

RESTRICTED

BREACHING THE SIEGFRIED LINE

XIX CORPS

UNITED STATES ARMY

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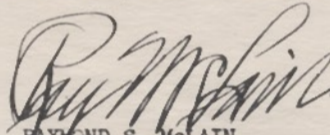
This study is a General Staff analysis and record of the most important operational details of the XIX Corps' successful attack on and penetration through the "Siegfried Line".

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
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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

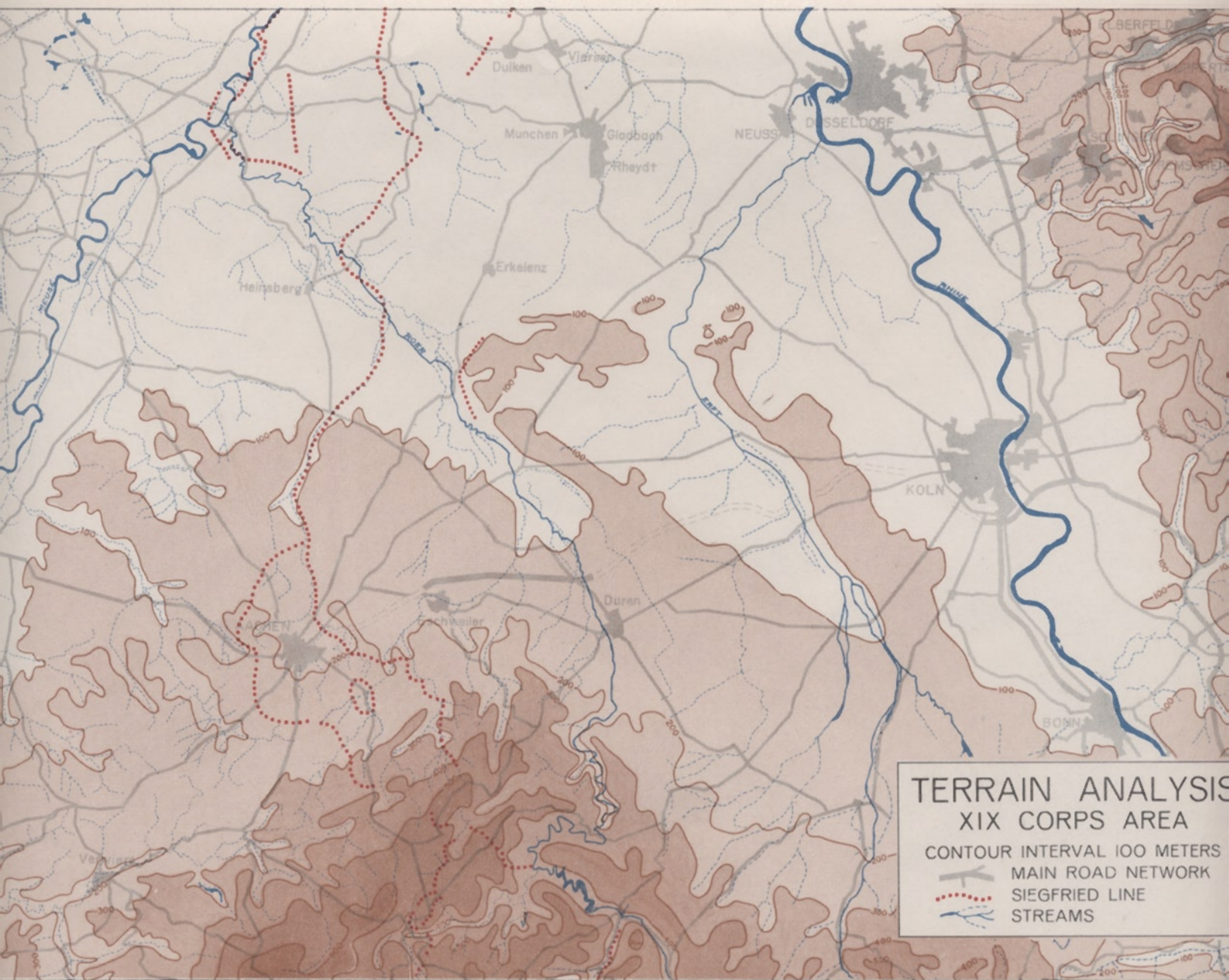
The Siegfried Line in this sector was a continuous obstacle extending across the whole Corps front. It was here constructed to implement the natural obstacles formed by the Wurm River and, in the N 5 km of the sector, the Wurm and Roer Rivers. The only portions of the line not lying behind a water barrier 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-Susseldorf area.

b. Selection of breakthrough point.

