

THE "OLD LINER" NEWSLETTER

C.S.A. Countermines Have Been Found At Petersburg Battlefield

By Kathryn Jorgensen, November 2014 Civil War News

PETERSBURG, Va. — A recently rediscovered "amazing aspect that had slipped from memory and remained undisturbed for 150 years," has staff at Petersburg National Battlefield excited.

The rediscovery is an extensive set of Confederate countermines placed in front of the portion of the final Confederate line (the Harris line) known as Gracie's Salient. The salient, which was named for Confederate Gen. Archibald Gracie, was near Union Forts Stedman and Haskell.

Cultural Resource Manager Julia L. Steele says, "Its very existence rewrites a small portion of the history of the early days of the siege, when in July 1864 Union 18th Corps engineers drove a sap uphill from Poor Creek 'to gain a better position for sharpshooters' according to the *Official Records*."

The park hopes to use ground penetrating radar to assess whether there is Union mining under the salient and if any of the Confederate countermines remain intact.

Steele explains that countermines were dug to try and intercept enemy mining efforts by discovering and destroying or neutralizing the mine.

References to "mines" might be news to Civil War enthusiasts who know Petersburg for one famous mine, underground explosion and battle — the Crater — and don't know there were additional mines.

Steele says Confederates had countermines at six locations "where the lay of the land and the proximity of the lines made them worry about Union siege mining efforts."

Three of these locations were in what is now the park — the Crater, Gracie's Salient and in front of Colquitt's Salient.

Last year the park did a detailed assessment of Gracie's Salient for its inventory and condition assessment program. Steele says they worked from a detailed Union engineers' map referred to as "Draft Michler" or "Manuscript Michler."

Nathaniel Michler was a Corps of Engineers officer. He was brevetted colonel for his service during the Petersburg siege and brigadier general for his Civil War service in April 1865.

The Michler map Steele refers to showed the Confederate fortifications just after the city fell in early April 1865. It concentrated on the Confederate fortifications from the Appomattox River south to the Baxter Road.

"The park was as curious as the Federals were about the Confederate works," Steele says. Park staff could align most of the map features with what remains on the ground in a deeply wooded and difficult to reach portion of the park.

"But there were a few lines of depressions that we noted had not been mapped," she says.

The nearby U.S. Army installation at Fort Lee provided LiDAR remote sensing technology images of the area. LiDAR can capture ground contours through the tree cover.

The detailed Michler map indicates Confederate lines over the entire spur of high ground within the bend of Poor Creek. Steele says, "It also shows faint, penciled lines that match exactly the surface indications of collapsed underground tunnels."

She credits NPS Cultural Resource historian and geographic information systems specialistDavid Lowe and independent history researcher Dr. Philip Shiman with making the connection.

The two have been fascinated by Petersburg for years: Lowe after researching battles for the Civil War Sites Advisory Commission and mapping forts in the park and Shiman after working as a seasonal employee at the park for six summers while a student.

On one of their trips to explore the siege lines a few years ago it all jelled, Steele says. She went out with them and likewise became convinced they were seeing collapsed tunnels.

Lowe and Shiman are members of the Civil War Fortifications Study Group which meets at a site every year to examine Civil War earthworks. The men tested their theory of the undocumented tunnels during the group's February visit to Petersburg.

"They were fairly certain, but the area is so densely wooded today, it's difficult to get the full picture," says Steele. The fortifications study group members agreed that the lines of depressions were Confederate countermines.

"It was good to have their verification because it seemed so unbelievable that this major part of the Petersburg story had remained hidden all these years," says Steele.

She, Lowe and Shiman "scoured the documentary records and began to piece the picture together."

Their rigorous review of documentation included Union and Confederate maps from early in the siege. "They seem to show a Union picket line on the west side of Poor Creek in a position that must have been a real irritant to the

Confederates — so much so that they initiated mining/countermining activities in early July," says Steele.
"The closeness of the lines in this sector also had the Federals lobbing grenades and using sap rollers to advance their lines."

