

## The Battles at Kasserine and Sened

*(Editor's note: The following items are drawn from the unit records of the 19<sup>th</sup> Engineer Combat Regiment)*

HEADQUARTERS NINETEENTH ENGINEERS  
APO 302, U.S. ARMY

8 March 1943

### NOTES ON KASSERINE PASS DEFENSE

#### I. PURPOSE:

1. These notes are based on the experiences and observations of officers who were present at the defense of the pass. Their purpose is to point out the mistakes that should be avoided in future defensive positions.

#### II. SITUATION:

1. Tactical. The regiment (less 1 Co.) with one battalion 26<sup>th</sup> Inf., two batteries of 105 mms, 17 tank destroyers, 11 tanks, one AA battery, Signal and Medical Detachments attached, was ordered to defend Kasserine Pass. The order was issued about mid-night Tuesday, February 16. The last unit arrived on the position about 2100 February 17. Enemy fire, from tanks and artillery, was first received on the afternoon of Thursday, February 18. Artillery fire continued all the next day from about 0800. Infantry moved into the position that same day and penetrated the forward part of the MLR (main line of resistance). During the night of February 19-20, the 1<sup>st</sup> Battalion 26<sup>th</sup> Infantry withdrew exposing the left flank of the regiment. Two companies (less 1 platoon) of the 39<sup>th</sup> Inf. were attached and were assigned one to each flank. In the afternoon of February 20, fire was being delivered from the flanks across the rear of the position, and hostile infantry had penetrated around the flanks. The regiment made an uncoordinated withdrawal.

2. Terrain. The position consisted of several hills on a forward slope. The rear of the position dropped steeply to a plain. It was divided by a deep wadi running through the position and avenues of approach ran through the position. The flanks rested on high hills that overlooked the position. The next terrain feature suitable for defense was about 20 miles to the rear, the intervening ground was a flat plain. The 19<sup>th</sup> Engineers occupied that part of the position south of the large wadi.

#### III. THE INDIVIDUAL:

1. No tactics can succeed without the "will to win". As far as is known, only Captain Mitzen had ever been under fire. In this first experience, enemy artillery fire had the morale shattering effect, which was its purpose. On the afternoon of the first day of fire a

considerable number of men left their positions and went to the rear. Some of these men were rounded up and returned to their posts. Others doubtless were not collected. These men left their posts because of fear and because they were not controlled by their officers and non-commissioned officers. Fear was engendered by the heavy fire and by rumors that had no basis in fact and were not investigated. Uncontrolled movement showed lack of discipline.

2. Discipline must be instilled off the battlefield. The habit of obedience to orders and response to the control of officers and NCOs has to be formed in the daily activities of each of us. Failure to demand unquestioning obedience at all times will result in lack of control when men are under stress.

3. The fear that everyone has—including the Germans and Italians—must be brought under control. The following measures will help to secure that control:

- a. Think of statistics—the percentage of casualties from artillery fire is small. Your chances of surviving are high.
- b. Act unafraid even if you are scared. Your example will strengthen others.
- c. Know how your enemy operates and teach your men, you, thus, diminish the chance of surprise.
- d. Keep busy and keep your men busy.
- e. Call the roll from time to time so that the men know they have company.
- f. Squash rumors.

#### IV. ELEMENTS OF DEFENSIVE POSITION:

1. The elements of a defensive position are:

- a. Observation
- b. Fields of Fire
- c. Cover and Concealment
- d. Obstacles
- e. Communications

2. Observation: The first requisite is to see without being seen. Observation posts were established by all units down to platoons, and operated effectively. More use should have been made of the individual soldier in the squad as an observer. He should be instructed to send back information of troop concentrations and gun positions so that fire can be brought down on them.

3. Fields of Fire: Machine guns are the frame work of the defense. They should be sited to cover approaches to the position and to give interlocking bands of fire across the front. Adjacent units must provide mutual support. The heavy guns must have fields of fire to their maximum range in the early stages, and then be withdrawn to positions for mid-range firing. The siting of machine guns was faulty in many instances. The major faults were failure to move guns from their long range positions to positions for close-in support, lack of mutual support between adjacent units, and lack of interlocking fire across the front.

4. Cover and Concealment: Men must learn to dig and dig deep, not only one slit trench but alternate trenches. During enemy bombardment men are safe in such shelters. They must learn to sit concealed, avoiding walking on the skyline, use every means to conceal the location of the elements of the position. Gun positions must not be in sight of enemy observation. In general, they should be on reverse slopes. Alternate and supplementary positions must be provided and occupied. Concealment of our position was compromised by unnecessary movement in the open. Guns were silenced because no alternate positions were available after the gun's initial location had been determined by the enemy. The construction of a defensive position is never completed. There is always more digging that can and must be done. Rock walls are inadequate. Men and guns must be dug in.

5. Obstacles: The enemy must be impeded by wire and booby traps. Each group should be completely surrounded by wire. Obstacles were practically non-existent except for the mine fields and they were no obstacles to foot troops. Even when wire was delivered on the site, little use was made of it. There is little time to rest on a defensive position.

6. Communications: Our position was weak in signal communications. We shall always be faced with that weakness. It can be overcome by an increased use of runners. They must be selected early and made acquainted with the location of all C.P.s. They must be able to be used as guides to any element in the position. The Communications Section did excellent work. Every effort should be made to bury wires. No use was made of visual signal men. There may be occasions when they can perform effectively. No communications trenches were dug in the position. Their utility is obvious.

## V. CONDUCT OF THE DEFENSE:

1. A well conducted defense depends on the skillful manipulation of the following elements:

- a. Outpost
- b. Main garrison
- c. Supporting weapons
- d. Supports and reserves

2. Outposts. Its purpose is to prevent surprise. The combat outpost served its purpose. If, as in this case, the combat outposts are furnished by each company, contact between adjacent outguards by means of patrols is essential.

3. Main Garrison. The main garrison must be divided into combat groups with one or more automatic weapons as the nucleus of each. These garrisons must be well dug in and wired in, not only in one position but with alternate positions so that men can be shifted to oppose enemy advances from any direction toward the terrain feature the group defends. During artillery bombardment or heavy machine gun fire the men should be under cover, preferably on the reverse slope of a hill. The outposts and listening posts can warn of an impending infantry attack. Only two or three observers per combat group need be actively on duty at one time. Firing by riflemen and machine guns without a target does no good and betrays the position. Harassing fire is an artillery function. Each combat group must also maintain contact with units on each side. Each combat group must consider itself as defenders of a locality. If you do not, you may find the adjacent unit gone or overcome, when with help from you it might have stayed to protect your flank.

4. Supporting Weapons. The 50 cal. machine guns and 37mm AT guns should remain under the control of the company commander. Battalion commanders should see that they are sited to provide a framework of fire covering all units from enemy movement along the most likely avenues of approach. In a position such as that at Kasserine Pass about half the guns should have been on the crests for long range fire and then withdrawn. The guns along the MLR should have remained silent until hostile infantry was within 750 yards range. The long range guns after filling their primary mission should have moved into positions so sited that they could fire on infiltrations through the MLR. Anti-tank guns seem to have been well sited. Their limitations are known to all of us.

5. Supports and reserves.

a. Each company area should have had a support platoon. It was not necessary that this be kept mobile. Whether mobile or used to deepen the defense, it should have been available for flank protection, anti-aircraft protection and to deal with any hostile elements penetrating the MLR. They should have dug positions from which they could have covered the intervals between the forward squads. These support platoon leaders should have prepared plans for counterattack under various assumptions.

b. The battalion and regimental reserves were used to deepen the position (C Co.) and to extend the flank (Cos I and K, 39<sup>th</sup> Inf) after the withdrawal of the 1<sup>st</sup> Bn, 26<sup>th</sup> Inf. A prolonged defense can only hold against strong attack while it is flexible, i.e., by its own means throw out the enemy. The proper use of support and reserves, i.e., the timing of their attacks, depends on accurate and timely information. Information sent back to each higher headquarters must be evaluated and confirmed. The use of reserves will be effective only if all units are controlled rigidly.

## VI. Supply:

1. Ammunition is the most important item of supply. The following deficiencies were quite common:

- a. Only the basic load was taken into the position
- b. Replacement was not made at night.
- c. Dumps were not established by companies near their rear areas.
- d. Positions of weapons and riflemen not kept stacked with plenty of ammunition.

Alternate and supplementary positions should have been stacked.

2. Water has to be conserved. Water cans were sent up to companies from H&S company but were not returned. It is impossible now to replace them.

3. Mess vehicles should remain with the battalion or regimental train well in rear. Only food containers should be brought into the position

4. Individual Equipment: Bedding rolls and packs should be left with company trains. Only blankets and mess kits should be taken into position.

## VII. APPLICATION:

These notes are the result of your experience and the experience of others. We are out to win a war against a determined and skilled enemy. We must surpass his determination and skill. Lesson No. 1 revealed considerable weaknesses on our part. It also revealed some very heartening strength. Start now to correct the weakness. There is much to be done.

/s/ A.T.W. MOORE  
/t/ A.T.W. MOORE  
Colonel, 19<sup>th</sup> Engineers,  
Commanding

## DISTRIBUTION:

1 ea squad

HEADQUARTERS COMPANY "E", 19<sup>TH</sup> ENGINEER REGIMENT

16 October, 1943

SUBJECT: Company "E" at the Battle for Sened early February 1943.

