
South Carolina Engineers in the 42nd (Rainbow) Division in World War I

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Despite witnessing the carnage in Europe for over two and a half years, the United States was not prepared for military involvement in the First World War when President Woodrow Wilson sent his request for a declaration of war to Congress on 2 April 1917. Consequently, the army had to devise measures to expand its forces from less than one hundred thirty-five thousand soldiers to several million as quickly as possible. The army used new recruits, draftees procured through the 1917 Selective Service Act, and the nation's National Guard units. When the government federalized the National Guard and placed it at the War Department's disposal in July 1917, each state knew it would have to play a role in supporting the war effort.

Secretary of War Newton Baker decided in early August to emphasize the importance of a truly national effort and directed "that a division of the National Guard composed of units which have the most efficient and best trained personnel, be selected from various States and organized for immediate service in France."¹ His objective was to create a division around which the country could rally.² Ultimately the 42nd, or as it was nicknamed, the Rainbow Division, comprised soldiers from twenty-six states and the District of Columbia.³ The Palmetto state contributed the 1st Separate South Carolina Engineer Battalion to the 117th Engineer Regiment, 42nd Division.⁴ These engineers participated in most of the major American engagements, won acclaim for their hard work and dedication to duty, and helped make the allied victory possible.

Since the South Carolina battalion had served in Mexico in 1916, the War Department saw these men as a source for engineers in the American Expeditionary Forces (AEF). In May 1917 it asked Governor Richard Manning to organize engineering units as quickly as possible.⁵ Manning immediately asked J. M. Johnson, chairman of the State Highway Commission and commander of the 1st Battalion, to recruit soldiers to fill his unit, Company A, and to create two new companies, B and C. Johnson quickly filled Company A in Marion and established Companies B and C in Columbia and Spartanburg, respectively.⁶ The companies trained at their home bases until mid-August then came together at Camp Sevier in Greenville for two weeks of training.⁷

In late August the War Department named the three companies the 1st Battalion, 117th Engineer Regiment, 42nd Division.⁸ Altogether 736 officers and men—

about five hundred from South Carolina and the rest mainly from North Carolina and Tennessee—were in the 1st Battalion when it traveled to Camp Alfred L. Mills on Long Island to join the rest of the 42nd Division.⁹ Once in New York the 2nd Battalion, containing primarily engineers from California, joined the 1st Battalion.¹⁰

The division trained at Camp Mills in the rudiments of being doughboys—the nickname for the American soldiers—for six weeks before it sailed for Europe in mid-October. Training began early each day with reveille at 5:30, breakfast, and drill between 7:30 and 11:30. The soldiers broke for lunch, resumed drill from 1:15 to 4:30, and had dinner at 6:00. Taps was sounded at 9:45.¹¹ Aside from extended practice marches on Mondays and Fridays, the schedule remained the same for the entire six weeks. In the first week soldiers had to march between five and six miles without packs. By the end of the fourth week, they marched eight miles fully equipped.¹² Beyond marching, their training revolved around close order drills, instruction in their specific areas of expertise—such as infantry, artillery, or engineering—and first aid.¹³

The division left Camp Mills on 18 October for its two-week voyage to France.¹⁴ Although the on-board schedule was not physically demanding, the soldiers often stood in line for hours to get food, experienced repeated abandon ship drills, and were allowed on deck usually only for an hour or less a day.¹⁵ To make matters worse, the ships were dreadfully overcrowded.¹⁶ One soldier exclaimed, “Soldiers everywhere, no place to sit, no place to stand. A nice brisk walk? Impossible. . . . Oh for the roominess of a sardine can.”¹⁷ Another doughboy remembered that the men were “Crowded like horses into narrow bunks, with the plainest of food, in total darkness at night, denied even the solace of a cigarette except by daylight, always having boat drills—it was the Rainbow Division’s first test in stern discipline.”¹⁸

The fact that many men had never sailed on the ocean before compounded the problem of overcrowding. After arriving in Europe one Rainbow officer recommended that for future trips, “Suitable vomit cans or buckets should be placed in sufficient numbers” to meet the needs of the men.¹⁹ The soldiers offered the rationale for this recommendation, as one recalled—“the floors were covered with the vomit of troops who had yet to find their sea legs.”²⁰ Another soldier “wished the boat was any place but on the surface of the water.”²¹

