

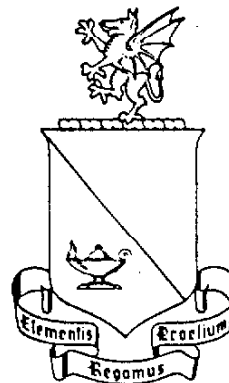
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GAS WARFARE IN WORLD WAR I
THE 1st DIVISION AT CANTIGNY
MAY 1918

US ARMY CHEMICAL SCHOOL
Management/Logistics Division
Command and Staff Training Department
Fort McClellan, Alabama



Study Number 11

The 1st Division at Cantigny
May 1918

by

Reymond C. Cochrane

GAS WARFARE IN WORLD WAR I

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U.S. ARMY CHEMICAL CORPS
HISTORICAL STUDIES

U.S. Army Chemical Corps Historical Office
Office of the Chief Chemical Officer
Army Chemical Center, Maryland

1958

The 1st Division at Cantigny
May 1918

Prepared by
Rexmond C. Cochrane, Ph.D.

Under contract DA-18-108-CML-6214

with
U.S. Army Chemical Corps

This is an accepted draft study on gas warfare in World War I



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Foreword

This is a tentative study of the gas experience of the 1st Division at Cantigny during World War I. This study is not presented as a definitive and official history, but is reproduced for current reference use within the Military Establishment pending the publication of an approved history.

The author was assisted in his research by Mr. Guy F. Goodfellow and Mrs. Charlotte M. Bolin.

Note to Reader: Comments and suggestions relative to accuracy and adequacy of treatment are invited, and may be transmitted to the Chief, U.S. Army Chemical Corps Historical Office, Army Chemical Center, Maryland.

THE 1st DIVISION AT CANTIGNY May 1918

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THE 1st DIVISION AT CANTIGNY
May 1918

The capture of Cantigny by the 1st Division was a prestige operation. As originally conceived, it was to be part of a combined French and American counter-offensive to recapture Montdidier, lost to the German armies in the offensive of 21 March. When rumors of a new German offensive on that front necessitated abandoning all thought of such a large-scale operation, Pershing seems to have urged that at least the assignment of the 1st Division, to retake Cantigny, be carried out.

American troops had been training in France since January. They had yet to prove themselves in combat on an active front. It was up to the 1st Division to demonstrate that American troops could fight, that the outsize American division was a self-contained and irresistible force, and that what the Americans took from the enemy they could hold against any odds.

In the attack on 27 May the 1st Division recaptured Cantigny, and what had been a slight salient in the French lines became a thorny salient in the German lines. The only feature in the area under attack that might have been of some military value, a height above the village, could not be held. But despite murderous HE and gas fire, the division held on to Cantigny itself. Interestingly enough, the attack on Frapelle by the 5th Division two months later (Study No. 7) was to duplicate in many respects the feat of the 1st Division. Its execution, however, was a simple matter of divisional prestige, rather than vindication of the American Army.

The present study chronicles the gas experience of the 1st Division in its seventy-two days in the Cantigny sector, during which almost half of the total casualties suffered were the result of gas. There is no question about the effect of gas on the attack on Cantigny. The operation was originally assigned to the 18th Infantry, but that regiment was so badly gassed on the night of 3 - 4 May that three weeks later it was incapable of making the attack. The operation had to be put off for three days while the 28th Infantry, which had suffered least from gas, prepared for it. And the near failure of the 28th Infantry to hold Cantigny after taking it may have been owing as much to prolonged gassing and gas mask fatigue as to conventional battle fatigue.

Ansauville to Cantigny

Confronted with a seeming Allied disaster on 25 March, four days after the opening of the first and most successful of the German spring offensives, Pershing put all his available forces at the disposal of the French. With the hostile tide threatening Amiens, at the junction of the British and French armies, the 1st Division, under Maj. Gen. Robert Lee Bullard, was ordered from Lorraine to the battle front in Picardy.

It was 3 April before the 26th Division completed the relief of the 1st Division at Ansauville. Five days later division headquarters opened at Chaumont-en-Vexin, about 75 kilometers from Montdidier, where the French had recently counterattacked enemy forces at the point of their deepest penetration. By the end of the first week in April the military situation had brightened and the line had been partially stabilized.

Then on 9 April, in the second spring drive, twenty-seven German divisions attempted to break the British lines north and south of Armentieres. Although an initial gain of ten miles was made on a 24-mile front, the Germans failed to capture Hazebroucke and this offensive too came to a stop (Map No. 1).