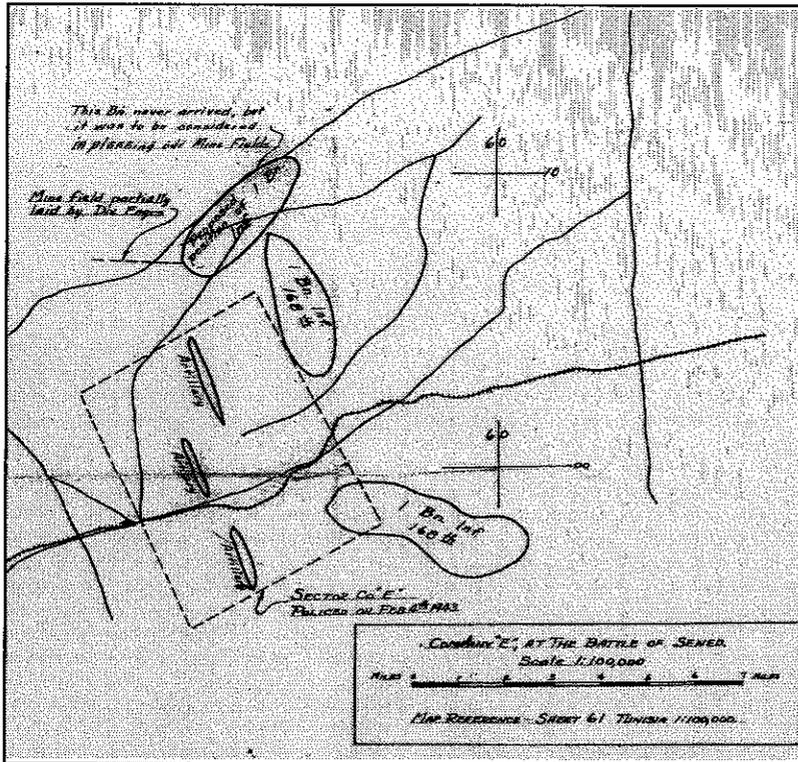
TO: Commanding Officer, 19<sup>th</sup> Engineers

On Jan. 31, 1942, Co. "E" was attached to the 1<sup>st</sup> Bn., to go to Gafsa and aid the preparation of defensive positions near Sened. Company "E" along with the 1<sup>st</sup> Bn. Hq., left the Reg't area at Bou Chebka on the afternoon of January 31<sup>st</sup> around 1800 hours. The trip to Gafsa was made entirely in blackout, as we were traveling "Messerschmidt Lane", so called by the frequency of strafing attacks along this road by the enemy. We arrived at Gafsa, without mishap, about 0200 hours Febr. 1<sup>st</sup>. and went into bivouac a mile southeast from town in a large olive grove. During the morning the Co. dug slit trenches and set up camp.

Around 1100 hours on Febr. 1<sup>st</sup>, Major Browning sent a message to me calling for myself and a detail of one weapons squad and half track, to be ready to go on a patrolling mission to the front. At 1300 hrs., the detail from Co. "E" and myself, along with Major Browning and Captain Upton set out for Sened, where we were to contact the commander of the 168<sup>th</sup> Infantry and be of such service to them as they desired. Considerable difficulty was experienced with the half track on the way to Sened by water being in the gasoline. When we reached Sened we found that the enemy was being steadily driven back and so had some difficulty in locating the ever changing CP of the Infantry Commander. We located him about 1600 hours along with the Corps Engineer, Lt. Col. Carter. Our mission was given as laying mine fields to likely enemy tank approaches to the Infantry positions. Col. Carter, Major Browning, Captain Upton and I, along with a British Engineer Captain (who later booby trapped the buildings in Sened), set out afoot to make the reconnaissance for laying the minefields. After going over the Infantry positions and investigating likely approaches for enemy tanks, we were instructed to return to Gafsa and move our companies up, bringing with us 5000 mines from the dump in Gafsa. We were to be back with the men and lay as many mines as possible by day break.

Before we could get down the hill and to our to our vehicle, we were subjected to a dive bombing attack by German planes. In connection with this attack, I might add that all during the afternoon six enemy fighters had been circling overhead at great height, but without making any attack. When they finally left, around 1730 hours, we thought that we were through with them for the day. Shortly, however, they returned accompanied by eight enemy bombers. When the bombing attack started, we took such cover as we could find, which consisted solely of a very shallow ditch fringed by sparse tufts of grass. I understand no damage was done by this bombing. After unloading their bombs, they circled around as though to strafe our positions, as we were told they had done that morning. However, after circling overhead they took off and did not return.

While still on our way to our vehicle, the report started circulating around that enemy tanks were advancing to the attack. The then inexperienced troops swarmed from their fox holes and ran to and began piling into all available vehicles. The vehicles jammed the road and headed toward Sened 4 miles to the West. The head of this column reached some two or three miles west of Sened before the stampede was halted. Guards were placed along the road some two to three hundred yards apart to stop all vehicles and turn them around. We thus had considerable difficulty in getting through this maze of vehicles and guards to make our return trip to Gafsa. Each guard had to be explained in detail our mission before we were permitted to go on our way.



On arriving back at Gafsa around 2200 hours we got our trucks to loading mines, and prepared our men to move out. Due to the small area where loading could be done at the warehouse where the mines were stored, it was 0200 hours on Febr. 3<sup>rd</sup> before we could roll. We arrived back at Sened around 0430 hours and went into bivouac near the station in an olive grove. Major Browning, Capt. Upton and I left immediately for the front to make a resurvey for the location of

minefields where our 5000 mines could do the most good, and to contact the Captain in charge of the divisional Engineers to find where his men were laying mines and where else he could be responsible for mining. This Officer showed us his plans, but explained that he only had one platoon with him. After again going over the ground thoroughly, all afoot, we finally had the problem all solved and had gone back to the Infantry C.P. to go over with the Infantry commander our plans, when we ran into Col Carter again. Col. Carter then told us that we were not to lay any minefields as the American forces were going to abandon their positions and withdraw to Gafsa shortly after dark. We were then given the task of salvaging all arms, ammunitions and supplies of value to our forces, and to demolish all unsalvageable materials that might be of use to the enemy. Company "E", was given the task of policing the valley, approx. three miles wide, back to Sened a distance of four miles. Company "B" was given the task of policing from Sened back four miles to Gafsa. One of Co. "E" platoons, under Lt. Davoust, had started blowing up an Italian minefield before the sectors were assigned, so was relieved by Company "B"

before its completion. In Company "E" sector, we hauled two 1 ½-ton truck loads of Italian mines from a dump, along with numerous small arms, ammunition and supplies. Several enemy tanks that had been knocked out were in our sector and the barrels of these we demolished by use of TNT. In addition the barrel of one 88mm gun was demolished along with three guns of smaller caliber. All American tanks that could not be towed by wreckers had their gun barrels demolished by us too. The tanks that could be towed were reclaimed by a tank salvaging crew. At approx. 1630 hours on Febr. 3<sup>rd</sup>, Major Browning informed Capt. Upton and me that we were to cease salvaging procedures upon completion of our sector. We completed our sector around 1700 hours. During the afternoon, while the salvaging was going on, our bivouac area in the olive grove by Sened station was subjected to a bombing attack by 18 American bombers. Most of the men were out on detail and only a few were exposed to the attack. The men in camp, protected by their slit trenches and fox holes, suffered only from fright and getting dirt thrown all over them. We later were told that these bombers had the mission of bombing an olive grove 12 miles East of us, but had picked the wrong grove.

Company "E" was designated by Maj. Browning to follow the withdrawing forces with Company "B" following up to the rear. Each Company furnished one half track and a weapons squad to be the rear point and to mine the road in three places after all vehicles had cleared Sened station. Lt Moulton, then with Co. "B", was the Officer in charge of mining the road. Co. "E" left behind the weapons squad from the 2<sup>nd</sup> Plt. under Sgt. Palmer (who is now a prisoner of war).

We were originally scheduled to clear Sened station about 2300 hours on Febr. 3<sup>rd</sup>, but the all clear signal that all vehicles had passed did not come until 0200 hours Febr 4<sup>th</sup>. Co. "E" then pulled out followed by Co. "B", leaving behind the two squads to mine the road and act as rear point. Just as Lt. Moulton's detail had completed the mining of the road in three places and prepared to move out, he heard the rumble of approaching tanks from the direction of the enemy. Feeling that possibly these might be some of our own tanks that had been overlooked when the all clear signal was given, he remained behind until they could be identified. They were American tanks, and after stopping them and clearing the road, several tanks and half tracks came through. He then closed the road again and fell in to the rear of the column. The return trip to Gafsa and to our previous bivouac 2 miles southwest of town was made without mishap.

We arrived back at Gafsa around 0430 hours Febr. 4<sup>th</sup>. Lt. Shurley returned to the point 4 miles East of Sened to complete the salvaging of materials and supplies from there to half way to Gafsa. Co. "B" was to take from this point on into Gafsa. Lt. Shurley left our bivouac at day break and using one half track and weapons squad as outposts completed the salvaging of his sector without interference from the enemy.

Company "E" along with First Bn. Hq., left Gafsa on the morning of Febr. 5<sup>th</sup> at 0600 hours to return to Bou Chebka and rejoin the Regiment there. Company "B" remained behind in their original bivouac in Gafsa. We reached Bou Chebka around 1630 hours on Febr 5<sup>th</sup> where we were reassigned to the 2<sup>nd</sup> Bn.