Problems with food preparation made the seasickness worse. A sergeant recalled, “in line for food it was so crowded you were lucky to get a meal every 24 hrs.!”²² The commander of an ambulance section in the division described the conditions on-board ship as “nothing short of vile.” It is, he added

impossible for the men to even keep an outward appearance of cleanliness. Beans last night were sour and this morning there

was a resulting diarrhea. The seating capacity of the water closets under normal conditions are so inadequate that men stand for hours waiting to relieve themselves.²³

Once in Europe, the AEF's focus was on preparing the soldiers for combat. But first it had to overcome the difficulties of transporting them to their training areas. Ultimately, most traveled on the infamous French railroad cars, better known as Hommes 40, Chevaux 8. One engineer wrote, "The boat was heaven compared to the train."²⁴ The boxcars were designed to carry either 40 men or eight horses, but as one soldier recalled, they were "crowded and uncomfortable as hell."²⁵ Another remembered that overcrowding and cold weather made it impossible to sleep,²⁶ and another that it was "so crowded we had to sleep spoon fashion—when one turned over, all had to turn."²⁷

Once the division arrived at its destination in northeast France, the engineers' primary task was to construct field fortifications, roads, and buildings.²⁸ Ultimately, however, they had to become adept in a variety of skills. From November 1917 to mid-February 1918, they spent most of their time constructing hospitals, barracks, bath houses, dugouts, latrines, mess halls, and target ranges.²⁹ They also received limited training in trench warfare, marksmanship, marches, and close order drill.³⁰

The division moved into the trenches in the Luneville sector of the front in mid-February and stayed there or in neighboring Baccarat for the next four months. It trained with the French for about a month,³¹ but after the German spring offensive began on 21 March, the French were withdrawn to meet the threat, and the division was given control of the sector.³² While in the quiet sector, the engineers practiced digging trenches and building and maintaining fortifications.³³ The division was responsible for about a seven-mile stretch, and the defenders strung barbed wire entanglements in layers in front of the trenches, usually within fifty yards of their own positions.³⁴

Building and maintaining the defensive positions was endless, and while the infantry faced risks, the engineers' activities placed them in similar danger. Routinely, they built and maintained trenches, dugouts, roads, barracks, artillery and machine gun positions, and observation posts.³⁵ One engineer explained:

They built dugouts in record time, they directed the digging of new trenches, and the repairs of old ones, they put in or repaired barbed wire entanglements in No Man's Land under the machine gun menace of the enemy. They ran sawmills and repaired roads under shell fire. They learned gas defense and how to dodge shells. They built bridges and light railways and barracks.³⁶

This routine work occasionally became more dangerous. In the Baccarat sector the enemy commonly used artillery to shell the American trenches. Although these attacks were made usually only to harass, they did create extra work and raise anxieties because now the engineers had to make additional repairs under fire.³⁷ One soldier wrote in March 1917, "I cannot describe the sound of a shell traveling thru the air. It is a combination of a scream, a moan, a sigh and a screech." He added, "I thought I was going through hell on earth. Just waiting for a big shell to put you out of your misery. Just at present I am a nervous wreck, after four days and nights of bombarding, who wouldn't be."³⁸ And the damage inflicted was often severe. "Raids and artillery action," one engineer wrote, "meant plenty of work for the engineers. Caved in trenches, badly damaged dugouts and improper drainage gave plenty to do during the day, leaving the night hours for the repairing of torn-up wire entanglements that had suffered from enemy fire." This additional work, however, paled in comparison to the human toll. After one German barrage in March, engineers frantically tried to dig out buried soldiers.³⁹ What they found was sometimes horrifying:

Two of the boys had carefully removed the first body. . . . Then Harold Lorden and I got a litter ready, and we each grabbed hold of a leg to drag out the second fellow. We pulled, but the leg in Lorden's hands was not fastened to the poor devil's body, and Lorden went sprawling over backwards, the leg hitting him squarely in the face.⁴⁰

These types of casualties, although rare in a quiet sector, were an all-too-frequent reminder of the realities of war. The 42nd Division experienced other types of wartime realities by choice on other occasions. Numerous times during its stay in Baccarat, units from the division launched raids against the German trenches. The engineers provided valuable assistance for raiding parties. First, they made maps of the areas targeted for raids. Second, they built practice trenches for training based on aerial photography of the German lines.⁴¹ Finally, they often volunteered to go on the raids to demolish targets in the German lines.⁴²

