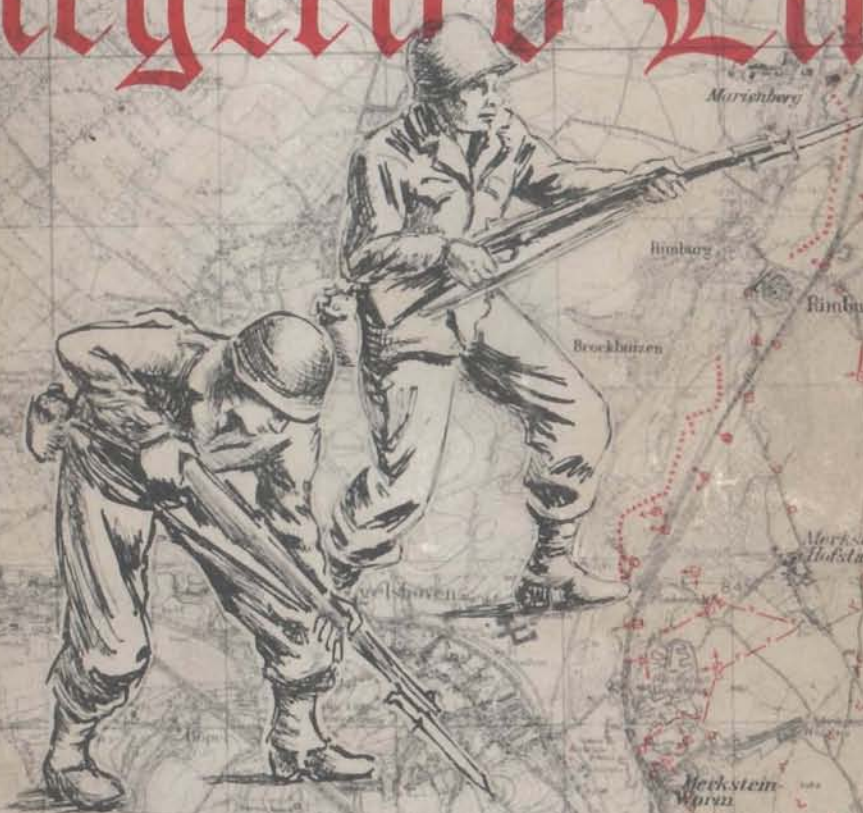


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# UNCLASSIFIED Breaching the Siegfried Line



XIX CORPS  
UNITED STATES ARMY

Classified 2 OCTOBER 1944

26 OCT 1944

by authority of AG of S, G-2, WDGS

E. S. JOHNSTON  
Colonel, Infantry  
GUSTODIAN

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# BREACHING THE SIEGFRIED LINE

*presented by*  
*1st Spt Thos L*  
*G-2 XIX*

XIX CORPS

UNITED STATES ARMY

2 OCTOBER 1944

UNCLASSIFIED

HEADQUARTERS XIX CORPS  
Office of the Commanding General  
APO 270, U.S.Army

12 January 1945


This study is a General Staff analysis and record of the most important operational details of the XIX Corps' successful attack on and penetration through the "Siegfried Line".

This successful attack against the "Siegfried Line" should be treated largely as a tribute to the superb fighting ability of our infantry and armored soldiers, well supported by artillery and engineers, intelligently led in a well-planned action. It has demonstrated that thorough planning, determined leadership and aggressiveness in battle, can overcome what otherwise seems to be insuperable obstacles. Both the 30th Infantry and 2d Armored Divisions were battle-experienced with able leadership throughout their echelons. The 29th Infantry Division, which came in during the latter phases of the operation, was also a battle-experienced Division. The 30th Infantry Division had been continually in contact with the enemy since its first attack June 15th on the VIRE ET TAUTE CANAL; it had participated in the breakthrough south of ST. LO; and had withstood the German Panzer attack near MORTAIN in their effort to recapture AVRANCHES. It had fought across France and Belgium, capturing TOURNAI and FT. EBEN EMAEL in Belgium; and was the first American unit to enter Holland and entered Germany in September to prepare for this assault on the Siegfried Line. Its Commander, Major General Leland S. Hobbs, had commanded the Division from its initial commitment; its Asst. Division Commander, Artillery Commander, and other higher commanders, were all experienced and battle tried. It was a well-developed team.

The 2d Armored Division had fought through North Africa and Sicily and attacked for the first time in France on June 14th at CARENTAN, passing through CERISY; broke loose south of ST. LO, passing through DOMFRONT, ELBEUF, and entered Belgium, breaching the ALBERT CANAL position and crossed into Germany with the Corps. Its Commander, Major General Ernest N. Harmon, had commanded it in North Africa and had commanded another armored division at the ANZIO beachhead before returning again to command his old Division in the "Battle of France". It also had experienced top leadership and was a well-rounded team.

The 29th Infantry Division, which came in during the last phase of the operation, had been an assault Division on the NORMANDY beachhead on D-Day; had captured ST. LO; participated in the BRITTANY campaign and capture of BREST. It had been under the same Division Commander throughout these operations, Major General Charles H. Gerhardt.

Very important in the team play of the Corps was its Corps Artillery under the able leadership of Brigadier General George D. Shea, with a battle-experienced staff and artillery groups; well prepared to deliver the maximum in artillery support. One of the most important single lessons in the operation has been team play. This instills a great confidence in all elements when they know the people they are cooperating with, and have experienced that cooperation before. It would be highly desirable, wherever possible, to maintain a standard Corps of permanently assigned divisions, at least to maintain the bulk of the Corps on this basis. This knowledge of the methods used by the component elements; the characteristics of the commanders; the uniformity of planning; contributes greatly to the efficiency of the operation. It eliminates, to a large degree, the element of uncertainty when dealing with strange units.

  
RAYMOND S. McLAIN  
Major General, U. S. Army  
Commanding

BREACHING THE SIEGFRIED LINE  
XIX CORPS - U. S. ARMY

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## 1. DESCRIPTION OF SIEGFRIED LINE

### a. General

The "Siegfried Line", called by the Germans the "West Wall", was a continuous series of pillboxes and emplacements extending along the Western boundaries of Germany from Kleve on the Dutch frontier to Lorrach near Basle on the Swiss border. It was constructed in 1939 and 1940 before the development of the German military doctrine of "strongpoints", as illustrated by the heavy defenses along the Atlantic and English Channel coasts. It was completed as we found it before the Russians had taught the Germans the principle of an all-round "hedgehog" defense. Thus the Siegfried Line contained mainly a large number of reinforced concrete pillboxes for machine guns and 37mm AT guns. There was a very limited preparation of open earthworks for heavier artillery, and extensive hasty preparation of field fortifications for infantry.

The Siegfried Line was built on the first natural barrier east of the German frontier. Where this natural barrier was weakest the pillbox concentration was strongest. The basic principle behind the placement of pillboxes and AT barriers was simple and logical, namely to increase the defensive potential of the terrain along the German frontier. Where tanks and infantry would have a difficult job in attacking (as across the Rhine River) the defenses were sketchy. Where a natural attack corridor existed (the Belfort Gap, the Moselle River Valley, the Aachen Plain), there the defenses were most dense.

The concrete installations themselves in general were 20 to 30 feet by 40 to 50 feet horizontally, and 20 to 25 feet high, of which at least half and sometimes more was underground. The walls and roofs were 4 to 8 feet thick and at times steel plated. Each pillbox had living quarters for its normal complement. Fields of fire were limited; the path of fire generally did not exceed 50 degrees of arc. Pillboxes were mutually supporting. Four years of neglect during the high tide of German conquest had made the camouflage superb. Undergrowth, turf and disuse made the spotting of some of the boxes extremely difficult. Fortunately British and French intelligence had photographed and plotted the construction period and the fruits of their labors were supplemented by recent photography.

### b. XIX Corps Sector

#### (1) General

The Siegfried Line in this sector was a continuous obstacle extending across the whole Corps front. It was here constructed to implement the natural obstacles formed by the Wurm River and, in the N 5 km of the sector, the Wurm and Roer Rivers. The only portions of the line not lying behind a water barrier were immediately N and W of Aachen. This city has a ridge line leading into it from the North. To make up for the lack of the river barrier across this ridge line, the Germans here constructed the only dragons' teeth AT obstacles in the whole Corps sector. For over 70% of its trace in the sector, the water barrier is backed up by a railroad line that leads northward out of Aachen. This railroad follows the Wurm River Valley. To keep its track as straight as a railroad requires, numerous cuts and fills had to be constructed in the meandering streambed, forming a further obstacle to tank employment.

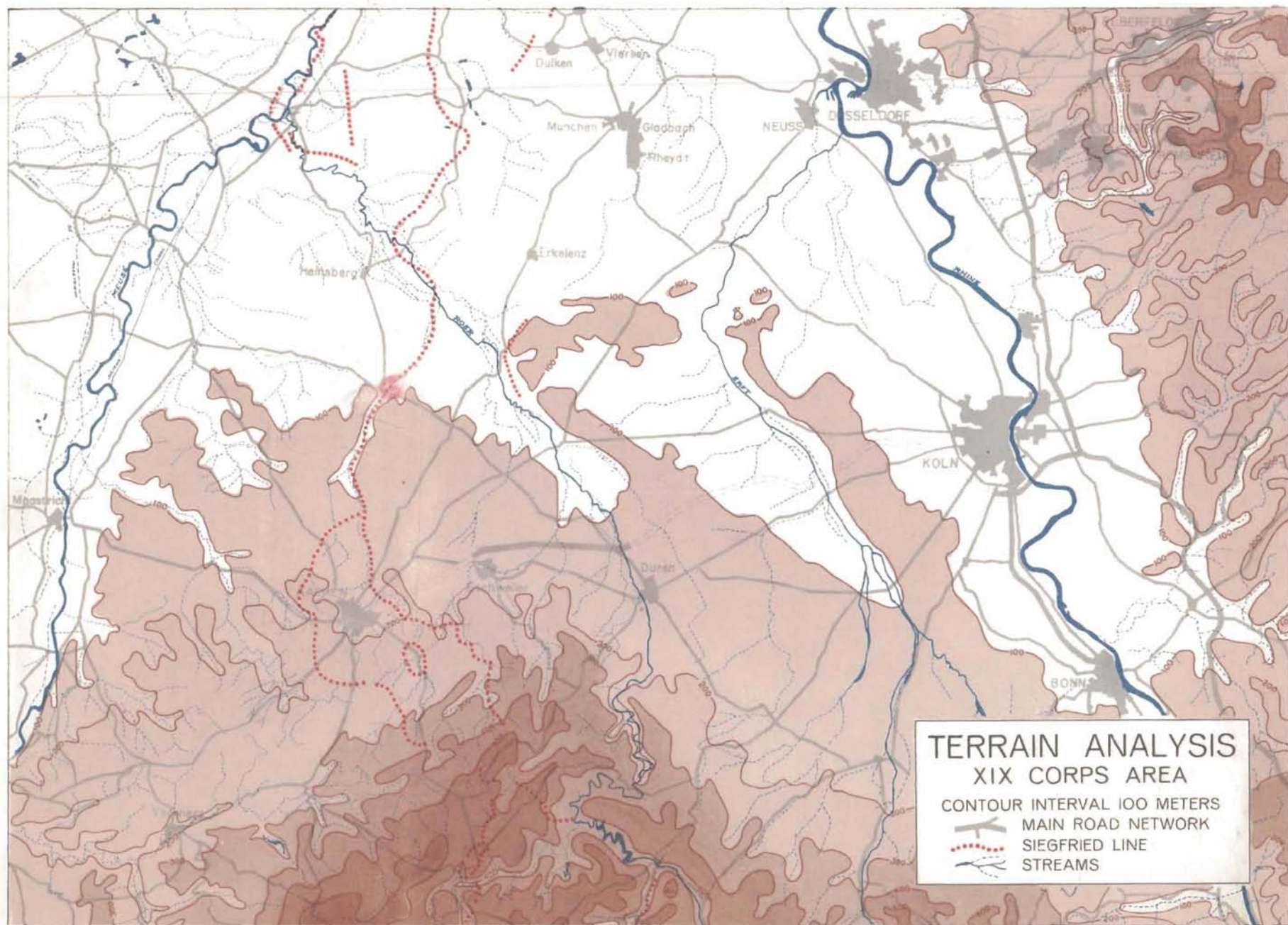
The German military construction was tied in to the river and railroad obstacles described above. Where these two did not form a good obstacle, there the defense had the greatest density. The pillbox band was roughly 3 km in depth behind the river - railroad line. At only one point in the line was there an appreciable thinning out of these pillboxes. This occurred at the point where the Wurm River Valley joins the Roer River Valley. This junction is itself a barrier to cross country movement; to protect it the greatest concentration of pillboxes in the whole sector occurred on the nose S of the stream junction (E of Randerath).

#### (2) Obstacles

Defenses West of the Wurm River consisted for the most part of minefields and barbed wire except on the Aachen nose N of Kohlschied. From this point the only dragons teeth in the Corps sector start the line which stretches 10 km to the SW.

The Wurm River is approximately 30 feet in width throughout the sector. Its banks and valley were a formidable obstacle. Because of wet weather and marshy ground the terrain was a serious obstacle to tanks. The banks of the river were







naturally steep or had been dug steep. The river and banks were covered by prepared fires and bridging had to be made under direct observation and fire. The ridge east of the river generally overlooks the terrain on the W side of the river, except in the assault area where both ridges are the same height. However, good observation of our crossing sites was available to the enemy.

Supplementing the river and railroad were minefields, AT ditches and stone walls; particularly S of Geilenkirchen. This was the area that most needed them, as the main East - West road through the sector cut the Siegfried Line at Geilenkirchen.

Pillboxes occurred wherever the terrain indicated a profitable use of a machine gun or AT gun. It should be remembered that the basic design of the Siegfried Line called for the employment of mobile field armies operating out of and behind it. The real defense was to be an aggressive counterattacking force basing its offense from the Siegfried Line. The object of the defenses was not to stop the enemy but to slow him up and to tire him in the attack and then hit him with strong counterattacks.

Virtually all pillboxes possessed the following general characteristics:

Limited fields of fire (40 to 50 degrees).

Incapable of housing any weapon larger than the 37 mm AT gun which was standard for the German Army in 1939.

4 to 6 feet of concrete overhead and a similar amount underground; walls 5 to 8 feet thick.

Normal pillbox personnel was generally dependent upon the size and number of openings; roughly a maximum of 7 men per firing embrasure.

Excellent camouflage concealment, materially aided by four years of disuse and natural growth.

Excellent prepared paths of fire.

There were a very few pillboxes that could house up to a 105mm cannon. These, in general, were at least 3 km east of the river and occurred only once every 5 km.

Several dense patches of forest are scattered along the line. These proved dense enough to handicap armored maneuver. They likewise furnished excellent concealment for infantry, and in them visibility was more suitable for defenders who did not have to move.

### (3) Communications

The majority of the works were in "clusters". The pillboxes in each cluster were linked with each other by communication trenches. None yet found were linked by underground passages. There was a fairly extensive network of buried telephone cables (6 feet deep) between the works.

### (4) Observation

OP's from underground emplacements with a 7-inch steel cupola occurred roughly one per km. These were usually linked by underground cable to pillboxes, Hq and villages in the vicinity. An OP was usually a CP, with living quarters for 30-40 men and several work rooms in them.

### (5) Terrain Analysis

The terrain in the XIX Corps sector between Maastricht and Cologne is ideally suited to armored attack. In general it is gently rolling open cultivated farm country. This zone is cut by N-S ridge lines and N-S stream lines. The details are shown on the terrain analysis chart included in this study.

## 2. PLANS AND PREPARATION

### a. Overall Mission

The major overall mission of the XIX Corps was to rupture the Siegfried Line and advance to secure a bridgehead across the Rhine River in the Cologne-Suselendorf area.

### b. Selection of breakthrough point.

A detailed analysis of the Siegfried Line in the Corps sector resulted in certain conclusions about it:

In general the pillbox band was uniformly strong along the whole Corps front.

The greatest density of pillboxes was just S of the junction of the Wurm and Roer Rivers.

The next greatest density was around Geilenkirchen in the center of the sector.

CONSTRUCTION OF PILLBOXES  
SIEGFRIED LINE

6'-7"

6'-7"

TROOP QUARTERS  
12'-3" X 15'-6"

LOCKER

TROOP QUARTERS  
9'-0" X 9'-0"

ARMS ROOM  
7'-6" X 13'-0"

AMMO BUNKER  
4'-6" X 8'-0"

ENTRANCE

GAS PROOF CHAMBER

ENTRANCE

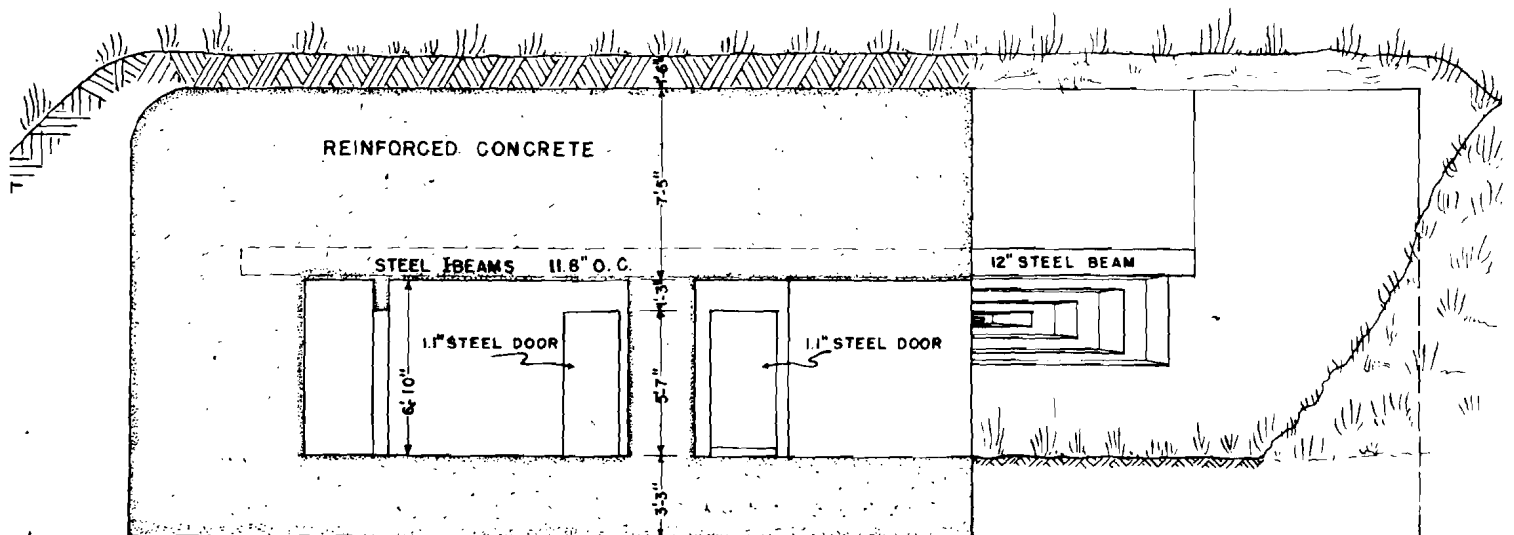
6'-7"

ARMS ROOM

AMMO BUNKER

Plan view of  
typical German pillbox

Plan view of  
typical German pillbox



Section of  
typical German pillbox

**CAMOUFLAGE OF PILLBOXES  
SIEGFRIED LINE**



**Camouflaged as a house  
RIMBURG**



**Camouflaged as a garage  
PALENBERG**



The road net, pillbox density and later opportunities for exploitation of a breakthrough N, E, and S without immediately running into another terrain obstacle led to the selection of the Palmburg-Rimborg section for the assault area.

c. Extract from XIX Corps Field Order #27, 281430A Sept 44.

Par 2. "XIX Corps protects right flank 21 Army Gp and left flank First US Army; breaches Siegfried Line, advances E in zone to secure the line of Roer River in zone".

d. Training and Preparation

The assault on the Siegfried Line by the 30th Infantry Division was preceded by intense training all the way down to squad tactics. Despite the fact that units were in the line during this period of training, a reshuffling of reserves enabled all battalions of the 117th Infantry, 119th Infantry and 3d Bn of the 120th Infantry to withdraw behind the lines for reviewing assault tactics.

All three battalions of the 117th and 119th Infantry Regiments went through a two day training period in training areas west of the line which they had been holding. The 3d Bn of the 120th Infantry spent most of its time in assault training while in Division reserve. The first and second Bns of the 120th Infantry rotated companies in assault training areas. The work covered use of demolitions, flame throwers, bazookas; tactical review of the coordination of assault detachments; practice firing of all weapons; and dry runs in storming the pillboxes and crossing the Wurm River. Engineers, tank and TD units also rehearsed for the attack, the engineers constructing bridges with the tanks and TDs crossing and fanning out to support the infantry.

The practice river-crossing was done in a gully with stagnant water about the width of the Wurm and with the same steep banks. Improvised foot bridges, were constructed, two feet wide and 15-30 feet long, with ridged cleats to aid the footing. Lt. Col. Robert E. Frankland, battalion commander of the 1st battalion of the 117th, says that "training for the river crossing paid off, because the enemy was surprised and overwhelmed by the sheer aggressiveness of our crossing".