May 1865 view of the interior of the Confederate line at Gracie's Salient, Petersburg. Timothy O'Sullivan took this photograph which was published in Alexander Gardner's Photographic Sketch Book of the War in May 1865. It shows earthworks, bombproofs on the right, chevaux-de-frise and hurdle revetments and Poor Creek. (Library of Congress)

Confederates employed "torpedoes" as land mines to block the vulnerable railroad cut that bisected their lines.
On Aug. 5, less than a week after the Crater mine explosion, Confederates set off some explosions under the Union line in front of Gracie's Salient.
The action was "to no avail and minor notice," says Steele, although two mini-craters from the explosions remain.
She refers to *Official Records*' reports that Confederates put 425 pounds of powder in each mini-mine as compared to 8,000 pounds which resulted in the Crater.
Steele says Confederate engineer W.W. Blackford reported Confederate troops' fear of Union mining efforts after the Crater. Blackford sent to Richmond for augurs so troops could assess underground activity by whether or not water levels had dropped in the augur holes.
"He knew this wasn't a realistic detection method, but it helped with the morale," says Steele. "He also describes how the tunnels were guarded and plans to battle underground should one side breach the other's tunnel."
More details from Blackford's account of fighting at the salient, the trenches which were 50-60 yards apart, and the process of digging countermines and carrying away the earth can be found in his *War Years with Jeb Stuart* published in 1946.
Steele says the Federals dug some countermines at Fort Stedman and Battery X. They are opposite Gracie's and Colquitt's salients where the original June 18 lines were so close.
The Confederates held on to Gracie's Salient. They finally drove the Federals away on Nov. 6 by raising the waters of Poor Creek with an earthen dam that cut off some retreating Union soldiers who were captured.
In addition to the earlier mentioned three Confederate countermine locations within in the park, Steele reports that during the Fortifications Study Group's Petersburg visit they found another location just off the park on private land.
Another set of tunnels was near the City Point road and "seems to have been lost to modern development."
The final set of Confederate countermines was at Fort Mahone and lost to mall development in the 1960s.
Steele says the collapsed tunnels at Gracie's Salient that showed up on the radar could be explored further using ground penetrating radar, "but all this research leads us to believe there are other tunnels that have not collapsed and could be located by using radar."

The Civil War's Environmental Impact

By *TED WIDMER*, New York Times, NOVEMBER 15, 2014
The Civil War was the most lethal conflict in American history, by a wide margin. But the conventional metric we use to measure a war's impact – the number of human lives it took – does not fully convey the damage it caused. This was an environmental catastrophe of the first magnitude, with effects that endured long after the guns were silenced. It could be argued that they have never ended.
All wars are environmental catastrophes. Armies destroy farms and livestock; they go through forests like termites; they foul waters; they spread disease; they bombard the countryside with heavy armaments and leave unexploded shells; they deploy chemical poisons that linger far longer than they do; they leave detritus and garbage behind.
As this paper recently reported, it was old rusted-out chemical weapons from the 1980s that harmed American soldiers in Iraq – chemical weapons designed in the United States, and never properly disposed of. World War II's poisons have been leaching into the earth's waters and atmosphere for more than half a century. In Flanders, farmers still dig up unexploded shells from World War I.
Now, a rising school of historians has begun to go back further in time, to chronicle the environmental impact of the Civil War. It is a devastating catalog. The war may have begun haltingly, but it soon became total, and in certain instances, a war upon civilians and the countryside as well as upon the opposing forces. Gen.



William T. Sherman famously explained that he wanted the people of the South to feel "the hard hand of war," and he cut a wide swath on his march to the sea in November and December 1864. "We devoured the land," he wrote in a letter to his wife.

Gen. Philip H. Sheridan pursued a similar scorched-earth campaign in the Shenandoah Valley in September and October 1864, burning farms and factories and anything else that might be useful to the Confederates. Gen. Ulysses S. Grant told him to "eat out Virginia clear and clear as far as they go, so that crows flying over it for the balance of the season will have to carry their provender with them."

