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OPERATIONS OF COMPANY C 105th ENGINEERS,
(30th DIVISION), IN THE ATTACK ON THE HINDENBURG LINE,
SEPTEMBER 25 - SEPTEMBER 30, 1918.

(Personal experience of a company and battalion commander)

Captain John F. Hill, Infantry
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INTRODUCTION

In this monograph of the operations of Company C 105th Regiment of Engineers (30th Division) prior to the attack and in the attack on the Hindenburg Line during the period of September 25 to 30, 1918, the facts cited are those that were experienced not only as a company officer but also as a battalion officer.

The attack on the Hindenburg Line was one of the closing phases of the Somme offensive that started early in August.

Prior to the 30th Division's participation in the Somme offensive it had been trained with the British in the Ypres salient in Belgium. For a time it was brigaded with the 39th British Division which was composed in part of regiments of the famous Black Watch and Gordon Highlanders. Its entry into Belgium was that of the first American troops that country.

In the months of May and June 1918, when there was felt by the British, French and Belgium troops a continued fear of attack in Flanders and an expected drive by the German army towards the channel ports, the II American Corps was organized. At this time it was proposed to have ten divisions. Sir Douglas Haig's Command cites the following: "Early in June (that is after the outbreak of the Reims-Soissons offensive) five of the ten American divisions at one time assigned to the British Front were directed south; the five divisions ultimately left,
namely the 27th, 30th, 33d, 78th and 80th by the
middle of August ranked as first line troops --------
three divisions of these then left us, the 27th and
30th remaining to hold a sector of the Ypres front
before their transfer to the Fourth British Army."

Before the 30th Division had a chance to
complete its training the division was placed in close
support of the 49th British Division.

On August 17, 1918, the entire sector of
the 33d Division (B.E.F.) was taken over, that is, the
sector known to those of us who served therein
as the Canal Sector of Ypres. This sector had
frontage of 2400 metres.

After a limited occupation or rather a
limited time within which to get the lay of the land
and to feel itself out, the division passed from the
defensive to the offensive. It became aggressive and
on August 31 and September 1, in conjunction with the
14th Division (B.E.F.) and the 27th American Division,
in order to test the division in offensive warfare,
an operation against the enemy was staged. While the
results obtained, which, in the light of the divi-
sion's accomplishments later may be deemed as trivial
and unimportant, showed wherein the division was
capable of taking hold and could advance against an
enemy. In this offensive the town of Vermezelle was
taken and an advance of over 1500 yards was made.
While only 15 prisoners and 2 machine guns were cap-
tured, yet this staging of an offensive may be classed
in the same category as that of the Cantigny offensive
of the 1st Division. It had clearly proven all that could be expected of the division and in all probability more so. It had accomplished in the space of two calendar days what the British occupants of the sector had been trying to do for weeks, and that was to clearly and conclusively identify what regiments and divisions of the German army were holding the sector, and furthermore whether or not there was any preparation for launching an attack on that particular front.

The division remained in this sector holding the ground gained until it was relieved about September 5. Immediately upon its relief from holding the line, the II American Corps was transferred to the Second British Army. In turn within a few days the corps was transferred to the Fifth British Army and then to the Fourth Army (B.E.F.).

So on September 25 we find the division together with the 27th Division forming the II American Corps moving forward in the sector of the Fourth British Army of which it was now a part.

On the same day we find the 105th Engineer Regiment (less Company C and several small detachments) moving into Bernes. In order to ascertain the diversity as to the manner in which the Engineers are employed, let us examine one day's entry in the History of the Regiment:

Company A The two platoons that had relieved the Australian Company in the lines were working on roads and tracks keeping them
repaired. The other two platoons worked on the Joancourt-Hargicourt Road to be used for motor ambulances. L10a7.7 was selected as the location for dressing station.

Company E  Furnished two details of 100 men each to artillery group commander and were used for opening new gaps in the wire entanglements to facilitate the movement of the artillery in attack.

Company C  Continued on detached service at II American Corps Headquarters near Asservillers. A detail was working on Advanced Division Headquarters at K 11 o 5.5.

Company D  One platoon and a detail from Company C were engaged in preparing advanced Division Headquarters northeast of Reisel. There were some old Nissen huts in an old quarry and in addition to repairing these, 20 shelters were excavated in the walls for protection from air raids. The remainder of the company was at Division Headquarters at Bois du Buire.