From the time we left Bou Chebka to our return there, very little sleep was had by anyone. Nearly every night we traveled and the day time was used in digging in, working, and making reconnaissances. The entire experience was thrilling and some combat experience gained without a single accident.

MURFF HAWKINS  
Capt. 19<sup>th</sup> Engrs.

## Engineers in Defense

The primary mission of combat Engineers is to keep the Army moving by construction or destruction that facilitates the Army's movements and impedes the movement of the enemy. In December 1944 when the German counterthrust under the leadership of Von Runstedt struck Luxembourg and Belgium, Engineers in the threatened areas set up the necessary barrier zones of minefields, road blocks, and demolitions, and served as Infantry in the defense of them as well as in offensive missions.

The line held through the Ardennes by the U.S. VIII Corps in December 1944 was over-extended and thinly held, and the enemy struck in this area, through almost the identical path he had used in 1940 in his attack upon Belgium and France.

Engineer practices in a situation of this sort involved the setting up of barrier zones, the destruction of bridges, the cratering of highways, the planting of minefields, and the construction and defense of road blocks.

The first blow fell viciously on the VIII corps front; and on the VII Corp front, where the Corps commander was planning a move against Cologne. The offensive action had to be abandoned, and the Corps and Divisional Engineers of VII Corps were put to work planting extensive minefields in defensive patterns in the event the attack should spread to its sector. In the V and VIII Corps areas, however, Engineer activities were much more intensive. Up and down the line of the front, Army, Corps, and Divisional Engineer troops worked night and day along a line designated by the First U.S.

Army. This was an absorbing defense line with a rear boundary beyond which the enemy should not pass. It extended from Givet northeast along the Meuse River to Vise.



Engineer prepares a charge to drop a tree and block a road.

### Typical Action of a Combat Battalion in the Ardennes

Typical of the type of action in which Engineer combat battalions found themselves, as heavily supported German armor came crashing forward, was that of the 158<sup>th</sup> Engineer Combat Battalion. The battalion's decisive action in absorbing the full force of the enemy's attack before Bastogne permitted the 101<sup>st</sup> Airborne division to move into that city and make its decisive stand there. On 17 December 1944, the 158<sup>th</sup> was ordered to

take up a position along a line in front of Bastogne. On the following morning it moved into position along a road connecting Highways N-15 and N-28, which ran through the villages of Foy, Vizory, and Neffe.

Before leaving its bivouac in the vicinity of Steinbach, early in the morning of the 18<sup>th</sup>, Company C experienced a sample of what lay ahead when the bivouac area was strafed by a German plane, causing one casualty. Later in the day, with only bivouac guards left at the site, German tanks rolled into the area and the guards escaped by slipping through the German lines. Actually the battalion had been ordered to hold a reserve line. By dawn, the night of the 18<sup>th</sup>, the 9<sup>th</sup> Armored Division out in front was forced to fall back, while the 158<sup>th</sup>, with the 35<sup>th</sup> Engineers on its right flank, remained the only organized resistance between Bastogne and the enemy. The road blocks that the battalions had established at Margaret and Longvilly were over-run and surrounded, but the men managed to escape back to safety. Soon afterwards enemy armored patrols were encountered on the battalion right flank. Pvt. Bernard Michin, of Providence, R.I., from his foxhole, watched a German panzer tank advance cautiously toward him through the night. He withheld his bazooka fire until it was within 10 yards of his foxhole. When he fired from this short range the tank exploded, destroying the crew along with it. Michlin, blinded and burned by the explosion, crawled back to a covered position that was not being raked by heavy enemy machine gun fire. Still blinded he located the machine gun by sound, hurled a hand grenade which silenced the gun and killed the entire crew, an action for which he was awarded the Distinguished Service Cross.

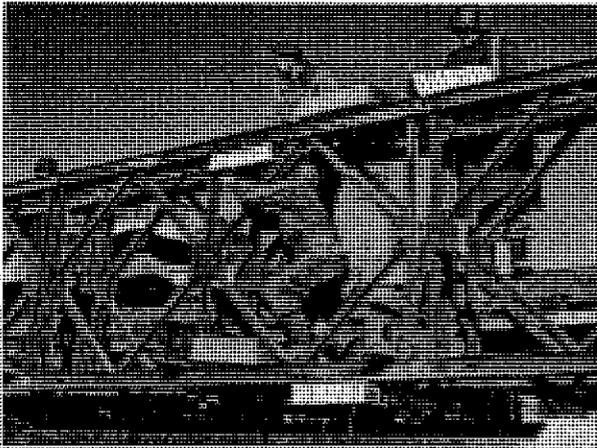
With the aid of twelve M-8 and two M-4 tanks borrowed from the 507<sup>th</sup> and 532<sup>nd</sup> Ordnance Battalions, the 158<sup>th</sup> was able to hold off all attacks (aided by the mechanics of the Ordnance battalion). After a night of heavy patrol action and armored clashes, the battalion was relieved on the morning of 19 December by the first arriving units of the 101<sup>st</sup> Airborne Division. In the afternoon, the battalion moved back to a bivouac at Lava-Cherie.

Very little was known of the enemy movements, but the battalion undertook to establish road blocks and take over some constructed by the 299<sup>th</sup> and 1278<sup>th</sup> Engineers for defense. At 2215 hours on the night of 19 December, the road block at the intersection of highways N-4 and N-26 was attacked by an enemy armored column. The enemy force shot up six Quartermaster trucks in convoy near the intersection, as well as a unit of the 101<sup>st</sup> Evacuation Hospital. The M-8 assault tank at the road block engaged the column and destroyed the lead vehicle and an armored reconnaissance car following it. At 0500 hours on the morning of the 20<sup>th</sup>, an enemy patrol of six men in American uniforms and a reconnaissance car attacked the road junction leading to the bivouac, an attack that was beaten off with one casualty.

At 0730 hours an enemy scout car and foot patrol approached the Orthenville Bailey bridge. The Germans opened fire and wounded two of the guards from the 158<sup>th</sup> and an Engineer from the 299<sup>th</sup>, which was now on its flank.

German Infantry seized the bridge by overwhelming force, and an accident that had severed the wiring prevented its demolition. A German tank column crossed the bridge, and tank destroyers from the 705<sup>th</sup> Tank Destroyer Battalion, in support, opened fire, knocking out a Mark III tank and an armored reconnaissance vehicle. When the Engineers and tank destroyers jointly attacked, the enemy withdrew abandoning the bridge. The bridge was re-wired. An element of the 158<sup>th</sup> with tank destroyers advanced down Highway N-4 as far as the junction of N-26 without encountering the enemy.

Except for patrols, the situation was quiet until 2200 hours that night. At that time German mortars, artillery, and machine guns laid down so heavy a fire on the village of Ortheuville that the defenders were again unable to block the bridge.



Engineers place demolition charges on a Bailey bridge.

Attempts, only partially successful, were made to demolish the bridge with tank destroyer fire. A German tank attempted to force the road block at the eastern road leading to the bridge, but was disabled by mines. Enemy Infantry advanced across the bridge, seizing possession of Ortheuville. The battalion was forced back under this pressure, and the bivouac was evacuated at 0030 hours on 21 December, under protection of a covering force, with a loss of three men killed and five wounded. The battalion then engaged in the construction of road

blocks along all roads leading to St. Hubert, and was engaged in this work until 1000 hours on 21 December when relieved for re-organization and re-equipment.

The experience of the 158<sup>th</sup> was being duplicated up and down the line. With the enemy only a few miles east of Malmédy, the 291<sup>st</sup> Engineer Combat Battalion, together with a few Infantrymen, was charged with the defense of this vital road center. They constructed and manned road blocks, evacuated civilians and wounded, and held out against savage enemy attacks from 17 December until 26 December, battered by artillery and aerial bombardment. Other elements of the battalion set up and defended road blocks south of Stavelot and Trois-Ponts. There they destroyed the lead vehicle of a German armored column southeast of Werbomont. The 291<sup>st</sup> fought side by side with the 105<sup>th</sup> in support of the 30<sup>th</sup> Division. The 51<sup>st</sup> Engineer Combat Battalion, defending the line of the Ambleve and Salin Rivers, held the villages of Trois-Ponts against artillery-supported enemy attacks for three days until arrival of the 82<sup>nd</sup> Airborne Division. At Hotten, the 51<sup>st</sup> Engineers held the bridge against overwhelming German odds, using every available weapon. In one instance, noted in their unit history, a private manned a 37 mm. gun while his commanding officer passed the ammunition.

Near the village of Bullingen, Belgium, on 16 December when the German counter-thrust started, the 254<sup>th</sup> Engineer Combat Battalion was bivouacked in the woods and was

engaged in the normal course of Engineer work. The battalion was supporting the 2<sup>nd</sup> and 99<sup>th</sup> Infantry Divisions. At approximately 0100 hours, 17 December, the battalion commander was informed that an enemy break through had occurred to the south of the Corps flank, and that a hostile column was approaching on the Honsfeld-Bullingen road. The battalion was ordered to take up a defensive position astride this road to protect V Corps' right flank.

By 0600 hours the Battalion was dug in, and shortly thereafter flares were seen and tracked vehicles were heard in the direction of Honsfeld. When the advancing vehicles were identified as enemy, battalion covering forces opened fire. The enemy Infantry dismounted from the vehicles, tanks, and half tracks, and attacked as the vehicles withdrew. The attack was repulsed.