Under Col. Frankland's direction, an elaborate sandtable was constructed, showing in detail the location of the pillboxes, river, wire, roads, ridges, draws, houses and trees. As each reconnaissance patrol returned, changes were made on the sandtable to conform with what it had observed. Company commanders were assigned their areas; platoon leaders were shown which pillboxes they were to reduce; squad leaders were drilled in their mission, and before the training had been completed, every man in the assault companies of the battalion was shown the sandtable and had his exact route thereon explained to him.

Not only the riflemen, but the heavy weapons men, the engineers, the tank destroyer and tank commanders, all studied what was to be their role. The training was so thorough that, according to S/Sgt Howard King of Company A, 117th Infantry Regiment, "even when we got a new pillbox to take, we just pushed out our support and assault detachments mechanically."

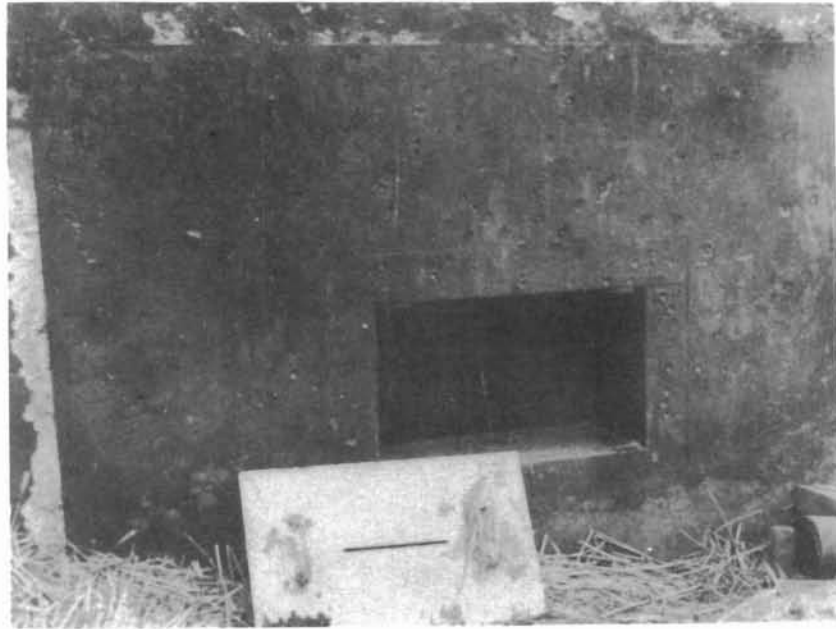
The men were also well prepared psychologically. They were inculcated with the necessity for high speed in advancing to the river, crossing, and attacking the fortifications. Many men testify that they remembered this when they attacked on 2 October, and double-timed through heavy artillery and mortar fire.

e. Intelligence prior to attack

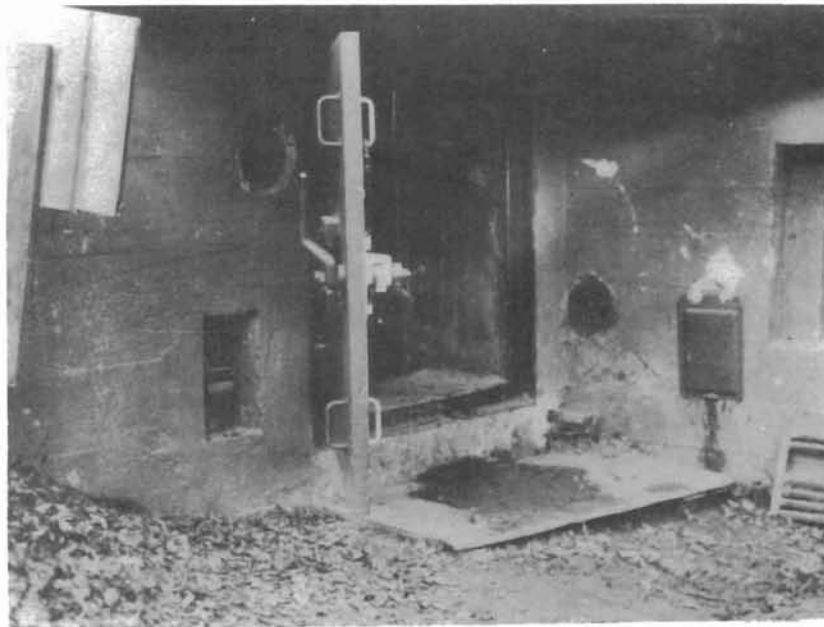
This was as complete and accurate as that furnished for the invasion landing on Omaha beach. All details of the pillboxes were known long before the first one was captured. Locations of 90% or more of the boxes were accurately plotted on the 1/25000 maps and special 1/11000 photomaps using 8 Sept 1944 cover. These latter were prepared by XIX Corps with the defense details overprinted on them and furnished to divisions long before the assault in such quantity (450 copies to the 30th Div) that each squad could have the sheet it needed. Not all the pillboxes were shown on regular maps, and maps of this sector (1/25000) are very inaccurate, particularly as to built-up areas, slag piles, borrow pits, and road nets.

These maps were supplemented by vertical and oblique photos (see appended photomap sheet) and numerous studies prepared by G-2 XIX Corps. The use of oblique photos was an important factor in the intelligence planning of the assault groups. These, together with verticals and actual terrain reconnaissance, enabled the troops to be thoroughly familiar with the zone of attack. Obliques frequently showed pillboxes which could not be detected in verticals.

# PILLBOXES SIEGFRIED LINE



Effect of small arms fire  
on firing embrasure



Door and rear entrance  
to typical pillbox

## INTERIORS OF PILLBOXES SIEGFRIED LINE



This is the telephone over  
which the record of German  
conversations was made



Typical sleeping quarters  
inside all pillboxes



### 3. NARRATIVE OF THE ATTACK

#### a. Artillery and Air Support

The artillery preparation for the XIX Corps assault on the Siegfried Line began on 26 September, when the 258th FA Bn, firing M-12 155mm SP guns, was given the mission of destroying all pillboxes which could be located on the 30th Div front. From 26 September to 2 October the battalion fired on a total of 45 pillboxes (all that were within its field of fire and observable) with varying success (see 4 b (1)).

The second phase in the artillery preparation was the "blackout" of the enemy's AA batteries. Over a period of 15 minutes just prior to the air strike a total of 51 different AA installations were fired on by XIX Corps Artillery, while VII Corps Artillery concentrated on another 49. This program was highly successful, since there was hardly any ack-ack reported over the target area and no planes were lost in the operation. The 30th Division Artillery participated in this "Blackout" of the AA guns which had been located and plotted by the Photo Intelligence Team and the Air O.P.'s of the Division.

The air-strike at H-120 was intended (1) to effect a saturation bombing of the breakthrough area and (2) to knock out by dive-bombing the pillboxes immediately facing the two assault regiments as well as (3) to knock out all reserves which could be used for immediate counterattack. For the 1st mission, however, IX Tactical Air Command was able to supply only nine groups of medium bombers (324 planes) while only two groups (72 planes) of fighter bombers were assigned to the second mission. From H-120 to H-hour there was a scattered overcast sky at the target. The medium bombers approached the target from the West, whereas the 30th Division had been advised that the bomb run would be made from the southwest and not over friendly troops. This conflict caused confusion among the mediums as they approached the target. As a result, only 4 groups of mediums dropped any bombs on the target area. The other 5 groups made wrong approaches and could not be corrected by ground contact. Consequently the medium bombing was almost a total failure, as all ground observers agreed. The two groups of fighter-bombers dropped their gasoline "jelly" bombs in close proximity to the pillboxes that were their target, when the waiting infantry of the 30th Division noticed them circling uncertainly and aided their aiming with red smoke laid on the exact targets by their artillery.

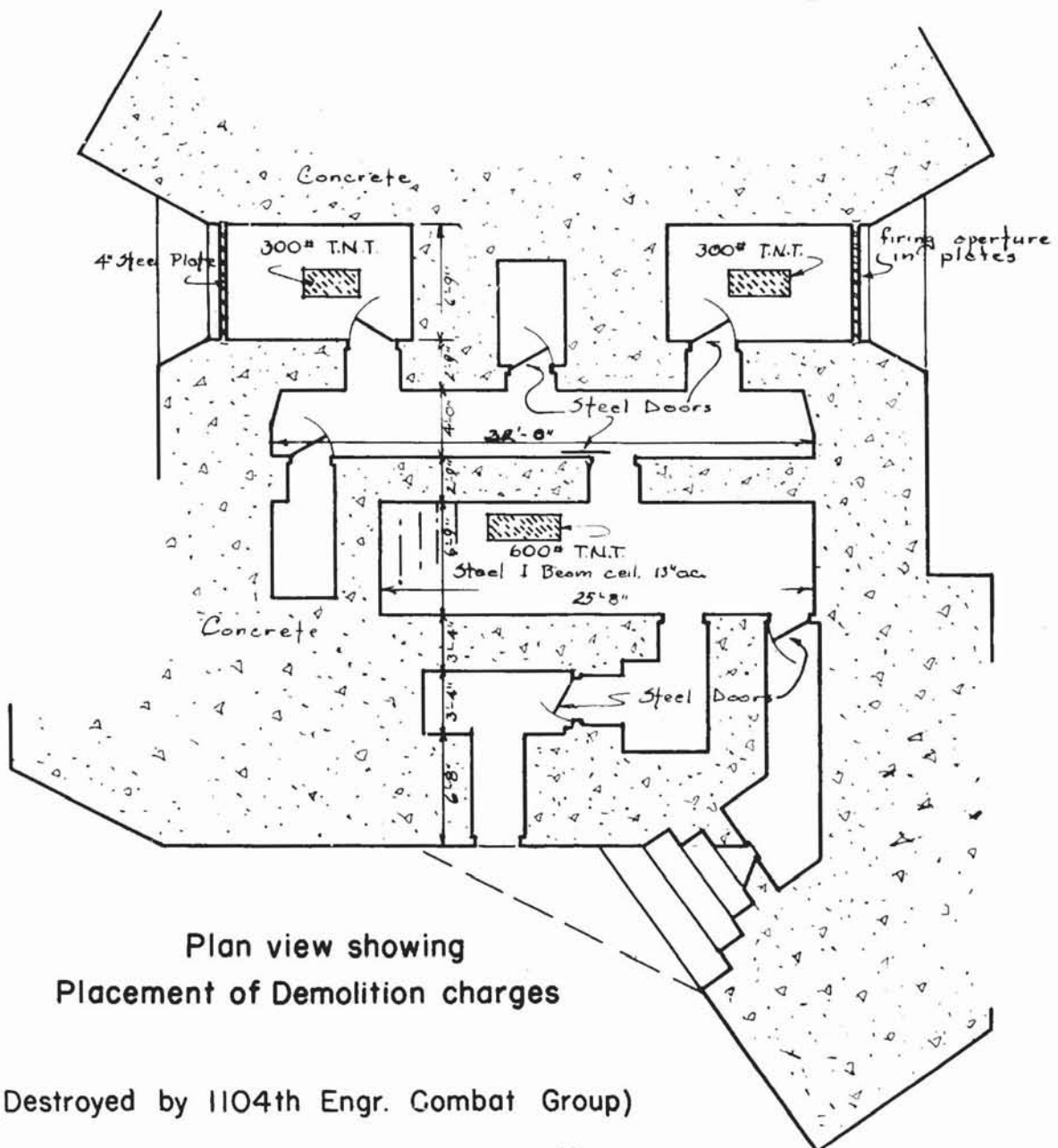
With the completion of the air strike at H-hour (1100), the two assault regiments, the 117th Infantry and the 119th Infantry attacked abreast. The 30th Division Artillery supported the attack with an elaborate program of prearranged fires. In this program the 4.2" mortars of the 92d Chemical Bn effectively cut wire and maintained a rolling barrage in front of the assaulting infantry. One of the main factors in the speed with which the 1st Battalion 117th Inf crossed the river and the railroad track, in addition to prior training, was the regimental plan for continuous use of all mortars until the last possible minute, and the shifting of mortar fire to the edges of the town when the battalions reduced the pillboxes. The 4.2" chemical mortars were assigned an area in front of both battalions with the mission of breaking all wire in the area, after which they took up a rolling barrage in front of the 1st Battalion. During this entire time the 81mm mortars of the entire regiment, employed in battalion batteries, fired on adjoining areas along the cliff on the north edge of PALENBURG. This continuous mortar fire, up to the time the boxes were reduced, absolutely prevented any outside assistance to the pillboxes. The regimental 81mm mortars of the 117th Infantry fired over 3000 rounds on the afternoon of the attack and a total of approximately 6000 rounds up to and including the capture of Alsdorf. The divisional artillery in the meantime neutralized likely assembly areas on the flanks and rear of the objective, being reinforced in this phase by battalions from both Corps and Army artillery. This program was greatly intensified over that originally planned, due to the fact that the air strike left most of the target area completely untouched.

The 30th Division Artillery plan virtually blanketed areas from which German fire could be brought to bear on the attacking infantry. 339 previously prepared concentrations were designated for use during the attack in addition to the 92d Chemical Bns 4.2" mortar barrages and other fires.

# DEMOLITION OF PILLBOXES SIEGFRIED LINE



Sketch of Pillbox  
Before Blowing



Plan view showing  
Placement of Demolition charges

(Destroyed by 1104th Engr. Combat Group)

## DESTRUCTION OF PILLBOXES SIEGFRIED LINE



This one by 400lbs.  
of T.N.T.



This one by bulldozing  
it underneath



Starting at H-hour, the XIX Corps artillery also fired approximately 50 counter-battery missions on enemy artillery locations which had been plotted and verified over the preceding five to six days. VII Corps artillery at the same time executed 31 counterbattery missions against batteries capable of firing into the 30th Div sector. In addition, several other counterbattery missions were fired on locations which were picked up subsequent to H-hour.

The AAA "blackout", the counterbattery program, and the neutralization of assembly areas were all greatly restricted due to ammunition shortage, as instead of firing five to six battalion volleys on each enemy battery location, it was only possible to put one or two volleys. The enemy's artillery fire was consequently not silenced, but was equally heavy in both the 117th and 119th sectors although the wooded terrain to the south made the enemy artillery in the 119th sector perhaps even more effective, due to tree bursts.

Summarized, the artillery with the XIX Corps fired 18,696 rounds of ammunition from 372 tubes between 0600 and 1800 on 2 October.

The total XIX Corps artillery that fired on the assault area was 24 battalions; these were divided as follows:

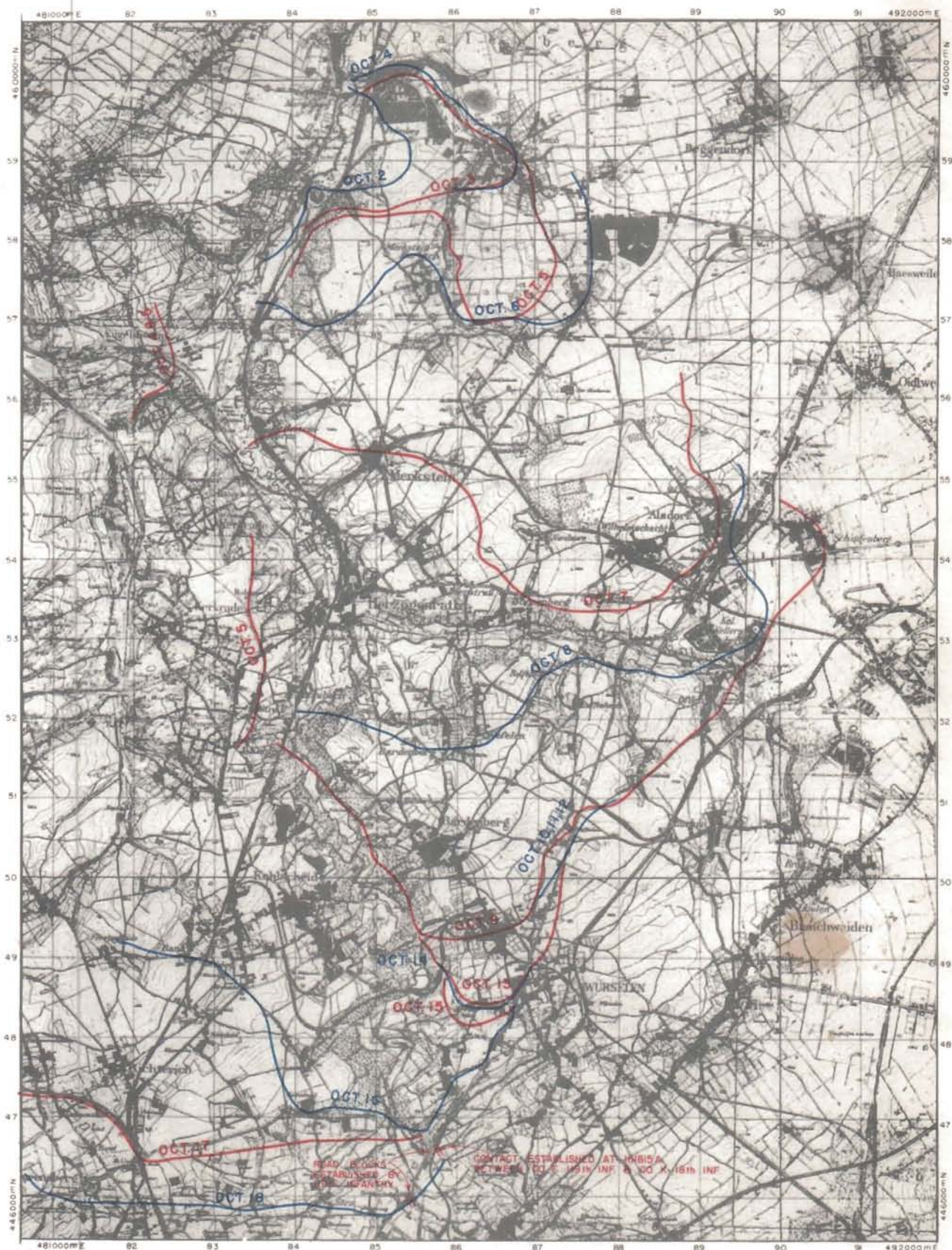
<u>Type</u>	<u>No of bns</u>
105mm Howitzer	11
155mm Howitzer	6
155mm Guns	3
8" Guns	1
240mm Howitzer	2
8" Howitzer	1
Total	24

b. The Infantry Assault

The assault of the 117th Inf was made at and just south of Marienberg. That of the 119th Inf was at and just south of Rimbürg. In the case of the 117th Infantry, the 1st Battalion spearheaded the attack and Company E was moved into position East of the Wurm River to protect the bridge site. Despite considerable small arms fire and heavy mortar and artillery fire, they pushed rapidly down the hill to the Wurm River. There footbridges, especially constructed by the 105th Engr C Bn, were thrown across in a matter of minutes, and the infantry streamed across. Then the first battalion went to work on the pillboxes. The second battalion moved out at 1430. Mortar and artillery fire was still heavy on the west side of the Wurm River, but the battalion maintained its momentum, quickly crossed the river, and began the assault of the pillboxes in its sector. By nightfall the first battalion had seized its objective, an area in and east of Palenberg. Together with the second battalion it had reduced 11 pillboxes, entirely without tank support. Co "I" was also pushed across the stream at the end of the afternoon. Casualties that day for the 117th Inf were 227, of which around 75% were caused by arty and mortars.

The 119th Infantry attacked at 1100 in a column of battalions, First Battalion leading followed by the 2d and 3d battalions. The 2d battalion was committed after the 1st battalion was held up. The thick woods on and in front of the steep slope that confronted the assault elements of the 119th Inf made impossible any observation of pillboxes or enemy movement within this area. The 155mm guns (self-propelled), used to demolish pillboxes in the sector of the 117th Inf and on the right flank of the 119th Inf sector, were unable to damage these in the woods. The effects of the jelly bombs were also negligible. No pillboxes were hit and the woods failed to burn because of the dampness and green nature of foliage and underbrush.

Artillery fire on the 1st Bn, 119th Inf, which attacked on the right, was relatively light initially, becoming heavier as attempts to assault the woods frontally were made. Artillery reaction on the 2d Bn in the vicinity of RIMBURG CASTLE and during the fight to the top of the ridge east of the castle was heavy and concentrated. Here, for a period of forty minutes, the enemy put over a battery concentration every five seconds. The enemy had direct observation of this area until several days later when the attack forced their OP's off the high ground to the



MAP SHOWING PROGRESS BY DAYS  
OF THE  
30TH INFANTRY DIVISION'S PENETRATION  
OF THE SIEGFRIED LINE  
DURING PERIOD 2 OCT TO 18 OCT 1944



north and south of the breakthrough. Attempts to install a treadway bridge over the Wurm River near the castle during daylight were rendered impossible by enemy artillery. The bridge was finally installed at night but was subsequently knocked out twice and damaged several times.