Company E  Remained at Hervilly.

Company F  Company moved from Herville to Jeancourt where they reported to C. O. Section No. 1 3d Australian Tunnelling Company, to whom they were attached for work in the coming attack.
1st En. Hqrs.-- In the evening a conference was held when plans were discussed for laying the jump-off tape on the night of 28-29.

From the foregoing an idea can be had as to the manner in which the Engineers were employed, not only in the division sector but also in the corps sector.

Company C 105th Engineers was employed on work in conjunction with the establishing of Advanced Corps Headquarters. On September 21, it left Talmes moving by truck to Asservillers. Here had been established for some time Australian Corps Headquarters. In order that II Corps Headquarters could be moved to the same location for the purpose of working in conjunction with the Australian corps in the coming attack of September 29, it was necessary to erect some 30 Nissen huts, 4 messes and latrines. Every building erected had to be sandbagged. Protection against enemy air raids had to be provided which had to be stretched for camouflage. The company stayed here on this work until the 28th of September. At about 3:00 PM, September 28, a warning order was received from the Corps Engineers Office to be ready to move within an hour's notice. The order did not state where we were to move to and when, however, at about 4:30 PM we were informed that trucks would arrive at about 5:00 PM and that the company would entruck at once for Reisel where orders would be received as to our destination after reverting to the division and regiment. After entrucking our journey forward was
quite interesting. Passing places or towns that formerly existed, signs could be read "This was ____________________________ (giving the name of the town or place). The roads were jammed with traffic all intent upon the same purpose. Rations, ammunition and supplies going up to the various dumps and points of supply. Motor ambulances shunting back and forth between the Hospital trains and the casualty clearing station. While we, as combat troops held the right of way as to movement yet the journey was wrought with difficulties to get through. We arrived at Hervilly at about midnight, where we went into bivouac in a cemetery. The movements forward that night of tanks, supply trains and ammunition trains made rest or sleep impossible. There was a continuous firing or strafing going on all through the night. Finally the barrage opened. It seemed like as though there was a gun for every 5 yards of front.

We received our orders. Company C was to remain at Hervilly that day in Regimental Reserve. We were ordered to hold the troops in readiness to move on a moment's notice to any part of the division sector that we might be needed. The Engineer train was loaded with tools, wire and other materials that might be needed forward.

Officers of Company C were ordered forward after the attack started for the purpose of road reconnaissance and general observation as to anything deemed of importance.
On this day we find the 105th Regiment of Engineers ably assisting in the attack. The operations order for the regiment allocated specific tasks to the several companies of the regiment. These tasks were such as searching for booby traps, land mines, water reconnaissance, assisting in the consolidating of the right flank, road repair and maintenance, cutting wire entanglement; in fact, every phase was that provided for would enable the infantry and artillery to carry out its mission.

Inasmuch as Company C was absent at Corps Headquarters when the Operations Order was formulated for the regiment no specific task was allotted to it, however, it was held in readiness to move in any direction to cope with any emergency or situation that might have arisen.

The morning of the 29th of September came with a very heavy fog which did not lift until about 11:00 AM. This fog in conjunction with smoke (artillery battle instructions as to the barrage directed that a large portion of smoke be included in the barrage) made the maintaining of direction and the location of places exceptionally difficult. This not only the experience of the Engineers but also of the Infantry. They experienced difficulty of maintaining direction and also contact; due to this more or less line fighting took place by mixed groups.

A rather exemplary situation arose on September 29 as to the use and employment of combat
Hist, 105th Eng. Engineers. Company B in compliance with instructions issued in Appendix "B" Operations Orders filed under date of September 29, 1918 was held in readiness to assist in the consolidating the line on the right flank. In this Operations Order specific and definite instructions were laid down to the effect that:

"In the advance Company B will follow the 117th Infantry at approximately 500 to 1000 yards and will be ready to assist the Infantry in consolidating the line."

At zero hour (less 2) Company B left its rendezvous. Prior to its departure, however, the Operations Order was amended to the effect that in case it became necessary to consolidate and for any other Engineer work that might be required of it, it was to be understood by the company commander of Company B that the company could be placed in the lines with the 117th Infantry.

