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Custer's Last Stand
GPS helps solve mysteries

Product Review
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here probably aren’t many people alive today who have never heard of the name of Lt. Col. (Bvt. Maj. Gen.) George Armstrong Custer. Probably even fewer have never heard of the battle that made him famous (or infamous, depending on who is telling the story)—the Battle of the Little Bighorn or Custer’s Last Stand, also known to Native Americans as the Battle of Greasy Grass.

There are those students of the battle who know precisely when, where, and why the battle was fought. Others may only know that the main characters involved—the U.S. Army’s 7th Cavalry under Custer’s command—were annihilated on the southeastern Montana plain by Lakota, Arapaho and Cheyenne Indians under the leadership of the Lakota chiefs, Sitting Bull and Crazy Horse.

**Historical Perspective**

Since Custer and all of the men under his immediate command were killed, and many under the command of other officers in his unit also met their fate on those same dusty plains, very little is known after they were seen alive for the last time. Fortunately, there are other truths still being uncovered using today’s archaeological techniques and technology on the evidence available, to determine to a greater degree of certainty than ever before, more of exactly what happened beginning on June 25 & 26, 1876.

In 1875, Sioux and Cheyenne Indians defiantly left their reservations in protest over the continued intrusions of the white man onto their sacred lands of the Black Hills. The Indians gathered in the eastern Montana territory to fight for their lands.

>> By Michael W. Michelsen, Jr.
At the time of the Little Bighorn fight, General Custer led one of a three-column force sent by the Grant administration in an effort to force the Indians back onto their reservations.

On June 25, 1876, the Indian encampment was spotted along the Little Bighorn River, approximately 15 miles from Custer’s division. Scout Mitch Bouyer warned, “General, I have been with these Indians for thirty years, and this is the largest village I have ever heard of.” Custer originally planned to attack the following dawn, but before then encountered a group of about 40 warriors, whom he thought would alert the remainder of the village leading them to break up and scatter, depriving him of the element of surprise. As a result, Custer decided to attack. He began his approach to the village at noon.

Unfortunately, he did not realize that the 40 warriors he encountered were headed away from the village, not toward it. Neither did he realize the kind of terrain he would have to cross prior to an attack, mostly a maze of ravines and bluffs.

Prior to the attack, Custer split his column three ways. Captain Frederick Benteen was sent with 125 men to the upper valley of the Little Bighorn River to prevent escape of the villagers after the attack began. Another column of 175 men, under the command of Major Marcus Reno, was to attack from the south. The remaining force of 210 soldiers went with Custer to the north.

On his way to what is now called Last Stand Hill, and anticipating a fierce fight, Custer dispatched his trumpeter, John Martin, with an order to Benteen, to “be quick” and to “bring packs” (ammunition). Custer was never seen alive again.

Unbeknownst to Custer was that he was engaging a force of Indians that was more than three times their numbers. Experts estimate warriors numbered upwards of 1,800.

At about 3 p.m., Reno began his attack where he quickly found himself in a desperate fight with little hope of relief. After 10 minutes, Reno ordered his men to dismount and retreat to a stand of trees and brush by the river. After that area proved to be indefensible, he ordered a retreat into the bluffs to the east of the river. It was on these bluffs that he linked up with Benteen, who in all likelihood saved Reno’s command from annihilation.

After Reno started his retreat, the Indians discovered Custer’s approach.
from the north of the village, leading them to break off their fight with Reno. The Indian force crossed the river to clash headlong into the advancing soldiers. The battle was over in less than one hour.

**Back to the Little Bighorn**

Dr. Douglas Scott is a member of the adjunct faculty at the University of Nebraska. In 1983, he was working as an archaeologist for the Department of the Interior, National Park Service. Scott’s special area of study is the archaeology of the American Midwest, with a special interest in military campaigns of the region.

In August 1983, a brush fire consumed much of the 700 acres that comprise what is known as the Little Bighorn battlefield. Scott and a colleague, Dr. Richard Fox, were called in to take advantage of the opportunity to comb the now barren fields for artifacts which would lead to a better understanding of the battle.

On May 7, 1984, Scott, Fox, and their team of technicians began scanning the field with metal detectors in their search for artifacts. For 33 days, the group scoured the terrain for personal items as well as artifacts related to the battle.

Originally using hiking transits and Trimble total stations, the team set up a network to map the main battlefield as well as other areas where significant events were known to have taken place. These areas included Custer Ridge, the wooded area of Reno’s defense, and points along the slopes where the unit’s retreat took place. After each day of searching was ended, the team took coordinates back to the interpretation center for recording in AutoCAD.

Each summer for the next 23 years, the team continued to do project work for the park, eventually migrating equipment to Trimble GeoExplorers and ProXRs for positioning data and ESRI’s ArcView 3.3 for viewing and manipulating the data gathered.

Scott is careful to preface the story with a reexamination of Custer, who is often discounted as a brash and arrogant commander who foolishly led his men to their deaths in an egocentric mission.

“In fact, Custer really was a good soldier who is often discounted even from his days at West Point,” Scott said. “It is true that Custer was graduated last in his class at the Academy, but his problem was not academic. In fact, he was a good student, but he had a discipline problem which led to a lot of demerits.”

Further, Scott explained, Custer had a bold and brash manner, which earned him respect from some commanders, as well as intent dislike from others. His hard-riding, hard-fighting style earned him the moniker, “Iron Ass”.

“Also remember that the people who spoke and wrote about him had their own views of the man to draw from. And a dead man can’t defend himself,” Scott said.

**The Next Best Thing**

Although it is true that dead men tell no tales, in Scott’s words, “Evidence doesn’t lie and it doesn’t discriminate.”