The mission of the 119th Inf in breaching the Siegfried Line soon boiled down to the job of effecting a penetration of the woods, and then cleaning out the enemy that remained in them. Two enemy machine gun companies initially manned the defenses in the greater part of the woods and throughout put up a determined stand. (These were reinforced later by another company when approximately half of the woods had been cleared.) Observed artillery fire and mortar fire could rarely be used against this defense because of the closeness of the opposing lines. After the castle at RIMBURG had been reduced by the 2d Bn, the 1st Bn effected a penetration to the northeastern edge of the woods. It then swung its attack to the southwest to mop up the defenders in the woods and destroy the pillboxes. The steep slope around each pillbox was honey-combed with communication trenches and machine gun emplacements. When any break in the underbrush permitted artillery or mortar fire and friendly troops were drawn back to permit this fire, the defenders would go into the pillboxes for protection and man their outside positions when the shelling lifted. Tanks and TD's could be used on only a few of these pillboxes because of the steep slope and thick woods. Flanking these positions by moving around on the open ridge above the woods was prevented by direct fire weapons firing from vicinity of MERKSTEIN HOFSTADT (K845570). Clearing of the woods was accomplished after severe close-in fighting with opposing lines rarely getting further apart than twenty-five to fifty yards.

The Wurm River proved a serious obstacle to the attached tanks of the 743 Tank Bn and the attached TD's of the 803 TD Bn. In an effort to expedite the crossing of the vehicles, both the 117th Infantry and the 119th Infantry had made arrangements to put in so-called "expedient bridges" which were to be rolled into place by a tank dozer. These bridges had been successfully employed in practice stream crossings. They were composed of several culverts reinforced and protected by a bundle of logs. The whole was mounted on a sled. The plan was to have a tank dozer push the sled into the water, doze the bank over the culvert, and repeat the performance on the far side. (See photo) However in both regimental sectors on the day of the attack either the tank dozer got stuck or the "expedient bridge" itself got stuck in the rain-soaked banks of the stream. In the 119th Infantry sector the 105 Engr C Bn got a treadway in about 1515 but on reaching the far side all but one platoon of tanks became mired in the boggy meadow. The 117th Infantry's treadway was completed by 1830 but its tanks and TD's crossed too late to take any part in the first days fighting. Both bridges were constructed under artillery and sniper fire. By the next morning, however, the 247th Engr C Bn and the 1104th Engr C Gp had installed a treadway at RIMBURG and a Bailey at MARIENBERG.

On 3 October the 117th Inf, aided by tanks of the 743d Tank Bn and Combat Command "B" (CCB) 2d Armored Div, widened its bridgehead and cleaned out the town of Ubach. The second battalion 119th Inf, cleaned out the enemy strong point at the castle and advanced to the eastern edge of the woods in the rear of the castle. The first battalion got across the railroad tracks in the wooded area of the castle and attacked south against the flanks of the pillboxes that were interdicting a direct advance east. Three of these pillboxes were captured without any tank support. Marshy terrain canalized tank movement and prevented their use in this maneuver.

✓ In the early morning of 4 October the enemy launched his first serious counterattacks, two against the 117th Inf and another against the 119th Inf. The first attack against 117th Infantry identified 1st Battalion, 352 Regiment, 246th German Infantry Division and 219th Engr Bn, 183d Division. The attack against 119th Infantry identified 2d Battalion, 149th Regiment, 49th Division. Not more than two companies were employed in these counterattacks, and they were repelled after a stiff fight. Our supporting artillery played a dominant role in breaking up these counterattacks. The 119th Inf was heavily engaged the rest of the day, however, and the 117th Inf had to beat off two more smaller counterattacks in the latter part of the afternoon. Ubach was the focal point of the operations this day.



CCB, 2d Armored Div, was passing through the town on its way east and northeast, while the second battalion, 119th Inf, and the 117th Inf were trying to organize attacks out of Ubach to the south. The enemy took advantage of this concentration to place the heaviest artillery fire on Ubach which our troops had ever received.

The following day, despite 99 counterbattery missions by the artillery, the hostile shelling was even more intense. The third battalion, 117th Inf, and the second battalion, 119th Inf, launched a coordinated tank-infantry attack south from Ubach. The former got held up by fire from a German cantonment on its left flank, but the latter reduced 11 pillboxes and reached the high ground east of Herbach. The other two battalions of the 119th Inf, still without tank support, made slow progress in cleaning out the woods facing the railroad tracks south of the castle.

CCB, 2d Armored Div outflanked and captured the pillboxes north of Palenberg on 5 Oct up to and including Frelenberg. In the face of strong anti-tank and artillery fire, other elements of CCB advanced northeast 2-2½ kms. CCA, 2d Armored Division, started coming across the Marienberg bridge at 1330 and holed up at dark one km east of Ubach.

On 5 Oct 1944, the 3d Battalion, 120th Infantry was attached to the 119th Inf and at 1530, 5 Oct 1944, crossed the Wurm River in the vicinity of Rimbürg with the mission of attacking south in the gap between the 1st and 2d Battalions, and seizing the high ground south of Herbach. When leading elements of this battalion advanced to the line held by the 2d Battalion 119th Infantry, the battalion was ordered to make contact with adjacent units and consolidate positions for the night. Main enemy opposition after the battalion attacked at 1530, 5 October 1944, consisted of heavy artillery concentrations, coming from the east and small arms and 75mm direct fire from the vicinity of Herbach.

On 6 Oct, the battalion continued the attack to its objective. Prior to "H" hour, an enemy column of 80-100 infantry was observed to the front of this battalion and was dispersed by artillery and MG fire. On 7 Oct, this battalion was ordered to seize an objective 500 yds east of Herzogenrath. The route of this attack was generally cross-country. Direct fire coming from the vicinity of Herbach was reduced when artillery fired upon and forced the crews of two German 75mm AT guns to surrender.

The enemy defending in the open ground around the perimeter of the pillboxes attempted to withdraw when our tanks appeared but were kept in their foxholes by artillery time fire. 386 PW's were taken, and many were found dead in their foxholes due to time fire. Enemy in pillboxes in the vicinity of K849583, which was used as an OP, evacuated the pillbox and surrendered when the tanks approached. Pillboxes in the vicinity of K8754 delivered heavy MG fire, but the occupants of this pillbox surrendered when tanks fired 75mm guns into embrasures and the infantry began to close in.

It was noted that OP's and foxholes in open country were camouflaged with straw to resemble small haystacks. One enemy company commander occupied a position similar to this. Pillboxes with steel cupolas were apparently used principally as CP's with the aid of a very good periscope. Ports in cupolas make 360° fire possible for weapons as big as Model MG 42. PW's taken in the vicinity of Wurselen stated that 50% of the personnel had AT bazookas of smaller type. No AP mines were encountered. AT mines were not used extensively, except in the vicinity of Herzogenrath where they had been sown in great profusion.

The 120th Infantry Regiment, less the 3d Battalion in division reserve, aided the penetration by making feint attacks, and by seizing the populated area of Kerkrade west of the Wurm River, immediately south of the point of actual penetration by the 117th and 119th Infantry Regiments.

Operations on 6 October ended all German hopes of holding the Siegfried Line in the XIX Corps sector. At 0700 the enemy launched its strongest counter-attack against our forces, employing a maximum of two battalions, 4 assault guns, 2 tanks, and heavy artillery and mortar fire. The counterattack recaptured 4 pillboxes, forced the second battalion of the 119th Infantry to withdraw 800 yards, and caused considerable casualties before it was stopped. The lost ground, however,

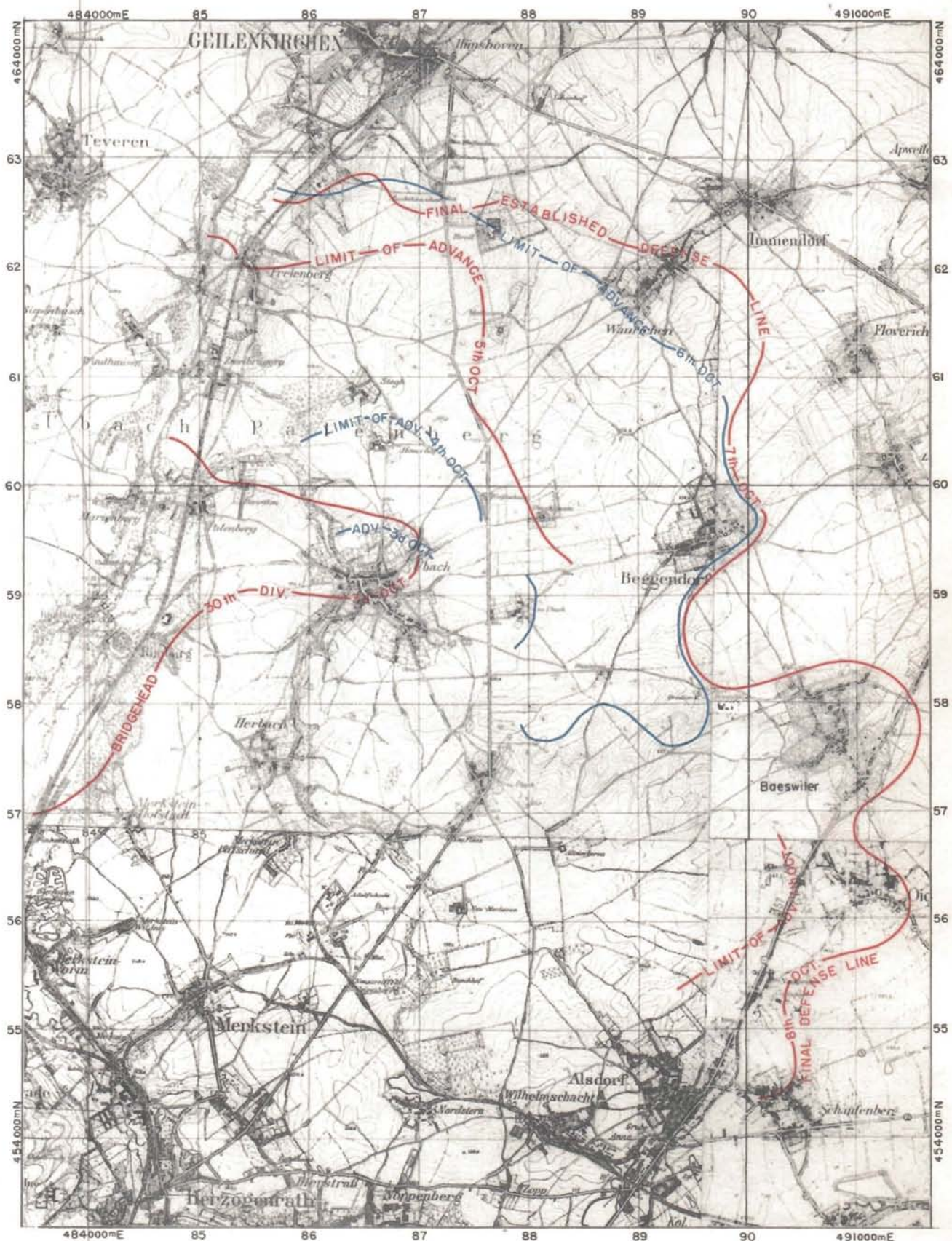
SIEGFRIED LINE  
AFTER OUR ATTACK



(US 33/721) 29 OCT 44 (F/24)//67T/RGP 1130

THIS WAS TAKEN 29 OCTOBER.  
NOTE THE BATTLE SCARS WHEN  
COMPARED WITH THE PHOTOS  
TAKEN 28 SEPTEMBER.





was regained by nightfall, and the third battalion of the 117th Infantry on the 30th Division's left pushed down to zu Ubach. In the meantime, the first and third battalions of the 119th Infantry with tank support cleaned out the remaining pillboxes in the woods south of the Rimbürg castle. The enemy's efforts to check the penetration had definitely crumbled.

By 16 October the 30th Division had rolled up the Siegfried Line from north to south and it and the 2d Armored Division had completely destroyed the pillboxes along a 14 mile front, and penetrated 6 miles through the line.

c. The Armored Assault.

The shock action provided by the entry of the tanks into the battle played a dominant role in securing and holding the north half of the penetration and bridgehead in the Line. The German will to fight was appreciably affected by the penetration of tanks into the rear zones of the line.

The speed of the armored follow-up of the original infantry penetration and its immediate attack was unusual and extremely effective. The date lines of advance of the 2d Armored Division as shown on the sketch included herewith, indicate the extent of the original infantry penetration which the 2d Armored Division had available for deployment East of the Wurm River on 3 October. Due to factors other than enemy action, the advance N and E was halted on 7 October and attention was shifted S.

On 2 October CCB was alerted for movement on 30 minutes notice. At 1700A it was released from the 30 minute alert until 030500A as the bridging of the Wurm River did not then permit crossing. At 1300 on 3 October Task Force 2 (41st Armd Inf Regt - 3d Bn and one Co each 1st and 2d Bn; 2d Bn 67th Armd Regt with one Co. 1st Bn 41st AIR atchd; Co. C 17th Armd Engr Bn and one Platoon Co. B 702d TD Bn) started moving across the bridge on the Palenberg-Ubach road. In the late afternoon the 2d Bn 67th AR (-) (reinf) attacked through Ubach against strong German AT and artillery fire, secured the balance of the town, and occupied positions on the northern edge. Task Force One followed TF 2 the next day.

Tank losses by CCB from enemy action Oct 1-10 were 52 as shown below:

Type	Date - October							Total
	4	5	6	7	8	9		
Tanks light )								
Tanks medium ) total loss	1	6	5				3	
							9	
Tanks light )								
Tanks medium ) Repairable	3	10	13	12	1	1	6	
							34	
Tank destroyer, M-10	1	3					4	

Personnel losses October 1-10 were 29 officers and 309 enlisted men.

German prisoners October 1-10 taken by CCB were 984; an estimated 690 more were killed. 3 tanks, 7 towed AT guns, 14 SP AT guns, 3 ammunition carriers and 2 half tracks (Personnel carriers) were destroyed. 107 pillboxes were captured, of which 64 were destroyed -- the rest were used by CCB as CP's and personnel shelters.

The technique used most frequently to attack pillboxes was to concentrate heavy MG fire with an occasional round from the 75mm or 76mm tank gun at the pillbox firing port with a section of tanks. The remainder of the tanks fired on other pillboxes in the vicinity and various prominent features and entrenchments which threatened those working on the pillbox. Under cover of this fire the tank dozer moved in and sealed up the ports and doors of the pillbox. Another successful method was smoking the pillbox and moving in the tank dozer while other tanks covered boxes in the vicinity; the tank dozer, however, because of difficulty of observing his own work in the smoke, at times did not completely seal the ports.

An important lesson relearned was that artillery fire, as a rule, had little effect on tanks. A few tanks, however, were damaged slightly as a result of direct hits on critical points such as turret race or gun mantle.

d. German Reaction to Breakthrough.

The attack started on 2 October. The 30th Infantry Division established contact with the 1st Infantry Division Northeast of Aachen on 16 October. In those two weeks the German reaction to our breakthrough and rolling up of the Siegfried Line was interesting, illuminating and ineffective.

Sometime prior to the attack here, German first priority for mobile reserves was given to the Metz-Nancy area; when the Airborne landings and British 2d Army thrust northward across the Rhine River at Arnhem and Nijmegen took place, that area took over number one priority; when our breakthrough materialized, it caused highest priority to be transferred to us. (For details see Table of German Reaction to Our Breakthrough in Appendix a.)

Summarized, in two weeks the Germans were able to rally only approximately 20 equivalent battalions to try to throw us back or contain us. To do this they had to go 100 miles north (2 Pz Div from North Holland; 116 Pz Div, 506 GHQ Tk Bn, and 108 Pz Brig from Nijmegen-Arnhem) and 250 miles south (Mobile Regt von Fritschen from Luxembourg; CT "Rink" of the 1st SS and the "Trier" Volks Gren Regt from Trier; and the 3d Pz Gren Div from the Belfort Gap). Such extreme distances for so few mobile counterattacking reserves speak eloquently of the thin crust that now comprises the western defenders of Germany. It is likewise significant that even these exertions were wasted by their piecemeal commitment of units as they arrived. No greater thrust reached us than 2 Bns of Infantry.

A major reason for the failure of all German efforts was our superb artillery at all times, and, when light and the weather permitted, excellent fighter-bomber air support. On a number of occasions, counterattacks were broken up by both methods before they got under way.

Another reason probably stemmed from the German lack of staff cohesion in the units then opposite us. The Divisions were hardly more than groups of Bns coming under the control of a staff carrying a Div number. No staff coordination or cooperation even on a Regimental, much less Div or Corps, scale had ever been achieved. The more than 600,000 PW's already taken by the Allied Armies in the West since 6 June caused far reaching effects, and the shortage of trained combat leaders and of Divisional and higher staffs was evident.

4. PILLBOX REDUCTION

a. General

The pillboxes were admirably sited to take full advantage of the defensive potential of the terrain. Their reduction, however, and the surrender of their occupants was realized through a variety of very simple but militarily sound methods. The elaborate, concrete strongpoint reduction technique as used on the Atlantic Wall and as taught at the Engineer and Infantry schools in the United States was neither used nor applicable. In reducing the pillboxes small arms fire through the embrasures played an important part.

German instructions for using the pillbox called for most of the personnel remaining outside in firing positions around the pillboxes. Only 30 or 40 percent of the pillbox complement would be permitted to remain inside the box; the box normally fired in only one direction and was dependent upon protection by adjacent boxes; neutralizing these adjacent boxes with direct artillery, tank and small arms fire permitted assaulting infantry to work around to the rear, unprotected entrance to the pillbox. If the pillbox personnel did not surrender by this time a bazooka or tank shell through the rear door would normally clinch the argument.

Once the 30th Division was through the pillbox line at Palembang - Ubach it turned south. This rolled the pillbox line up from its north flank and rear.

Virtually as many methods were used as units engaged. All were simple and involved the same basic principle of a straight infantry assault on any small defended knoll. The most effective was probably the infantry platoon supported by 3, or 4 tanks working closely together with no special equipment other than a bazooka.

"We trained according to the War Department principles, which call for placing small arms on the apertures, working men up close




to use bangalores to blow wire, cook 'em with flame throwers, and then place charges against the pillbox itself. We kept small arms on the apertures. We did not use the flame-throwers at all, but found that bazookas were highly effective at 100-yard range. It was the bazookas more than anything else that reduced the pillboxes."

-Captain Richard J. Wood, S-3, 2d Bn, 117th Inf Regt.

"The careful training had little relation to the actual way in which the pillboxes were reduced."

-Major Ben T. Ammons, CO, 2d Bn, 117th Inf Regt and  
-Captain Richard J. Wood, S-3, 2d Bn, 117th Inf Regt.

"Some pillboxes of course were tougher than others. But generally they were not as hard to reduce as was foreseen. They were in clusters, all inter-supporting and sited to cover each other by fire. But due to the limited traverse of their fields of fire, there seemed to always be one at least in a group, which, if reduced, permitted our men to start a circuit of the remaining pillboxes, using approaches to each succeeding one that could not be covered by fire of the remaining ones. The problem of course, was to discover the key pillbox to each cluster." 

-Report of G-2, 30th Division.

b. Methods and Effectiveness of:

(1) Artillery

The effect of direct artillery hits on the pillboxes, except the 155mm SP gun and possibly heavier calibers, was not sufficient to destroy the box or prevent its future use. The concussion by a direct hit certainly discouraged not too strong-hearted defenders. The 57mm anti-tank gun, 75mm and 105mm were, except for direct hits in the embrasures itself, ineffective. They could remove the camouflage but little else. The 155mm howitzer required an uneconomical number of rounds to secure direct hits. The 155mm SP guns at ranges between 2000 and 4000 yards with a concrete bursting fuze penetrated the 6 feet of reinforced concrete with 3 to 5 hits. The 8 inch howitzers at 8000 yards could average a direct hit per 5 rounds, and penetrate after 5 hits.

The major contribution of the artillery fire was to drive external defenders inside, and to force defenders inside to come out and surrender after direct hits were secured.

"For nearly a week prior to our unit's crossing we manned static OP's and did considerable firing on pill boxes; the effect was almost negligible.....At one time a self-propelled 155mm gun was pulled up at the OP I was on and fired direct at a range of approximately 1500 yards. In 12 rounds fired he scored 7 hits. The only effect on the pillbox was about 4 feet of concrete removed and some dirt off the top. The enemy inside was probably shaken up by the impact but otherwise unhurt."

-2d Lt. E. Robinson, F.O. with B Co., 117th Infantry

"Our experience in the attack demonstrated that light artillery is almost worthless as far as destroying pillboxes even with concrete piercing fuzes; however in most cases it can be effectively used in cooperation with medium or heavy caliber artillery. We fired on suspected locations several times and knocked the camouflage material off exposing the pillbox for adjustment by heavy artillery. Another very effective system we used was to adjust on boxes and stay laid on them while the heavies or mediums fired on them. When the heavier artillery hit a box, the survivors (if any) often ran out of the box in an attempt to get away. We would then fire on them and the effect was usually very gratifying."