Camden native Corporal Mannie Forte participated in a raid on 3 May. He explained that the objectives of the raid

were to penetrate to his [the Germans'] third line about six or seven hundred yards, kill everything we saw, blow up his dugouts, take his machine guns and blow up their nests, and in other words demolish everything."⁴³

Corporal George Browne captured the mood of the raiders:

Our raiding party arrived in the front line at about 3:15 A.M. . . . It was a starlight morning but rather misty. As we entered the first line there was practically no shelling but several machine guns in the rear kept up a steady fire. After getting into position we still had about a half hours wait as zero hour was 4 A.M. At 3:45 A.M. it commenced to get light a little and we all commenced to get a little cold and nervous.

He then explained that once the artillery barrage started at 4:00 A.M., "it seemed impossible that we had to go out in such a Hell as was in front of us. It seemed as if the shells came from every direction at once as I think they did and thru all the popping of machine guns."⁴⁴

The artillery fire was devastatingly effective as the raiders found the German trenches "completely destroyed. Its trenches were filled, all works above ground leveled, wire entanglements torn down, and the forest itself turned into almost a bare field."⁴⁵ Browne remembered coming "to the edge of woods again where we had been taught the German front line was. I couldn't for the life of me find any trace of trenches. Nothing at all left of them. I have never seen such destruction before. The largest trees even 18 inches in diameter broken off anywhere from the ground up."⁴⁶

In the end, the raid achieved the objective of destroying some German positions but failed in producing any prisoners. For the soldiers who experienced it, however, it left them feeling like "veterans who had tasted the reality of war."⁴⁷

The engineers and rest of the division's duties in Baccarat ended in June 1918 when they moved to the Champagne region of France to meet the last German offensive of the war. Through a variety of intelligence gathering, the French had learned the time and date of the attack. The French with American assistance developed an elastic defense strategy to meet the German threat. The idea was to absorb the German attacks by establishing three lines of defense. French volunteers, who were supposed to provide warning of the offensive and then slow the attackers, manned the first line. Approximately a mile and a half behind this first line was the main line of defense. The 42nd Division's infantry regiments were placed here alongside French soldiers. Reserve forces remained another half mile back.⁴⁸ South Carolina's engineers and others were part of these reserves.⁴⁹ After several days of intense fighting, beginning on 15 July, the German attack quickly floundered in the teeth of these defenses, and the 42nd Division was withdrawn from the front.

The division was then almost immediately ordered to participate in the Aisne-Marne Offensive. On 25 July the engineers moved to a region near the Ourcq River to prepare the way for the rest of the division.⁵⁰ While the battle to cross the Ourcq was the

42nd Division's costliest in terms of casualties, it is also one of the least known.⁵¹ The headline in the *Charleston News and Courier* on 30 July 1918 read, "River Ourcq Runs Red with Blood Where Americans Triumph Over Prussian Guard."⁵² South Carolina engineers and the others in the 117th Engineer Regiment supplied part of that blood.

The engineers played a role in the division's advance across the Ourcq. Their principal missions were building and maintaining roads to the front and constructing bridges over the river.⁵³ They built two bridges over the river despite facing

snipers and machine gunners well hidden in the underbrush up the slope, yet . . . [the Germans] were unable to break up the daring work of the bridge builders, who daily faced snipers, machine guns and big shells in the execution of their work.⁵⁴

Once the 42nd Division's infantry pushed the Germans back, the engineers again maintained the roads and bridges and waited anxiously as infantry reserves.⁵⁵ On 1 August, Companies A and B, 117th Engineers, were given orders that they were to act as infantry beginning the next morning.⁵⁶ The engineers looked forward to the attack because they wanted to show the rest of the division they were capable infantrymen.⁵⁷ By the time they were relieved on 3 August, the engineers had advanced further than any other unit in the division.⁵⁸

The importance of the engineers at the Battle of the Ourcq cannot be overstated. As one colonel later explained, "They did their work as engineers in a manner beyond criticism and we used them in the line as infantry. Yes, they lost some men, but they were glad to be in the fight."⁵⁹ Praise even more glowing came from Major General Clement Flagler, the future commander of the Rainbow Division. In a citation to the 117th Engineer Regiment, he wrote:

The engineers were everywhere, in the advance, on the flanks, in the rear. It was the engineers who made possible the retention of the narrow strip along the north bank of the Ourcq. Time after time the bridges over the Ourcq were shot away, and time after time they were replaced by the engineers. And then when more troops were needed to strike the final blow that broke the backbone of the German resistance, it was the engineers, hastily gathered together from all over the divisional area, that struck it. They dropped their tools, picked up their rifles and advanced to the heights overlooking the Vesle [River], taking the town of Chery-Chartreuve. They reached the farthest point of advance of any dismounted elements of the Rainbow Division.⁶⁰

Unfortunately, the engineers' duties near the Ourcq were not over on 3 August. Besides the usual responsibilities of fixing roads, they had one other grueling task—they had to police the battlefield.⁶¹ During its fighting in July and early August, the 42nd Division experienced over five thousand casualties.⁶² As one soldier recorded in his diary, "Dead bodies were all around me . . . It sure brings war & all its horrors home like nothing else could."⁶³ A Rainbow veteran writing at the time explained how, "the odor of dead things permeates the atmosphere everywhere."⁶⁴ One other doughboy wrote a particularly poignant letter: "One cannot believe the misery a person is in when they walk around seeing bodies everywhere and then realizing you may be one of them anytime."⁶⁵

After the engineers finished with these unpleasant duties, they rejoined the division, and for the first time since arriving in France in November 1917, they had a genuine rest period.⁶⁶ It was fairly short, however, for by the end of August, they were ordered to begin preparations for the first American offensive of the war at St. Mihiel.⁶⁷

The objectives in this offensive were to collapse the St. Mihiel salient and capture or kill as many Germans as possible.⁶⁸ The 42nd Division was assigned to the IV Army Corps, First American Army, and given responsibility for a two-mile-wide sector of the front.⁶⁹ The conditions at the front were extremely difficult. Father Francis Duffy, the Rainbow Division chaplain, remembered that men "moved to the jump-off point on the night of September 11th. The rain was falling in torrents. The roads were like a swamp and the night was so dark that a man could not see the one in front of him."⁷⁰ Another Rainbow veteran wrote:

For days the rain has been pouring down. . . . Water! Water! Water! It runs, it trickles, it oozes from everything, everywhere. The long column of infantry had been on the march for five black, miserable nights, drenched to the skin, splashing, squashing its way through the heavy liquid mud."⁷¹

The diarist for the division's Signal Platoon wrote, "It was a pitch-black night, with a steady rain falling, and the mud was ankle deep. The roads were congested with traffic, and progress was well-nigh impossible."⁷²

The muddy mess probably affected the engineers the most. There is no question that everyone was wet and miserable, but the engineers were the ones responsible for maintaining the inundated trenches, roads, and dugouts. One of the division's infantry recalled that the engineers "labored incessantly" to keep the roads in the best shape possible.⁷³ For the attack, the engineers were divided between the division's two infantry brigades—the 83rd and 84th—with most of those from South Carolina working with the former.⁷⁴ In the 117th Engineers "Companies A, B, D, and E had

one platoon of wire cutters, each at work cutting chicanes in our own wire and guiding the infantry to position, one platoon each assisting the tanks and two platoons with accompanying artillery.⁷⁵

These engineering platoons guided the infantry, destroyed obstacles, and maintained roads throughout the attack.⁷⁶

The efforts of the engineers helped make the First American Army's initial offensive a success.⁷⁷ With the salient reduced, the 42nd Division moved to participate in the greatest American attack of the war, the Meuse-Argonne Offensive. While its involvement in the attack on St. Mihiel precluded its participation in the opening stages of the Meuse-Argonne, it soon joined the fray in early October.⁷⁸

For most of the first half of October the division served as infantry reserves, but on 12 October it moved to the front lines.⁷⁹ This move was a particularly sobering experience for all the men in the division, for the horrors of the previous weeks of fighting on this battlefield were in evidence everywhere. One doughboy recalled:

Our route lay through the most devastated area I have ever seen, forests and towns reduced to splinters and rubble, and mud, deep mud, everywhere. . . . Any semblance to a woods had totally disappeared. It was a sea of mud and stumps.⁸⁰