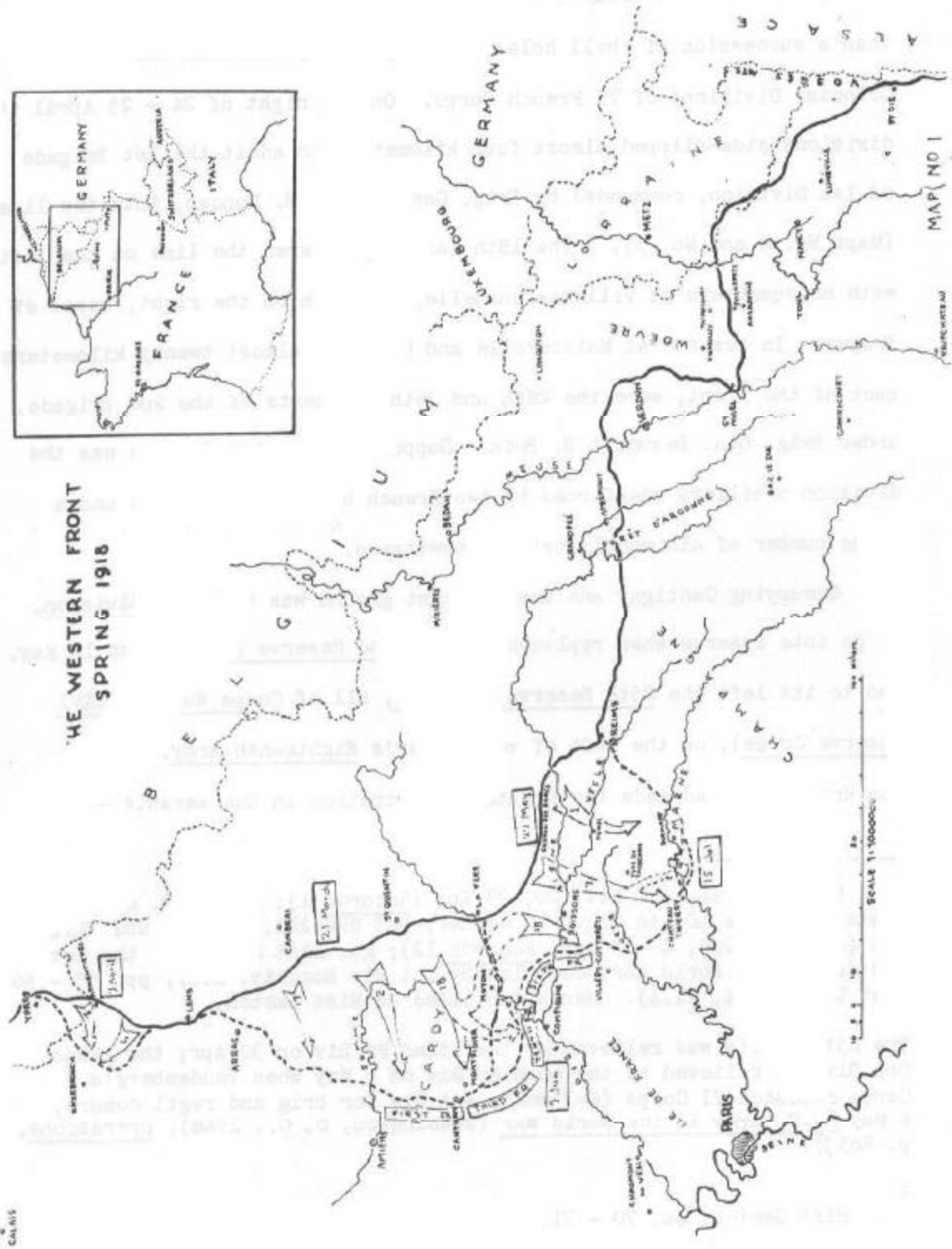
In the Chaumont area, where General Micheler was forming a new reserve army of the French, the 1st Division, its trench warfare instruction at Ansauville over, began training in open warfare tactics, following doctrine recently established by GHQ AEF and GHQ French Army.¹ On 17 April the division completed its training and set out on foot for the Cantigny-Montdidier sector, held by Debeney's First French Army which had contained the German drive south after being hurriedly transferred there from Lorraine the month before.

The sector extended from north of Cantigny to south of Mesnil-St. Georges, at the point of the enemy salient just above Montdidier. It was a sensitive sector since "The enemy at Montdidier and near Amiens was in a very advantageous position to push his advance west toward the English Channel along the south bank of the Somme River."²

¹ Memo for brig comdrs, 1st Div, 2 Apr, sub: Attack formations; Instru 14, 16 Apr, sub: Open Warfare (World War Records, First Division, 28 Mar 1928, vol. 1. Hereafter cited as Records).

² Robert L. Bullard, Personalities and Reminiscences of the War (New York, 1925), pp. 178 - 179.

A map of France and its neighboring countries. France is labeled 'FRANCE' in the center. To the north is 'GERMANY', to the east is 'ITALY', and to the south is 'SPAIN'. A rectangular box is drawn over the northwestern part of France, covering the regions of Brittany, Normandy, and the Paris basin. Within this box, the words 'Brittany', 'Normandy', and 'Paris' are written. To the north of the box, the word 'Netherlands' is written. To the east of the box, the word 'Switzerland' is written. The map shows the coastlines of France and the surrounding countries, with the English Channel to the west and the Mediterranean Sea to the south.