-Capt. Harley M. Force, Jr., 197th F.A. Battalion

"We have found that TD and 105mm projectiles bounce off of the pillboxes. They will rupture or penetrate when they hit in the embrasures. The 155 howitzer, using a CBF, will rupture and penetrate when an actual hit is made but on account of dispersion this requires about 25 to 30 rounds. Using the 155 SPCPF at ranges between 2000 and 4000 yards, a penetration is secured. Under 2000 yards the projectile disintegrates upon striking this concrete surface. Above 2000 yards using the CBF with 3 to 5 rounds we have penetrated six feet reinforced concrete. The M1-155 like the 155 howitzer has too much dispersion nor can it be brought sufficiently close up. The 8 inch howitzer is the best weapon we have to bust the pill boxes, when used at about 8000 yards. Below that range it has too much dispersion. A direct hit will disintegrate a pill box. It has taken an average of about 5 rounds to obtain a hit. In all cases the dirt has to be knocked off the pill box before it can be successfully engaged. We use 105 and 155 howitzers with HE delayed fuze for this purpose."

-Col. Otto Ellis, Executive Officer 30th Div. Arty.

"As an example of the ineffectiveness of artillery fire on the pillboxes, an M7 was brought up within 1000 yards of a pillbox and 24 hits were scored, none of which penetrated. Some smoke was seen emanating from the rear of the pillbox after one shot. The M7 then pulled out and an M12 (155mm SP) was brought up and seven hits were scored. One of these seven resulted in smoke coming out of the rear of the pillbox. One and a half hours later, the 197th Field Artillery Battalion was called upon to fire on the same pillbox because ten Germans had come out and were standing in the open."

-Lt. Col. D.V. Bennett, Bn Comdr, 62d Armd F.A. Bn.

"Shooting at a 700-yard range on 2 October, hits from an M12 knocked concrete off the pillbox, but did no other visible damage."

-Lt. Arthur G. Keller, platoon leader of 2d platoon, B Battery, 258th F.A. Bn, (155mm SP, M12)

"43 (pillboxes) were attacked by short range M12 fire, 1 by direct fire. M12 adjusted using fuze delay, switching to T105 fuze on obtaining the first target shot. Evidence of penetration was obtained on all targets."

-Lt. Col. Bradford Butler, Jr., 258th F.A. Bn.  
(155mm, SP, M12)

"Artillery fire succeeded in the first step of the reduction of the pillbox, namely, to force the personnel from the supporting gun positions into the pillbox. This fire kept the personnel there while the tanks moved up to deliver close range fire, 30 to 50 yards in some cases. This blinded the pillbox so infantry could close in on the blind side."

-2d Armored Division

"Due to heavy artillery fire, the infantry was unable to move with the tanks. Consequently we had to have a thorough

artillery concentration (preparation) both before and during the time that the tanks moved in on the pillboxes. The preparation was on the dug-in positions so as to pin the enemy down, enabling the tanks to move without danger of "bazooka" fire. We found that time fire was most effective.

-Hq. 2d Bn, 67th Armd Regt.

## (2) Air

Very little of the saturation bombing landed in the target area. Thus, no pillbox is known to have been affected by the air strike. PW's taken later stated that some of them had been asleep in pillboxes during the air strike and did not know the air strike had taken place. However, fire bombs dropped on pillboxes on the north flank were very effective on personnel dug in supporting the concrete installations. In the weeds to the south the fire bombs' effect was negligible due to the dampness of the ground and the fact that the foliage and underbrush was still green. From October 2 to October 25, 41 missions of close support were flown in the Division zone. Five enemy counterattacks were hit by air support, some of which were within 200 yards of front line troops. On 11 October, 14 squadrons were used to help break up a reported 50 tanks and considerable infantry in the Wurselen area.

"The saturation bombing on 2 October prior to the attack did no good. However two groups of medium bombers who came in late, seeing the red smoke marking in Palenberg for the dive bombers, came in and bombed, this with the operations of the dive bombers produced good results in Palenberg. According to PW's statements the personnel under cover were unhurt."

-Lt. Col. W.M. Johnson, Commanding 117th Inf., 30th Div.

"Having contacted many of our own personnel as to their findings and from information obtained from PW's it is the consensus that the air strike, preceding our attack on the morning of 2 October, was absolutely ineffective. PW's state that some who were asleep in pillboxes did not know the air had bombed."

-Lt. Col. H. E. Hassenfelt, G-3, 30th Division

"The air strike did not hit any of the pillboxes in the 117th sector. Palenberg was bombed quite effectively, but the net advantage of the strike was very little."

-Lt. Col. Robert E. Frankland, CO, 1st Bn, 117th Inf. Regt.

## (3) Demolition charges

In general these were not used as the pillbox personnel surrendered before demolition was necessary. However, 26 three-and-four man demolition teams were attached to the infantry assault troops. These men carried bangalore torpedoes and satchel charges and aided the infantry by demolition work and checking for mines.

"Pole charges which can be carried by assault platoons cannot destroy a pillbox but may blow in the rear door or the armored shield of the gun embrasure."

- Report of the 30th Infantry Division

"In the assault of pillboxes the engineers were employed with bangalore torpedoes and pole charges with the assault platoon. The use of such charges was not found necessary if the tanks could fire into the rear door."

-Report of the 30th Infantry Division

(4) Bazookas

These were found highly effective in direct fire at the pillbox embrasures and for penetrating rear doors.

"We found that bazookas were highly effective at 100-yard range. When we fired bazookas on one pillbox, the occupants ran out from the gun section to the living quarters and then were apparently too scared to return. It was the bazookas more than anything else that reduced the pillboxes."

-Capt. Richard J. Wood, 2d Battalion, 117th Infantry

(5) Direct Small Arms Fire

This was used considerably and proved extremely effective. Many PW's stated that opening the firing embrasure immediately resulted in the man attempting to fire through it being killed by accurate small arms fire.

"By aiming for the embrasures heavy machine guns were able to keep the enemy down and also hit some between the eyes, as did the riflemen."

-Lt. Col. Robert E. Frankland, 1st Bn., 117th Inf. Regt.

"An officer PW stated that every time an embrasure was opened to fire MG's, the gunner got shot so they had to keep ports closed; that our use of pole charges and tactics of sneaking in behind pillboxes to attack and our method of reducing pillboxes and delivery of small arms fire is excellent."

-Lt. Col W.M. Johnson, Commanding 117th Inf., 30th Div.

"Officer PW's expressed amazement at the accuracy of our riflemen in the manner in which enemy soldiers and weapons were picked off thru the pillbox apertures by our riflemen."

-Lt. Kline, IPW Team, 30th Inf. Div.

(6) Bull and Tank Dozers

In some instances, particularly when the pillboxes were on flat or gently sloping ground, the rear door of the pillbox was sealed by a jeep-towed arc-welder; then both the rear entrance and firing aperture were completely covered with earth by either a bull or tank dozer. German PW's taken have expressed their fear of being buried alive after seeing and hearing of this technique. Pillboxes were also destroyed by demolitions after capture to deny their use to the enemy in the event of a successful counterattack.

"Tank dozers covered embrasures and entrances in the instances where these were low enough to the ground."

-Lt. Col. Charles G. Rau, 7th Armd Gp, reporting on statements of 743d Tank Battalion Commander.

"We seal the pillboxes with the tank dozer only as a temporary measure. Our engineers follow us up and weld the doors

shut. We found that dozing alone is ineffective, as is the method of blowing the handles off the doors. The tank dozer always drew unusually heavy enemy fire and was put out of action three times during the operation."

-Lt. Col. J. E. Wynne, 67th Armored Regiment

(7) Flame-thrower

In general flame-throwers were not used. Testing the flame-thrower however, within view of some pillboxes made the subsequent encirclement by the infantry immediately followed by the capitulation of the box.

"We have had no occasion to use (flame throwers) against pillboxes as the Germans defend mostly from the trenches on the outside. Yesterday we had captured a pillbox (and) by operating the flame throwers through the embrasure and around the corners we cleared out the fire trenches."

-Capt. Wayne, Exec. Officer, 1st Bn, 119th Inf.

"In the case of one pillbox in each of the two assault company sectors, flame-throwers proved the most persuasive tool in forcing the crew to capitulate."

-Lt. Col. Robert E. Frankland, CO, 1st Bn, 117th Inf Regt.

(8) Satchel Charges

As obvious from the above discussion, these were unnecessary.

"Satchel charges did not prove of value; in one instance we placed a 25-pound charge against the rear door of a pillbox and it hardly blew the door out of line."

-Maj. B. Emmons, 2d Bn, 117th Inf Regt.

(9) Tanks

Tank fire to reduce a pillbox was wasted ammunition except for using it as cover fire for attacking infantry and engineers. The tanks were of a great value in neutralizing adjacent pillboxes and closing with the pillboxes was a great inducement to surrender. As stated in the narrative of the attack above (par 3c), the first day's operations were entirely infantry and engineer assault; thereafter tanks assisted materially in the reduction of most of the pillboxes.

"In areas where there is not a concentration of pillboxes we found that you can with reasonable safety, outflank the pillbox. This is the fastest method and we used the following system. One assault platoon concentrates its fire on the pillbox and the other platoon covers them. In the assaulting platoon, one section concentrates heavy fire on the ports and the other section moves around to the rear flanks of the pillbox and lays heavy fire in the back of the pillbox. Generally, this forces a quick surrender."

-Hq., 2d Bn., 67th Armored Regiment

"The tanks, firing 76mm ammunition, would engage the pillboxes from the embrasures and blind sides. The 76mm gun blasted holes through the steel doors, causing casualties to any enemy inside the boxes."

-2d Lt. Jack Bennett, F Co., 41st Armored Inf. Regt.

"An artillery concentration on and around pillbox drove enemy bazooka teams into pillbox. The tanks deployed



## STREAM CROSSINGS SIEGFRIED LINE



Tank bridge expedient  
This failed due to boggy-ness of  
terrain near the river bank



Typical view—Wurm River

## ANTI-TANK DITCHES SIEGFRIED LINE



Incompleted anti-tank ditch



Typical anti-tank ditch

on line, with infantry following, then fired A.P. ammunition at pillboxes. Tanks lifted fire and then the infantry surrounded pillboxes and drove out prisoners."

-1st Lt. Mike Levitsky, A Co., 41st Armored Inf. Regt.

"The effort to reduce these pillboxes, which had concrete walls 6 or 7 feet thick, by fire of tanks and assault guns was a waste of ammunition unless the morale of the occupants was initially low. However, as covering fire for infantry and engineers in their approach for an assault, the tank fire was very effective in preventing the enemy in the pillboxes from firing."

-Lt. Col. Charles G. Rau, 7th Armad Gp, reporting on statements of 743d Tank Battalion Commander.

"When tanks operated with infantry, the tanks would lay down a base of fire with 75 APC and machine gun fire and the accompanying 105mm assault tank of the assault gun platoon would fire 105 HE with T105 concrete smashing fuze. This fire would continue on the embasures until the enemy came out or until the infantry was within 50 yards of the box, then the tanks fired only .30 caliber machine gun fire until the infantry were within 25 yards of the pillbox, when the tank fire would cease and the tanks maneuver on beyond the box to protect the assault units as they assaulted the box."

-Lt. Col. William D. Duncan, 743d Tank Battalion

#### 5. DETAILS OF DEFENSES

##### a. Wurm River

This swift flowing 30 feet wide, 3 feet deep stream had 4 to 6 feet steep banks and boggy, wet shoulders. The improvised assault bridge ladder got the infantry across it very fast. Some tanks did succeed in crossing the first day but boggy ground and wooded areas prevented their employment until the next day. The river was a definite obstacle to all mechanization. By the second day, however, the engineers had six bridges across the river and it ceased being an effective obstacle.

##### b. Railroad

The cut and fill portion of the railroad was an effective anti-tank barrier. Even its flat portions however, were a difficult infantry barrier as it gave perfect fields of fire particularly for machine guns.

##### c. Anti-tank Obstacles

Anti-tank ditches were incomplete and not extensive. They were flanked without too great difficulty. No dragons teeth or other type of anti-tank obstacles were in the assault area.

##### d. Minefields

Mines were not a serious problem except in the Herzogenrath area. All roads, important crossroads and bridge approaches were mined, but standard engineer techniques quickly eliminated these. The loss of only one tank to a tank mine was reported; anti-personnel mine fields caused no real damage or delay.

##### e. Pillboxes

Details of the construction, location and employment of pillboxes are contained in the photographs, sketches, maps and charts accompanying this study.

##### f. Counterattacks

German counterattacks were usually from Company to Battalion strength supported by 4 to 6 tanks. These were generally launched just before dark or just prior to daylight. One such counterattack succeeded in retaking approximately 800 yards. The major counterattacking weapon that caused the most difficulties was the

concentrated German artillery fire that fell in the bridgehead area on the 2d, 3d, and 4th days of the attack. (See Appendix a. on German reaction)

6. CONCLUSIONS

a. Siegfried Line as a Defensive Barrier

The greatest power of the Siegfried Line as a defensive barrier was its psychological effect on both the German defenders and our attackers.

b. Pillboxes as a Technique of Defense

The Siegfried Line pillboxes as here constructed were premised on already outdated methods of defense. They merely provided protection from air and artillery bombing for a limited number of infantry support weapons. Unless supplemented by the much more important mobile, aggressive defenders, pillboxes are doomed to the same fate as those in our sector. One battalion commander who assaulted this area evaluates them as adding 15 percent to the defensive potential of the terrain. He gives dug-in tanks and assault guns an efficiency rating of 40 percent increase in defensive efficiency. The dug-in self-propelled weapons were far more trouble than the pillboxes.

The most important disability of a pillbox is thought to be the mental attitude the occupant thereof develops. Such construction is ineffective, psychologically debilitating, and a misleading, inadequate substitution for an aggressive field trained army.

c. Air Strikes in Close Support

All our previous experience with saturation bombing or medium bomber strikes in close support of ground action has led to the same conclusion this present effort certainly indicates, namely, that the present techniques being employed are obviously unable to apply this strategic weapon in a close-in tactical manner. It is, believed, nevertheless, that this can successfully be done. To do so, however, in this war would take certain simple albeit radical changes in technique. Until those changes have been made however, saturation bombing of close-in areas is not considered practical or possible.

On the other hand, the close-in support previously and here given by fighter bombers has been extremely flexible, sensitive to rapidly changing conditions, and outstandingly effective.

d. Best Technique for Pillbox Reduction

One platoon of infantry; tanks; good artillery liaison; accurate and thorough briefing of assault troops.

e. Lessons Learned

The successful assault on and penetration completely through the concrete pillbox portion of the Siegfried Line is a great tribute to the aggressive attacking ability of the American infantry and armored soldier. It is likewise another proof of the well known military principle, that no defensive barrier is any better than the troops that defend it.

Whether or not the Siegfried Line could have been held against us if the Germans had been able to defend it in the manner in which it was designed to be defended will happily be only a historian's conjecture. The incontrovertible truth is that American infantry successfully penetrated the line in the present circumstances. What is now left of the pillboxes that constituted the line in the Corps sector is today insufficient to support even GI Joe's skinny laundry.

*T. L. Crystal Jr.*  
THOMAS L. CRYSTAL JR  
Lt. Col., G. S. C.  
Asst. G-2

APPROVED:

H. E. MAGUIRE  
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## A P P E N D I C E S

- a. Table of German reaction to our breakthrough.
- b. Tables of German PW's taken daily October 2-16.
- c. Narrative accounts by representative units  
    117th Inf  
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    Siegfried Line pillboxes during assault.
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TABLE OF GERMAN REACTION TO OUR BREAKTHROUGH

The Germans reacted to our attack on and breakthrough the Siegfried Line as shown below. Our attack started on 2 Oct 44, which for the purpose of showing time lag between attack and arrival of reinforcements opposite us, is here called "S Day."

Date	Event	Approximate Distance in Miles	From	Nominal No of Bns Involved
S-Day (2 Oct)	30th Div launches attack and penetrates Siegfried Line vic Palenberg-Ubach			
S / 1 (3 Oct)	Local reserves of 49th and 183d Divs drawn from both N & S; under Bn strength; some vacate pillboxes to counterattack.	2 - 5		
S / 2 (4 Oct)	246th Div moves from VII Corps sector to counterattack with 1 - 2 Bns	15	Aachen	6
S / 2 & S / 3 (4-5 Oct)	German arty fires greatest concentrations yet received in this problem.		NE, E, SE	
S / 4 (6 Oct)	49th Div counterattacks with 2 Bns reinforced. All local reserves committed.	2 - 5		2
S / 5 (7 Oct)	One Bn of 12th Div moved from VII Corps front by trucks to vic Geilenkirchen	25	Aachen	1
S / 6 (8 Oct)	Mobile Regt von Fritschen arrives; counterattacks with 2 Bns, 3d Bn trying to contain our advance.	100	Luxembourg	3
S / 8 (10 Oct)	108 Pz Brig (1 Bn inf and 1 Bn tanks) identified from British front - this unit never counterattacked.	80	Nijmegen	2
S / 9 (11 Oct)	116th Pz Div (all save tanks)	90	N of Nijmegen	4 / (Weak)
S / 10 (12 Oct)	506th GHQ Tank Bn 1st SS Pz elements 2d Pz elements	100 50 ?	Arnhem Trier (Inside Germany)	1 2 1
S / 12 (14 Oct)	3d Pz Gren Div	250	Belfort	6
S / 14 (16 Oct)	246th Volksgrenadier Regt	50	Trier	1

An analysis of the above record shows:

(1) Initial reaction to penetration was immediate piecemeal counterattacks. This is standard German practice forced on them by lack of adequate mobile reserves.

(2) Maximum counterattack strength achieved in first two weeks of our breakthrough was 2 Bns of infantry reinforced; approximately 20 counterattacks in all.

(3) Mobile reserves were pulled from other sectors with extreme distances 100 miles north (ARNHEM) and 250 miles south (BELFORT).

(4) Five Fortress MG Bns specifically designed to man the pillboxes of the Siegfried Line were encountered; they were composed mainly of 40-50 year olds (Landsturm), who could be used effectively in this role.

(5) No tank unit was ever committed as such against us; small groups (5-10) only have been met.

(6) All German counter-measures were inadequate to contain or repel our attack.

The chart below shows the Order of Battle of the German Army opposite XIX Corps as known on 10 Oct. 44.

Divisions	Regts.	No. of Bns.	Remarks
Erdmann	—	4-6	Erdmann Division is a Para div, composed of former GAF personnel, fighting as infantry. Divisional boundary as indicated has not been definitely established.
176	—	8-9	Administrative and Training staff from Munster Service Command, Cologne area. Composed of odd training bns and the 22 GAF Regt. First identified early in September.
183	330 343 351	8	Ex-Russia Division, reformed in Austria this summer. Personnel mostly fresh recruits, called "Volksgranadiers" to bolster their morale. Arrive this front 18 September. Div controls a NCO bn from a school at Julich.
246	352 404 689	7	Ex-Russia Division, reformed near Prague in August and September. Composed partly of former Navy and GAF personnel. Committed near Aachen on 30 September, and shifted to XIX Corps sector 3-4 Oct.
49	148 149 150?	6	Division returned from the Battle of France. Reformed from Stragglers, L of C troops, etc. 150th Regt not recently identified, and not included in Bn total.
12	27 48 89	9	Ex-Russia Division, reformed in Germany this summer. One Bn (1st Bn, 48th) identified in XIX Corps sector vic Geilenkirchen. Div arrived Aachen area 16 September.

Mobile Regt von FRITSCHEN, composed of 503, 504, 506, Mobile Bns, staged a counter-attack here on 8 October. The unit came up over night on trucks from Luxembourg.

**Note:** The above Divisions are reinforced by so-called "MG Fortress" Bns composed of men between 40-50 yrs old, or cripples, whose mission it is to man the pillboxes of the Siegfried line. 5 of these bns have been identified, and are included under the Bn total per div.

#### General

Since our attack on the Siegfried Line, enemy division frontages opposing XIX Corps have been narrowed by committing additional units. The most important new arrival is 246 Infantry Division which moved North from Aachen.

Division sectors as shown schematically on the above map cannot be determined with accuracy. Bns and Regts have been shifted to threatened areas without regards for division boundaries. This is especially true for the 183 and 246 Divs which have units intermingled along a combined front. It must be remembered that a Division cannot always be regarded as a homogeneous unit.

The latest additions are the Mobile Brigade "von FRITSCHEN" (8 Oct) and 108 Pz Brig (first elements arrived from Nijmegen 10 Oct), identified at Pfaffenhalz K8750.