But the war's damage was far more pervasive than that. In every theater, Northern and Southern armies lived off the land, helping themselves to any form of food they could find, animal and vegetable. These armies were huge, mobile communities, bigger than any city in the South save New Orleans. They cut down enormous numbers of trees for the wood they needed to warm themselves, to cook, and to build military structures like railroad bridges. Capt. Theodore Dodge of New York wrote from Virginia, "it is wonderful how the whole country round here is literally stripped of its timber. Woods which, when we came here, were so thick that we could not get through them any way are now entirely cleared."

Northern trees were also cut in prodigious numbers to help furnish railroad ties, corduroy roads, ship masts and naval stores like turpentine, resin, pitch and tar. The historian Megan Kate Nelson estimates that two million trees were killed during the war. The Union and Confederate armies annually consumed 400,000 acres of forest for firewood alone. With no difficulty, any researcher can find photographs from 1864 and 1865 that show barren fields and a landscape shorn of vegetation.

When the armies discharged their weapons, it was even worse. In the aftermath of a great battle, observers were dumbstruck at the damage caused to farms and forests. A New York surgeon, Daniel M. Holt, was at the Battle of Spotsylvania Court House in 1864, and wrote, "Trees are perfectly riddled with bullets." Perhaps no battle changed the landscape more than the Battle of the Crater, in which an enormous, explosive-packed mine was detonated underneath Confederate lines and left 278 dead, and a depression that is still visible.

Still, the weapons used were less terrible than the weapons contemplated. Chemical weapons were a topic of considerable interest, North and South. A Richmond newspaper reported breathlessly on June 4, 1861, "It is well known that there are some chemicals so poisonous that an atmosphere impregnated with them, makes it impossible to remain where they are by filling larges shells of extraordinary capacity with poisonous gases and throwing them very rapidly." In May 1862, Lincoln received a letter from a New York schoolteacher, John W. Doughty, urging that he fill heavy shells with a choking gas of liquid chlorine, to poison the enemy in their trenches. The letter was routed to the War Department, and never acted upon, but in 1915, the Germans pursued a similar strategy at Ypres, to devastating effect.

But the land fought back in its way. Insects thrived in the camps, in part because the armies destroyed the forest habitats of the birds, bats and other predators that would keep pest populations down. Mosquitoes carried out their own form of aerial attack upon unsuspecting men from both sides. More than 1.3 million soldiers in the Union alone were affected by mosquito-borne illnesses like malaria and yellow fever. An Ohio private. Isaac Jackson, wrote, "the skeeters here are – well, there is no use talking … I never seen the like." Flies, ticks, maggots and chiggers added to the misery.

The army camps were almost designed to attract them. Fetid latrines and impure water bred disease and did more to weaken the ranks than actual warfare. Some 1.6 million Union troops suffered from diarrhea and dysentery; Southern numbers were surely proportional. Rats were abundantly present on both sides, carrying germs and eating their way through any food they could find.

Probably the worst places of all were the prisoner camps. A Massachusetts private, Amos Stearns, wrote a two-line poem from his confinement in South Carolina: "A Confederate prison is the place/Where hunting for lice is no disgrace." Some Alabama prisoners in a New York prison made a stew of the prison's rat population. ("They taste very much like a young squirrel," wrote Lt. Edmund D. Patterson.)

Smart soldiers adapted to the land, using local plants as medicines and food and taking shelter behind canebrakes and other natural formations. In this, the Southerners surely had an advantage (a Georgia private, William R. Stillwell, wrote his wife facetiously of Northern efforts to starve the South: "You might as well try to starve a black hog in the piney woods"). But the better Northern soldiers adapted, too, finding fruits,

nuts and berries as needed. A Vermont corporal, Rufus Kinsley, making his way through Louisiana, wrote, "not much to eat but alligators and blackberries: plenty of them." Shooting at birds was another easy way to find food; a Confederate sergeant stationed in Louisiana, Edwin H. Fay, credited local African-Americans with great skill at duck-hunting, and wrote his wife, "Negroes bring them in by horseback loads."