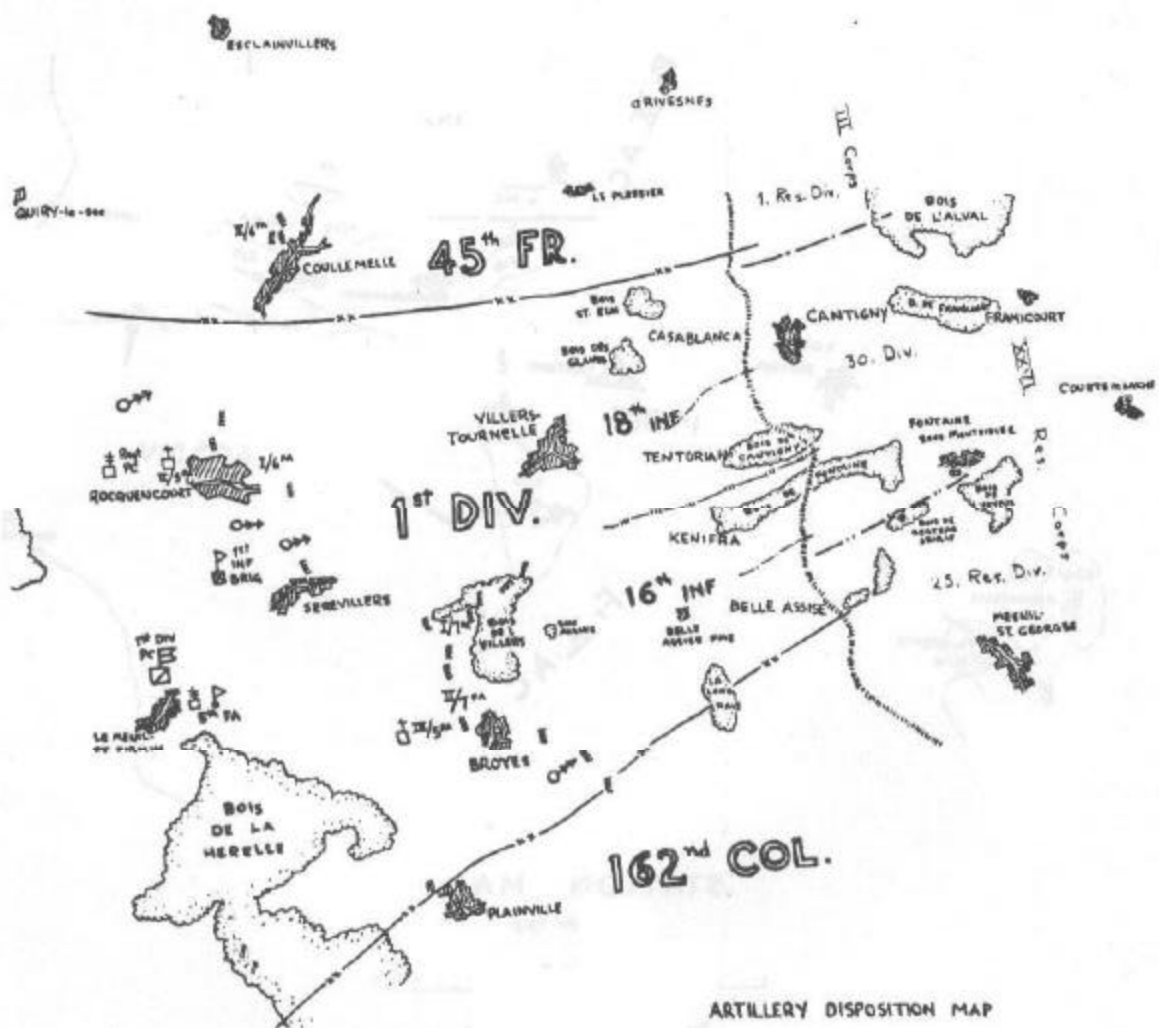
The front line towards which the division advanced was little more than a succession of shell holes, held by the 45th French and 162nd Colonial Divisions of VI French Corps. On the night of 24 - 25 April these divisions side-slipped almost four kilometers to admit the 1st Brigade of 1st Division, commanded by Brig. Gen. George B. Duncan, into the line (Maps No. 2 and No. 3).³ The 18th Infantry entered the line on the left, with headquarters at Villers-Tournelle, the 16th on the right, based at Broys. In reserve at Maisoncelle and Froissy, almost twenty kilometers back of the front, were the 28th and 26th Regiments of the 2nd Brigade, under Brig. Gen. Beaumont B. Buck. Supporting the 1st Brigade was the division artillery reenforced by two French battalions of 75's and a large number of old model fortress howitzers.⁴

Occupying Cantigny and the adjacent ground was the 30th Division, to go into reserve when replaced by the 82nd Reserve Division on 16 May, and to its left the 25th Reserve Division, all of Corps Watter (XXVI Reserve Corps), on the left of von Hutier's Eighteenth Army. It was von Hutier who had made the greatest penetration in the assault of

³ FO 13 and 14, 1st Div, 20, 23 Apr (Records 1); ltr, Maj. Robt. H. Lewis, VI Corps LO, to Col. Fox Conner, G-3 GHQ AEF, 5 May, sub: Liaison Rpt (suppl to DOR, 4 - 5 May, Records 12); MS. Hist Sketch of the 1st Div during the World War, compiled by 1st Div Society, n.d., pp. 55 - 56 (1st Div Box 11, 11.4). Hereafter cited as Hist Sketch.

The 45th Fr Div was relieved by the 152nd Fr Div on 30 Apr; the 162nd Col Div was relieved by the 60th Fr Div on 6 May when Vandenberg's X Corps replaced VI Corps (G-3 memo, 1st Div for brig and regtl comdrs, 6 May [U.S. Army in the World War (Washington, D. C., 1948), Operations, p. 265]).

⁴ Hist Sketch, pp. 70 - 71.