The latter part of the amended instructions as to the placing of the Engineers in the lines were taken verbatim by the Infantry, in that according to the instructions received by them to the effect "It is to be understood that in case of emergency Co. B, 105th Engineers will be placed in the lines."

The commanding officer of Company B, 105th Engineers reported to the Regimental Commander 117th Infantry at the time and place directed. He was in turn directed to report to the battalion commander of the 3d Battalion 117th Infantry. This battalion
commander directed the company commander of Company B 105th Engineers that he would take his company and prolong the left flank of the battalion in the attack. This was contrary to the instructions issued. There was no emergency. The Infantry was capable of continuing on and needed no additional support. Instead of employing the Engineers on the consolidation of the lines they were assigned a sector and actually held it until the error of judgment of improperly employing the Engineers was found out late in the afternoon of the 29th. Some little difficulty was experienced in pulling them out of the line in order that they might assist the other battalion of the 117th Infantry in consolidating.

Another experience was had that of maintaining direction under any and all conditions. The morning of September 29 broke with a heavy fog, this combined with smoke made the going exceptionally difficult. One could scarcely see over five yards in either direction. I distinctly recall running into a battalion commander of one of the supporting units while out on reconnaissance and having him ask me the question which way are we going. He had a compass and I asked him if he could set it. The type compass referred to is not the lensatic type we know but rather the British Ordnance type. In the haze of the fog it was set for him "due east by a little north. Nevertheless it brings out the fact that no matter whether or not the attack was to take place in daylight or dark, the operation order and battle
instruction should have contained some instructions as to direction to be maintained.

To better exemplify this let me quote from the History of the 119th Infantry:

"At exactly 5:50 AM the most terrific barrage ever laid down on the Western Front opened and the Infantry following it as closely as possible, assisted by such a density of fog and smoke that a person could not see over 5 yards.... The fog and smoke caused a bit of confusion."

Thus we see that the II American Corps composed of the 27th and 30th Divisions attacked the main Hindenburg Line. The Germans had since the early days of the war expended much time, labor, skill and materials and as a consequence therefore he believed the Hindenburg Line capable of defying any assault made against it. He staunchly believed this particular part of the Hindenburg Line was to be an achievement. He steadfastly reckoned that the force of any planned attack would be broken on the first ridge and to accomplish this, he, it seems solely depended on a solidified machine gun defense augmented with a number of minenwerfers.

Let us consider a general description of the Hindenburg Line. Generally this part of the Hindenburg Line contained a large amount of dugouts, lined with heavy mining timbers with steps leading down to a depth of 30 or more feet. These dugouts were constructed with a view of housing from four to twelve
men. So long had they existed and been occupied that many of them were wired for electric lights. In the second line of defense about a point of 100 yards south of the Riqueval Entrance (Southern Entrance) to the northern entrance of the same there were approximately 150 dugouts. Numerous observation posts were distributed along the line. These were of concrete and had adequate shelter for the observers.

The third line of defense was in proportion as adequately manned and equipped in observation posts, dugouts and shelters. Every phase possible had been considered in not only providing for defense but also comfort of the occupants. Concrete was used wherever possible. In planning for the defense he provided good cover from shell fire as well as quick and easy access. There was one feature observed and which was quite noticeable in that there were very few concrete machine gun emplacements. In the location of the observation posts it was noted that they were placed, and placed that they afforded a splendid field of observation of the entire sector.

As to the entire defense in this sector the German had everything that could be desired. The country was gently rolling, fairly open and had a well defined ridge running from near Vendhuille in the north to near Bellicourt at the southern entrance to the tunnel.

The front line of the Hindenburg Line generally paralleled this well defined ridge at a distance of 1000 to 2000 yards.
Through this ridge and underground ran the St. Quentin Tunnel and Canal. It had been said by many that the protection afforded by this ridge in overhead cover was too good and too deep and at no place was the protection in any danger of penetration by shell or bomb.

All lines of the Hindenburg system in this sector was adequately provided with heavy bands of barbed wire. Built of screw pickets and generally of the double apron type.

In going over the trenches of this system it was noted that little or no revetting had been done. This can be readily seen in that the soil is a chalky one. It permits rapid excavation, washes or erodes very slightly and stands up exceptionally well. So far we have dealt with the three lines that made up the main line of defense but let us consider the outpost line. This too was well constructed and adequately protected.