At approximately 0630 hours the enemy attacked again, supported this time by very heavy point-blank fire from tanks and half tracks. Again the attacked was repulsed with heavy losses to the enemy. By this time it was sufficiently light to estimate the enemy force as being 12 tanks and two companies of armored Infantry. At about 0700 hours the 12 enemy tanks attacked again, followed by Infantry. One tank was destroyed, two were damaged by rocket fire, but the remaining tanks passed completely through Company B.

The company, badly shaken and suffering from severe losses, stood its ground and inflicted heavy casualties on the approaching Infantry which withdrew. Having withdrawn, the enemy Infantry loaded into half tracks, passed around the battalion right flank and joined the tanks at Bullingen. This battalion then withdrew in the direction of Butgenbach, with the surviving elements of Company B, and took up a position east of the intersection of the St. Vith road with the Bullingen-Butgenbach road. Company C withdrew in small groups after having suffered over 50 per cent casualties. Company A, with which communications had been lost by headquarters, took up a new position east of Bullingen.

The battalion dug in again and tenaciously held its ground although the enemy repeatedly shelled its positions, and his Infantry constantly probed for an opening. Constant heavy shelling finally forced the battalion (with elements of Company C) to take up a new position slightly further west, where it remained until relieved by the Infantry at 1500 hours, 17 December. The remaining elements of Companies A and C were relieved shortly thereafter. During this period the enemy constantly shelled and probed the position in an effort to find an opening.

The positions, now lightly manned due to very heavy loss, gave an appearance of strength because of the heavy fire delivered by the company, and because the battalion commander constantly moved a small force about, exposing them here and there, and thus deceiving the enemy as to the actual strength of the position. During this time the enemy apparently decided to change the direction of his attack and began to move southwest toward Ambleve and St. Vith. For the next three hours the enemy armor was observed moving southwest from Bullingen. Subsequent identifications showed that the battalion had been engaged with elements of the 1<sup>st</sup> SS Panzer Division. The stand of the

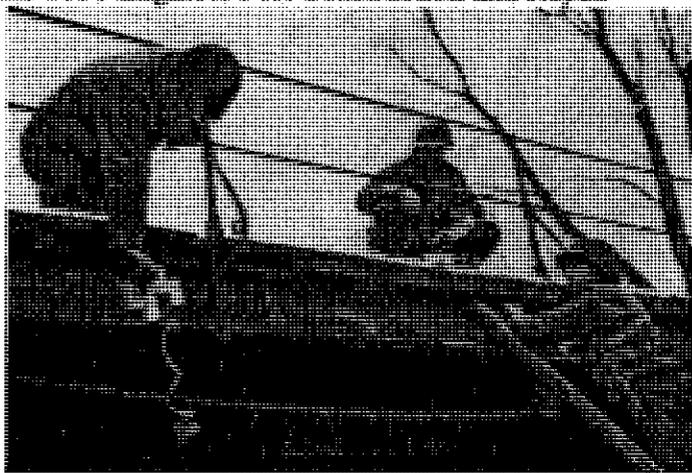
254<sup>th</sup> Engineer Combat Battalion, entirely unsupported except for its own small arms, machine guns and rockets, provided sufficient delay to permit the defense of Butgenbach and Malmedy. This denied the excellent east-west road through Bullingen-Malmedy-Stavelot to the 1<sup>st</sup> Panzer Division and prevented the loss of large stores, gasoline and food. Had the enemy gained the passage it sought, the road to Eupen and Liege would have been open.

Engineer action, defensive and offensive, in what is called the Battle of the Bulge was not confined to the Engineer combat battalions alone; Engineer service regiments attached to the Advance Section (ADSEC) Communications Zone, also participated.

### ADSEC Units in the Battle of the Bulge

Upon notification of the existing emergency, the Engineer Section ADSEC, assigned missions of preparing all bridges for demolition in the Advance Section area, as well as all stream crossing expedients in areas of responsibility assigned to the 346<sup>th</sup> Engineer General Service Regiment (GSR), the 1056<sup>th</sup> Engineer Port Construction and Repair (PC&R) Group and the 371<sup>st</sup> Engineer Construction Battalion.

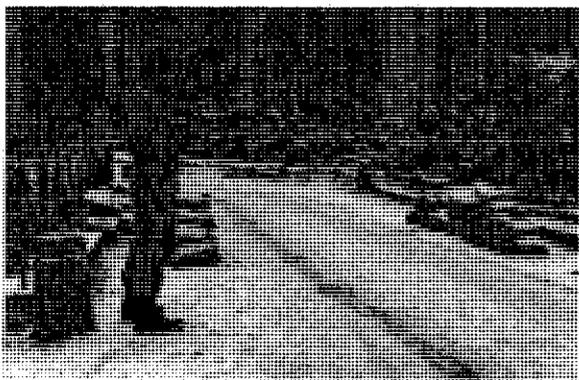
Units were notified verbally at 2100 hours on 20 December 1944 by the Engineer of the Advance Section to prepare all bridges for demolition. At 2100 hours on the following day the units were instructed to remove the demolitions from the bridges but in accordance with a letter of instruction, they should complete plans for the destruction of piers and abutments, and be prepared for the quick demolition of any or all of the bridges in their areas of responsibility.



Engineers prepare a highway bridge for demolition to deny its use to the enemy.

Preparation for quick demolition, including demolition of only one span to complete demolition of the entire structure, the assignment of responsible personnel, and the procurement and storage of all explosives were to be completed immediately.

On 25 December 1944, the British XXX Corps assumed all responsibility for demolition along the Meuse River, except for bridges in the Liege area that remained the responsibility of the 346<sup>th</sup> Engineer GSR, thus relieving the 371<sup>st</sup> Engineer Construction Battalion and the 1056<sup>th</sup> Engineer PC&R Group. The First U.S. Army assumed responsibility for all demolition east and south of the Meuse River. A second letter of instruction was issued on 25 December 1944 assigning new missions to ADSEC Engineer Units: development of a plan of demolition of all bridges and other crossing



Engineer stands guard over mines and demolitions. These will be used to destroy the bridge if needed.

expedients along the Albert Canal from Maastricht north-east to Hasselt, and all bridges and crossing expedients on the Sambre River from Namur to Charleroi. Only planning was directed. Demolitions were assembled and placed in centers under guard, in the vicinity of the designated structures, in order that charges could be placed within eight hours in the event of an emergency. This responsibility was delegated to the 355th Engineer GSR.

By order of the First U.S. Army, charges were placed on bridges in the Liege area only on 26 December 1944 by the 346<sup>th</sup> Engineer GSR. Duplicate or multiple lines of detonation were provided in every case; caps and detonators were kept separated from the explosive charge itself.

The 372<sup>nd</sup> Engineer GSR was allocated for combat duty in the Luxembourg area on 22 December 1944. The regiment was attached to XII Corps, Third Army, for duty and was directed to act as Infantry in Task Force Reed, consisting of two combat teams. The first combat team consisted of the 42<sup>nd</sup> Cavalry Reconnaissance Squadron, one battalion of the 372<sup>nd</sup> Engineer GSR, and B Company, 808<sup>th</sup> Tank Destroyer Battalion. The second combat team consisted of the 2<sup>nd</sup> Cavalry Reconnaissance Squadron, 396<sup>th</sup> Engineer GSR, and elements of the 808<sup>th</sup> Tank Destroyer Battalion with the 255<sup>th</sup> Field Artillery supporting the task force. The task force mission was to relieve elements of the 4<sup>th</sup> Infantry Division and to protect the right flank of the XII Corps along the Moselle River line. Except for extensive reconnaissance and patrol duties, both on the near and far shore of the Moselle, the 372<sup>nd</sup> Regiment saw little action until 25 December, when it was relieved of its attachment and moved to Verdun.

The 398<sup>th</sup> Engineer GSR was engaged in construction work in Verdun, France, on 22 December 1944 when it was alerted for movement to Luxembourg with mission "unknown". In Luxembourg the regiment was attached to Task Force Reed, XII Corps, Third Army. Bivouac areas for the various companies were set up by the afternoon of 23 December with each unit establishing adequate security against the possibility of attack by German paratroopers, who were reported to have landed in the general area, Sandweiler-Schraessig. The same afternoon the regiment was further attached to Combat Team "Costello" of Task Force Reed. The mission of Combat Team "Costello" was to relieve elements of the 4<sup>th</sup> Infantry Division in a sector extending from Ehnen to Mertert inclusive, and to defend and repulse any crossing of the Moselle River attempted by the enemy. At the same time, the team was to prepare alternate delaying positions.

A reconnaissance was made by the Engineers of the 398th in conjunction with the Second Infantry troops, and defensive positions agreed upon. Inasmuch as all positions were under direct enemy observation, the units moved into position at night. However,

under a full moon, the move was detected and the units received frequent mortar and artillery fire. The town of Machtum on the Luxembourg side of the river was occupied by an enemy force of unknown strength at the time the unit moved into the line. At the time of taking over the position, the organizational weapons of the 398<sup>th</sup> consisted only of carbines and 1903- .30 caliber rifles. Equipment such as .30 and .50 caliber machine guns and rocket launchers had been withdrawn from the Normandy Base Section at the time the unit was engaged in port reconstruction at Cherbourg. Temporarily, the only machine guns available in the positions were the .30 and .50 caliber weapons left in position by some of the relieved Infantry units and those that could be spared by the Second Cavalry Group. However, within two days requisitions had been filled and the full T/E allotment of machine guns was in place supplementing those already on hand.