ARTILLERY DISPOSITION MAP
28 APRIL 1948

Source: Butler, 3rd Opns, 28 Apr. (Records II)

MAP NO. 2

21 March, taking Cantigny and Montdidier before the armies of von der Marwitz and von Below to the north were checked and von Hutier had been ordered to halt.⁵

The only prominent feature in the sector was the village of Cantigny itself, on a slight rise of ground northeast of Villers-Tournelle. Constantly bombarded and on fire since its capture, the village was said to be untenable and had been partially evacuated. Only its church tower still stood as the 1st Division arrived, and since it was believed to be an enemy OP, the division artillery finally demolished it two weeks later.⁶

The mission assigned to 1st Division was to hold fast on its front, for the Allied High Command expected the enemy to make another drive in the direction of Amiens, and to organize the sector in successive lines of resistance. Under constant fire from more than 90 German batteries, the French had found it impossible to dig trenches or put up wire. Nevertheless, working at night, the division began the construction of a 6,000-meter communication trench between the front line and the Bois de Villers, completing it the night of 13 May.⁷

The active front that General Bullard had had to create for the division at Ansauville less than three months earlier was ready made for

⁵ See rpt on 82nd Res Div in append to SOI 19, 15 - 16 May, and SOI 30, 26 - 27 May (Records 4).

⁶ Extract from Interr of German Prisoners, n.d. (append to SOI 1, 26 - 27 Apr); SOI 11, 7 - 8 May; append to SOI 19, 15 - 16 May.

⁷ Hist Sketch, p. 58; ltr, CO 1st Eng to C Eng Off AEF, 1 Jun, sub: Rpt of Opns (1st Div Box 111, 33.1).

him at Cantigny. Hostile artillery fire seldom went below 2,000 shells each day and ranged between 4,000 and 6,000 at least once a week. On 28 - 29 April, G-2 reported 2,760 rounds falling in the sector, including 552 HE and gas shells in the Bois de Fontaine. Gas was also included in the heavy shelling of Villers-Tournelle on the morning of 30 April, and that afternoon approximately 700 gas shells, including 50 yellow cross, fell on Coullemelle and the area east of that village where a group of 1st Division 75's were sited.

Following a bombardment including some "gas resembling chlorine" on Villers-Tournelle and the line south of the Bois de Fontaine during the night of 1 - 2 May, at 0530 on 2 May the "enemy projected liquid gas contained in glass bottles on the front line of Kenifra Quarter...causing nausea, sneezing and coughing." Field hospital lists show that 31 gas and 73 wound casualties were admitted to the hospitals between 30 April⁸ and 3 May. With these warnings of the gas activity to be expected on this front, on the night of 3 - 4 May the troop-filled town of Villers-Tournelle was deluged with mustard gas.

The Gas Attack of 3 - 4 May

It seems possible that the gas attack on Villers-Tournelle was prompted as much by the increasingly heavy artillery fire put down on the German lines, which began as soon as the 1st FA Brigade had its guns

⁸

SOI 2 - 6, 28 Apr - 3 May; FH admission data in Analysis, p. 72.

in position, as by the discovered presence of American forces on that front. Where the French artillery had been averaging 2,000 rounds daily in reply to enemy shelling, the brigade opened up with over 5,000 shells, increased its fire to more than 8,000 rounds, and on 2 - 3 May lacerated German positions with over 12,000 rounds of high explosives. As a consequence, the enemy seems to have expected an attack, for G-2 reported that on the night of the gas attack the German troops had appeared to be "a little nervous as shown by the increase in rifle fire and flares during the night."⁹

In its report of the gas attack, G-3 said that in the late evening 55 gas and shrapnel rounds had fallen on the Casablanca front, 408 on Tetorian, and 1,700 gas shells on support and rear lines. Then, over a three-hour period beginning at 2030, almost 15,000 mustard gas shells were said to have poured into Villers-Tournelle and vicinity where the 1st Battalion, 18th Infantry, and a company of Engineers were stationed. Elements of the 16th Infantry, of the 1st Brigade machine gun battalion, and some ambulance companies were also in the area (Map No. 4).

G-3 reported 12,000 gas shells on Villers-Tournelle at the rate of 50 to 100 per minute, followed by an intense HE bombardment. As the gas bombardment began, the division artillery attempted to silence the enemy batteries, firing 14,000 HE rounds that night and the next day, including a token 300 gas rounds -- probably No. 5 phosgene shell -- on

⁹

DOR, 26 Apr - 3 May; SOI 7, 3 - 4 May.



**GAS ATTACK ON
VILLERS - TOURNELLE**

3-4 MAY 1918

Source: based on map in
1st Div Box 87

MAP NO. 4

10

enemy gun positions in the Bois de Framicourt.

German records of the bombardment show that the gassing of Villers-Tournelle and nearby battery positions with yellow cross was to have been carried out in a two-hour shoot by three batteries of field guns firing 3,600 rounds, two batteries of field howitzers firing 1,200 rounds, and two batteries of heavy howitzers firing 600 rounds, for a total of 5,400 rounds of yellow cross. The follow-up bombardment, an hour later, was to comprise 2,700 rounds, or 8,100 yellow cross shells altogether. Actually, says Hanslian, only 4,800 or little more than half the planned number of yellow cross shells were fired. The G-2 estimate of 15,000 shells would therefore seem excessive.

Coming up from division headquarters at Froissy, the Division Gas Officer, Capt. Louis S. Davis, "accompanied by Maj. Wheeler (1st Brig Adj) and the Assistant Division Gas Officer, Lt. Stewart, visited the town at 4:30 a.m., taking in chloride of lime and gas masks called for at midnight." At that time they were told there had been twenty-two casualties. Although the odor of mustard gas was very strong everywhere in the town, men were nevertheless seen going about without their masks.