Nevertheless, the Northern effort to reduce the food available to Southern armies did take a toll. In the spring of 1863, Robert E. Lee wrote, "the question of food for this army gives me more trouble than anything else combined." His invasion of Pennsylvania was driven in part by a need to find new ways to feed his troops, and his troops helped themselves to food just as liberally as Sherman's did in Georgia, appropriating around 100,000 animals from Pennsylvania farms.

While the old economy was adapting to the extraordinary demands of the war, a new economy was also springing up alongside it, in response to a never-ceasing demand for energy – for heat, power, cooking and a thousand other short-term needs. As the world's whale population began to decline in the 1850s, a new oily substance was becoming essential. Petroleum was first discovered in large quantities in northwestern Pennsylvania in 1859, on the eve of the war. As the Union mobilized for the war effort, it provided enormous stimulus to the new commodity, whose uses were not fully understood yet, but included lighting and lubrication. Coal production also rose quickly during the war. The sudden surge in fossil fuels altered the American economy permanently.

Every mineral that had an industrial use was extracted and put to use, in significantly larger numbers than before the war. A comparison of the 1860 and 1870 censuses reveals a dramatic surge in all of the extractive industries, and every sector of the American economy, with one notable exception – Southern agriculture, which would need another decade to return to prewar levels. These developments were interpreted as evidence of the Yankee genius for industry, and little thought was given to after-effects. The overwhelming need to win the war was paramount, and outweighed any moral calculus about the price to be borne by future generations. Still, that price was beginning to be calculated – the first scientific attempt to explain heat-trapping gases in the earth's atmosphere and the greenhouse effect was made in 1859 by an Irish scientist, John Tyndall.

Other effects took more time to be noticed. It is doubtful that any species loss was sustained during the war, despite the death of large numbers of animals who wandered into harm's way: It has been speculated that more than a million horses and mules were casualties of the war. But we should note that the most notable extinction of the late 19th century and early 20th century – that of the passenger pigeon – began to occur as huge numbers of veterans were returning home, at the same time the arms industry was reaching staggering levels of production, and designing new weapons that nearly removed the difficulty of reloading. The Winchester Model 66 repeating rifle debuted the year after the war ended, firing 30 times a minute. More than 170,000 would be sold between 1866 and 1898. Colt's revolvers sold in even higher numbers; roughly 200,000 of the Model 1860 Army Revolver were made between 1860 and 1873. Gun clubs sprang up nearly overnight; sharpshooters become popular heroes, and the National Rifle Association was founded by two veterans in 1871.

History does not prove that this was the reason for the demise of the passenger pigeon, a species that once astonished observers for flocks so large that they darkened the sky. But a culture of game-shooting spread quickly in the years immediately after the war, accelerated not only by widespread gun ownership, but by a supply-and-demand infrastructure developed during the war, along the rails. When Manhattan diners needed to eat pigeon, there were always hunters in the upper Midwest willing to shoot at boundless birds – until suddenly the birds were gone. They declined from billions to dozens between the 1870s and the 1890s. One hunt alone, in 1871, killed 1.5 million birds. Another, three years later, killed 25,000 pigeons a day for five to six weeks. The last known passenger pigeon, Martha, died on Sept. 1, 1914.

That was only one way in which Americans ultimately came to face the hard fact of nature's limits. It was a fact that defied most of their cultural assumptions about the limitless quality of the land available to them. But it was a fact all the same. Some began to grasp it, even while the war was being fought. If the fighting left many scars upon the land, it also planted the seeds for a new movement, to preserve what was left. As the forests vanished, a few visionaries began to speak up on their behalf, and argue for a new kind of stewardship. Though simplistic at first (the world "ecology" would not be invented until 1866), it is possible to

see a new vocabulary emerging, and a conservation movement that would grow out of these first, halting steps. Henry David Thoreau would not survive the war – he died in 1862 – but he borrowed from some of its imagery to bewail a "war on the wilderness" that he saw all around him. His final manuscripts suggest that he was working on a book about the power of seeds to bring rebirth – not a great distance from what Abraham Lincoln would say in the Gettysburg Address.