TABLE OF GERMAN PW's TAKEN DAILY OCT. 2-16

Oct	49 Div	183 Div	246 Div	176 Div	116 Pz Div	12 Div	108 Pz Bds	Regt Frit- schen	1 SS Div	Misc	Total
2	6	20		34						45	105
3	47	204		66						18	335
4	32	246		28						37	343
5	75	305	19	5						16	420
6	79	143	166	22						52	462
7	644	124	333	74						48	1223
8	483	42	275	-		159		2		102	1063
9	211	55	121	-		-		43		36	466
10	65	14	20	1		-	3	-		65	168
11	15	10	62	-		-	11	1		39	138
12	22	6	9	3	1	-	96	2		11	150
13	9	3	12	-	69	-	4	2	6	2	107
14		6	9	-	39	-	1	2	23	15	95
15	2	8	1	1	67	-	-	-	-	20	99
16	101		12	4	57	-	-	-	-	99	273
<hr/>											
	1791	1186	1039	238	233	159	115	52	29	605	5447
Other miscellaneous prisoners taken during period											754
											<hr/>
Total											6201



Narrative account of 117th Infantry

30TH INFANTRY DIVISION  
117th Infantry Regiment,  
1st Battalion

## BREACHING THE SIEGFRIED LINE

(Interview with Lt. Col. Robert E. Frankland, Battalion Commander, 1st Battalion, 117th Infantry Regiment; Major Henry R. Kaczowka, Bn. Executive; Capt. David K. Easlick, Bn. S-3; Lt. Stanley W. Cooper, Company Commander, D (Heavy Weapons) Company; Lt. William J. O'Neil, platoon leader of Pioneer Platoon. 12 October 1944 .....

By Capt. Hechler  
Asst Corps Historian )

The mission of the 1st battalion of the 117th on 2 October 1944 was to cross the Wurm River and neutralize the pillboxes in the area bounded roughly by the Palenberg-Rimbürg railroad track on the west over to the western edge of Ubach. The 1st battalion was the assault battalion of the regiment, which advanced in line of battalions.

Col. Frankland is a firm believer in thorough and scientific training for an operation of this character. He trained his battalion in a similar fashion prior to their crossing of the Vire River. Before assaulting the Siegfried Line, the battalion drilled for two weeks in all phases of the coming operation. Although committed in the line all but two days of this period, they were in a static holding position and had the opportunity to review and analyze while waiting for favorable weather conditions for the air strike.

During this period, the battalion occupied defensive positions north of Scherpenseel. Lt. Morgan (S-2) with the assistance of S/Sgt. Flow (Operations Sergeant) constructed a sandtable by boarding up the sides of a 12' x 5' table in an old German headquarters building which was the battalion CP. Cabbage leaves were used for vegetation, inked wooden blocks for houses, and numerous other expedients showed space relationships and strength of pillboxes, wire, the Wurm River, the ridge west of the river, the railroad and other terrain features. Pillboxes were numbered in red, company and platoon responsibilities were clearly drawn on the sand-table, and Col. Frankland feels that one of the primary reasons the operation proceeded so smoothly was that everybody understood and visually saw his mission on the sandtable.

Early in the morning of 25 September, the battalion withdrew to positions about 3 km. west and went into a training area. Elements of the 2d battalion of the 117th had relieved the 1st in the line during the night, and the 1st departed for two full days of intensive work with pole and satchel charges, flame-throwers, Bangalore torpedoes, dry runs for assaulting pillboxes and river crossing practice. While some of the men were engaged in these activities, the rest were practice firing 60mm and 81mm mortars, the 57mm gun, bazookas, rifle grenades and machine guns.

When the battalion went out to the area, only one man knew how to operate a flame-thrower. "All the training we had in the states and in England was now useless," explained Col. Frankland, "because all of our assault detachments had been wiped out in previous battles and there was a complete turnover in battalion personnel. We had to start from scratch. I had learned a lesson. This time instead of training only the assault detachments, we set out to familiarize all personnel with all tools. That proved fortunate on the day of the assault, for whenever the leading elements were cut down, the nearest man could always pick up the weapon and do the job."

Company A of the 105th Engineer Combat Battalion sent an entire platoon of specialists to the training area, with plenty of practice equipment for everybody. The first half-day was spent in all-around familiarization, and then the battalion proceeded to more specialized training for primary tasks.

Training for the river crossing was done in a gully with stagnant water about

the width of the Wurm River, 12-15 feet. Col. Frankland states that as the assault actually took place on 2 October, the river crossing turned out to be almost as important as the taking of the pillboxes, because the enemy was surprised and overwhelmed by the sheer aggressiveness of the speedy crossing of the river.

Practice crossings were made with "ladders" or "duckboards" consisting of varying lengths from 15-20 feet. These devices were four feet in width and provided a firm footing because the ladder rungs were very close together. During training, two were thrown into the water to make a V-shaped base, and the third was flung across the base to make a level foot-crossing possible. During the actual operation, Lt. O'Neil states that in some cases it was possible to cross with only one of the boards, and in other cases only two were actually needed.

The initial plan for the river operation was to cross in assault boats. However, Lt. O'Neil sold Col. Frankland on the idea of using the ladders, which had previously been employed in the crossing of the Vire-et-Taute Canal. Actual construction of these devices was accomplished by the 105th Combat Engineer Battalion.

After dark on the 26th, the battalion returned to its positions around Scherpenseel and went back into the line. Training proceeded with the sand-table until D-day. Not only the riflemen, but the heavy weapons men, the tank destroyer and tank commanders and engineers all studied what was to be their role. As D-day approached, some changes were made in the sand-table as a result of information brought in by patrols.

Col. Frankland paid tribute to the intrepid spirit of the men who probed the enemy lines and brought back answers to such questions as how rough was the terrain, how steep the banks of the river, and how formidable an obstacle was the barbed wire. "I can still remember the first patrol conducted by Lt. Cushman, platoon leader of B Company. He came back dripping wet from the shoulders down, having waded across the Wurm River. He found, by reconnoitering the river on both sides, the best places to cross--eventually used on 2 October by B Company."

First reports revealed an almost impassable hedge along the side of the railroad, but a gap was discovered on one of these preliminary patrols. Likewise, a spot was found where the barbed wire ended, allowing for passage.

Col. Frankland and his S-3, Capt. Easlick, both made several air reconnaissances over the area in Piper Cubs. The main result of these air trips was the conclusion that B Company did not have sufficient width of area to maneuver across the open space down to the Wurm River, and the B Company area was subsequently widened.

The plan of attack for 2 October called for B and C Companies to move up in the assault wave, abreast, with two platoons forward and one back in each case. A Company, the support company, was to be prepared to move forward and come into the line to replace whichever company seemed to be bogging down.

"From a planning standpoint," explained Col. Frankland, "A Company had the toughest job. Its commanders and men could not concentrate on certain specific pillboxes, terrain, and points along the Wurm River because they could not be sure whether they would be operating in the B or the C Company sector; so they had to be prepared for everything. Night after night while we were waiting in Scherpenseel, Captain John Kent, A Company Commander, would pull his support platoon out of the line and come back to the battalion CP to pore over the sand-table until close to midnight."

There was a new tactical angle to the role assigned to A Company in the breaching of the Siegfried Line. In crossing the Vire, Col. Frankland had discovered that the support company suffered many losses from artillery dropping in rear of the assault companies. Therefore, he decided to hold A Company in Scherpenseel and wait until B and C had pushed to the river, if possible, before committing it. The plan worked perfectly, and much enemy artillery dropped behind B and C Companies where it might have caused many A Company casualties if A had followed close behind.

D Company (heavy weapons) was disposed with half of the heavy machine guns on the left flank supporting B Company, and the other half on the right flank supporting C. The 81mm mortars remained in Scherpenseel and fired from locations near the town.

The battalion was below T/O strength at the time of the jump-off on 2 October. A Company was in the weakest condition, and the entire battalion was short 100 men. Despite the shortage, Col. Frankland described combat efficiency as excellent in view of the training and keying up for the operation. The battalion was well-supplied before and during the operation. It was discovered prior to D-Day that the pole and satchel charge had gotten wet during training, and some of them would not go off; they were all replaced prior to the jumpoff.

For several days prior to 2 October, the 155mm self-propelled guns of the 258th Field Artillery Battalion had been firing at the pillboxes, and Col. Frankland praised their effectiveness. Even though personnel could remain in the pillbox, he stated that many of the shots penetrated and widened the embrasures so as to make shots easier for infantry riflemen and machine gunners.

The artillery of the 118th Field Artillery Battalion was effective in delivering a "close barrage" just ahead of the advancing assault waves. The 81mm mortars fired 1525 rounds on D-Day from Scherpenseel. They were not effective against the pillboxes, but were very effective in keeping the enemy outside of the pillboxes from emerging too aggressively from their foxholes. Col. Frankland believes that the most effective of any supporting fire came from the 4.2 chemical mortar barrage; it was this more than any of the other supporting fires which, laid 150 yards ahead of the assault companies, and also firing accurately into the defiladed German positions, kept down enemy fire until B and C Companies stormed across the river. }

The air strike did not hit any of the pillboxes in the 117th sector. Falenberg was bombed quite effectively, but the net advantage of the strike was very little.

The companies jumped off at 1100, and moved speedily across the open space. "I had learned in the hedgerow country that if you sat still you got mortars and artillery, and so there and here too, I say to my men to keep moving fast and they will have less casualties," said Col. Frankland. Several of the 1st battalion officers seconded this thought, and noted that for an entire week prior to D-Day, the battalion commander had repeatedly emphasized that on D-Day everybody would have to move fast. This thought keynoted many talks of the battalion commander, and it went down the chain of command from the platoon leaders to the men. "I told them we'd have to get down to the river between a fast walk and a dog trot," Col. Frankland said, "and that's just what they did in battle."

B and C Companies met no opposition to the crest of the hill overlooking the Wurm River, and the heavy machine guns sneaked down with the riflemen to take positions on the flanks at the hillcrest where they could fire observed fire at the pillboxes.

As part of the regimental fire plan, the 81mm mortars continued to fire along the river line near the left of the battalion sector, and then shifted to the pillbox area across the railroad track when the assault waves descended toward the river.

Both companies met heavy opposition in the descent to the river. Artillery and mortar fire increased. C Company on the right was hit harder than B; Col. Frankland feels that the reason for this was that B had a more covered route of approach, that C's approach was harassed by fire from both the front and right flanks, and that more mortar and artillery from the enemy just happened to be dropping in that sector. In any event, the heavy losses suffered by C Company caused its drive to lag when it reached the river.

In contrast, B Company crossed the river briskly. The Wurm is only 3-4 feet deep and 15-20 feet wide, but is potentially a good defense line because it may slow up an advance long enough to enable small-arms and artillery to be devastating. One of the key figures in the B Company crossing was towering 1st Lt. Don Borton, who sparkplugged and enthused the men by dashing into the stream with the first duckboard and throwing it down on the far bank to start the foot crossing. The men double-timed across. Others who couldn't wait for the duckboard waded across. Surprised by the speed and timing of the crossing, 11 of the enemy surrendered in the B Company area when confronted by swarms of charging Americans.

It was noon, and only an hour after the jump-off, but C Company had 87 casualties in that hour: 7 killed, 68 wounded, and 12 combat exhaustion. Some men of C Company

continued on across the railroad track and had started to assault the first of the pillboxes, when Col. Frankland decided that the opportune time had arrived to send in his fresh company. From his CP at the crest of the hill, he radioed the A Company Commander and ordered him to move up from Scherpenseel to take over C Company's mission. A moved very quickly over the same route that B Company had taken; the strategy of keeping A Company far enough in the rear had paid off, for now there was clear sailing to the river. At 1225, the regimental commander received word that A Company was on the line continuing the assault.

By this time, the heavy machine guns on the flanks at the crest of the hill were causing casualties in the pillboxes. By aiming for the embrasures the heavy MG's were able to keep the enemy down and also hit some between the eyes, as did the riflemen. But to determine the effectiveness of their fire, the heavy machine guns had to use tracer bullets; this quickly revealed their position and made them extremely vulnerable to enemy mortar fire. Of the eight machine guns operating, five were knocked out by mortars and there were about 20 personnel casualties in the heavy weapons company.

Between the river and the railroad track, not much opposition was encountered. 25-30 enemy were dug in and well-concealed along the track, but they surrendered when the assault waves rushed in at top speed. A and B Companies then prepared their assault detachments for the drive on the pillboxes. Each platoon had a 16-man assault detachment which had thoroughly studied the aerial photographs and all available information indicating where the apertures and the "blind sides" of the pillboxes were. The assault detachments were organized "like the field manual" with bazooka and BAR men, wire-cutters, flame-throwers, bangalore and pole and satchel charge-carriers. They didn't have to work over the wire with bangalore torpedoes or the wire cutters because the wire had already been pretty well torn up by the effective 4.2 chemical mortar barrage.

The actual taking of the pillboxes was accomplished by assault from the flanks. Artillery pounding and the accurate rifle and machine gun fire had often caused many casualties inside; hand grenades and rifle grenades proved effective when the assault detachment could get close enough. In the case of one pillbox in each of the two assault company sectors, flame-throwers proved the most persuasive tool in forcing the crew to capitulate.

In the case of one pillbox, a B Company detachment thought they had captured it and placed it under guard. Capt. Robert Spiker, B Company Commander, arrived and captured nine enemy hiding in an adjoining room of the pillbox.

As the battalion advanced toward its objective, increased small-arms fire came from enemy atop the two slag piles commanding the area, and from the houses and mine area of Palenberg. Nevertheless, casualties for the day's fighting showed that 75-80% were victims of artillery and mortar rather than small-arms fire.

Because of the rains of the preceding day, the tanks of the A Company of 743d Tank Battalion, slated to assist the 117th Infantry Regiment, were bogged down during the early part of the 2 October operation and did not get across the river until the bridge had been built at Marienberg and after the 1st battalion, 117th, had reached its objective and buttoned up for the night.

Having reached its objective, the 1st battalion established defensive positions for the night. Col. Frankland said that he Knew a counter-attack would come on the night of 2-3 October, but there was only a minor thrust against A Company which was of little consequence. To guard against a counter-attack, defensive fires had already been planned and discussed for artillery and mortars. Each company commander had in his possession an overlay showing the fire plan for these defensive fires, and how they could be called for on very short notice. Fortunately, they were not needed.

Of the operations of the 1st battalion in the first ten days after the breaching of the Siegfried Line, Col. Frankland rates the first day's fighting as by far the sharpest of any; the next sharpest being the push through the town of Ubach against even heavier enemy artillery fire than was encountered on D-Day of the operation.

To summarize the operation of the 1st battalion, it was accomplished by training, speed, and a high degree of coordination.

Personalized Narrative of Operations  
117th Infantry Regiment

When the 117th Infantry Regiment jumped off on 2 October at 1100, most of the men were thinking about the speed with which they had to advance in order to cross the Wurm River and assault the pillboxes. "We could see a little smoke which the bombing had caused in Palenberg, but we were in too much of a hurry to worry much about the bombing," said Lt. William O'Neil, platoon leader of the A & P platoon of the 1st battalion, which was responsible for bridging the Wurm River. "Just at the hillcrest on the outskirts of Marienberg, a big shell got its first victim in B Company. Its only result was more speed—we took off like big-assed birds for the river."

From the hillcrest west of the river down to the Wurm, enemy mortar and artillery fire crashed intensely. For a minute B Company, the leading assault company, faltered; a lieutenant smashed a shovel down on a barbed wire fence and yelled "Jesus, let's get out of here," and the men double-timed on to the river. "We were really pooped after running with all those bridges we had to carry," said one corporal, "and some of the boys wanted to stop and dig in. Lucky they didn't." Over to the south, C Company, the right assault company, was caught just over the brink of the hill. "They were zeroed in, and a dozen big babies spattered right in the middle of the 2d platoon, practically wiping it out. There were only six boys left unwounded and alive."

The river crossing was sparkplugged by Lt. Don Borton, a 225-pound six-footer. He was the first to reach the stream, and immediately waded across and slammed a 20-foot bridge down on the far bank. The battalion had trained to use two lengths of bridge as a V-shaped base supporting a third length from bank to bank. But Borton, after putting in the single length, turned around and hollered: "There's yer god-damned bridge," and B Company ran across.

About this time E Company and the rest of the 2d Battalion were cracking the left side of the line. E Company's commander, Capt. Harold Hoppe, said "We levelled our bazookas on the two pillboxes which were holding us up, and that did the trick more than anything else."

When A Company rushed in to relieve C, which had been pinned down at the river, the biggest job they had was to reduce a pillbox (No. 5) on the road near the Rimburg castle. Lt. Theodore Foote, who led the platoon assaulting the pillbox, put two support squads on the road, and then led the assault squad toward the box, following his belief that "you can't push a string, you gotta pull it." The BAR men rattled away at the embrasures of the pillbox, while the bazooka and demolitions men crept up close. "Put it in low, Gus," somebody yelled to Pfc. Pantazapulos as he took aim with his bazooka. "The shot sure caused a lot of commotion," said Pantazapulos, "and tore a hole three feet wide in the firing slit. I put in a second one, and the dust was still thick when Pvt. Sirokin ran right up to the pillbox and shoved a pole charge into the hole. That finished most of them."

"All except that one that right away tossed out a grenade and tore this piece off my cheek," corrected Lt. Foote, "but we shot him pretty quick." "What were you thinking about when you plugged that bazooka, Gus?" "I wasn't thinking, I was just praying."

There was no rest after breaking the crust on the first day. On the night of 2-3 October, the enemy started counterattacking. You can still see tank tracks stopped exactly two feet from the leading B Company foxhole, where you find the helmet and effects of Pvt. Marvin Sirokin, who had put in the pole charge earlier in the day and then was killed in the first counterattack.

Over in the 2d battalion sector, there was bitter fighting around a cliff on the north edge of Palenberg, which became even more intense when the enemy launched first harassing and then larger scale counterattacks. "They came in with 240 infantrymen and some engineers carrying explosives to blow our river bridges," said



Capt. Hoppe, CO of E Company. "That's when T/Sgt. Fred Leno's platoon was in such close contact with the krauts that he directed artillery fire on his own position. It covered his OP and hit in the yard of the house he was in -- but it stopped them."

"The shelling we got in Ubach is the heaviest since the beaches," said the regimental commander, Col. Walter M. Johnson. But the third battalion ground through Ubach on 3 October. "All day on the 4th it was one counterattack after another," relates Capt. Wayne Culp, K Company commander. "Tanks busted in and cut off a platoon; only two men came back. Then we countered and recaptured 7 of our guys."

L Company's light machine gun section was cut off all day on 4 October in a house on the east edge of Ubach, simply because "there was a Jerry tank with his aerial in our second story window and another who forced us to look down the barrel of his 88 on the other side of the house. We had a field day sniping at Jerries, but those tanks were no fun," said Pfc. Ira Reeder.

"We had real tank-infantry cooperation after we shook loose from that Ubach artillery and started rolling to Alsdorf," says Lt. Dewy Sandell, I Company platoon leader. "The tanks just machine-gunned the Jerries in their holes, and when the doughs came up it was mass surrender."

"Alsdorf was a ghost town when we came in on 7 October," says Capt. John Kent, A Company Commander, "and it was so damned quiet it scared you." Lt. Col. S. T. McDowell, 3d battalion commander, can testify that it wasn't a ghost town the next day. "While the 3d and 1st battalions shoved off for Mariadorf, four tanks and a company of German doughs slipped in behind them and headed for our OP. We manned every window and took pot shots; I got four sures and three probables. The tankers knocked out three of the tanks, but the fourth and another from somewhere wandered up and down the streets of Alsdorf all day."

After 8 October, the enemy did not again counterattack the 117th Infantry.

Narrative account of 119th Infantry

HEADQUARTERS 119th INFANTRY  
APO 30, U. S. Army

14 October 1944

SUBJECT: Documentation of SEIGFRIED LINE

TO : AC of S., G-2, 30th Infantry Division, APO 30, U. S. Army.

1. The particular segment of SIEGFRIED LINE encountered by this regiment is indicated on defense overprinted map. (Rimbürg)

2. The terrain in this sector was particularly difficult for the operation. The main defenses appeared in the thick woods just South of RIMBURG. The woods were very thick and on a steep slope affording the enemy excellent observation over our entire area. The high ground to the East of the woods also aided the enemy's observation. The WURM River also aided the enemy's defense of the position. All bridges were blown and the steep banks of the river made fording impossible. This fact, coupled with the fact that the land on both banks of the stream was marshy, except places where roads led into the stream, aided the enemy considerably. Also the terrain West of the river was open, exposing all of our movements to the enemy.

The following are the type defenses found in our area:

1. Pillboxes: Both large and small type and also the camouflaged cottage type.
2. Field Fortifications: Foxholes, slit-trenches, "L" shape trenches, "V" shape trenches, and Anti-Tank ditches with firing steps constructed in them.
3. In most cases the fields of fire were excellent covering all possible approaches into the area.

3. In most cases field fortifications were used to supplement the Pillboxes. Field Fortifications in the form of "L" and "V" shape trenches were used along roads leading into the positions but a great many of these were not occupied. The Anti-Tank ditches were always covered by the fire from Pillboxes close by. Mine fields were found on all roads leading into the position but in general were not covered by fire or guarded. It was reported by the engineers that after four days several Teller Mines were found under the abutments of the bridge at RIMBURG. However, enough pressure had not been exerted to detonate the mines. In many cases mines were found lying along the roads indicating that the enemy had not had time to place the mines before withdrawing. In the HERZOGENRATH area a great quantity of mines were found on all the streets and even on the sidewalks. In the streets the mines were laid under the cobble stones and usually had primer cord attached to another mine. In one case the mine lifting crew decided not to go into the logical place when the mine was being exploded. It was learned a few minutes later that the logical place to take cover also contained a mine which exploded simultaneously with the one being exploded in the street. A great many cases of booby trapped mines were reported. The Reigel, "T" mines and "S" mines were all encountered.