¹⁰
DOR and SOI, 3 - 4 May.

¹¹
Arko 30, 30th Div Order 30, 27 Apr, and other data cited in Hanslian, "Gasangriffe an der Amerikanischen Front" (MS in CMLHO), pp. 76 - 79.

¹²
Ltr, DGO 1st Div to I Corps Gas Officer, 5 May, sub: Gas Attack (GAF-1st Div). Lt. Stewart is quoted in ltr, Gilchrist, Med Dir OC of Gas Serv to C Gas Serv, 15 May, sub: Investigation of bombardment of 18th Inf (GAF-1st Div).

During the morning of 4 May, according to G-3, approximately 130 mustard gas casualties were evacuated from the Villers-Tournelle area. By early afternoon the casualties totaled 330; that evening the number had grown to ¹³452. By the morning of 5 May, 622 casualties had been brought out, including 470 from the 18th Infantry, 46 from the 16th Infantry, 41 medics, and 33 from the machine gun units of the brigade. Delayed casualties evacuated over the next seven days, according to daily G-3 reports, were 77, for a total of 699 gas casualties. It was, said General Bullard, "a tremendous infliction."¹⁴

"In order to understand the heavy casualties," said Col. Frank Parker, commander of the 18th Infantry, it was necessary to remember that

the attack occurred on a very dark, cloudy night. Many of the night details had already started for their work. The ration carts were coming up....When sent out into the darkness to bring in the wounded or perform other duties... the [men] repeatedly removed the face part of the S.B.R. so as to see what they were doing or where they were going....Others, straining at the heavy loads of bringing in casualties found the mask painfully oppressive and removed it. [Only] one who has been under such a night bombardment can realize the difficulties attending the supervision and control of gas discipline during such a time.¹⁵

The subsequent recommendation of the Medical Director of the Gas Service, in his report on the Villers-Tournelle gas attack, that the AEF needed

13

DOR, 4 - 5 May; FM Parker CO 18th Inf to CG 1st Brig, 2330, 4 May (Records 15).

14

DOR, 3 - 13 May; memo, Bullard for 4th Bur First FR Army, 4 May, sub: SOI of enemy gas atk (Records 12); telg, Bullard to CoIS GHQ AEF, n.d. (Records 12). The relief of Maj. Gen. Duncan, 1st Brig comdr, by Brig. Gen. John L. Hines, 16th Inf, was reported in DOR, 4 - 5 May.

15

Ltr, CO 18th Inf to CG 1st Div, 7 May, sub: Gas Attack (1st Div Box 76, 33.6).

more realistic gas training, and that part of the training should consist of simulated gas attacks carried out in night exercises, does not appear to have been carried out either in the 1st Division or in any other division.

The Division Gas Officer, Captain Davis, in his report of the attack, said there were 650 casualties by the evening of 5 May, as the result of between 4,000 and 10,000 gas shells. The evacuated were "mostly slight cases and likely a large number [of] malingerers. Nevertheless the number of casualties is excessively high and due to poor gas discipline." No evidence was found that the casualties had been caught by surprise, since the characteristic burst of the shells and the smell of mustard gas had been recognized at once. Nor was there any evidence that the sense of smell had subsequently become paralyzed by the gas, though mustard gas was said (erroneously) to do this. In the hours after the attack the troops simply failed to appreciate the effectiveness of the agent in low concentration.

On the morning of the 5th, Captain Davis said, The French ordered the town evacuated and after consultation with the Division Gas Officer, the order was issued by the Commanding General.... The night of May 4 - 5 the Chief of Staff asked if the Regimental PC might not be retained and the Division Gas Officer...reported it might be done, but some eye cases must be expected....The French (10th Corps Armie) Gas Officer visited the sector today and advised that the town

16

Ltr, Med Dir OG of Gas Serv, 15 May, above. A "gas attack exercise at night for troops" was atchd to ltr, Actg C of Def Div, Gas Serv to Officer of Def Div, 14 May, sub: Tng in Gas Def (GHQ G-5 Box 1727, fol P). See also memo, Conner G-3 GHQ AEF for CofS AEF, 5 Jun, sub: Precautions against Gas Attacks (AEF GHQ G-3 Rpts Box 3192, fol 1567).

be evacuated. It has rained every night since and will cause the gas to stay around longer than it ordinarily would.¹⁷

Although the gassed area was ordered evacuated, with the exception of necessary liaison personnel at the command post in Villers-Tournelle, the next day, 6 May, amid rain, mud, and gas, staff officers found the CP staff of the support battalion and an entire company of men in the town, as well as a large number of troops still occupying contaminated trenches¹⁸ on the edge of the town. All were ordered out immediately.

Despite its long training in gas defense and its gas experience at Ausauville, the 1st Brigade had acted like rookies in Villers-Tournelle. On 7 May, prompted by X Corps, the division began complete retraining in gas discipline. "The well known gas instruction and warning heretofore given this Division will be taken up anew in all organizations, commencing at once, and continuing to the end of the month."¹⁹

On 9 May, in a final report to the Chief of the Gas Service, Captain Davis said that as of that date the attack had resulted in a total of 693 gas casualties, including 4 gas deaths, principally owing to the failure

¹⁷

Ltr, DGO to CGO I Corps, 5 May, above. The report of this attack in Spencer's "History of Gas Attacks Upon the AEF," 15 Feb 1928, I, 40 - 57 (MS in CMLHO), adds little to the account given here.