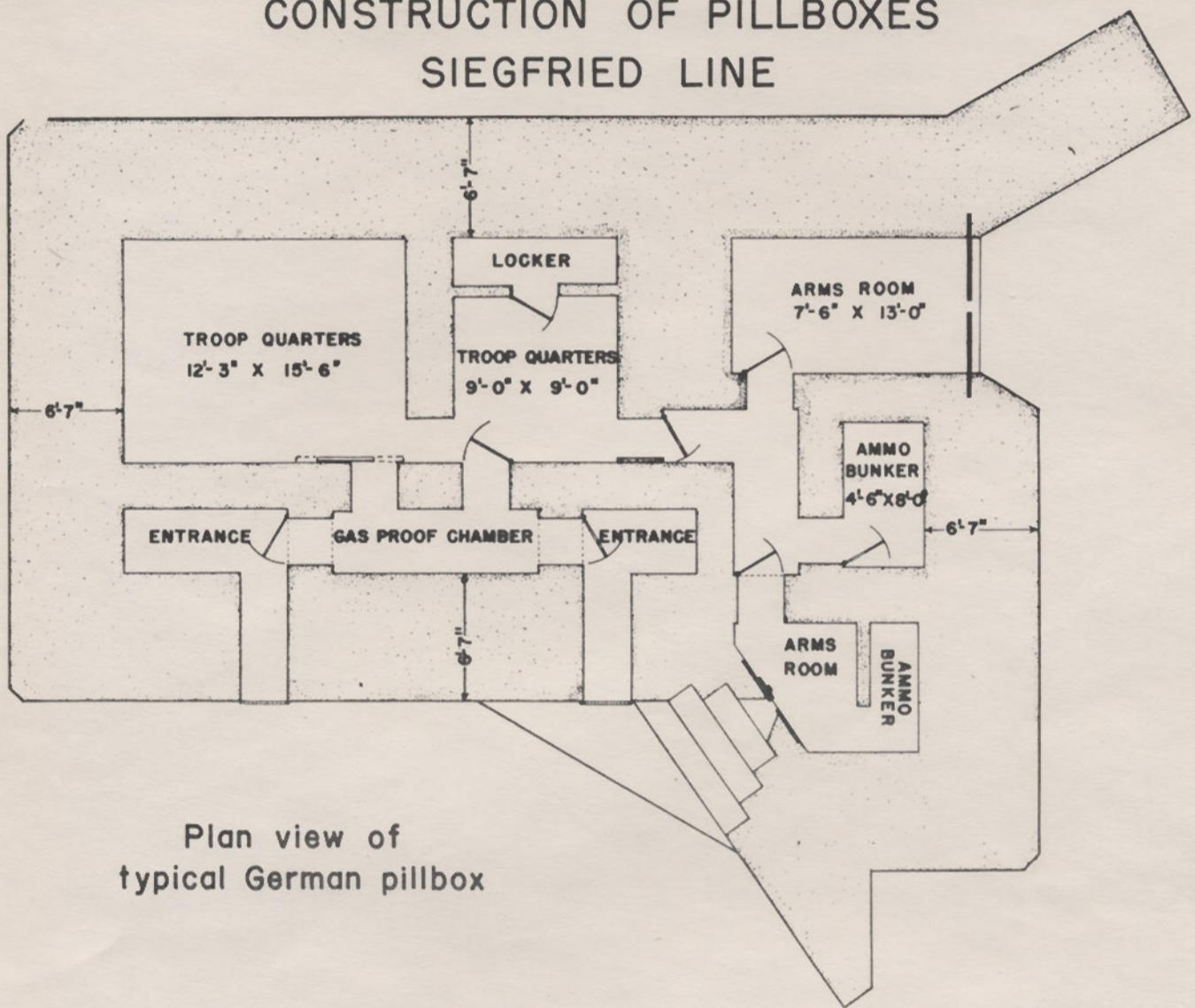
A detailed analysis of the Siegfried Line in the Corps sector resulted in certain conclusions about it:

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

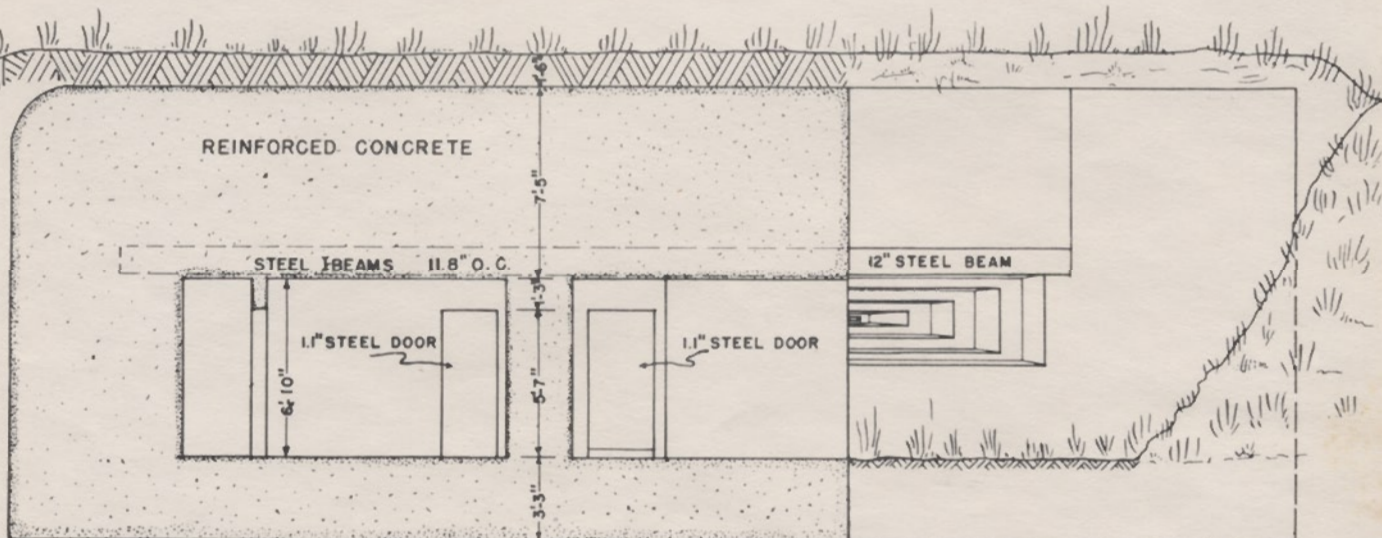
The greatest density of pillboxes was just S of the junction of the Wurm and Roer Rivers.

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

CONSTRUCTION OF PILLBOXES SIEGFRIED LINE



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 Palembang-Rimbung 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."

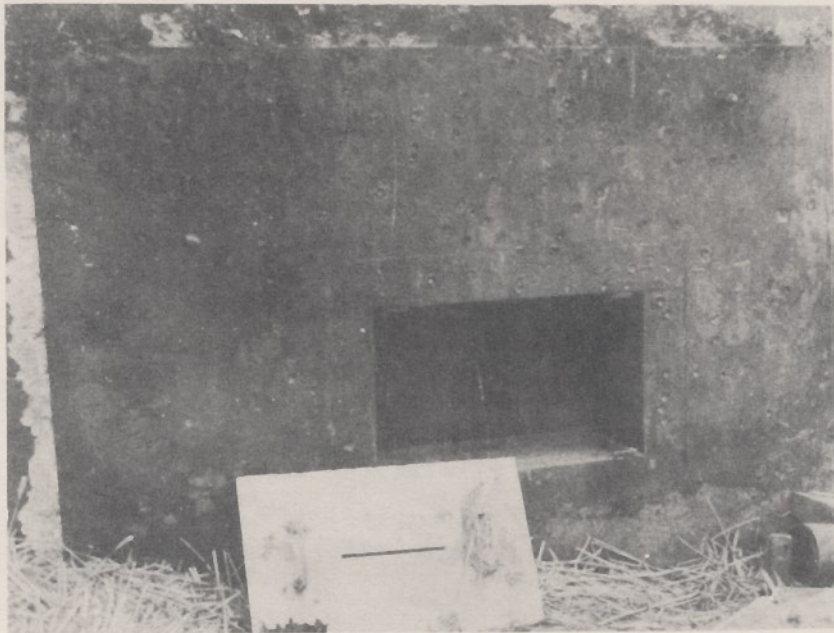
The men were also well prepared psychologically. They were inculcated with the necessity for high speed in advancing to the river, crossing, and attacking the fortifications. Many men testify that they remembered this when they attacked on 2 October, and double-timed through heavy artillery and mortar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