A colonel wrote in his diary, "The desolation of the battlefield is beyond description. Many dead Americans and Germans everywhere. Dead horses along every road. Every building and tree destroyed and the ground one mass of muddy shell holes."⁸¹

General John "Blackjack" Pershing, the commander of the AEF, ordered the 42nd and several other divisions to renew the offensive on 14 October against the strongest position in the German lines. Father Duffy wrote:

It was a well prepared and strongly wired position consisting of three lines of wires and trenches. The first rows of wire were breast high and as much as twenty feet wide, all bound together in small squares by iron supports so that it was almost impossible for artillery to destroy it unless the whole ground was beaten flat.⁸²

The engineers served as wire cutters, infantry reserves, and road builders in the attack.⁸³ They actually preceded the infantry in order to cut paths through the layers of barbed wire. While they were successful in cutting the obstacles, "Bodies littered the ground and corpses were hanging on the wire."⁸⁴ One infantryman observing the 117th's activities remarked:

Some of our regular engineers tried to cut a passage through the wire, covered by riflemen and several of our machine guns. But

the Germans were firing from concealed pill boxes behind the first belt of wires. . . . Their machine gun fire killed or wounded all those engineers.⁸⁵

Besides acting as wire cutters, the engineers had to maintain old roads and build new ones. These tasks proved even more difficult as the American infantry advanced because the newly conquered territory consisted of one shell hole after another.⁸⁶

By the end of 16 October the attack had run its course, and the AEF entered a two-week period of consolidating positions, rest, recovery, and retraining. The AEF had suffered at all levels, and it needed this time before it could renew its offensive.⁸⁷ The men were so exhausted that even minor ailments were debilitating.⁸⁸ Every division was short of soldiers. For example, the Rainbow Division needed an additional 7,600 men in late October to fill its ranks.⁸⁹ Although not on the offensive, they still suffered. Father Duffy later explained:

The two weeks that elapsed between October 16th and November 1st were the dreariest, draggiest days we spent in the war. The men lay out on the bare hillsides in little pits they had dug for themselves, the bottoms of which were turned into mud by frequent rains. . . . They were dirty, lousy, thirsty; often hungry; and nearly every last man was sick.⁹⁰

On 1 November, the AEF renewed its offensive against the Germans with the 42nd Division in reserve.⁹¹ On 5 November, the division moved back to the front and remained there until 9 November.⁹² The AEF, as a whole, had much more success in these attacks than previously in the Meuse-Argonne Offensive. Yet the costs of the offensive proved incredibly high. Over the course of forty-seven days of fighting, the United States suffered 120,000 casualties, including over 4,200 in the Rainbow Division and 91 in the 117th Engineers.⁹³

After the 11 November armistice, the 42nd was one of several divisions assigned temporary occupation duty in Germany. While the engineers engaged in some building projects, most of them, like the rest of the doughboys, simply wanted to go home.⁹⁴ The division stayed in Germany until the middle of April 1919 when it set sail for New York City. Once there, the 1st Battalion took a train to Columbia.⁹⁵ In early May, the engineers returned to their homes, and the 42nd Division took its place in history.

The 42nd Division and its engineers served in France longer than all but two other American divisions and participated in the most important U.S. engagements. While the Rainbow Division's history has been told, very little has actually been written about its engineers. Unfortunately, this is true of all the engineers in World War

I; their story has never been told in the detail it needs and deserves. They served with dedication, and, unfortunately, many paid the ultimate price. South Carolina's engineers provided valuable service to the American Expeditionary Forces by constructing trenches, building defensive fortifications, clearing paths for attacks, and maintaining roads and bridges during allied operations. Without their commitment and efforts, victory for the allies would have been much more difficult and costly.

ENDNOTES

1. Tasker H. Bliss to Commanding Generals, All Departments, 1 August 1917, University of Nebraska-Lincoln Archives—Love Library [hereafter UNLA], Rainbow Division Collection [hereafter RDC], Rainbow Division Veterans Association [hereafter RDVA], World War I, Box 1, Folder 9, 1.
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53. U.S. Army, American Expeditionary Forces, 1917–1920, Engineer Department, *Historical Report of the Chief Engineer, Including All Operations of the Engineer Department, American Expeditionary Forces, 1917–1919* (Washington, D.C.: Government Printing Office, 1919), 179.
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