¹⁸

G-3 Memo for CG 1st Brig, 4 May, sub: Preventive measures against gas in the vic of Villers-Tournelle (Records 1); G-3 Memo for CG 1st Brig, 5 May, sub: Villers-Tournelle (Records 1). Ltr, CG 1st Div to CG I Corps, 20 May, sub: Evac of gas infected zones (Records 1), said that his memo of 4 May had been complied with.

¹⁹

G-3 Memo, 7 May, sub: Gas Instruction (Records 1). This long memo was repeated exactly as G-3 Instru 32, 19 May (Records 20). Notes: Records 1, 6, 8, and 10 have a large number of memos, orders, and instructions resulting from the gas attack on Villers-Tournelle.

to evacuate the area immediately for one week, as he had recommended.

Although this total agrees closely with that found in the hospital admission lists for the period, 1st Division histories and those quoting the histories were to insist that the enemy "gassed 800 of us," or even that "900 casualties including 50 killed" occurred at Villers-Tournelle that night.²¹ Some basis for these figures appears in a 1st Division medical report that Ambulance Company No. 12 evacuated 704 gas cases and 30 other men up to midnight on 4 May, and that Field Hospital No. 13 alone²² received a total of 762 gas cases as a result of the attack.

From the enemy's point of view the success of the attack was unquestionable. Hanslian, on the basis of Captain Davis's final count, said the attack might "serve as a downright classic example of the overwhelming effect which may be exerted by a gas attack carried out under favorable conditions upon a body of men having little gas experience." So far as Hanslian knew, gas protection was amply available, but the attack fell upon troops which "had not yet been exposed to any considerable Yellow Cross bombardment," and the casualties had resulted from their

20

Telg, DGO to C Gas Serv at Tours, 8:04 P.M., 9 May; ltr, DGO to CGO I Corps, 12 May, sub: Weekly Rpt (GAF-1st Div).

21

Bullard, Personalities, p. 193; G-3 Rpt on Opns...in sector west of Montdidier, 30 Nov (Records 13); MS History of the First Div, ed. Col J. N. Greely, CofS, 1st Div, n.d. (1st Div Box 12, 11.4); Medical Dept of the U S Army in the World War (Washington, 1925), VIII, 296. Even Capt Davis later said there were over 800 casualties. See ltr, Davis DGO 92nd Div to CGO II Corps, 29 Dec, sub: Gas Attacks on First Div (92nd Div Box 81, fol 20).

22

MS. Hist of Med Dept, 1st Div, 14 Jan 1920, p. 5 (Med Dept Box 3398, fol 1).

23

failure to protect themselves against a gas concentration.

On 11 May the 2nd Brigade was ordered to begin the relief of the 1st Brigade in the line, but it was the night of 22 - 23 May before the 28th Infantry replaced the badly gassed 18th. Three officers and 280 men had come in as replacements in eight of the worst-hit companies of the 18th Infantry more than a week earlier, and with the daily pounding by enemy artillery the whole regiment was now greatly in need of rest and retraining.

The Small Box Respirator

As a result of his four-day investigation into the high casualties resulting from the gas bombardment of 3 - 4 May, Lt. Col. H. L. Gilchrist, Medical Director of the Gas Service, reported that the casualties had been caused by 1) lack of gas discipline, 2) lack of gas trench stores and protected dugouts, and 3) direct disobedience of gas orders by officers on the scene. Visiting 646 gas patients, including 26 officers, at the four field hospitals at Froissy, Breteuil, Neuville, and Bonvillers, and the two French base hospitals at Beauvais, he found "a fairly large number with severe respiratory symptoms," the worst cases those who had been gassed in dugouts. He agreed with the Division Gas Officer and the gas officers of the brigade that the majority of cases had resulted when the men changed from the British SBR to the French M-2 mask during the

23

Hanslian, p. 77.

24

FO 16, 1st Div, 11 May; Memo for CG 1st Brig, sub: Replacements for 18th Inf; G-3 Memo for CO 18th Inf Repl Det, 11 May (Records 1).

bombardment, after the SER became intolerable.

The Small Box Respirator (SER), designed by the British in 1916, to protect against the new German gases, chlorpicrin and superpalite (diphosgene), was the standard mask supplied to American troops upon their arrival in France. In the heavy bag-like facepiece of the SER was a noseclip, to prevent nasal breathing, and a tube, held in the mouth, through which air was breathed after its noxious content had been removed in the canister. The mask was effective for over twenty hours in a gas atmosphere but because of the difficulty of breathing in the mask, the limit of toleration for the average soldier was said to be six to eight hours.

The French M-2 mask, issued to troops for use when they could no longer tolerate the SER, was little more than a filter. It had no noseclip or mouthpiece, could be worn for fairly long periods of time, but lost its protective power in a few hours. Worse still, it was fragile and easily damaged, and moisture of any kind quickly impaired the effectiveness of its gas-filtering components.