It was connected up with the main line by means of ravines and well concealed communication trenches. The outpost line and the country between contained many dugouts, numerous strong points and exceptionally well sited machine gun nests.

The St. Quentin Canal where it ran through the tunnel added strength to the system. The inside of the canal tunnel by means of stranded or beached canal boats, heavy concrete blocks or barricades at the ends and center afforded the Germans quartering space for approximately two divisions. By use of the several approaches or galleries from the rear
(east) and numerous underground passages and exits connecting all parts of the line, the German was able to reinforce any part of his line.

The importance of this tunnel was felt by superior headquarters by reason of the great stress and emphasis laid on mopping up.

The Third British Army No. GS76-24 in part directs as follows:

"In continuation of Third Army No. GS76-9 dated 20th September

1. (b) The Fourth Army is delivering the main attack against the enemy's defenses from Le Tronquey to Le Catelet both inclusive on a date which will be notified separately.

* * *

The first objective (green line) has been allotted to the II American Corps. The second objective (red line) has been allotted to the Australian Corps who are to follow the II American Corps. After the capture of the Green Line, the II American Corps are to exploit north and southward (the Green line) in order to assist the advance of the V Corps. When the II American Corps exploitation towards the Green Line, the III Corps are to mop up the ground west of the canal." (However this was what was to take place on sector of the 27th Division but we find mopping up further stressed in the operation orders of the Fourth Army, B.E.F. dated September 22, 1918.)
In paragraph 4 (c) of Field Order No. 16, II American Corps dated September 24, 1918 further emphasis on this phase of the operation— in that definite bodies are allotted for duty at each entrance to the tunnel with the object of dealing with any of the enemy— These troops were not to be withdrawn until the tunnel had been entirely cleared of the enemy.

Let us briefly consider the mission of the II American Corps on September 29-30, 1918 and the scheme of maneuver pertinent thereto. However, inasmuch as we are treating of the operations of the 30th Division and a unit thereof it is proposed to deal only with such events as concerned.

**THE MISSION ASSIGNED**

The Fourth Army protected on its right flank by the First French Army will deliver the main attack against the enemy's defenses of the Hindenburg Line from Le Catelet to Le Tronquey both inclusive operating in the general direction Bohain-Busigny.

**SCHEME OF MANEUVER**

The first objective in the Australian Corps (Green Line) will be captured by the II American Corps. After the capture of the green line the corps will exploit to the north and south——— to the south with a view of assisting the IX Corps B.E.F. in their advance across the canal and to protecting the Australian Corps right in their advance to the Red Line.
In the orders of the day, Field Order No 18 II American Corps, September 24, 1918, we find the main operation divided into two phases. The first phase wherein the II American Corps after forming up on the tape line (Jump Off Tape laid by the Engineers) prior to Zero Hour was disposed as follows:

The 30th Division on the right and the 27th Division on the left. They were to attack supporting tanks in the advance under a creeping barrage. This barrage was to hold for four minutes in front of the jump-off line and then lift firing a predetermined schedule. The barrage contained a goodly portion of smoke shells. To the artillery was assigned the mission of screening the flanks with smoke and as soon as the 1st objective was reached it was to fan out in order that the infantry would be enabled under the cover of smoke to exploit the flanks and further cover the movements of the two corps coming up (advancing through the American sector so as to easily cross the canal).

An experience was had during the first phase of the attack. The III Corps, B.E.F. did not attack but held a defensive front for the purpose of screening the movement of the V Corps, B.E.F. This corps was to follow the 27th until the objective was reached and then pass through the exploitation. This movement was not to take place, however, until after the second phase had started. Due to the failure of the 27th Division to jump off on the same line as the 30th a gap occurred between the two divisions and
while reconnoitering the left sector of the 30th Division much to my surprise the Germans opened up with machine guns on my party from a nest which according to information supplied was in territory reported captured by the 27th Division. This gap was filled by two battalions, one each from the 117th and 118th.

To accomplish this maneuver we find that Corps Headquarters designated the troops and how the maneuver was to be carried out.

A and B Regiment of each division were to attack C Regiment, the supporting regiment of the brigades originally in the line. D Regiment holding the line when the attack began (this regiment to be assembled and pass to the Divisional Reserve).