4. [The enemy made a determined stand at Rimbürg castle (843585) and made it necessary for us to clean it out room by room. He first delayed us with extensive mine fields along North East-South West road on West side of castle and had these mines covered by approximately ten MG's in addition to about one platoon of infantrymen, well dug in along the sides of the road. This road was also covered by the pillbox at (842585).] The crossing at this point was also hampered by long range light artillery and some direct fire artillery. After a crossing had been forced by the infantry and mines neutralized the attacking tanks, were effectively employed to reduce the castle. It is thought that a great many of the pillboxes along the West edge of woods South of RIMBURG were used to a large extent for OP's originally. It wasn't until our troops started to work through the woods that strong resistance was encountered from the pillboxes. In a great many cases after the attack started to move and our troops began to close on the enemy, he deserted his pillboxes and took up defensive positions in the field fortifications surrounding the boxes. No

large caliber guns were found in these pillboxes; in most cases the largest caliber weapon found was the MG. Upon assaulting the line, the enemy's MLR appeared to be along the railroad on the West edge of woods South of RIMBURG. The AT ditch along the West edge of these woods was used as a defensive position for infantrymen, and the assaulting battalion was forced to withdraw on two occasions in order to shell the trench with artillery and mortars. The strongest resistance met in the entire sector was in the woods South of RIMBURG where a machine gun battalion was dug in well.

In taking the pillboxes South of UBACH in the area 863478 the enemy was found to be occupying the pillboxes temporarily but soon took to the field fortifications around the pillboxes when fired on by our tanks and TD's. The tanks also used WP and smoke shells to good advantage on the pillboxes as the smoke filtered through the ventilation system making the boxes untenable. In several cases artillery forward observers were captured in pillboxes without radios indicating that the wire communication system between the pillboxes was in good order. The cables (telephone) for the communication system were found buried from several inches to several feet under the ground. These cables were cut immediately upon their discovery. One counter-attack was launched along the boundary between two companies (843475). This attack was preceded by a heavy artillery barrage with tanks firing from hull defilade. When the attack jumped off at 0530 the enemy advanced boldly across open ground in the vicinity 847473 and attacked generally North-West. One tank drove straight North-West along road at 844472 spraying fire from MG's as it went. The infantry, estimated at two companies, followed the tank at a distance of three to four hundred yards. After the enemy reached the woods 843475 his own artillery fired on him. His own fire, coupled with spraying type fire from our MG's and tanks, broke up the attack. At 0700 another morning a counter-attack was launched against the forces that occupied the pillboxes in the area of 864477. This attack was also preceded by an artillery preparation and was made by infantry supported by four tanks. The infantry in a strong attack retook six pillboxes from our forces. Part of the attacking force occupied the pillboxes while another part continued the advance until stopped by our artillery and tanks. The force that continued the advance withdrew when our artillery fired leaving the troops in the pillboxes without contact. The latter readily gave up to our troops a few minutes later. The most effective weapon against tanks in this particular attack was the 105 Assault Gun. In both the counter-attacks mentioned, the enemy was seen forming for the attack some time before it started allowing for some preparation on our part.

5. Elements of the following enemy units were employed to meet our penetration.

- 42 MG Battalion
- 47 MG Battalion
- 57 MG Battalion
- 149th Inf Regt of the 49th Division
- 148th Inf Regt of the 49th Division

Originally these units had a fairly well defined defensive organization but after our attack turned to the South from the East all units appeared confused and as a last resort the enemy formed numerous battle groups made up from remnants of all units. Of all these units the 57th MG Battalion put up almost fanatical resistance in the woods South of RIMBURG refusing to fall back in the face of heavy mortar and artillery fire.

The morale of the German troops in general was very low. Some of the men had only been in the army several weeks and others had been classified as 4 F's and recently called up. With very few exceptions PW's were very glad the war was over for them. The exceptions in most cases were officers. The impression gained from talking to several German Officers was, that the defending forces were completely confused when our attack turned South. They were expecting our attack to continue to the East.

6. In general it can be said that the pillboxes as actual defensive positions did not offer the resistance expected. It appeared that the boxes themselves served more as places of shelter and a base for a strong point. It was also noted that the enemy had plenty of food in the pillboxes; enough to last almost indefinitely.

It is recommended that captured pillboxes be used only for CP's and that troops

not be employed in the pillboxes in order to defend them. Several cases were reported in which the Germans were able to retake pillboxes which we had captured due to the fact that not enough men were dug in on the outside of the pillbox.

Only one incident of the Germans infiltrating through our lines and occupying Pillboxes we had captured was reported.

/s/ OSCAR S. STONESIFER, Jr.  
OSCAR S. STONESIFER, Jr.  
Captain Infantry  
S-2

#### RECOMMENDATIONS FOR ATTACKING PILLBOXES

##### 1st Battalion, 119th Infantry

1. From our experiences in attacking pillboxes we recommend the following methods of attacking a fortified line: Select a small area along the line of fortifications which enables good fields of fire of 155mm guns for direct fire. Concentrate on this area for a period of one or two days or sufficient time to definitely knock out a number of boxes in the zone in which you wish to advance. Having knocked out those pillboxes that can be observed and fired on by 6 inch guns, then push through this gap with infantry and tanks. Push through a sufficient number of troops, tanks and TD's to roll up the flanks of the fortified lines by attacking the boxes from the rear and flanks. From our experiences we find that infantry, tanks and TD's have very little trouble taking a pillbox from the rear or flank, as pillboxes are not so heavily fortified in these places.

2. The tank assault gun (105) and the TD's 3 inch gun worked very effectively on the rear and flank of a pillbox but had very little effect on the front unless they are able to fire directly in the embrasures.

3. The Fort Benning method of attacking pillboxes using flame-throwers and pole charges was not effective as the Germans, knowing our plan of attacking pillboxes, have made elaborate communication trenches and gun positions which protect the pillboxes. The Germans gave orders that only sufficient men will stay in boxes necessary to man the guns. The remaining personnel are to stay outside in a well dug-in trench network to protect the boxes from being assaulted by infantry with flame-throwers and pole charges. The personnel use the pillbox for shelter during artillery concentrations but come out before infantry can advance. Gun positions were so dug that they covered all blind or dead space around the pillboxes. However, these positions can be overrun by tanks if the terrain is suitable as these positions are intended to keep the infantry from assaulting the boxes from a blind side.

4. Air bombardment would probably be effective if more direct hits could be had, as the heat destroys personnel in and around pillboxes.

5. 155mm self-propelled guns were used very effectively where fields of fire could be had. Taking from ten to twenty rounds to knock out each box, as it often took several rounds to knock off the dirt and other camouflage material before they were able to work directly on the pillboxes.

##### 2d Battalion, 119th Infantry

1. During our recent attack on the defenses of the Siegfried Line, several observations were made in regard to the best method of neutralizing enemy pillboxes.

2. The method of assaulting a pillbox, that is with pole charges, satchel charges and flame throwers, followed by a final infantry assault, were left untried due to the fact that it does not provide close-in fire to cover and button-up the pillbox. Therefore, our assault companies, in conjunction with our tank support, devised an attack plan that rapidly and effectively neutralized eleven pillboxes.

3. An assault platoon moving with one section of tanks, advanced into or

through the defended area. When fire was received from the pillbox, or the entrenchments surrounding it, the tanks immediately placed machine gun fire and direct 75mm fire on the enemy positions. Also the artillery and mortar OP's placed fire on the open entrenchments.

4. The result of these fires was to make the enemy move into the pillbox proper. At this moment the tanks and assault platoons then moved forward, directing all fires on the pillbox embrasures. The result of these fires was to button up or neutralize the machine gun fire coming from the pillbox.

5. As a final stage in the Infantry-Tank assault the tanks continued to cover by fire while the assault platoon moved forward and took the pillbox--at times literally going in and knocking on the back door and ordering the occupants to surrender. In the few cases where surrender was refused the use of a satchel charge against the door brought quick capitulations.

6. One added attachment was used several times, and that was a platoon of self-propelled tank destroyers. When possible direct fire from the guns of these destroyers, in addition to the other fires, speeded up the process of buttoning-up and neutralizing enemy pillboxes.

#### 3d Battalion, 119th Infantry

1. Thorough reconnaissance of area over which attack is to be made.
2. Find blind spots of pillbox.
3. Use heavy concentration of artillery and mortars to make entrenched enemy on outside of pillbox seek cover.
4. Move TD's and tanks into position to fire on embrasures with their heavy guns and machine guns.
5. Keep a continuous stream of machine gun fire going to cover infantry advance on pillbox.
6. No pole or satchel charges were used by this unit in attacking pillboxes, because charge does not make a hole or destroy much of the embrasures.
7. Once penetration is made, reinforcements pour through and attack boxes from rear. By doing this infantry can usually secure boxes before enemy is aware of what is happening.
8. Usually enemy will surrender if infantry and tanks can operate in rear of pillbox and fire at it.



TABLE OF AMERICAN CASUALTIES

Points of interest from an analysis of casualties of 2d Armored Division  
and 30th Infantry Division in penetrating the Siegfried Line

2 Oct 44 to 16 Oct 44.

1. 28% of total casualties occurred in the 2d Armored Division
2. 72% of casualties occurred in the 30th Infantry Division.
3. Casualties were sustained by units of branches as follows:

Infantry	84%
Armored	11%
FA	2.2%
Engr	2.2%
Others	.6%

4. Among officer casualties, 56% were infantry unit commanders and 18.4% were tank unit commanders. 25% of the authorized T/O infantry unit commanders became casualties; 26.6% of the authorized T/O tank unit commanders became casualties.

5. An analysis of the bulk of enlisted casualties is as follows:

Military Occupational Specialty	No. of Casualties	% of all Casualties	% of enlisted Casualties	% of T/C
<u>INFANTRY</u>				
Riflemen	1115	42	55	49.5
Squad Leader	335	12.7	16.6	31.6
Ammunition Handler	160	6.1	7.9	17.1
Light Machine Gunner	63	2.4	3.1	20.5
Messenger	61	2.3	3.0	11.6
Platoon Sergeant	50	1.9	2.5	16.9
Mortar Gunner	29	1.1	1.4	8.5
<u>ARMORED FORCE</u>				
Tank Gunner	57	2.1	2.8	5.5
Tank Driver	42	1.6	2.1	7.8
Tank Commander	36	1.3	1.8	13.2
<u>MEDICAL DEPARTMENT</u>				
Litter Bearer	22	.85	1.1	5.4
Surgical and Medical Technician	21	.79	1.04	4.6

6. Distribution of casualties by type:

Killed and Died	12.2% (Last War Approx 25%)
Wounded	67 %
Captured	.3%
Missing	20.5%

7. In the 2d Armored Division 17.5% of the casualties were killed or died; while in the 30th Infantry Division 11.1% of the casualties were killed or died although 67% of the killed and died were members of the 30th Infantry Division.

From a medical casualty viewpoint, an analysis of these shows:

1. Causative agent:

HE shell, artillery, and mortar	66%
Gun shot wound	18%
Bombs	6%
Blast injury	5%
Secondary	5%

2. Combat exhaustion cases:

2d Armored Division	355
30th Infantry Division	<u>241</u>
Total	<u>596</u>

3. Seriousness of wounds:

	<u>Slight</u>	<u>Serious</u>	<u>Total</u>
2d Armored Division	535	87	622
30th Infantry Division	1,419	442	1,861

4. Enemy wounded treated totaled 349.

5. Deaths were divided as follows:

2d Armored Division	101
29th Infantry Division	115
30th Infantry Division	<u>201</u>
	<u>417</u>

6. Work performed by Evacuation Hospitals servicing the attack:

	41st <u>Evac Hosp</u>	91st <u>Evac Hosp</u>
a. Admissions direct:		
(1) U. S. Army	1221	1744
(2) Prisoners of War	68	261
(3) Civilians	<u>15</u>	<u>54</u>
Total	1304	2059

b. General classification of wounded:

(1) Serious	190	560
(2) Slight	1031	1184

c. Total Admissions during period:

(1) Disease, injury, wounded, Allies, POW, and Civilians, both direct and transfer	1945	1719
------------------------------------------------------------------------------------	------	------

d. Total deaths during period:

(1) U. S. Army	12	18
(2) Prisoner of War	4	-

e. Classification of wounds by causative agent (U.S.Army):

(1) Gun Shot Wounds	272	269
(2) Shell wounds	854	1125
(3) Bomb Wounds	45	131
(4) Blast injury	47	98
(5) Secondary Missiles	3	9
(6) Burns	-	26
(7) Others	-	86
Total	<u>1221</u>	<u>1744</u>

RECAPITULATION OF CASUALTIES SUSTAINED BY 30TH INF DIV AND 2D ARMD DIV  
IN PENETRATING THE SIEGFRIED LINE, 2 OCT TO 16 OCT 44

UNIT	OCTOBER 1944															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
<u>2d Armored Division</u>																
41st Armd Inf Regt		6	25	36	110	35	10	11	1	3	17	5	7	1	2	269
66th Armd Regt				7	15	18	10	5	10	9	8	8	13	17	7	127
67th Armd Regt			17	33	46	18	8		2	7	5		2	2	1	145
82d Armd Rcn Bn				2	5	12	3		4	1		1				28
92d Armd FA Bn				2		6			1		8		2			19
78th Armd FA Bn					1		3		1			1				6
14th Armd FA Bn					1	1										2
17th Armd Engr Bn				7	1	1	1	1		2	2	8				23
Maint Bn				3												3
Hq 2d Armd Div			1										1			2
Sub Total	6	43	90	179	91	35	21	19	22	40	23	25	20	10		624
<u>30th Infantry Division</u>																
117th Inf Regt	232	87	32	48	55	19	104	21	17	21	10		4	1	49	700
119th Inf Regt	68	104	169	27	177	28	42	18	40	28	21	13	20	8	82	845
120th Inf Regt	3	7	27	30	24	13	72	52	34	34	47	5	7	17	29	401
105th Engr C Bn	10	10	10	2	3		2		1		5					43
118th FA Bn		1	2		4	3	1	2	1		1					15
197th FA Bn	2		1			2	1						1	1	7	15
230th FA Bn				1		1					2	1		1		6
113th FA Bn											1					1
105th Med Bn																
MP Plat				1									1			2
30th Sig Co													1			1
Div Arty													1			1
Sub Total	315	209	241	109	263	66	222	93	93	83	87	19	35	28	167	2030
Total 2 Divisions	315	215	284	199	442	157	257	114	112	105	127	42	60	48	177	2654

NOTES ON THE MEDICAL SERVICE, 30TH INFANTRY DIVISION, DURING THE CROSSING OF  
THE WURM RIVER AND PIERCING OF THE SIEGFRIED LINE

The plan of the division for medical support during this operation was essentially as listed below. No unusual problems were encountered.

1. Company aid men from the infantry battalion medical sections crossed the river with their respective companies. Litter bearers followed closely behind, and adequate liaison was maintained at all times.

2. Battalion aid station personnel and the station crossed the river as soon as the engineers had a bridge across and open for vehicular traffic. Ample medical supplies were kept available at the river's edge at all times before the crossing of the river by the battalion aid station. Patients were carried by litter over a foot bridge prior to the establishment of a vehicular bridge.

3. The collecting companies performed much the same as usual. Until such time as the vehicular bridge was opened and the collecting companies could cross, the ambulance sections maintained advance loading posts in the vicinity of the river's edge in order to hasten evacuation. The ambulances were also the means of maintaining the battalion aid stations medical supply.

4. The clearing company's function did not vary, and it remained between 7 and 8 miles in the rear of the collecting companies.

5. In this operation, no unusual evacuation problems presented themselves.

RECORD OF GERMAN TELEPHONE CONVERSATION IN SIEGFRIED LINE PILLBOXES DURING ASSAULT

A member of the G-2 Section of XIX Corps while studying the inside of, and damage caused by our attack to, one of the SIEGFRIED Line pillboxes in PALENBERG (K8559) was surprised by the deep gonging of the pillboxes telephone. Lifting up the receiver he was delighted to hear the occupants of two other as yet undestroyed pillboxes discussing their present condition. Member of interrogation prisoner of war Team number 42 of 30th Infantry Division were quickly assigned to act as recorders of subsequent conversations. The journal for 4-5 October is reproduced below.

It is not believed that the Germans ever thought of the possibility of their enemies' so entering their communications net. Their wiring system apparently lets one pillbox talk to all in its group simultaneously. Other pillboxes found have bullet holes through the receiver and transmitter box, possibly indicating standing instructions to render them inoperative before withdrawing. If such was the case, the German soldier so assigned in this one failed in his mission. If the telephone box is destroyed, the permanent cable inside it is virtually impossible to put into such a condition that one of our field telephones could not be tapped on it.

042000 October 1944

Pillbox 244 calling 2 Company CP:  
Hello, Lt HOFNER there? What's the password for tonight?  
Lt. HOFNER speaking. Password for tonight is Gold-Silver.  
Lt., I want to report two men missing since 1400 and I have up to now no casualties. That's all.

2015

Pillbox 244 calling 2 Company CP:  
Lt. I want to report that I just saw 32 enemy tanks but a call from Battalion CP says they observed 57 tanks cross the bridge. Another thing - we are running out of rations. Any chance to get some food up to us? I still have a complete crew of 7 men -  
Lt HOFNER: All right; of these seven men leave four inside and keep three at all times outside the bunker as guards. I'll try to get some food to you. (Note: This is standard procedure for the defense of a pillbox)

2111

Unidentified Bunker calls CP:  
Please send an NCO, and one man on a bicycle. I have six casualties HAGEN WALLENTAG, ROEFLEN, SCHMIDT and FREDLEN - dead. I myself have a face wound.  
CO - How did that happen?  
Answer - We received mortar fire while defending the bunker from the outside.  
CO - All right. I'll send somebody over and make arrangements for the evacuation.

2120

Unidentified Bunker calls CP:  
Sir, two men of my crew are missing, one of them took the heavy machine gun with him. Their names are BULLERRADER and HATERGER.  
CO: All right you make out an affidavit and let two witnesses sign it.

2125

CP calling a Bunker:  
CO - Let BRUNNER bring the casualties to 2 Company CP; we have the truck ready, but be careful there might be some enemy tanks on the road by now.  
Answer - Now damn it, What a mess! How can we evacuate under these circumstances? I'll see what I can do.



050015 October 44

Unidentified Bunker calls CP:

Sir, out of four men counting myself, two have become casualties. Furthermore, a dead man has been brought to my bunker. What can I do?

Answer - Evacuate them.

Caller - The dead one too?

Answer - Yes, of course, the dead one too.

0600

CP calls a Bunker:

EM: Is it you, Heinrich?

Answer: Yes, how is the general situation?

EM: Don't worry! (lowers his voice to confidential tone) our stuff has been rolling since 0215.

Answer: Thank God, I hope they make it!

0900

CP calls Bunker No 240

CO - JANOVSKY, if you see tanks coming from FRELENBERG call me immediately and ring four times.

JANOVSKY - I have a lookout posted.

0910

Bunker No 240 calling CP:

1st Sgt JANOVSKY - Sir, we sighted two tanks on the road MARIENBERG-FRELENBERG.

1030

Bunker No 240 calling CP:

1st Sgt JANOVSKY - Sir, I counted 80 tanks coming over the bridge, and I have one casualty. The Tommies (?) are running back but the tanks keep on coming.

Lt HOFNER - Did you say eight tanks?

Answer - No sir, e i g h t y! They came over the bridge in close column.

Lt HOFNER - Himmel Donnerwetter!! I'll request artillery barrage immediately.

1145

Bunker No 275 calls CP:

Will lay down heavy mortar concentration on railroad station PALENBERG. Please observe and report on effect.

1155

CP calling Bunker No 275:

Lt HOFNER - Pretty good hitting, but a little too much left towards NORTH PALENBERG. Correct to SOUTH.

1200

Bunker to CP:

Lt HOFNER, Sir, the Americans shoot smoke shells along the whole line. I believe they prepare to attack.

(shortly after that another bunker gave report to the same effect).

1230

A Bunker to CP:

Sir, the Americans shoot incendiary shells and move towards the coal mine.

(Speaker appears to be very jittery).

1240

Bunker No 240 calling CP:

Sgt JANOVSKY - We received enemy fire. Three of my men are badly hurt: KUCHLER, EBERH ARDINER and SCHREITINGER. Two are shell shocked and one passed out. My

strength is now two or three men. The Americans apparently try to attack the coal mine under the cover of smoke. We will hold the bunker as long as possible and then ...? There is no way of retreat any more.  
Lt HOFNER - We'll see if we can evacuate your wounded men after dark. Stay inside from now on. Hell!

1400

Bunker No 240 to CP:  
Sgt JANOVSKY - What are we going to do now? American troops passed us and are already at the power station.  
Lt HOFNER - Stay where you are.

1440

A Bunker calls CP:  
Sir, the American troops are advancing towards the Battalion CP and by-passed us already.