On the theory that infantrymen could be moved out of gassed areas and the M-2 was therefore sufficient for them, while artillerymen had to stand by their guns, the French had developed the Tissot mask for them, an expensive but effective mask without the noseclip and mouthpiece of the British mask. Early in 1918 the French developed still another effective mask, the ARS (Appareil Respiratoire Spéciale), modeled on the German snout mask, also expensive and therefore produced in small quantities, for issue to special troops, and occasionally

available to American officers.

During the Villers-Tournelle attack, many of the men had taken their SBR masks off within half an hour after the bombardment, either when so ordered by officers or because they saw officers going about without masks. Colonel Gilchrist also learned that during the bombardment the regimental commander, the regimental gas officer and other officers of the 18th Infantry had all changed eventually to ARS masks, which were unauthorized and unavailable to the enlisted men. Two days after the attack the odor of mustard gas was still strong throughout the gassed area, but no one there wore his mask. To Gilchrist this was clearly evidence of lack of gas training and of extremely bad gas mask

26

discipline. To 2nd Lt. Robert A. Hall, the regimental gas officer, the failure to keep gas masks on meant only that the SBR and M-2 were unwearable.

In several outspoken letters, Lieutenant Hall described the hazards of the SBR and the virtues of the recently designed ARS. Although he insisted that the troops had worn their SBRs for from 17 to 18 hours, they had complained that perspiration from the forehead, impregnated with gas, seeped under the mask band and in that way had affected their eyes and faces. The nose-clip became saturated and wouldn't remain in place. Prolonged wearing became painful and led the

25

Fries and West, Chemical Warfare (New York, 1921), pp. 203 - 05.

26

Ltr, Med Dir OC of Gas Serv, 15 May, above. The charge appears also in the Gas Serv Weekly Summary of Information (hereafter CWS WSI) for 15 May (WD Hist Box 289).

men to change to their French M-2 masks. He, as well as surgeons, stretcher bearers, and runners, had found it impossible to carry on in the SBR because the arrangement of the eyepieces and the fogging of the lenses impaired vision. And because he had had to patrol the streets of Villers-Tournelle, to see that masks were being worn and that shelters were safe for occupancy, he had changed to the ARS. The ARS, he argued, gave absolute protection, allowed complete vision, and in every respect was more satisfactory to wear than either the SBR or M-2. He recommended its immediate adoption by the AEF.²⁷

Lieutenant Hall might have added that the M-2 was deficient because it did not filter out diphenylchlorarsine and broke down under continued exposure to mustard gas fumes. It was also highly vulnerable to moisture and even rain tended "to spoil it." This latter point was the subject of a memo in mid-January that said the M-2 was no longer to be carried during practice marches or maneuvers, since so many of them became useless as a result of getting wet in the field.²⁸

²⁷

Ltr, RGO 18th Inf to CO 18th Inf, 5 May, sub: Gas situation; ltr, RGO 18th Inf to C Gas Serv, 6 May, sub: Rpt of Gas Attack (Records 13 and GAF-1st Div). See also Memo, Lt Col John W. N. Schulz, Gas Serv LO with G-4 GHQ, for Secy GS AEF, 21 May, sub: Gas Attack on 18th Inf... (GAF-1st Div).

²⁸

Bulletin de Renseignements de l'Artillerie, Apr - May (AEF GHQ G-3 Rpts Box 3192, fol 1575); Misc memo 2, 1st Div, 13 Jan, sub: French Gas Masks (Records 6); Study No. 9. "The 1st Division at Ansaerville," p. 6. For other comment on the M-2 see ltr, DGO 32nd Div to BGOs, ca. Mar 1918, sub: Gas Tng (32nd Div Box 14, 55).

The commanding officer of the 18th Infantry, Col. Frank Parker, joined Hall in his condemnation of the SBR. Unable to see with the mask and finding it "painfully oppressive," he had removed the face-piece as soon as the attack was over but continued to wear the nose-clip and mouthpiece for some time before changing to the M-2 and then to the ARS. He found the latter excellent so far as vision and comfort were concerned and even less fatiguing to wear than the M-2. The regimental surgeon and regimental gas officers joined him, he said, in requesting the ARS for the 18th Infantry and in urging that an official comparison of masks be made and reported by the AEF. "Unless our men are provided with one single gas mask [with good vision, good respiration, fair comfort, and permitting speech] we shall never be able to avoid casualties from gas."

General Bullard forwarded Colonel Parker's letter to X Corps²⁹ with the request that it be sent to Pershing for his information.

The Gas Service apparently heard of the complaints or of the letter before it reached Pershing and on 8 May spoke out against the "pernicious effect of thoughtless criticism":

There seems to be some talk among members of the Gas Service relative to defects in respirators now issued. The British and American Respirators represent the best type of individual protective appliance that has been developed....Any man who is responsible for statements which could be construed as a reflection on our gas defense measures or equipment now in use, and which could thus tend to destroy confidence or to create dissatisfaction, is doing incalculable harm to the

29

Ltr, CG 18th Inf to CG 1st Div, 7 May, sub: Gas Attack, and 1st Ind, 10 May (Records 13).

30

defense service and rendering substantial aid to the enemy.

Despite the discomfort of wearing it, the SBR unquestionably offered the maximum of gas protection of any mask at the time, and its rugged construction made it superior to any French mask for the combat soldier. But because of the element of discomfort, the AEF³¹ had at first authorized the issue of both the SBR and the M-2.

