sites. The ethics of their activities while not working with me is not a topic of concern here. What is of concern is the affect that metal detectors have had on our ability to interpret and even find battlefields and other sites. The potential impacts include:

- Decreasing the number of discoverable artifacts to a point where the risk of faulty interpretation due to sampling error increases.
- The introduction of skewness into a site due to the disproportionate removal of artifacts by the mining of "hot spots" or from differentials in access due to vegetation, ownership, or relative remoteness.
- The total removal of diagnostic metal artifacts from the site.

The latter concern, the total removal of artifacts, is one that I face and fear every time I begin research on a different battlefield. It never fails that, due to years of metal detecting, the conventional wisdom is that there is nothing left to find. To date, I am happy to say that I have never found this to be the case and that useful patterning has always been there.

Having said this, however, the issue raised by the former two concerns of sampling error and skewness are ones that I must constantly address in my own reasoning and from questions raised by critics of my

interpretations. At one battlefield, my interpretation of the site differed markedly from the conventional wisdom of local historians; my interpretation quadrupled the size of the battlefield and suggested new locations for key elements of the fight.

The local historians argued that their interpretations were still correct but that the evidence that would prove their case had been systematically removed by the mining of these key battle areas by metal detectors. I could not convince them, much less myself: that this was indeed not possible. There may be no way to resolve their doubts, but it is this issue that I hope to shed some positive light on in this paper. I will approach this by using case studies: the Mine Creek Civil War battlefield in Kansas, and the Honey Springs Civil War battlefield in Oklahoma.

The Mine Creek Battlefield

The battle of Mine Creek was fought on October 25, 1864, at the point where a road to Fort Scott crossed Mine Creek. It was one of a number of actions in a long withdrawal of Confederate Maj. Gen. Sterling Price's army after its failed invasion of Missouri. At Mine Creek, Price's 500 wagon train, loaded with loot stolen from the good citizens of Missouri and Kansas, was slowed by the October rains. Some 7,500 Confederate cavalry, including 8 guns, guarded the crossing. It took only 2,500 U.S. cavalry (under Col. John S. Phillips and Lt. Col. Frederick W. Benteen) less than 30 minutes, however, to roll up the Rebs, capture all their guns, two generals (Maj. Gen. John S. Marmaduke and Brig. Gen. William L. Cabell), 900 men, and many wagons, and send Price back to Arkansas like a whipped pup. Never mind that the Rebs had been pushed long and hard by U.S. troops, were poorly equipped, had lost several battles in as many days, and were outgunned by the Federal Spencers and Henrys.

As interesting as it may be, the battle and its specific archaeological interpretation is not of concern here. Rather, I wish to use Mine Creek to examine possible contrasts in preservation due to the difference between public and private land ownership.

Archaeological work conducted at Mine Creek in 1989, 1990, and 1991 covered approximately one square mile. Roughly one-half of this land has been owned by the Kansas State Historical Society since 1978, with part acquired earlier in 1974. This land was purchased with the intent of preserving the battlefield and developing it as a tourist-oriented interpretive facility.

During the decade between purchase and our study, Kansas had conducted some incipient passive interpretation but had never had staff assigned to this site. The private land was divided into parcels held by a number of private owners, some residential and other absentee, who used the land for agricultural purposes. All of the land had been cultivated extensively since the battle and some, including part of the state land, remained in cultivation at the time of our study. Ground cover varied over the study area, and ranged from newly planted fields to grass to brush to woods.

A uniform methodology was applied to the entire study area, which involved the systematic scanning of transects by lines of 8 to 10 metal detectors spaced approximately 2 m apart. Finds were flagged, excavated, documented, and their locations recorded. The final project maps were produced on AutoCAD.

The survey of the state property was conducted in 1989 and 1990, and the adjacent private land in 1991. The 1989 and 1990 survey was conducted under the premise that the state land encompassed the entire battlefield. Mapping of the state land occurred shortly after the fieldwork and suggested that the state land was only a portion of a much larger battlefield. The 1991 survey of private land was designed to investigate land to the east and north to determine the true limits and structure of the battlefield. This work showed that the state's eastern property line split the battlefield down the middle.

Mapping of finds on the private land at Mine Creek has only recently been completed. Field impressions of finds on these private lands suggested more defined patterns of artifacts, thought to represent troop lines, and a greater density of artifacts than on the state land. Given similar ground cover and the same methodology, it appeared to this investigator that the private land had held onto its data better than the state land. It is no profound leap to think that un-staffed public land would attract more metal detector activity than those who either do not want to ask permission, or those who are denied permission on private land and directed to try their hand "over there" on the state land. It is even more credible since the state land purports to be "the" battlefield.

The question is thus: did public land ownership lead to the significant, disproportionate degradation of the site? It seemed to me that it had.