On 31 December the effort to dislodge the enemy from Machtum began with artillery laying down a moving barrage on the town as light tanks of the Second Cavalry moved in. The first platoon of Company C of the 398<sup>th</sup> seized a hill overlooking Machtum, taking one enemy prisoner. A squad of Company B assaulted another enemy strong point on an adjoining hill, dislodging the enemy and holding the hill against a three-hour, 88mm. and mortar barrage and attack by three large enemy patrols. In January, because ice conditions prevented cavalry tanks from maneuvering on the steep slopes near the town, there was a general withdrawal back to the prepared positions in which these two elements of the 398<sup>th</sup> participated.

The period of patrolling and reconnaissance, the holding of prepared positions, the preparing of even more dense defense in depth with road blocks, mine fields, and booby traps continued. By the 10<sup>th</sup> of January, the Cavalry Group supported by the Engineers succeeded in clearing Machtum, which was then prepared for defense by elements of the 398<sup>th</sup>. On 24 January, the 398<sup>th</sup> General Service Regiment was relieved by the 1258<sup>th</sup> Engineer Combat Battalion after 31 successive days in the line.

During this period, the 42<sup>nd</sup> Division on the south was engaged in a drive northward, and elements of the 398<sup>th</sup> GSR were used in creating a diversion south of Ehnen as far as Ahn by simulating preparations for crossing of the Moselle River. This was designed to divert the 11<sup>th</sup> Panzer Division, reported somewhere in the vicinity of Saarsburg, away from the drive being prepared by U.S. Forces on the north front at Echternacht.

The Regiment was commended for its performance in these operations by Colonel N.A. Costello, commanding officer of the combat team to which they were attached, in a letter to Lieutenant General J.C.H. Lee, Communications Zone Commander. Colonel Costello said "the 398<sup>th</sup> General Service Regiment came into line without any previous combat experience, possibly without any previous infantry training...because of the emergency situations it was necessary for me to use the Regiment in the attack, in the defense, and on extensive patrolling. The regiment cooperated to the fullest extent and never questioned instructions or missions assigned to them. Their departure from this command is deeply regretted."

The 341<sup>st</sup> Engineer GSR was scattered on various jobs in ADSEC territory at the time of the breakthrough. Company A was located at Charleville, France, on 20 December, and it was immediately assigned to prepare one highway and two railroad bridges for demolition. On 22 December the company was relieved of this assignment and reassigned the project of constructing and defending two road blocks eight miles north of Charleville, an assignment they held until relieved on 2 January 1945.

Company B, 341<sup>st</sup> Engineer GSR, was engaged in the construction of a railroad bridge north of Kalterherberg, Germany, and at Butgenbach, Belgium, on 17 December when enemy Infantry laid down a heavy small arms fire upon workmen at the latter bridge. Despite enemy fire, work continued on the bridge that was considered urgent, until artillery fire began to land in the area. Then, upon advice of the commanding officer of the Infantry units dug-in in the vicinity, work was halted. The following day, 18 December, work was resumed on the bridge and continued until 19 December, when firing became more intense and various artillery batteries stationed in the area began to withdraw. It was decided that Company B should also withdraw toward Liege in order not to be cut off by the enemy.

On 20 December, the 9<sup>th</sup> Division had reoccupied Kalterherberg and the enemy had been stopped at Hofen. Company B returned to its bridge mission and, in addition to its bridge mission, was assigned an immediate area of the front by the 47<sup>th</sup> Infantry Regiment, 9<sup>th</sup> Division, to dig in and man. The bridge was completed 26 December with the first platoon acting as the working unit while the second platoon and headquarters manned the assigned front line position. These positions were subject to almost continuous heavy mortar fire and strafing.

While Company C, located at Liege, avoided front line action in being kept there, Companies D, H&S and Regimental Headquarters, located at Arlon, Belgium, along with the 975<sup>th</sup> Engineer Maintenance Company, the 693<sup>rd</sup> Engineer Base Equipment Company, the 1389<sup>th</sup> Engineer Forestry Company, and the 875<sup>th</sup> Signal Battalion, was assigned the mission of manning 13 barriers from northeast of Martelange to Redange. This barrier line was continued on the left flank by the 299<sup>th</sup> Engineer Combat Battalion, while the right flank was protected by the 109<sup>th</sup> Infantry Regiment, 26<sup>th</sup> Division. Parties at each barrier—there were 8 bridges, 2 craters and 3 minefields—consisted of 18 men to provide fire cover.



Engineers destroy bridge denying it to the enemy.

Upon the approach of the enemy in this area, two bridges were blown and the road cratered while a number of skirmishes were fought with enemy troops.

On the night of 21 December 1944, on order of the commanding officer, 1128<sup>th</sup> Engineer Combat Group, elements of the regiment in the Arlon area moved to attack Martelange in coordination with Company B, 299<sup>th</sup> Engineer Combat Battalion. All patrols reached the outskirts of the village and proceeded toward the bridge over the Sure River on Highway No. 4. However, they were halted by enemy heavy automatic weapons fire. The patrols dug in until relieved by a Company of the 299<sup>th</sup>, which in turn held the position until armored units of the Third Army arrived for their relief on 22 December. One hundred, thirty men took part in the Martelange affair and 75 per cent of the personnel were clerks, mechanics, truck drivers, heavy equipment operators, and cooks. With the arrival of elements of the Third Army on 22 December, personnel of the units stationed in the Arlon district were relieved for active participation and placed in reserve until relieved on 31 December 1944.

Company E, located at Brandt, Germany at the time of the breakthrough was subjected to bombing and spent its time building and manning road blocks in Brandt. The Company operated jointly with the 148<sup>th</sup> Engineer Combat Battalion until relieved 25 December 1944. Company F, assigned general details at seven locations between Spa and St. Boeuf at the time of the breakthrough, was also used in manning road blocks.



An engineer lowers a cratering charge into a prepared hole to crater a road.

one instance, as listed above, they actually manned light tanks in the defense of a vital communications road. Their use as Infantry and in other attachments came at a period when the commitments for performance of their own tasks were especially heavy. Their

The manner of defense set up during the Battle of the Bulge, based upon a barrier limit designated by the Commanding General, First U.S. Army, indicated that the success or failure of the defense against Runstedt's attack would be dependent upon Engineer operations to a large extent. The normal functions of the Engineers, the placing of demolitions, minefields, cratering charges, and road blocks, made their share in this operation a large one. But the immediate shortage of Infantry troops in the sector of the assault led to Engineer troops being used in many other ways than as Engineers, particularly as Infantry and rifle troops. In

defense of Bastogne, which permitted the 101<sup>st</sup> Airborne Division to move into that village, was one of the important actions of the Ardennes offensive. Almost as important was the defense of the vital Eupen-Liege highway, which prevented this east-west link from falling to an invading force with the city of Liege as its objective.

At the end of the operation, Colonel E.C. Itschner, ADSEC Engineer, in a report pointed out six valuable lessons derived from the use of service troops in direct combat operations:

1) In preparing demolitions, the fallacy of completely wiring demolition charges with caps, detonators, and primacord was clearly demonstrated in a railroad bridge prepared for demolition by the British troops. The bridge was completely wired for demolition with detonators and caps placed in charges, and cordex connecting up all charges. A large quantity of mines, composition -808, TNT, and other explosive materials were cached under the south abutment. A bomb was dropped by an enemy plane, striking a barge 300 yards from the abutment. The explosion caused by the bomb resulted in the sympathetic detonation of the charge placed under the abutment, which in turn detonated those placed on the bridge. The abutment was completely destroyed, one complete span of the bridge was dropped into the river, and another partially demolished.

2) Organizations must at all times be prepared for combat duty upon call. The quick response of the Engineer service units in the danger area did much to contain the enemy until reinforcements arrived.

3) Needless casualties were caused by carelessness of personnel on patrol and other missions, as those sustained by the 398<sup>th</sup> Engineer General Service Regiment and the 724<sup>th</sup> Engineer Base Depot Company. Previously prepared signs for recognition of friendly troops at night must be practiced. Principles learned in basic training played a major part in keeping casualties to a minimum during patrolling activities.

4) All personnel must know their job in detail. The failure of one company to indoctrinate its personnel with the unit's defense plan resulted in the loss of many valuable secret papers and equipment.

5) Orders must be positive, simple, and clearly defined. Clear command channels must be emphasized at all times to ensure that orders received are from the responsible commander in charge.

6) Defense plans must be prepared in detail and personnel must fully understand those plans in order that the execution of the defense mission can be accomplished without undue confusion. Rehearsals both day and night of defense plans aid greatly in accomplishing this end.