Battle instructions 30th Division G3/4 September 25, 1918 disposed of the regiments as follows:

**11th and 12th Infantry** (attacking troops - taking over the line on D-2-day from the 118th Infantry, the 120th to be the right regiment). Each regiment to deploy on "D" day and to be in position at Zero minus 1 hour on the line (3 Bns in attack, 1 Bn in support).

Mission to break the Hindenburg Line and secure the 1st objective where it was to halt.

117th Infantry Assigned special mission. Allotted the task of exploitation to the south and to take up a position as
shown as the objective at the conclusion of the 1st phase from southern road (G12d1.0) then green line. This line must not be consolidated.

118th Infantry Division Reserve at K12d2.0.

Battle Instructions No. 5 allotted a special task to the 117th Infantry in addition to special mission in that it was assigned a company of Infantry and Machine Gun Company of the 118th and specifically detailed the mission of clearing up a small triangle on the front of the IX Corps.

On the night of September 25-26, a conference was held at Headquarters 105th Engineers then located in Bois du Suire when planes were gone over relative to the laying of the jump-off tape on the night of September 28-29. The 1st Battalion was assigned the task and the battalion commander was to personally supervise the same. Both daylight and night reconnaissance was made. On XI night a preliminary line was run and sufficient points marked. The line was run after the same was agreed to by the brigade commanders.

On "YZ" night the line was taped, a lieutenant taking charge of the right sector as also the same for the left sector while the battalion commander took charge of the center sector. While the allotted task was to be accomplished by midnight, the task was not finished in its entirety, due to casualties and machine gun fire.
RESUME OF CONCURRENT EVENTS

The Hindenburg Line of trenches were on each side of the canal; part of this was in a tunnel called the Bellicourt tunnel. This tunnel had been converted into a veritable beehive of shelters. Inlets and outlets to the tunnel were numerous. The task of mopping up was a hard proposition.

The Fourth Army, B.E.F., under Rawlinson attacked. The Third and First Armies prolonged the front to the north. The whole front for a distance of 30 miles (St. Quentin to the Sensee) was on the move. The main thrust, however, was made on the front from Gricourt to Vendhuille. On the right of the II Corps the IX Corps was advanced along the Thorgany Ridge to Le Tronquey where the canal passed through another lesser tunnel. On the immediate right of the II Corps two divisions of the B.E.F. were to cross the canal in the vicinity of Bellinglise and fan to the north. The movements of the troops on the II Corps front have already been described in detail. In the immediate front of the 37th Division the enemy held three important strong points. On the 27th of September in conjunction with the 30th Division the 27th was to attack and capture these. An offensive was staged and these three points were reported captured. This report was inaccurate, however, consequently the barrage started approximately 1000 yards east of the jump-off line of the 27th Division. This permitted the German to deliver a large volume of machine gun fire against the attacking troops from the three strong points that should have
been captured on September 27. Mopping up was not what it should have been and consequently after the first wave had passed the Germans came up out of dugouts and the tunnel and cut in between the Americans and the Australians, causing a double battle to take place. A desperate struggle resulted between the Australians and the Germans in rear of the attacking 30th Division.

ANALYSIS AND CRITICISM

It is difficult to criticise and comment upon the skill and ability which this difficult operation was planned, handled and accomplished.

The motives, intentions and actions of the Germans on the defensive shows wherein he held on with bull dog tenacity. The counter-barrage was not heavy but was of sufficient volume to cause many casualties among the supporting troops. The British in their advance had driven the German back to his He steadfastly maintained that the defense could not be broken. In 1917 they deemed it so strong that they willingly retreated and invited an attack by the British. The attack failed and he labored under the impression that it was impregnable. He was ever confident.

LESSONS

The breaking of the Hindenburg Line teaches us many valuable lessons:

(1) The unity of command. The close cooperation between the American and British officers with
but one purpose in view and that of penetrating and capturing the Hindenburg defense.

(2) Principle of Mass. The massing of two divisions to form the II American Corps placing approximately 30,000 effective rifles in the line (The American divisions did not have their artillery brigades with them. These were being employed at this time on the front of the American army attacking in the Meuse-Argonne and St. Mihiel salients).