Furthermore, a vast majority of the technological tools available today were unavailable to earlier historical studies. “A good example of the technology available is not only the GPS positioning capabilities, along with the mapping tools, but using modern ballistics, we can identify individual firing pin markings left on cartridge casings found, which makes it possible for us to trace the movement of a particular gun wherever it was used on the battlefield. Combining the ability to identify an individual weapon among many with the positioning of a GPS-fueled map gives us a holistic approach that would have been impossible before we had access to these technologies.”
Scott hand-picked each member of the search team, who came from all corners of the globe, specifically metal detectors and diggers. Metal detector operators swept the areas, walking defined transects, while diggers followed and excavated each find, and quickly identified artifacts. Was it a casing fired from the weapon of a soldier or an Indian? Was it an 1874 or 1877 cartridge buckle? Was the cartridge fired by one of Custer’s soldiers or by soldiers sent to the area later to recover Custer dead? Fortunately, with accurate identification of each artifact, the job went quickly.

In each instance of a “hit” by the metal detector, a small surveyor’s pin flag was posted for the work of the digger, who followed the operator. Following a surface examination for the artifact, the digger would dig until the artifact was found, at which time it was identified by an expert, then the position marked by a GPS operator. After the position was noted, each artifact was bagged and removed to the interpretation center.

During Scott’s study more than 5,000 artifacts were found–ranging from bullets and casings to buckles,
suspender grips, buttons, boot parts, arrowheads, coins, and rings (one with a finger bone still inside).

**Location, Location, Location**

“In archaeology, context is everything,” Scott explained, “and it’s important to understand that using the framework of GPS and the resulting mapping capability, we are really able to get a firm handle on what was found where. Then, with an accurate identification of the artifacts found, we can put a pretty complete picture of what happened.”

According to Scott, the evidence points to the Battle of the Little Bighorn as a fight made very much on the run. In fact, according to Scott, there probably wasn’t even a “Last Stand” as is typically envisioned, and as movies portray.

“It probably didn’t take long at all before Custer realized that he was seriously outnumbered,” Scott explained. “The evidence also points to the fact that he did what he could. For example, firing lines can be identified from a series of horse bone piles. This would lead us to believe that the horses were shot to provide protection for the soldiers on the line. There were heavy concentrations of casings where soldiers were firing from.”

Also worthy of note is the comparison of the artifacts found with the testimony given later by soldiers as well as Indians at several investigations after the battle.

“A good example of this is the testimony given by Major Reno that he heard scattered gunfire as late as 4:20 coming from the direction of where Custer had been,” Scott recalled. “When his commander, General Terry, finally got to the scene, he noted that the bodies of practically all of the soldiers had been mutilated. This could account for the condition of some of the
bones we found. Also, we found a large number of bullets that were flattened on their ends, which would happen if they were fired into soldiers on the ground by warriors who were finishing off the wounded at the scene.”

**Solving Mysteries**

Modern forensics also helped Scott and his crew solve a number of mysteries that have been perpetuated over the years. An example is the fate of Custer’s scout, Mitch Bouyer, who had warned him of the size of the Indian village prior to the battle.

“There are eight places identified on the battlefield where Bouyer was said to have been killed,” Scott said. “Obviously, that can’t be possible. Fortunately, at one of the sites, we found a skull fragment along with a few bones of post-cranial body that had been missed by reburial parties in 1881. That skull fragment had teeth that were worn the same as a pipe smoker, which we know Bouyer was. When we did an overlay of the skull with the only known photograph of Bouyer, we were able to identify the skull as consistent with the man depicted in the photograph.”

As a result of the identification, Mitch Bouyer’s remains were re-buried with an appropriate marker. His descendants, who live a short distance from the battlefield, were in attendance at the ceremony.

Another mystery related to the burials was when pairs of depressions were found side-by-side with one marker. Were there two bodies originally buried, or just one?

“Remember that when troops finally arrived and discovered the site, the Indians had taken their dead away, but those of the troopers had been laying in the sun for several days,” Scott explained. “Needless to say, it was not a pleasant job. In most cases, burials consisted of dirt being dug up on either side of a body and haphazardly covered. Only officers were eventually removed and buried elsewhere. In some cases however, bodies were discovered and buried together, since it is normal battlefield action for soldiers to group in pairs or more when they are threatened.”

**A Verdict**

For now, Scott says there are no plans to return to the Custer battlefield for further studies, although some questions remain.

“We were fortunate in that we got a lot of answers we were looking for,” Scott said. “We were only able to sample about 32 percent of the battle areas, but other areas, such as where the Indian village was, are now private property, and we couldn’t dig there. There are also other soldiers who were buried in Deep Ravine, which we didn’t find, but they’re not going anywhere, so if we decide to go back, we could look for those again.”

Bob Reece, president of the Friends of the Little Bighorn, and a member of several study teams, added, “An important fact that we were also able to determine from our studies is that the Indians were a lot better armed than we ever gave them credit for in the past. The warriors who fought were not just lobbing arrows. They had firearms too, and a lot of them.”

In the end, Scott surmises that the cause of Custer’s defeat was a series of tactical blunders.

“Prior to his parting from General Terry, Custer was offered the use of Gatling guns, which would have been a great equalizer, but the guns were drawn by condemned horses and Custer thought that would slow him down,” Scott explained. “He was also offered the use of another company of men, which also would have helped. Regardless, Custer said that even without the additional troops, he felt his 7th Cavalry could meet the challenge. Unfortunately, a good commander knows to never underestimate the power of the enemy.”

Mike Michelsen is a freelance writer in Riverside, California.