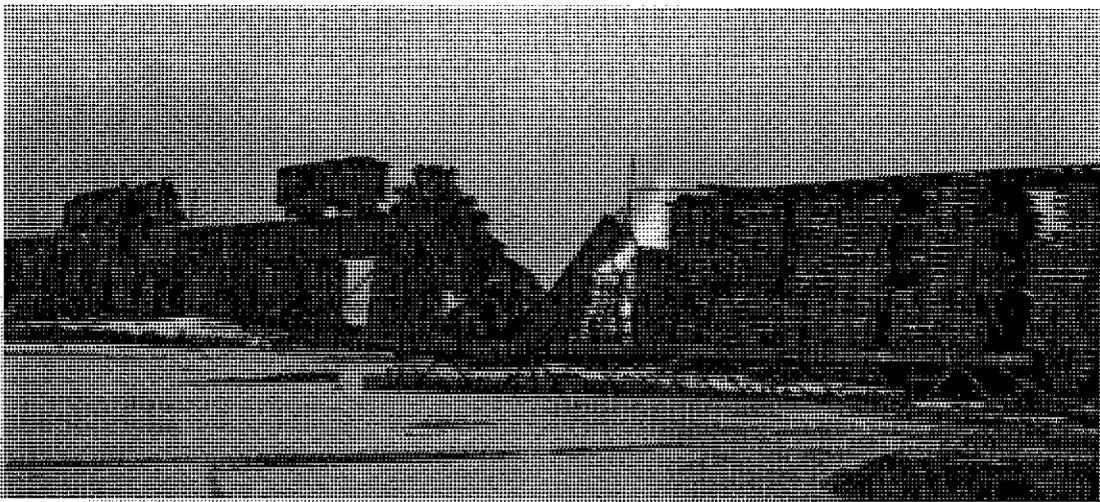
Source: Liaison Section, Intelligence Division, Office of the Chief Engineer, "Combat Engineering: Report No 10, August 1945, pp. 82-100. Text edited by the Historian, U.S. Army Engineer School. Photographs added for illustration.

## **End of the Line**

### **LT Carrol W. Guth, 185<sup>th</sup> Engineer Combat Battalion**

The evacuation of Hungnam was not hurried, and each installation was demolished as soon as it was no longer needed. A railroad bridge and rolling stock were destroyed on 15 December 1950 by Company B, 185<sup>th</sup> Engineer Combat Battalion.

The 2,100-foot bridge consisted of 29 spans, 8 of which were wooden-tie cribbings built up to the deck level. When Company B was ordered to destroy this bridge and all of the rolling stock in the Hungnam area, it was decided that the projects should be linked. Spans of the railroad bridge would be destroyed individually and as many cars and engines as possible would be pushed into the void before blowing the next span.



Engineers begin demolition of rail facilities at Hungnam, 15 December 1950.

About 15 engines and 275 cars were assembled for demolition. Korean railroad men helped shuttle the railroad cars from Hungnam to the bridge. When the Koreans learned that the rolling stock was to be destroyed they became reluctant—and had to be prodded to do the job. By contrast, the engineers found the job enjoyable—a release for their pent-up emotions.

At 1545, the southmost span was blown. Ten cars and several engines were pushed into the gap until it was filled. Some of the cars were loaded with gasoline and the engines had steam up. As they were pushed into the defile the wreckage caught fire. This process was repeated at each span. When the men reached the section of wood cribbing, several carloads of POL and an engine were spotted on top of it, and the cribbings ignited. The heat was so intense that the locomotive became cherry-red and its whistle started blowing. In a few minutes the whole section had crumbled.

As some of the cars were pushed into the gaps, the ends of the rails would spread and rip. This prevented other cars from being pushed off. Blocked spans were, therefore blown with the rolling stock on them. By mistake, a boxcar loaded with demolitions was pushed onto some flaming wreckage. The resulting blast injured two men. The destruction continued through out the night.

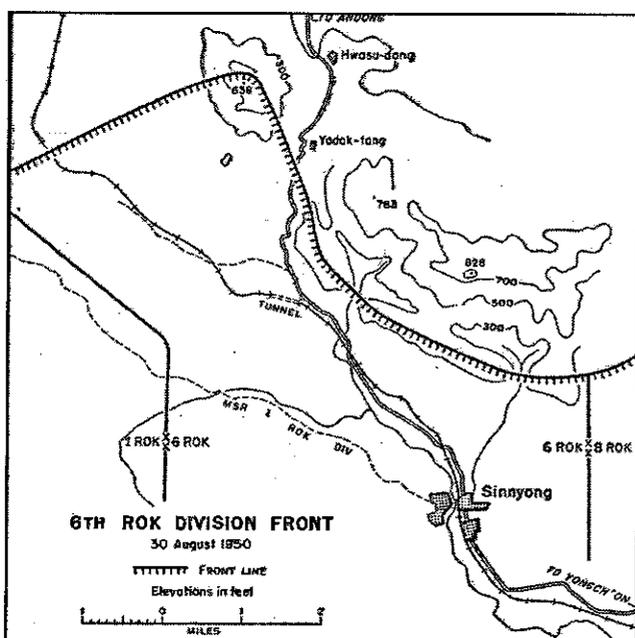
Source: Westover, John G., Combat Support in Korea. Washington, D.C.: Center of Military History, reprint edition, 1987, pp. 18-20. Photograph added for illustration.

## The Mine that Saved Sinnyong

Major David F. Campbell, Korean Military Advisory Group

From 30 August to 6 September 1950, the ROK 6<sup>th</sup> Engineer Combat Battalion engaged in unceasing mine warfare. All of its activities were in support of the ROK 6<sup>th</sup> Division in one of the most critical periods of the Naktong perimeter. If the battalion's success was greater than usual, it was because of the careful coordination of mine warfare and the overall tactics of the division.

The mountainous northeast sector of the Naktong perimeter was defended by Republic of Korea troops. In the center of the ROK II Corps, its 6<sup>th</sup> Division lay astride the Yongchon-Andong highway and the Kyong-Gyong South Line Railroad, with its command post at Sinnyong. In this area the highway and railroad run southeast to



northwest, and are canalized by the mountains. Sinnyong served as the forward railhead for both the ROK 6<sup>th</sup> and 1<sup>st</sup> Divisions, with the main supply road of the 1<sup>st</sup> Division running through the sector of the 6<sup>th</sup>. Opposing the 6<sup>th</sup> Division were the North Korean 1<sup>st</sup>, 8<sup>th</sup>, 14<sup>th</sup>, and 15<sup>th</sup> Divisions, plus elements of an unidentified armored division. The enemy infantry was aggressive and applied continuous pressure. On the right flank the North Koreans occupied Hills 783 and 828, seriously threatening Sinnyong. The 6<sup>th</sup> Division had to remain on the defensive in the center and left in order to take the offensive on the right to protect the communications line.

The division's front was extremely broad because its line was curved. Shrewd use of mines allowed the division to straighten its line and shift a maximum number of troops to the offensive.

Not only was there infantry pressure, but also from the main highway North Korean tanks lobbed harassing shells into Sinnyong. The fire was unobserved and most of the rounds landed in the rice paddies, but small deflection shifts would have scored hits on the MSR, the marshaling yards, and military installations.

A staff conference was called on 30 August to consider ways to stop this tank menace. The division commander, Major General Kim, his KMAG adviser, LTC Martin O. Sorensen, the division engineer, Major Pak, and I were there. It was decided that the

engineers would be responsible for stopping the tank fire, but any action we took must fit into the larger division defense plan.

The enemy tanks approaching Sinnyong came down the highway from Yodok-tong to a curve in the road. A crater in the road, a small minefield, and a platoon of engineers prevented them from rolling into Sinnyong. No additional troops could be spared from the division to reinforce the position. Fortunately, the tanks could not flank our position as the road was winding and narrow and there were sheer drops of three hundred feet from its edge. Although the enemy had not tried to force the roadblock, we decided that the position must be strengthened. That evening the corps engineer, COL Lew Won Sik, his KMAG adviser, two KMAG advisers from the ROK 19<sup>th</sup> Infantry (in whose sector the roadblock lay), Major Pak, I, and our interpreters made a reconnaissance. At the roadblock we picked up the platoon leader and two engineers. We moved 250 yards beyond our forward position to the road crater. It was not quite dark, so we could look directly into Yodok-tong and the enemy front lines. As dusk approached we could see North Korean infantry crawl out of their hiding places in the town and mill around.

We decided that the terrain and the steep wall flanking the road made this an ideal tank trap. We could station a bazooka team at the crater, have infiltrators mine the road near Hwasu-dong, and send tank-hunter teams along the road.

After thirty minutes at the crater, we began receiving sporadic artillery fire. We returned to the division CP in Sinnyong and there continued planning our tank trap, mine program, and the demolition of a railroad tunnel. Generally the minefields were to be heaviest in the center. To undertake the minefield program, I requested and received two platoons of engineers that were being used as infantry.

Later in the night the engineers emplaced forty M6 antitank mines over sixty yards of the road at the point where the tanks stopped to fire (Minefield 1). Unlike our previous laying of M6 mines, these were not only armed but each was activated by placing an M3 antipersonnel mine underneath it, and then attaching a three-inch trip wire to the handle. We made this field even more formidable by placing fifty-two antipersonnel mines along the narrow shoulders of the road with trip wires laced across the road and its shoulders. This would take advantage of the practice of the North Koreans of surrounding their tanks with engineers to clear mines and infantry to prevent close-in attack. Since the tanks would be canalized by the twelve-foot road, we figured that our preparations would be effective against infantry-armor attack. Fortunately, no enemy tanks arrived to interrupt our work.