e. Intelligence prior to attack

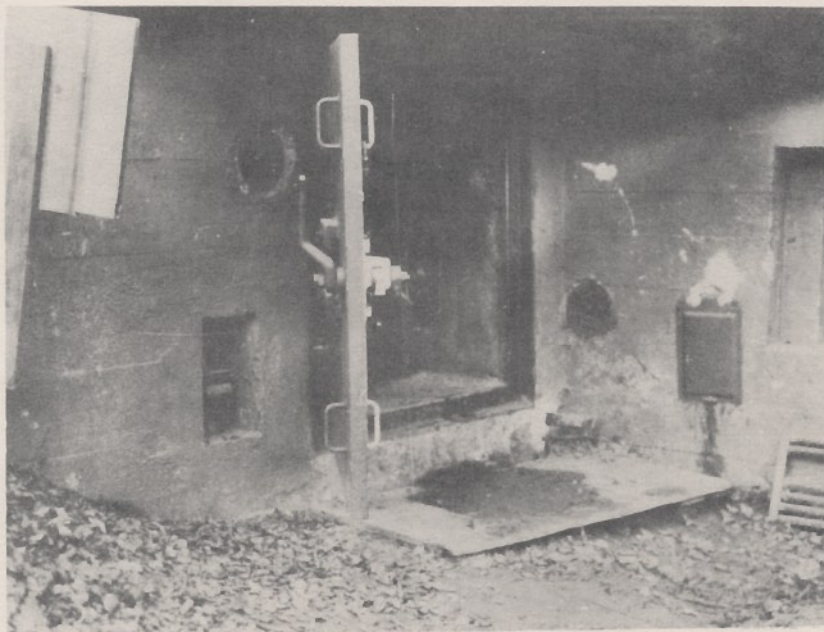
This was as complete and accurate as that furnished for the invasion landing on Omaha beach. All details of the pillboxes were known long before the first one was captured. Locations of 90% or more of the boxes were accurately plotted on the 1/25000 maps and special 1/11000 photomaps using 8 Sept 1944 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

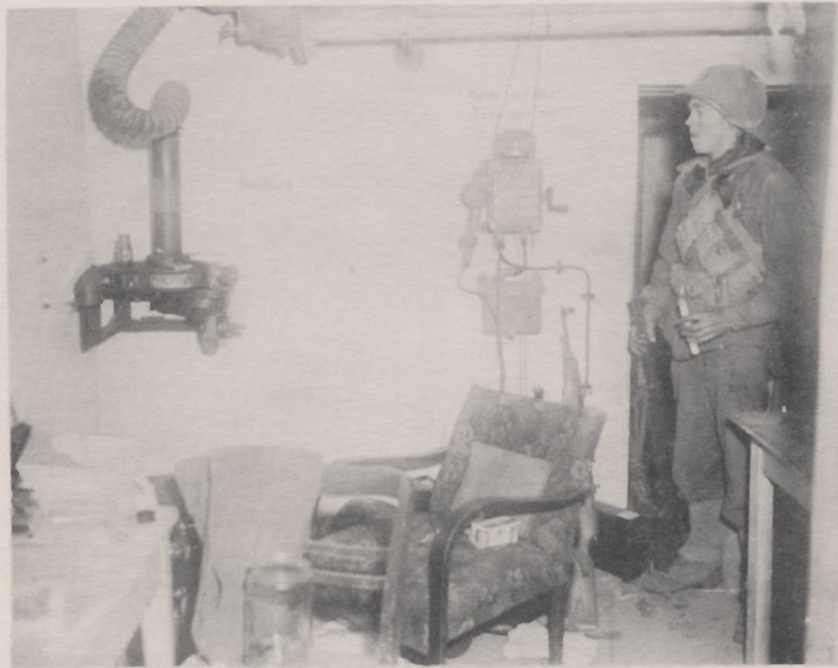


Effect of small arms fire
on firing embrasure



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