(3) Destruction of Enemy's Forces. The failure of the German to hold what he thought a position that could not be penetrated and the resultant number of prisoners taken by the American and Australian corps. The location of the Hindenburg Line and all its natural advantage together with the number of men garrisoning it lend all the more to the American and British fulfilling the principle of war - the destruction of the enemy's force. While it may be remarked at this time that the German morale was not so high due no doubt to the conditions in internal Germany and the continued advance of the British Expeditionary Force on the Somme since August 1918.

(4) The Principle of Simplicity. Beyond a doubt an operation such as participated in by the II Corps against the Hindenburg defenses involved many intricate orders and instructions. Yet it has been plainly seen that by means of conferences and rehearsals the orders were thrashed out and every one
knew just what part his outfit had to play. To better illustrate this there were some 38 brigades of Royal Field Artillery with the attacking divisions, 21 brigades with corps (mixed, 6", 9") and 13 independent batteries of 6" gun and 12" howitzer), some 6 brigades of tanks, not to forget the auxiliary troops allotted to corps and army for the purpose of supplying, road maintenance, evacuation of wounded, handling of prisoners. Each a cog in the machine and each cog knowing what its job was. The resultant factor was that through a minimum of paper work and the resorting to conferences the principle of simplicity was attained. It is distinctly recalled by the writer while at Asservillers working on the hutment that was to house the II American Corps, the tranquility and ease which prevailed around the Australian Corps Headquarters. They did all they could to inculcate this same atmosphere into those of the II Corps after they moved in. It appeared to the writer that there was a war to be fought and in the fighting of it, clear, concise and short cut methods were the best with as few as possible coming and going. Summoning only the heads of the several components and thrashing it out then and there, these heads in turn to go back to their respective headquarters and thrashing out with their subalterns.

CONCLUSIONS

There remains many lessons to be learnt from an offensive such as this. (1) The matter of assault rations. This is of vital importance to the assaulting
troops and we might add all troops in the forward areas. It is distinctly recalled by the writer the shortage of assault rations in the 105th Engineers. To quote from the History of the 105th Engineers, "September 30th there was a scarcity of assault rations and extra water bottles amongst the several units of the 30th Division that were taking part in the attack. There were no assault rations or extra water bottles for any of the 105th Engineers. Those of the Engineers attached to the Australian troops were provided for by the unit to which they were attached. No provisions had been through the office of G-1, 30th Division. The assault rations of Companies A and B were made up by drawing the rations of Company C. This is deemed as an item of vital import in that supporting or reserve troops held in readiness to be shunted into any position should be provided for. (2) The matter of properly employing highly trained technical troops such as the combat engineers are supposed to be. We have had the case of the improper employment of Company B by the Commanding Officer 3d Battalion 117th Infantry when he shunted the Company into the line while they had been allotted a specific task in conjunction with the consolidating the line after the attack. (3) The training of troops to maintain direction under any and all conditions. It is deemed to be a matter of vital importance to train troops to maintain direction under conditions of smoke and fog as well as at night and the having ability of
recognizing ground features from continued study of the maps before operations. The use of the compass and the maintaining direction from its use.

"At exactly 5:10 AM the most terrific barrage ever laid down on the Western Front opened and the Infantry following it as closely as possible, assisted by such a density of fog and smoke that a person could not be seen at a distance greater than 5 yards---the fog and smoke caused a bit of confusion. No one except with the aid of the compass could keep the proper direction."

To summarize the entire period of the operation, September 25th to 30th, 1918, it is desired to quote:

"The enemy defense in the last and strongest of his prepared positions had been shattered. The whole of the Hindenburg Line passed into such rear systems as had existed behind them."

"Was it not Frederick the Great who remarked that we should all be great generals if we knew as much before the battle as after it?"
QUESTIONS

(1) Superior Headquarters having designated your specific mission with regards to the attack and what assistance you were to render. You are in command of an Engineer company and had been given a specific mission to assist in the consolidation of a position captured. Would you as a company commander be justified in refusing to take even a part of the line in the assault no emergency having arising?

(2) After the position had been taken would you in view of the above be justified in refusing to hold a sector or part of a sector in view of the fact that your instructions stated that you and your company were to assist in the consolidation?

(3) A company is held in reserve for the regiment. What are the duties of the company commander as to the reconnaissance to be made and the plans to be formulated in event that the company is to be used?

(4) What was the relative importance of the operations of the II American Corps on September 29 as compared to the adjacent corps?