1500

CP gives following order to two pillboxes:  
Men, be careful, we think American tanks will try to attack the pillboxes from the rear.

1530

A Bunker to CP:  
Sir, the Americans are at the Battalion CP and we are receiving fire.  
Answer - Hell, yes, so do we.

1540

Pillbox No 244 to CP:  
Sir, we receive machine gun fire from the direction of the coal mine.  
Lt HOFNER - Just get inside.

1555

Lt HOFNER calls from a different bunker to CP:  
Lt HOFNER - Is there any news?  
Answer - No, they are still firing at us with machine guns.  
Lt HOFNER - All right, I'll be back as soon as the artillery fire lets up.

1600

A Bunker to another one:  
I can't get connection with the CP any more. How about you?  
Answer - Hell, we can't get in touch with them either. That son of a - - - (HOFNER) beat it, without notifying us. Ten tanks approaching from the power station. What the hell are we going to do? -  
First man: Let's try to make it back to our lines after dark.

1650

Between two pillboxes:  
A - You know where HOFNER is?  
B - I heard he left for the second pillbox on left of the cemetery.  
Try to fight your way back tonight.

1900

(WAGNER of CO-CP tried in vain to contact Sgt JANOVSKY. Said that he himself was in the second bunker on the left of cemetery).

1930

WAGNER to Sgt JOROSIN in Pillbox No 275:

WAGNER - Are you still alive?

JOROSIN - Yes.

WAGNER - I'll come over soon.

2000

(WAGNER tries to call CP but gets no reply. Seemed to have casualties in bunker and wanted to arrange evacuation for them).

HEADQUARTERS XIX CORPS  
Office of the Signal Officer

APPENDIX "f"

SIGNAL COMMUNICATIONS DURING THE ASSAULT

1. General:

Careful coordination of Corps, Division, Air Support, Artillery, Engineer, and Special Unit Communications for the assault was essential for smooth operation of all units taking part in the penetration of the Siegfried Line. Commercial circuits, particularly buried cables, were utilized down to and within divisions. A special Corps team furnished information to divisions of the location of these circuits. During the rapid movement of the smaller units, radio was usually the only means of communication. The use of separate alternate and lateral circuits proved to be indispensable during periods of heavy shelling and counter attacks. Lessons learned - Bury all main wire circuits in forward areas prior to an assault.

2. Combat Information Radio Net:

During the penetration of the Siegfried Line an officer from the Combat Information Section, equipped with an SCR-193 radio set mounted in a 1/4 ton 4x4, accompanied each front line regiment. There were occasions when it was necessary to go to front-line Battalions for information desired. These officers kept the Corps Commander informed of the situation using radio channels direct to the Chief of Staff Section. The radios were operated by the Corps Signal Battalion personnel. The Converter M-209 was used exclusively for encoding. The NCS for this net was an SCR-399 located in the Radio Center, and operated by remote control from the Combat Information Section at Corps Headquarters. Short messages and fast operators gave the Corps Staff a fast service.

- Captain Virgil R. Owens, Radio Officer, XIX Corps -

3. 30th Infantry Division Communications:

Wire

The normal Division wire system was installed prior to the assault. Two lines were placed to regiment over alternate routes, utilizing a spiral-4 cable along axis of signal communication with one line to each regiment. Separate field wire circuits over alternate routes provided the second circuit to each regiment. Assault regiments, 117th and 119th, were tied in with one lateral circuit. Division CP was within easy enemy artillery range and as a precautionary measure an alternate CP was selected and circuits run to alternate location so a fast move could be made if required.

Close co-ordination with 2nd Armored Division, which followed the 30th Infantry Division through the initial break in the line, and with the 1st Infantry Division on the South, necessitated laterals to these units. Teletypewriter was operated over these circuits during a portion of the assault phase.

At no time during the initial assault phase was any regiment out of wire communication with Division. This was possible only because of provision of alternate routes and lateral between regiments.

Following the capture of Ubach by the 117th Infantry on October 3, the regimental CP moved forward to Ubach and extended three lines over alternate routes from switch at old location. A severe counter attack on 4 October, and almost continuous artillery and mortar fire during 4-5 October made it impossible to maintain wire communication to the 117th Infantry. During this period radio was used exclusively. Aside from this interruption wire communication was available at all times.

As regiments moved South from Ubach, commercial circuits from Heerlen commercial central office were utilized, first to Eigelshoven and later to Kerkrade. Spiral-4 cable was placed laterally from these offices to serve infantry regiments as they advanced. This procedure shortened field wire lines, reduced exposure and provided improved transmission.

SIGNAL COMMUNICATIONS DURING THE ASSAULT - APPENDIX "f" (Contd).

Radio

S.O.P. Division Command Radio Net functioned smoothly throughout the operation. This net employs SCR-193 radios mounted in C&R cars and manned by Signal Company personnel. Each set is provided with local adaption of Remote Control Unit RM-29, enabling operators at Regimental CP to hide vehicle in protected location and operate from basements. Remote control features provide EE-8A Telephone to S-3 of Regiments and G-3 of Division and net operates entirely on voice. Except for lower security, and necessity for employing "Slidex" this system provides communication as dependable and as satisfactory as wire.

- Lt. Col. E. M. Stevens, Signal Officer, 30th Infantry Division -

4. 2d Armored Division Communications:

Wire

With the beginning of the assault against the Siegfried Line by the 2nd Armored Division on 3 October 1944, communication problems took on a new aspect. During the previous months when action was fast and great distances were covered daily, radio was, of necessity, the main means of communication. Wire was laid only when time permitted, and then only to a limited extent. The task of penetrating a prepared fortification such as the Siegfried Line required great masses of troops in a relatively small area. Wire became the principal means of communication. Distances covered from day to day were small; traffic was heavy on all roads; air raids occurred nightly. These conditions created tremendous problems in maintaining wire circuits, particularly for an Armored Division which is theoretically not intended to indulge in wire communications on the same scale as an Infantry Division, and is not equipped to do so.

Upon the commencement of the attack the Division CP was established at Scaesburg and was later moved to Grotenrath. As soon as a bridgehead was established across the Wurm River, a site was chosen in the vicinity of Ubach for an advance switching central. Two BD-72 Switchboards were placed in a civilian air raid shelter. Ubach was chosen because it was centrally located with respect to the combat elements of the Division. Wire teams were attached to CC"A", CC"B", and the Division Reserve to expedite the laying of lines between those units and switching central whenever a movement took place. At this time CC"B" was organized into two task forces and the same wire team that laid the lines to the switch was employed to keep lines in to the two task forces, priority being given to the Division lines.

Due to the heavy traffic on all roads, continuous shelling and occasional bombing it was necessary to run circuits between the Division CP and the switching central by alternate routes. The bridge at Palenburg was shelled so constantly that it was impossible to keep lines in. For this reason a separate overhead crossing was made about 150 yards upstream from the bridge. The combat area was so congested with troops such as numerous Artillery Battalions, Infantry Units, and Engineer troops, that wire congestion itself became a serious problem which greatly impeded wire maintenance. This situation was anticipated and construction personnel were ordered to make more perfect installations at the expense of speed. Wires were carefully strung with particular attention being paid to keep them well out of the way at any point where vehicles were likely to leave the roads. Circuits were tagged with a much greater frequency than would normally be required by normal standards. This all paid good dividends in the days that followed, though unavoidable trouble continued to be considerable. During the period of October 3 to 8 a total of 194 miles of Wire W-110 were laid by the Division Wire Section.

Radio

Radio operations during this period were very satisfactory because of short ranges involved.

- Lt. Col. Carmon L. Clay, Signal Officer, 2d Armored Division -



SIGNAL COMMUNICATIONS DURING THE ASSAULT - APPENDIX "f" (Contd).

5. Corps and Division Artillery Communications:

Wire

Wire was the primary means of communication employed by the Artillery during the assault. Installation was normal (All Groups and Division Artillery FDC were tied in to Corps FDC by direct circuits.). Lateral circuits between Groups and Division Artillery FDC were maintained. Some difficulty was experienced in maintenance of wire circuits due to enemy artillery and traffic congestion. This was largely overcome by the installation of alternate circuits. The laterals were of good use in routing calls when direct circuits went into trouble.

Radio

Radio was used as an alternate for wire and was a very satisfactory substitute. Greatest use was made of FM radios within the Battalions where it was particularly difficult to keep wire circuits in service.

- Captain Harland D. Johnson, Communications Officer, XIX Corps Artillery -

6. Air Support Communications:

Perfect communication was maintained between ground and air during the operation by the use of VHF radio. Fighter bombers coming from the rear would check in first with the XIX Corps Air Support Officer and then with the Division Air Support Officer for assistance in getting on the target. The pilot would then report the results of the bombing and return to base.

Medium bombers had the same type of VHF radio communications, however, their transmissions were limited to two calls. One, requesting an all clear from the Corps Air Support Officer when two minutes from the target area, and a second, transmission when the last plane had cleared the target. One group arriving late was denied permission to bomb as our infantry had started to occupy the area.


- Major Dovre Jensen, G-3 Air, XIX Corps -

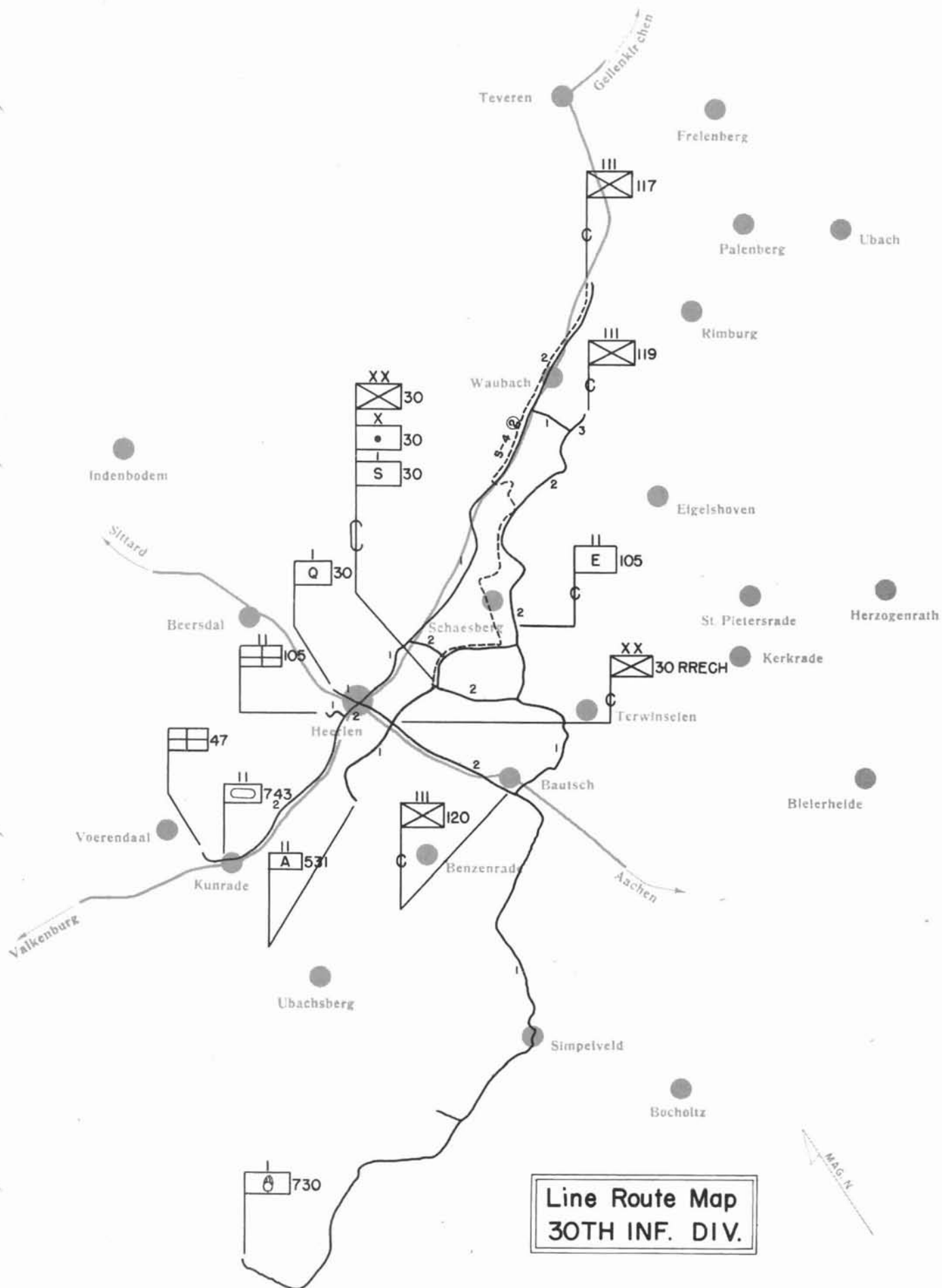
7. Engineer Communications:

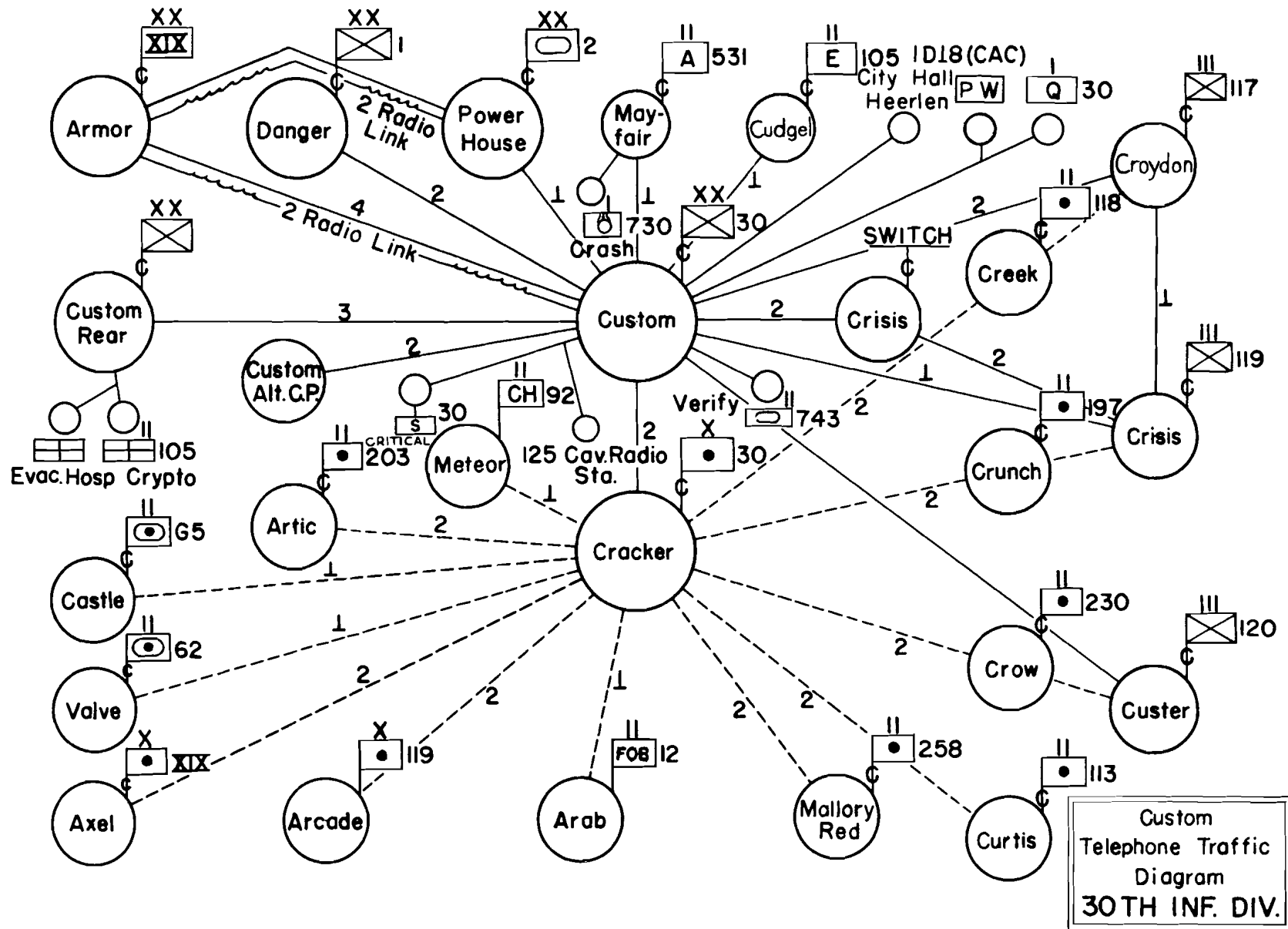
During the penetration of the Siegfried Line a Battalion of Combat Engineers was employed as Infantry. Due to the greater distances involved as a result of the Battalion occupying a very large sector, a SCR-193 was substituted for the SCR-284. Since the SCR-300 is quite large and bulky for use on patrol missions, SCR-536's were substituted for these sets.

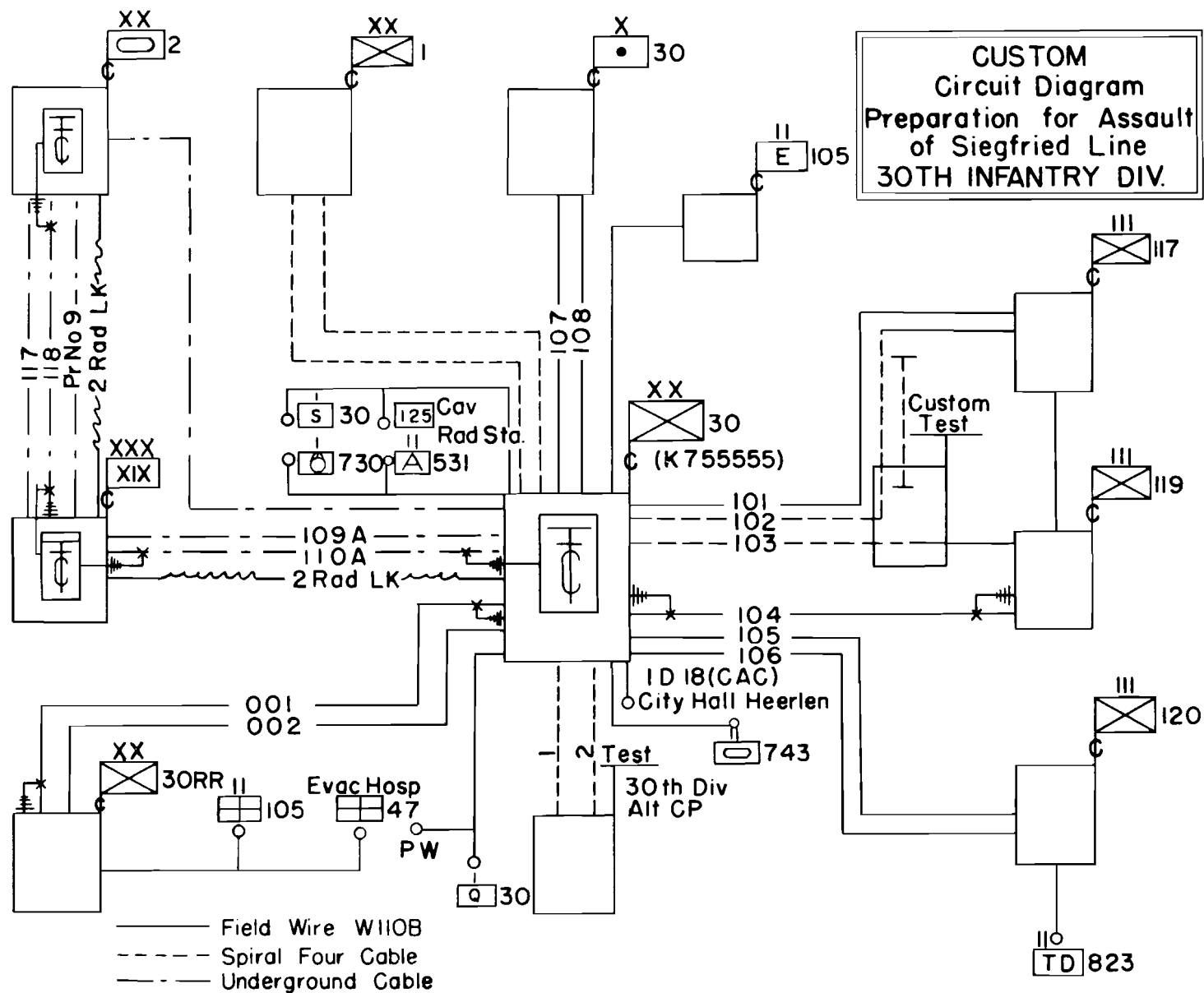
Due to the close cooperation and aid given the Battalion by the 30th Infantry Division Signal Officer, particularly in providing the substitute radio sets, good communication was maintained throughout the operation.