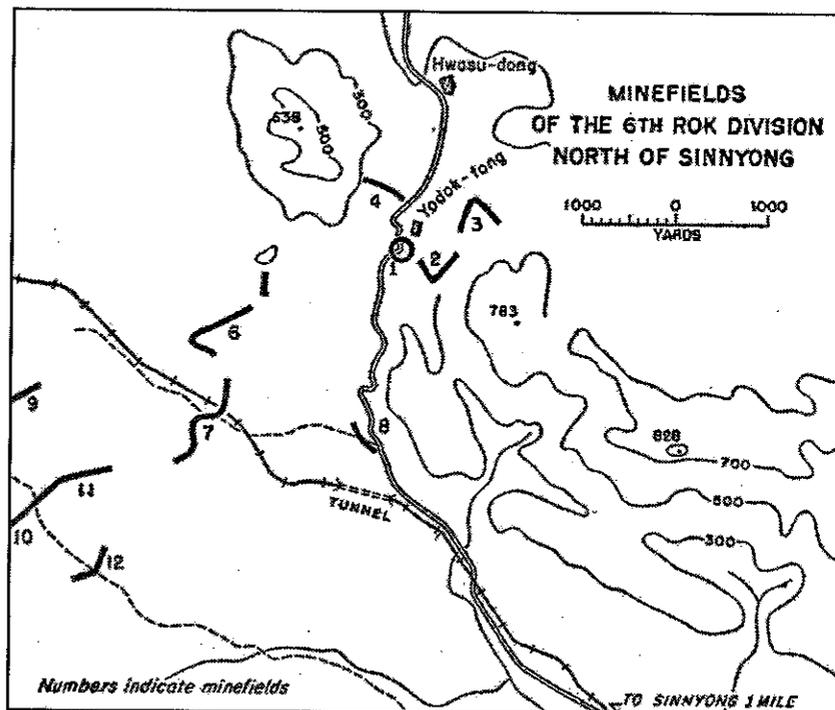
While this minefield was being constructed, Minefield 2 was being installed nearby and tied in with Minefield 1. About 250 M3 antipersonnel mines were laid south of Yokod-tong in an inverted chevron pattern. We worked quietly, and the enemy all around us did not recognize that we were ROK troops.

On 31 August the sketches of our previous night's activities were recorded and sent forward. A great deal of time was spent in making a physical inspection of all existing minefields and making plans for strengthening them. On the night of 31 August-1 September, Company A, ROK 9<sup>th</sup> Engineer Combat Battalion, laid ninety M3 antipersonnel mines in an extension of Minefield 2 (Minefield 3). These made a second chevron. In using the chevron pattern, we were following the Soviet system, which the North Koreans employed. It was not only the efficiency of this pattern that attracted me but its deception, since the North Koreans would not expect it.

We completed our work at about 0200, and the minefield party began to withdraw. We were careful to go east of the field, to take advantage of the

protection of the field itself. Just at that moment a company of North Korean infantry began an attack. They came from the direction of Yodok-tong, bunching up and running upright. Almost the entire company got into the first belt of mines before they hit the first trip wire and realized their predicament. Mines exploded and men screamed. The attackers turned in panic only to kick more of the trip wires. The whole affair lasted scarcely five minutes, yet we estimated a hundred casualties. We returned to find our minefield badly damaged. Artillery fire began falling, so we left without making the repairs. As a result of this experience I tried thereafter to get infantry protection for minelayers.

I spent a good part of the next day (1 September) teaching expedients for overcoming the shortage of activating devices, and devoted some time to instruction in booby traps. The South Koreans were especially interested in booby-trapping the little carts the enemy use to carry supplies, so I devised a method. An infiltrating party would remove a wheel, place the axle on the ground, and fasten a trip wire to the axle. When a group lifted the cart to replace the wheel the booby trap went off. This diabolical device was referred to by the ROKs as "the shaver"—from the effect it had on one's head. Teams went deep into enemy lines and placed numerous booby traps, all of which were carefully recorded.



The same day we began to activate the antitank mines. Except for Minefield 1, this had not been done before. In fields over 500 yards long, we activated 20 percent of the mines. The smaller fields we activated 100 percent.

That night (1-2 September) we laid two more minefields. One of these, Minefield 4, was placed to the rear of Yokok-tong to form a part of our tank trap—when we should get round to springing it. It consisted of ninety antipersonnel mines, with trip wires, laid over an area of nine hundred yards. The other field was to the left of our roadblock on the main highway. The need for more troops on the right flank of the division was so strong that even the engineer platoon at the roadblock had to be redeployed.

During the night of 2-3 September we continued with our minelaying and completed two more fields. Just before these fields were completed, the infantry on the left flank of the division was pulled behind the minefields and the gaps left for the purpose were closed. We continued to strengthen our old fields, and even repair Minefield 2, where the attack had occurred. The enemy dead remained as a warning to others who might attempt to attack at this point.



M3 Antipersonnel Mine

Now that we had minefields across the division's front and had readjusted our lines, we were ready to spring the tank trap. On the night of 3-4 September we formed two engineer and one infantry 3.5-inch rocket teams. At 1900 we moved out to the crater and left Team Able (four engineers) with instructions not to fire until they heard firing from one of the other teams. Two hundred yards farther north on the road we left Team Baker from the 19<sup>th</sup> Infantry, with instructions to lay low until they heard fire from the northern end of the trap.

The third bazooka team accompanied a platoon of engineers, which I led, to the bridge at Hwasu-dong. We moved around to the left of Minefield 4, kept quiet, stayed in defilade, and were able to move into enemy territory without causing alarm. We found that the bridge at Hwasu-dong had been damaged by the Air Force, but that the enemy had made a ford fifty yards northeast of the bridge.

North of the bridge we laid a hasty minefield from the river to the ford. Moonlight made the work easy and flashes of distant artillery increased the visibility. The rocket team selected a position two hundred yards south of the bridge and some fifty yards off

the road. The engineers joined them, and all began to dig shallow foxholes. As we heard our artillery plaster the enemy, we were glad we had coordinated our movement before coming into the area.

At midnight, about forty-five minutes after we had taken up positions, we heard tanks coming down the road. These were preceded by a mine-clearing team, which easily found the mines on top of the road. We saw the lead men drop to their knees, grip the mines without examining them, and throw them off to the shoulder. None of these mines exploded for they had not been activated. But we could see from the careless way their engineers handles the mines that they were in for a surprise!

As soon as the tanks had breached the minefield they forded the river and moved on with their foot party. I don't know how many tanks passed, but by the artillery flashes I counted five T34s. When no other tanks passed our position for twenty minutes, I sent two squads of engineers to place a deliberate minefield in the road, each mine of which was to be activated. After this was done, I knew we had the tanks.

Just as our mine squads returned to our position, a lone enemy tank came down the road without foot troops accompanying it. I guessed it was from the same party as the first tanks, but had fallen behind. The tank approached the end of the bridge and stopped. One crewman had started to get out of the tank when our bazooka team edged up to within fifty yards and fired. The projectile struck just behind the turret. None of the crew escaped and the tank burned, blocking the road. The ROK troops became excited and for a few minutes and fired their rifles to catch anyone in the vicinity. Then we withdrew quickly to our own lines. We soon heard a great deal of firing to the south, which meant that our other teams were in action.

Team Able was seventy feet above the road where the first tank would have to halt. It had remain quiet and allowed the first tank and accompanying party to approach. Ten or fifteen enemy engineers moved along the road on their hands and knees, feeling for mines. Then they reached the first activated mine and felt its pressure plate they jerked it out! The explosion killed every one of these men.

The infantry, as we had anticipated, rushed for the shoulders of the road, and immediately ran into our maze of trip wires on the antipersonnel mines. Of the 50 to 100 men, surely half were killed.

Until now neither bazooka team had fired. Five Tanks had passed Team Baker but the team waited to see if there were more. By the time they knew that this was all, the last tank was masked from their fire. The rocket team moved to the road. As these men rounded the bend, the rear of the fifth tank was only fifteen to twenty yards away. The gunner heard the exploding mine, and he fired directly at the tank. The tank exploded and burned blocking the road. The bazooka men scurried up the bank and headed for home.

Within a minute of these two actions, Team Able fired down on the first tank and hit it at the junction of the turret and the motor. The force of this explosion ripped off the turret and the ammunition blew all at once. The second explosion lifted the tank off the road and hurled it down the steep bank three hundred feet into a rice paddy, where it landed upside down. As Team Able was not in a position to fire at any of the other tanks, it headed for our lines.

During the night I sent bazooka teams along that road and two more tanks were destroyed. One was destroyed by the infantry, and there was a squabble between the infantry and the engineers for the second. The argument was heated, for the Republic of Korea offered a bonus of a hundred thousand *won* to each unit that destroyed a tank.



American soldier checks the fuze on an M6 antitank mine.

During the night we had destroyed five T34 tanks. In the morning Colonel Sorenson sent an air reconnaissance party forward, and they called for Mosquitoes to sweep the area. These planes found nine more tanks in our trap. Air strikes destroyed all nine.

Our tank party over, there were other problems. Pressure in the north was growing, and we had to move more troops to the right flank. A captured tank lieutenant told us the enemy had brought eighty-five tanks into our sector on 1 September. We knew that our bag of fourteen had hurt them, but we didn't think our present positions would hold against a heavy thrust. We began cratering the main highway and laying additional belts of mines behind a straighter front line. We also turned our attention to blocking the railroad tunnel.

Our tunnel project had waited while we collected TNT. At the east end of the tunnel we now placed 2,350 pounds of TNT pressure charge in the overburden so as to completely close the tunnel's mouth. At the west end we placed only 900 pounds. We did not place enough TNT in this end of the tunnel to completely block it since we hoped to lure the enemy into the entrance. Then we placed fifty-two booby traps with trip wire. The preparation was completed on 5 September, but the charge was not blown until the next day.