Sherman's Maps

By *SUSAN SCHULTEN*, New York Times, NOVEMBER 20, 2014

In March of 1864, William T. Sherman succeeded Ulysses S. Grant as the commanding general of the Military Division of the Mississippi. Grant, who had moved up to command all the Union armies, instructed Sherman to strike against Gen. Joseph E. Johnston's army in Georgia, and then penetrate the deep interior of the Confederacy in order to inflict as much damage as possible on the resources that fueled the rebellion. These instructions became the basis for the Atlanta campaign, where Sherman's three armies advanced from northwestern Georgia to Atlanta from May to September. Subsequently — and more notoriously — Sherman continued the assault by spreading his men into a moving front up to 60 miles wide as they marched to Savannah and then up through the Carolinas.

Whether we characterize Sherman's campaign as excessive and brutal or necessary and swift, there is no question that it was among the most ambitious campaigns of the war, because to fulfill Grant's directive, Sherman had to take his armies beyond the reach of Union supply lines. This was unthinkable to most contemporary generals, and required a superior body of cartographic intelligence. In short, Sherman needed maps.

Thanks to Capt. William Merrill, chief topographer of the Army of the Cumberland, Sherman got what he needed, and then some. By the summer of 1864 Merrill had assembled a crack team who continuously improved Union intelligence through fieldwork, traversing the land and collecting local knowledge. As a result they simply knew the terrain better than their counterparts, and mapped it with more detail, giving Sherman a decisive advantage as he closed in on Atlanta. These maps have been ably collected in the Sherman collection at the Library of Congress, and testify to the extraordinary work done by Merrill and his men, as well as by the Coast Survey, the primary federal mapping agency.

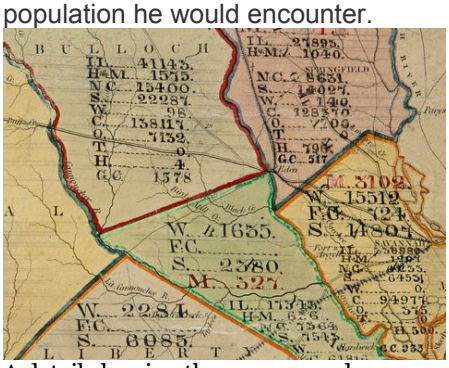
Sherman made extensive use of their work; he studied not just the physical topography of the region, but its material and human conditions. He pored over the 1860 census, asking where his troops might best forage and survive as they lived off the land. In fact, years earlier Sherman had asked the superintendent of the census, Joseph Kennedy, whether it was possible to design maps that represented not just the land, but its people and resources. Kennedy responded with enthusiasm, for he had been thinking along the same lines since the war began. Perhaps inspired by the path-breaking work of the Coast Survey in mapping slavery, the two men simultaneously sought to harness the power of data for military purposes.

Yet however relevant such data might seem in the abstract, it was not yet organized in a way that could be readily used in warfare. For decades the output of the census had been compendious volumes with endless tables, designed more for accounting purposes than military conquest. Kennedy quickly began to adapt a series of maps of the South that translated this data — however crudely — into visual form. One of these that Sherman welcomed was a partial map of Georgia that identified not just rivers and roads but also the locations of people, crops and livestock.

Kennedy lacked the time or resources to create a new map, so he adapted an existing map of Georgia and Alabama that had been made 25 years earlier as part of a well-known postal atlas of 1839 (this map covered both Georgia and Alabama; the western half has been separated and lost). The maps covered one inch to 10 miles and measured 39 inches tall and 26 inches wide; originally they marked very little beyond transportation networks, which was ideal because it allowed Kennedy to add the many new counties, roads and railroads that had been created since 1839. Kennedy then annotated each of Georgia's counties with the latest information that Sherman would need about population, agriculture and livestock.