- Lt. Dwight W. Black, Communications Officer, 1104th Engineer C Gp -

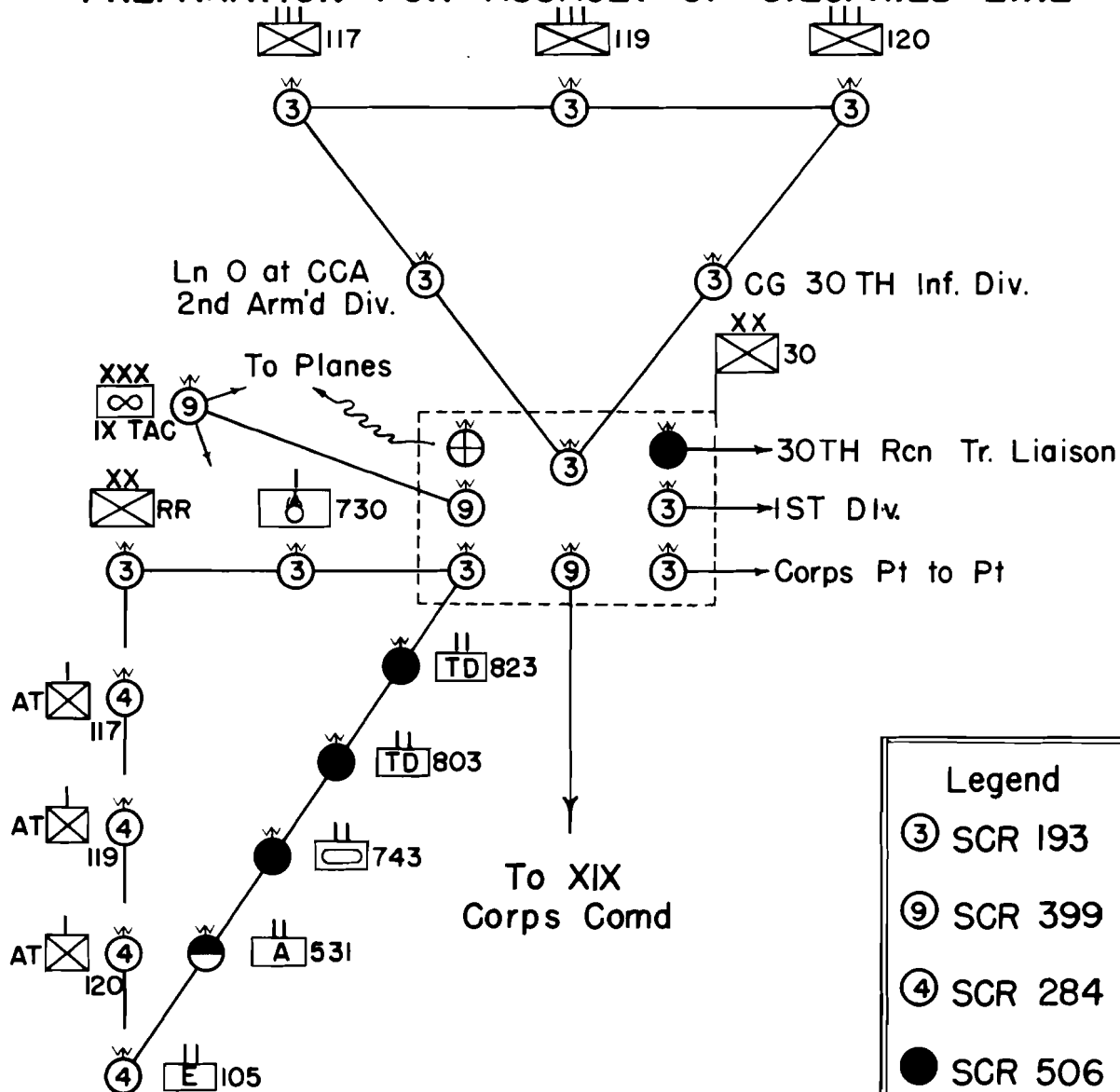
  
S. S. CERWIN  
Colonel, Sig C  
Signal Officer







# **RADIO NETS 30TH INF. DIV. 19 SEPT. 44 PREPARATION FOR ASSAULT OF SIEGFRIED LINE**



Legend	
③	SCR 193
⑨	SCR 399
④	SCR 284
●	SCR 506
⊕	SCR 522
◐	SCR 177

ARTILLERY APPENDIX  
TO  
SIEGFRIED LINE OPERATION

- Part I - 30th Infantry Division Artillery,  
Operations Through Siegfried Line
- Part II - Pillbox destruction report by 258th  
F.A. Bn. (155mm Guns, M-12, SP)
- Part III - Artillery mission daily record by  
XIX Corps, 1-16 October 1944

Part I

30th Infantry Division Artillery  
Operations Through SIEGFRIED LINE

2-16 October 1944

The 1st October 1944, found the Division in position before the Siegfried Line west of Ubach and north of Aachen, Germany, awaiting orders for the assault on this barrier.

In addition to the organic battalions, the Division Artillery had the following attached units for the support of the Division effort:

258th Field Artillery Battalion (155mm Self-propelled guns)  
65th Armored Field Artillery Battalion (105mm Howitzers)  
62d Armored Field Artillery Battalion (105mm Howitzers)  
92d Cml Battalion (4.2 Mortar)  
"A" Company, 823 Tank Battalion (3" guns)

The 119th Field Artillery Group was in direct support of the Division effort and received fire missions directly from the Division Artillery Fire Direction Center.

This Group consisted of:

963d Field Artillery Battalion (155mm Howitzers)  
967th Field Artillery Battalion (155mm Howitzers)  
240th Field Artillery Battalion (155mm guns)

The primary missions of the artillery in the days preceding the attack were:

1. Destruction of all visible pillboxes.
2. Prevention of a build-up in the zone of attack.
3. Destruction or neutralization of enemy artillery, anti-aircraft, artillery, and mortars.
4. Markings of air support targets.

DESTRUCTION OF ALL VISIBLE PILLBOXES: In the days preceding the attack it was determined that 105mm Howitzers lacked the velocity, weight and accuracy required to



destroy these pillboxes; that the 155mm Howitzer lacked the accuracy and that the 3" gun lacked the destructive power to destroy pillboxes effectively. The 155mm Self-propelled Gun was determined to be the most suitable available weapon for the purpose and as a consequence the 258th Field Artillery Battalion was given this mission. The Battalion succeeded in neutralizing some of the visible pillboxes in the Division zone of attack prior to the "jump off" and continued the mission during the attack.

For the accomplishment of the mission the Battalion used one (1) battery on direct laying, using T-105 Concrete Piercing Fuses. After very careful prior planning and extensive reconnaissances, pieces were brought into position under cover of darkness and used singly. Pillboxes were not only penetrated, but in some instances reduced to rubble. In order not to disclose the proposed zone of attack, this operation was carried out in a number of sectors. The mission was continued throughout the penetration of the line and during succeeding days as the Division effort proceeded southward to a junction with the First Infantry Division northeast of Aachen, Germany.

A thorough "working-over" of these installations by 105mm and 155mm Howitzers first is considered desirable if the supply of ammunition permits. This tears away the camouflage and clears the installation for the direct fire weapons. It weakens the structure and jams and chews up embrasure slits and moving parts. The assault weapon should be "covered" where possible, by supporting artillery since in a direct fire position it is subject to return fire of the same nature.

**DESTRUCTION OR NEUTRALIZATION OF ENEMY ARTILLERY, ANTI-AIRCRAFT ARTILLERY AND MORTARS:** This was carried out jointly by Corps and Division Artillery, the former placing the emphasis on counter-battery and neutralization of anti-aircraft artillery the latter accepting the primary responsibility for counter mortar fire.

The enemy practiced the deception of intermingling mortar and artillery fire to such an extent that it all appeared to be artillery fire to even more than the casual observer. When the sound base failed to pick up the source of fire the extent of the deception was apparent; however, in the time available it was impossible to locate the mortar positions, and substantially neutralize them. The enemy constantly changed his mortar positions and by this practice greatly magnified the problem of counter-mortar.

COUNTER-BATTERY was more successful. In a lesser degree the same practice of firing and then displacing made the mission a difficult one. "Shellreps", a sound and flash base, and aerial observers as well as terrestrial observers accounted for the substantial neutralization of enemy artillery.

Aerial observers were assigned the primary mission of spotting enemy Anti-aircraft Artillery during the air strikes preceding the day of attack. Active positions were promptly taken under fire with notable success. Information thus obtained was retained for use on the enemy anti-aircraft artillery "Blackout" preceding the saturation bombing on D-Day.

**PREVENTION OF A BUILD UP IN THE ZONE OF ATTACK:** The Division Artillery, joined by Corps artillery, prevented a substantial build-up in the zone of attack by extensive fires throughout the day and by night interdiction fires. Aerial observers under centralized Division Artillery control were given definite overlapping zones of observation over which a constant vigil was kept when visibility permitted. Terrestrial observers operated as listening posts at night. Very close liaison between Division and Corps Artillery was maintained throughout the operation. On night fires, Corps Artillery undertook the deep interdiction fires with the Division Artillery largely confined to "close-in" interdiction, the two being closely coordinated. The attached Tank Destroyer Company was used extensively on interdiction by this Headquarters, this being necessary by the restriction on the expenditure of Artillery Ammunition. Attention was diverted from the zone of attack by profitable diversion fires.

**MARKING OF AIR SUPPORT TARGETS:** Light Battalions of the Division Artillery marked the air support targets. At this time of the year in this sector, green and

violet smoke proved of no value as target marking agencies for high performance aircraft. These colors blend with the predominantly green background of foliage and become indiscernible. White Phosphorous, while discernible, was not used to any great extent because of the likelihood of the enemy nullifying the effort by firing like smoke into our lines.

Air support targets were agreed upon prior to the air strike and the marking mission assigned to particular battalions. Data was computed by the battalion and the mission assigned to a battery within the battalion. This battery was then given the requisite smoke for the mission. Communication between the Division Air-Support Party officer, Division Artillery Fire Direction Center and the battalion was continuous. In most instances direct lines were used. As the planes approached the area the Air Support Party officer "coaxed" the planes over the target area by use of his air-ground radio set. Smoke was fired at the air support party officer's command and an "on the way" was given for re-transmission to the pilot. The method of fire was one battery volley, followed by one round per minute until the target was identified by the air. On occasion it was necessary to vary the method of fire to obtain the desired results.

On the 2d of October, 1944, the Division attacked eastward into the Siegfried Line in the direction of Ubach, German. The plan of supporting artillery fires consisted of:

1. Isolation of Area to be attacked.
2. Counter-battery, Counter-mortar, and an Enemy Anti-aircraft Artillery "Blackout."
3. Marking of Air Support Targets.
4. Destruction of Barbed wire defenses
5. Scheduled Concentrations on Strongpoints, Fortifications, etc. and extensive Concentrations on Call.
6. Successive Barrage Lines before the Advancing Infantry.
7. Continuation of the Destruction of Pillboxes and Fortifications.

The area to be attacked was "sealed off" by concentrations on cross roads and avenues of approach to this area. All enemy artillery positions were "worked over" by Corps Artillery with considerable success. The initial difficulty in locating mortar positions, coupled with the enemy practice of frequent displacement and our lack of sufficient ammunition to search the areas made the counter-mortar phase of doubtful success.

Immediately prior to the approach of the supporting aircraft, enemy anti-aircraft installations were fired upon by Corps Artillery with complete success. The spotting of these positions on former days had been so thorough that on this day no anti-aircraft fire of any consequence was observed. On former days considerable anti-aircraft fire in this sector had been observed.

The air support targets were marked by the light battalions of the Division Artillery for the dive bombers who came in on the marked targets with creditable results. The destruction of the barbed wire defenses was carried out by the 92d Cml Battalion. Since range and velocity were not factors, the 4.2" mortar was found to be admirably suited for the purpose, the blast effect of the projectile being sufficient to accomplish the severance of the wire. 4.2

This operation presented the usual problems of timing, coordination, position and priority of fires. The situation was difficult because a counter-attack in force could very conceivably come from either the east, against the assault forces, from the south against the holding force or from both directions simultaneously.

Meticulous prior planning, close coordination and maturity of units simplified the problems, communications clinched them. In addition to the normal communications, the Division Artillery had direct lines to Corps Artillery Fire Direction Center, Division air support party officer. Each battalion in turn was linked with the battalion on either side, respectively, by lateral lines. Never throughout the operation did communications fail although the area was frequently subjected to severe enemy bombing and shelling.

PART II (Artillery)

HEADQUARTERS, 258TH FIELD ARTILLERY BATTALION

APO 230, U. S. Army  
5 October 1944

SUBJECT: Destruction of concrete pillboxes by short range fire from M12,  
155mm Gun, SF.

TO : Commanding General, XIX Corps, APO 270, U. S. Army

1. Between 26 September 1944 and 2 October 1944 this battalion was assigned to the mission of methodical destruction of all pillboxes which could be located on the front or immediate flanks of the impending attack on the Siegfried Line by the 30th Division.

2. During this period intensive aerial and ground reconnaissance, in conjunction with aerial photo study, revealed 49 pillboxes as potential observable targets.

3. Of this number 43 were attacked by short range M12 fire, 1 by direct fire and 2 by 3" guns of Co a, 823d TD Bn. M12 adjusted using fuze delay, switching to T105 fuze on obtaining the first target shot. The TD company commander fired using one gun, direct laying, firing both HE with fuze CB, and armor piercing shot. Evidence of penetration was obtained on all 46 targets above. For details of each mission, see accompanying annex.

4. Firing was terminated only on evidence that a penetration has been obtained. It has not yet been possible to verify by close-up examination of the targets whether penetration was accomplished in every instance.

5. Terrain considerations affecting this mission differed materially from those encountered in VII Corps penetration of the Siegfried Line. Major factors were:

a. The terrain to the west of the Wurm River, the general front lines, offered a slightly rolling bare plateau approximately 1500 yards wide, dominated by enemy observation, and no positions for direct fire except in its center, which could not be occupied to accomplish the assigned mission because of counter-battery fire immediately incurred. This plateau dropped sharply to the Wurm River, and it was in this valley, dead space from any possible position that the only targets which were found but not fired upon, were located.

b. Enemy observation dominated the entire area and counter-fire was accurate and occasionally heavy, falling normally from 20 to 30 minutes after opening fire.

6. Solution to mission was occupation of positions immediately west of general area of Scherpenseel where sight defilade only could be obtained and short range indirect fire could be employed. Also similar positions were found just south of Nieuwenhegen. In the face of frequently heavy shelling, ground observation was pushed to the edge of the plateau facing on the Wurm River, and aggressive use of air observation was continuous.

7. Following tentative conclusions are submitted as result of accomplishment of this mission:

a. Effective destruction of a point target is a function of range from target, not whether method is direct or indirect.

b. Where short range indirect fire with sight defilade is possible, by expenditure of two or three extra adjusting rounds, the mission can be accomplished without the loss of materiel that is probable consequence of emplacing this gun in appropriate position for direct laying. Two pieces suffered direct hits occupying positions for direct fire, none were lost employing indirect fire.

c. German counter-battery fire could be counted upon not to fall sooner than 20 minutes after opening fire. As a result roving positions were chosen, a box destroyed, and the gun moved out quickly thereafter. Fire would then be opened nearby after a 15 minute additional delay. This procedure avoided destruction or serious damage to materiel in several instances. This method involved no sacrifice of adjusted data since each box, due to differences in site, required a complete new adjustment whether in the same or another position.

d. For quick penetration, fire must be delivered as nearly as possible in line perpendicular to face of the box.

e. HE shell, Fuze T105, does not obtain its maximum effectiveness at ranges under 2000 yards if supercharge is used. Considerable evidence exists that the shell begins to shatter into large fragments slightly before the delay fuze becomes operative, when the terminal velocity is excessive. This was countered effectively in last stages of this mission, by firing normal instead of supercharge at shorter ranges and penetration was found to be better. This matter has not been thoroughly explored and its possibilities are offered as a subject of further study. This experience agrees with that of the 991st FA Bn engaged in a similar mission with the VII Corps. With very little instruction the gunner corporal can be taught to employ the direct laying sight on the M12 (graduated for supercharge) with normal charge.

f. Factors of terrain, angle of impact of the fires, and effectiveness of penetration of various types of boxes at different terminal velocities outweighed considerations of probable error consequent on range of gun from target. This will be noted from accompanying annex which summarizes the essential elements of fires of 27 pillboxes. Data on the balance of the fires delivered is not available but their delivery revealed no considerations not demonstrated in these 27.

g. Air OP conduct of precision destruction fire is highly effective.

h. The 3" anti-tank gun employed as in paragraph 3 above can penetrate concrete when it is possible to find positions from which direct laying is possible. Its rapid rate of fire, quick emplacement and displacement, and low silhouette avoided the major difficulties inherent in similar employment of the M12.

i. Direct laying by the M12, as opposed to indirect short range fires, has the sole advantage of greater speed consequent upon the elimination of the factor of communications, and conversion of sensings into appropriate firing data.

8. From fires that have been executed or attempted by platoons working closely with assault infantry battalions, it is believed that the M12 can be effectively employed in an infantry assault gun role only in exceptional circumstances. It is essential that any such employment be under command and control of artillery officers on the ground familiar with the characteristics of the weapon, as has been the case in supporting the 30th Division infantry, and not attached to the supported units. The number of missions fired in this manner of close support have been too few in number to provide further detailed conclusions.

/s/ BRADFORD BUTLER JR.  
/t/ BRADFORD BUTLER JR.  
Lt Col, 258th FA Bn  
Comdg

ANNEX NO. 1 (Part II)

No.	No. of Total Rds	No. of Rds Adj.	No. of Rds.Fuze delay	No. of fuze CP	No. of Penet. Shots	Total No. Target Hits	Range	Coordinates
1	31	10	11	21	2	12	4670	87.22-60.35
2	30	18	19	11	1	9	4750	87.28-60.19
3	22	9	11	11	2	8	4400	86.87-60.00
4	9	5	6	3	2	4	3600	86.03-60.47
5	19	5	6	13	2	7	3640	85.94-60.82
6	4	5	12	1	11	3100	85.52-60.47	
7	15	5	6	9	2	6	3400	85.02-59.40
8	21	2	3	18	2	12	3400	85.02-59.33
9	23	9	10	13	3	10	2100	85.22-59.32
10	11	4	5	6	2	5	3570	85.17-59.24
11	16	4	5	11	-	3	4250	86.60-61.16
12	14	8	9	5	2	4	4790	87.14-60.62
13	11	4	5	6	-	3	4630	86.97-60.95
14	21	6	7	14	2	6	3660	86.09-60.26
15	11	3	4	7	2	6	3400	85.16-59.27
16	23	11	10	13	3	10	2300	85.20-59.32
17	10	4	5	5	2	6	2700	83.98-56.70
18	21	2	3	18	3	12	3400	85.15-59.34
19	6	4	5	1	1	2	2600	85.10-60.20
20	7	3	4	3	1	2	3560	85.79-61.78
21	19	9	10	9	1	4	4280	86.52-61.70
22	16	7	6	10	2	5	3560	85.68-62.06
23	16	5	6	10	2	6	2660	85.68-62.06
24	8	3	3	5	1	3	2200	85.27-60.30
25	19	9	10	9	1	3	5500	83.96-56.24
26	21	8	9	12	2	8	4980	87.29-60.09
27	33	15	15	18	2	13	2800	85.94-60.94

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PART III (Artillery)

XIX CORPS ARTY MISSIONS FIRED DURING ATTACK ON SIEGFRIED LINE

OCT	DAILY TOTAL	OF WHICH OBSERVED	COUNTER BATTERY	HARRASSING AND INTERDICTION	MISCELL ANEOUS	CLOSE INFANTRY SUPPORT
1	336	176	11	295	30	65
2	916	693	57	192	61	606
3	1097	614	72	447	35	543
4	597	330	35	250	14	298
5	575	298	109	222	43	201
6	576	310	66	233	48	229
7	507	316	47	167	14	279
8	565	298	83	225	61	196
9	814	440	27	360	33	394
10	767	451	55	288	108	316
11	735	352	60	207	64	392
12	787	362	78	327	106	284
13	863	435	73	324	104	362
14	524	363	96	136	25	267
15	434	305	109	89	44	196
16	558	366	93	153	39	273
TOTALS	10,851	6,109	1,071	3,915	829	4,901

#0225.

UNCLASSIFIED

Note: Siegfried Line Assault Area Photo Map, Obliques, Detail Map, and 1:25,000 map (reduced) with Defense Overprint of the XIX Corps Penetration can be obtained from the Kansas City Records center referring to their box No. C-3501.

THIS FLAP CONTAINS -  
Siegfried Line Assault Area Photo Map,  
Obliques, Detail Map, and 1:25,000 map  
(reduced) with Defense Overprint of the XIX

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of the Engineer, XIX Corps)



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GENERAL MAP OF XIX CORPS SIEGERIED  
LINE SECTOR SHOWING:

Width of pillbox  
band and additional  
defense digging.

# UNCLASSIFIED

The XIX Corps was deployed along the West edge of the pillbox band from just South of GEILENKIRCHEN (865628) all the way to North of AACHEN (855469).

The → indicates the spot for the initial assault.

The — indicates the line held and penetration achieved by XIX Corps on 16 October.

MAY 26 1983

DEC 13 1982