Examination of our archaeological map shows, however, that this may not be the case. The map of total artifacts finds for the state and adjacent private lands shows distinct patterning in the way the artifacts are distributed. This patterning can be interpreted, and I believe is correctly interpreted, as being directly related to the actual battle event of 1864. I do not see what I anticipated seeing; that is, I do not see evidence that the pattern is less distinct on the state property.

I would like to review two things that I see in this distribution. First, however, I stress that my interpretations are based on an understanding of the documentary record and on a more detailed review of the location of specific types of artifacts on the battlefields. For example, unfired breech loading ammunition almost certainly marks the location of U.S. soldiers on the battlefield in the same sense that unfired muzzle-loading ammunition probably marks the location of Confederate soldiers.

The first pattern of note is the northeast-southwest line of artifacts in the panhandle of the state property. Although Mine Creek is not shown on this map, this pattern starts on the south bank of Mine Creek and marks the route of the Confederate retreat, and subsequent U.S. pursuit after the battle. This pattern was the first clue that the private land to the east of the state parcel was involved, as the road was at the center of the battle.

Second, and crucial for my conclusions in regards to the Mine Creek case, is a broader northwest to southeast trending band of artifacts. This appears to be the final Confederate line that was attacked and then occupied by U.S. troops. The diffuse scatter of artifacts to the southwest probably represents disorganized fighting after the breakdown of the Confederate opposition.

What is important here is that the broad band which I interpret as the final Confederate position is distinctly visible on both sides of the public/private property line. I conclude that the pattern of this event is, at least as it pertains to this battle line, equally well preserved on the public and private lands. I cannot conclude from this, however, that metal detecting has not altered the nature of this pattern, or that evidence of the battle at other locations has not been skewed or obliterated. To look at this type of damage, I will turn to my next case study.

The Honey Springs Battlefield

The battle of Honey Springs was fought on July 17, 1863, in the eastern Indian Territory, now Oklahoma. Confederate Brig. Gen. Douglas H. Cooper had amassed 6,000 troops at their supply depot at Honey Springs. Cooper was waiting for some 3,000 additional troops under Brig. Gen. William L. Cabell, captured the next year at Mine Creek, to arrive before moving to capture Fort Gibson and the Indian Territory for the Confederacy. Suspecting this plan, and certainly buoyed by recent Federal victories at Gettysburg and Vicksburg, Maj. Gen. James G. Blunt moved 3,000 troops—most of the garrison at Fort Gibson—south to attack Cooper before he could be reinforced.

The battle occurred along the Texas road just north of Elk Creek and two miles north of Honey Springs Depot. There, the Confederates were deployed north of the creek on either side of the Texas Road, and were supported by 4 pieces of artillery. Confederate troops included the First and Second Cherokee Regiments, the First and Second Creek Regiments, and the Twentieth Texas Dismounted and Twenty-Ninth Texas Cavalry. U.S. troops, supported by 12 guns, attacked the Confederates, with most of the intense fighting being contained within several hundred yards to either side of the Texas road. U.S. troops engaged in the battle included the First Kansas Colored Volunteers (the first black troops to fight in the Civil War), the First and Second Indian Home Guards, Second Colorado Infantry, Third Wisconsin Cavalry, Sixth Kansas Cavalry, Second Kansas Battery, and Hopkins Kansas Battery. The U. S. artillery was relentless, and the Confederates finally broke and fought a retreating action back to Honey Springs and then out of the Territory.

The current interest in state development of the Honey Springs battlefield dates to the Civil War centennial. Since that time, the Oklahoma Historical Society has acquired in excess of 700 acres of the battlefield, with roughly half to the north of Elk Creek where the main fighting occurred and the balance to the south around Honey Springs. The OHS currently has development money to continue land acquisition and begin interpretation. To date, however, the site has never been staffed.

Archaeological work was begun in 1994 with a three-week survey of the northern parcel of state land and some adjacent private land. This project and subsequent work planned for early this year are volunteer efforts supported by grants from the National Park Service's American Battlefield Protection Program. Field and technical assistance has also been extended by Doug Scott of the National Park Service's Midwest Archeological Center. The same methods described for the Mine Creek study were used at Honey Springs with the difference that the survey data were collected electronically, which facilitated rapid AutoCAD mapping.

Unlike the Mine Creek study, the work at Honey Springs suggests that the core of the battlefield is actually smaller than was once thought and that it is almost entirely contained on land already owned by the state. Very little was found on the adjacent private lands, and the patterns suggest this is not artificial but is instead related to the events of 1863.

At this site, however, we were fortunate enough to work with a metal detector who had previously worked some of the state land. This had occurred in 1982 under the bogus permission of the late administrator of the Fort Gibson State Historic Site. Regardless, we know from Mr. Moore and other informants that many, many individuals had worked the state land until recently, and probably still do. What is different and important about Mr. Moore is that he kept records of his finds, worked closely with us, and shared his insights on the patterns we were recovering.