In each county, the population data is listed first: whites, free colored people, slaves and men of military age. The figures in that last category reflect men up to the age of 45, which indicates that the map was made after September of 1862, when the Confederacy raised the age of conscription to 45. At first glance it might seem puzzling why Kennedy would list men of military age, who presumably would have been in the Confederate Army and therefore not

present. Most likely, he included this figure so Sherman could adjust the total white population downward to reflect their absence, and thereby roughly anticipate the civilian population he would encounter.



A detail showing the area around Savannah, Ga.Credit National Archives

Notice too the care given to identifying the slave population. However much we credit Sherman for destroying Confederate resolve in this campaign, he also made war on the food supply for all Southerners, and in burning not just cotton but corn, he created hardship for those with the least power to survive. Sherman's armies encountered approximately 90,000 slaves in their march to the southeast — or 52 percent of the population of those counties. Fourteen thousand of those newly freed men, women and children attached themselves to his army, and no wonder: No better fate awaited them in its wake.

Even more important is the information identifying farmland, livestock and crops. Sugar and ginned cotton could be profitably burned to cripple local livelihoods, while livestock could be culled and corn could be eaten by Sherman's hungry men. Military historians have emphasized this intelligence as central to the Union Army's ability to continually move toward Savannah and decimate Confederate resolve.

It is hard to imagine that a crude map such as this would have been as useful to Sherman as the elaborate, meticulously drawn topographic maps produced by Merrill and his men. The logic of the march was probably governed as much by terrain and rail routes as the presence of swine and corn. But the importance of this map is not just its role in the field, but in Sherman's decision to conceive and undertake the operation in the first place.

Immediately after the war, Sherman made this very point. In an open letter to Congress he testified that the data maps had helped his armies to identify supply routes, "which otherwise would have been subjected to blind chance, and it may be to utter failure." These maps of information allowed his men to cut loose from their chains of supply, for they knew where to find cultivated lands, grain and animals. As he put it bluntly, "I knew exactly where to look for food."

Most important was Sherman's final observation: Without this intelligence, "I would not have undertaken what was done and what seemed a puzzle to the wisest and most experienced soldiers of the world." In other words, the census data gave him the ability "to act with a confidence that insured success." Hindsight? Surely. But it gives us a glimpse into the mental calculation that, ultimately, brought such destruction to an end.

Petition Seeks Action On Park Boundaries

November 2014 Civil War News

WASHINGTON — The Civil War Trust has posted a link on its website, www.civilwar.org, for people to sign a "Citizens Petition in Support of Protecting Hallowed Ground."

President James Lighthizer said, "I need your help to ensure that thousands of acres of hallowed ground that you and I have already saved over the years are protected forever in national parks."

The issue is national park boundaries that do not encompass all battleground. Congress set the boundaries and it takes an act of Congress to change them.

Many park boundaries were established years ago when politics and economics affected decisions and when no one anticipated commercial and residential development of rural areas where battles were fought.

The petition addressed to the Senate and House Natural Resources Committees asks lawmakers to support legislation to expand the boundaries at some key national battlefields.

Noting that some boundary lines are outdated or arbitrary, the petition says "living memorials to the heroism and sacrifice of American soldiers who wore the blue and gray" have been excluded from national battlefield parks.

These include Fredericksburg's Slaughter Pen Farm and Robert E. Lee's Headquarters at Gettysburg.

The issue of boundaries matters to the Civil War Trust which often transfers land it has preserved and owns to the National Park Service.

"In many cases, we cannot even *give* the land we have saved to the parks, because it is not in the current 'authorized boundary,' even if the land was the scene of the most ferocious fighting (the Slaughter Pen Farm is a perfect example)," said Lighthizer.