On 5 September the enemy began a drive on the front of the ROK 8<sup>th</sup> Division (on our right) and by 9 or 10 September had taken Yongchon, some ten miles to our rear. The 19<sup>th</sup> Infantry was placed to protect our rear. Once more we had to shorten our line, and it

was minefields that gave us time to move and erect a defensive barrier. Not only did we build up our own defenses; we also took the mines to the enemy, infiltrating ten miles deep and placing mines and booby traps as far back as Habon-dong.

On 6 September we blew the railroad tunnel. After this we entered the west opening and completed our job of booby trapping it. The ROK 2<sup>nd</sup> Infantry was drawing back at this time. As these men moved over the mountain which the tunnel cut through, the enemy tried to use the tunnel to cut them off. The first men ran into the booby traps and some six or seven were killed. The pursuing party withdrew and started to move northeast in hopes of taking road junction 775928 and blocking the troops withdrawing south along the main highway. They ran into Minefield 8 from the south and here lost ten or fifteen more men. The group then withdrew to the northeast in confusion and did not further interfere.

As our infantry withdrew down the Yodok-tong road toward Hill 728, the enemy attacked banzai style and a regiment strong, through Minefields 2 and 3. These minefields had been built up to contain some five hundred antipersonnel mines, and we had them covered with small-arms fire. Rifle and machine-gun did not stop the enemy, but the mines stopped them cold. They milled around for a few moments trying to find a passage, and the automatic weapons and mines wounded or killed five hundred. The attack soon stopped and our men withdrew without further interference.

After this engagement and the shortening of our line, we continued cratering the roads and increasing our mines. The ROK thereafter had great faith in minefields, learning particularly that minefields supplement other means of defense.

Source; Westover, John G. Combat Support in Korea. Washington, D.C.: Center of Military History, reprint edition 1987, pp. 27-35. Photographs added for illustration.

**Last of the Han Bridges**  
**CPT D.J. Haden, CPT Donald E. Roush, LT Rodman M. Davis,**  
**LT Jack R. Wheatley, Corps of Engineers**

On December 15, 1950, the 14<sup>th</sup> Engineer Combat Battalion, supporting I Corps, was ordered to assume responsibility for the security and maintenance of the floating M2 and M4-M4A2 bridges over the Han River at Seoul. The battalion was further ordered to prepare plans for the removal and for demolition of each of these bridges.

The big maintenance problem was to keep the ice broken up around the floating bridges. Ice was a particular problem because the Han River is tidal. Instead of freezing smooth, the ice froze in waves that were constantly building up on the pontoons and between them. The four-to-five-inch-thick ice along the bridges had to be chopped up and broken by driving DUKWs over it. Ice patrols were sent along the river to report large ice floes.



M4-M4A2 Ponton Bridge over the Han River near Seoul.

The order to dismantle the M2 bridge on 2 January 1951 was received on 1 January. Company C was ordered to do the dismantling, assisted by a platoon of Company B, and trucks and cranes of the 55<sup>th</sup> Engineer Treadway Bridge Company.

One detail planned to take down the north and south bank trestles, one squad working at each. A second detail would disassemble the bridge into four-float rafts. A squad would work on each raft and move it to one of the thirteen disassemble sites located downstream of the bridge on the south bank. One platoon was to operate the pontoon deflation point, established near the disassembly points.

The weather on 2 January was cold and windy; the temperature was near 10 degrees. The cold made it difficult for the men dismantling the bridge, but did not hinder the work noticeably. The day was so bright that the glare from the ice was hard on the eyes.

Dismantling the M2 bridge took eleven hours. The men detailed to the job reported at the bridge site at 0530 to break the ice, and began actual disassembly at 0700. The trestles and pontoon sections at each bank were first lifted, and the bridge was then

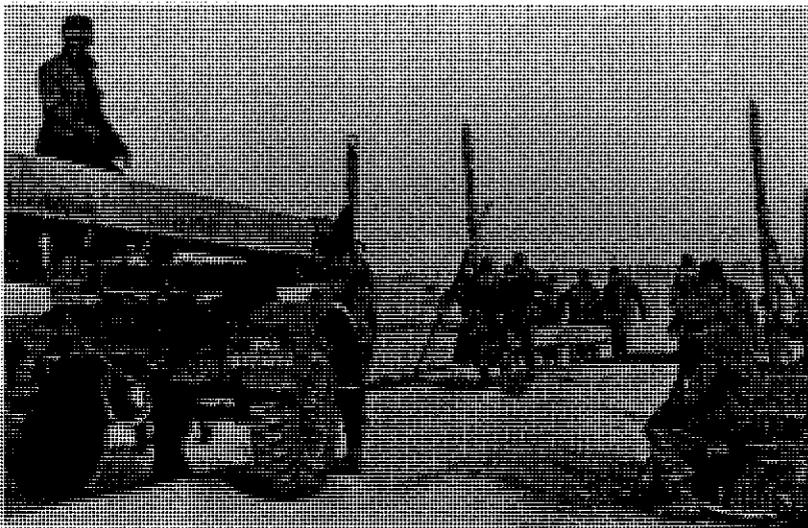
broken down into four-float rafts. Once a four-float raft was removed from the bridge, a DUKW towed it to one of the disassemble sites for further dismantling. The DUKWs were needed because some of the damaged floats had become filled with water and ice, and were too heavy to tow by hand.

At the disassemble site, each four-float raft was broken down into separate floats. Ice had collected in front of the rafts as they were towed, and they could not be brought close enough to the bank to be walked out. Cranes were used to lift them.

The removal of pins between sections was a serious problem. Some of the pins had rusted; others were frozen in place. In order to get the pins out the section had to be leveled. This was difficult to do because some of the floats were heavy with ice and water. Sledge hammers and bars were finally used successfully to remove the pins.

Each float was completely dismantled and then deflated. An officer of the 55<sup>th</sup> Treadway Bridge Company inspected each pontoon and the unserviceable ones were burned. Except for the upstream anchor cable, the entire bridge was moved by 1800.

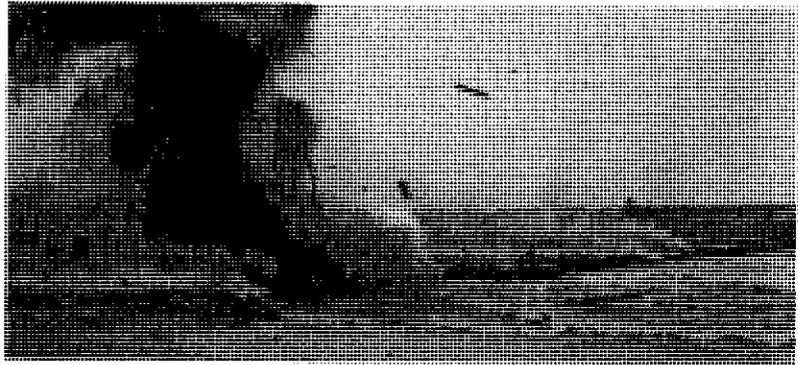
At 2300 hours, 3 January, Companies B and C received orders to begin disassembly of the M4-M4A2 bridge on 4 January. The companies arrived at the bridge at 1600 to begin clearing ice from around the pontoons, but the bridge disassembly did not begin until 1100, except for the removal of unnecessary cables, cubs, markers, and guide rails. A tactical development caused the delay. A British infantry-tank force was pocketed by



Engineers begin to dismantle the M4-M4A2 bridge over the Han River at Seoul.

the enemy north of Seoul, and it was believed that a rescue force might be dispatched. This force did not materialize by 1100, and the dismantling was begun in earnest. The Eighth Army coordinator, stationed at the I Corps control point, set the time limit for dismantling at 1300. All equipment not removed at this time was to be destroyed. The I Corps engineer was able to get this extended to 1400, but at 1330 Eighth Army gave a standby order to blow the bridge, so all work halted. Half of the balk, the cables, curbs, markers, and guide rails were the only parts of the bridge salvaged.

Demolition materials were already at the bridge site. At 1100, unprimed charges were placed on the bridge while disassemble was going on. In general, the December plans for demolition were followed. Most important of the changes was the increase of TNT from 114 pounds to 1,800 pounds, because of the shortage of tetrytol. The engineers used bangalore torpedoes to destroy the balk and, since they had no incendiary grenades, they substituted gasoline-soaked sandbags to fire the rubber pontoons. At 1505 the firing order was received and the bridge was blown up



Initial explosive demolition of the M4-M4A2 bridge over the Han.

When the bridge did not sink after the first blast, a careful check was made. It was discovered that some of the charges had not fired. This was unusual. Ordinarily, sympathetic detonation will cause all charges to explode. The failure probably was due to the explosives having become frozen. Inspection of the bridge proved it necessary to recharge and refire. After this was done the bridge was checked again. This time it was sinking. The end of the bridge was not spectacular, for the rapidly freezing water caused it to submerge slowly.

With the destruction of the M4-M4A2 bridge, all bridges across the Han River in the Seoul area were eliminated. It was a great disappointment to the engineers that they were not given time to disassemble this bridge, but all of the engineer missions in the withdrawal over the Han River were now accomplished.

Source; Westover, John G., Combat Support in Korea, Washington, D.C.: Center of Military history, reprint edition 1987, pp. 15-17. Photographs added for illustration.