I will start by reviewing a few passages from his "Search & Recovery Log" which records nine visits between December 7, 1982, and January 25, 1983. On December 16, 1982, he notes that he is "Hunting for Oklahoma Historical Society; searched only west 1/4 of 40 acres; never hunted!" This 40 acres had been recently purchased by the OHS. This area is known to local metal detectors as the "Wooded 40." It is this area that was the focus of Mr. Moore's work, and in which we also found the most concentrated evidence of the battle. This rocky ground has never been cultivated, unlike much of the battlefield, and distinct swales of what is certainly the Texas Road can be seen passing in a northeast to southwest direction through the northwestern portion of this 40-acre block.

In the two and one-half hours that Moore spent at the site on December 16, he found 14 cannon ball fragments, 2 canister, 2 three-ring minie balls, 1 part of a brass stirrup, 1 part of an iron stirrup, 11 rifle balls, 1 ax head, and 1 Bormann time fuse. These finds were typical, but other days note discovery of U.S. and

Confederate buttons, firearm hammer assemblies, trigger guards, barrel bands, pocket knives, complete artillery shells, eating utensils, and padlocks.

His maps of where his finds were made are very vague, but seem to focus on the western edge of the Wooded 40 in the vicinity of the Texas road swales. Our largest concentration of artifacts were also in this area, and based only on his maps, appear to correlate fairly well with where Moore made the bulk of his finds. Several important observations, however, deserve consideration.

Moore was with us as we systematically covered this Wooded 40, working from east to west. As we moved into the western edge of the parcel, Moore became somewhat disenchanted for two reasons.

First, he felt very strongly that the location where he had found the bulk of the artifacts was an area where there were relatively few artifacts today. He puzzled over the fact that areas that we were showing to be "hot spots" today were not so in 1982. This is evidence of skewing of the patterning of the artifacts within a small portion of a much larger area. While the conclusion that the western part of the Wooded 40 has the highest concentration of battle artifacts is as true today as it was in 1982, the nature of the patterning within this area, if Mr. Moore's recollections are correct, has changed.

In attempting to explain this, Moore suggested that this was the result of metal detectors traveling down the abandoned county road that ran on the west side of the Wooded 40, and mining the edge of the woods for mere convenience. This is certainly a plausible explanation.

Second, Mr. Moore commented on the difference in the assemblage that we recovered in 1994 as compared to the types of artifacts that he had found in 1982. His observation is without question borne out by a comparison of his list of finds with the inventory from our work in the Wooded 40. Common in his list are items such as military buttons and gun parts. These were for all practical purposes absent from our search of the Wooded 40, with our definite battle-related finds being almost exclusively bullets and fragments of artillery ammunition. Here we apparently have the theft of sufficient material from this location to remove most of the non-ammunition items. Have we reached the point where potentially serious mistakes due to sampling error can be expected? I think that perhaps we have.

There are areas on the battlefield where non-ammunition artifacts are found with some frequency. Without Mr. Moore's observations and records, to suggest that these areas and the Wooded 40 along the Texas road are comparable in the presence of these types of materials would be impossible. This is indeed a sad commentary on the nature of preservation of Oklahoma's most important Civil War battleground.

Conclusions

Utilized properly, there is today no question that metal detector hobbyists can be a valuable asset to archaeology. Just as easily there is no question that the actions of metal detectors acting as individuals do serious harm, on an increasing basis, to some of our most significant archaeological sites. Through the use of case studies at Mine Creek, Kansas, and Honey Springs, Oklahoma, I have attempted to examine the nature of the affects of metal detectors on battlefield patterns.

At Mine Creek, I looked at adjacent public and private land for evidence of differential preservation. I found no compelling evidence that public vs. private ownership of this land had any affect on the pattern that we recovered there between 1989 and 1991. Still, I cannot refute those who suggest these and other patterns are made misleading by the systematic mining of other "hot spots." In fact, based on my experience at Honey Springs, I now find this even harder to deny.

At Honey Springs I looked at a 40-acre parcel of land worked by a metal detector in 1982 and

1983 and then again by an archaeological team, including that same detector, in 1994. The data were less than perfect, but the conclusion seems inescapable. The patterning within that 40 acres does appear to have been skewed by the actions of metal detectors by, first, a focus on an easily accessible "hot spot" along the Texas Road but more importantly along the modern access to the area and, second, by the removal of so many artifacts from the entire 40 acres that certain classes of low-frequency materials are virtually non-existent today. Spatial patterns have changed, and numbers are so low that sampling error looms as a threat in making interpretations.

These observations are offered as a precaution, however, and not as a condemnation of the practice of conducting archaeological investigations of large-scale sites, such as battlefields, using a metal-detector based methodology. My work at Mine Creek, Honey Springs, and recently at the 1868 Washita battlefield have convinced me that this method does reveal patterns related to historical events and that can be used to interpret these historical events. This conclusion is repeated across the land, and echoes from Doug Scott's then pioneering work at the Little Bighorn Battlefield in the middle 1980s. It will always be difficult if not impossible to know what is gone from these fields, but that it is possible to learn new things from what is left is crystal clear.