The fact that officers were able to obtain the ARS masks and that increasing numbers wore them, to the prejudice of gas discipline among the troops, at last led to an order on 3 June saying that only the SBR and M-2 were to be worn in the AEF.³²

More serious was the growing incidence in the AEF of high gas casualties directly attributable to the frequency with which troops changed from the SBR to the M-2 during gas bombardments. On 7 June a new order from GHQ AEF said that the French M-2 mask was no longer authorized for American troops and all were to be turned in at once.³³

30

CWS WSI, 8 May.

31

The American SBR, said to have been "issued to some of our troops" in April, was similar to the British mask except that it had a larger canister and shatter-proof eyepieces (CWS WSI, 24 Apr). Both SBRs had the recently incorporated sulfite paper to screen out diphenylchlorarsine. This further increased resistance to breathing so that it was physically impossible to wear the SBR more than 6 - 8 hours (Fries and West, Chemical Warfare, p. 411).

32

Misc memo 81, 3 Jun, sub: Wearing of gas masks (Records 6). A source of ARS masks may have been the French artillery which was normally equipped with them or with the Tissot mask. See Rpt on ops at Cantigny, VIII Gp, 177th Fr Trench Arty, 2 Jun (Records 14).

33

CWS WSI, 5 Jun; G-1 memo, 1st Div, 7 Jun, sub: Masks authorized for A.E.F. (Records 6). The recommendation was first made in ltr C of Gas Serv to C-in-C, 8 May, sub: Amendment of GO (AEF GHQ G-4 Box 4455, 470.6).

The troops were to wear the SBR only until a new American mask could be developed and produced for them.

Criticism of the SBR continued, naturally, becoming the subject of a 1st Division memo on 19 June. General Bullard said he had heard that some of the officers were openly criticising the mask in the presence of enlisted men, talking about the "inconvenience and difficulty of wearing it." He ordered his officers to minimize rather than aggravate the difficulties of the mask.³⁴ Privately, General Bullard himself had a low, not to say fearful, opinion of the SBR:

Gas was such a deadly and insidious thing that gas training for the protection of the men was carried out almost continuously. It was about the hardest thing for our people to learn. I myself was never able to fulfill the qualifications of a successful wearer of the gas mask. It seemed to me in all my trials and efforts that I should be smothered if I remained longer than three minutes in that gas mask. And it never made much difference what its improvements were.

Under our instruction [however] it became quite common for our men not only to remain long periods of time, but to do heavy work, in the gas mask, and at last our gas school required a test of a baseball game in gas masks. And it was fulfilled.³⁵

Interim

In retaliation for the gas attack on 3 - 4 May, three battalions of the 1st FA Brigade on 5 May fired 50 rounds of phosgene per battery

³⁴

Misc memo 86, 19 Jun, sub: British Box Respirator (Records 6).

³⁵

Bullard, Personalities, p. 159; also pp. 193 - 194. In September, the 1st Div, as the one "longest in enemy gas," requested it be the first to be equipped with the new American Tissot mask. Ltr synopsis, DGO 1st Div to C Gas Def AEF, 2 Sep (GHQ AEF Box 4455, case 5 - 4, fol 89).

into the Bois de Framicourt. To compensate for its shortage of gas shells, the brigade hurled between 10,000 and 20,000 rounds of HE daily into the German lines during the week that followed, and each day the brigade machine guns fired between 20,000 and 50,000 rounds into the enemy's works.

As General Bullard said, "The enemy had us on one thing - gas. On this we were short and he long." With approximately 600 nonpersistent gas shells allotted per day, the division artillery fired all it could lay its hands on that week, 4,464 75-mm and 42 155-mm No. 4 and No. 5 shells, putting most of it on enemy batteries.³⁶ But it was not enough, and the continued extravagant and furious use of HE subsided only when the French expressed alarm at the state of their supply.³⁷ But it brought the division no increase in gas shell allotment.

Enemy fire after the drenching of Villers-Tournelle continued at its customary rate of approximately 2,000 rounds each day, but little gas was fired until the night of 14 - 15 May, when 1,500 yellow cross shells reportedly fell in the Casablanca Quarter during a violent bombardment with almost 6,000 shells. The relief of 18th by 28th Infantry

³⁶

Bullard, Personalities, p. 193; DOR, 5 - 12 May; Lt. A. B. Butler (later ADC to Gen. Summerall), Journal of Operations, 5 May (Records 11). Hereafter cited as ADC Jnl. Opns.

³⁷

Memo, CG X Corps for 1st Div, 19 May (1st Div Box 92, 10.2 fol. 4), said the div had fired 4,384 shrapnel and 91,590 HE between 8 - 17 May, and deplored particularly the failure to keep shrapnel to one-eighth the total consumption.

troops was in progress in the adjacent quarter at the time, but remarkably enough, despite this weight of gas shell, no gas casualties were reported in either quarter. No German record of this gas fire has been found, and hospital records show only 9 gas cases in these two regiments in the period 15 - 17 May.³⁸

On the afternoon of 19 May, enemy batteries in the Bois de Framicourt bombarded Coullemelle and vicinity, where a battalion of the 6th FA and at least one French battery were located, with approximately 2,500 105-mm mustard gas shells. It was thought to be "fire of retaliation following some of our gas concentrations." The next day, beginning at noon, said G-2, another 1,542 mustard gas shells completed the drenching of the area.³⁹ The bombardment was carried out by the long-range guns of the 1st Reserve Division, which had been allotted 9,660 yellow cross shells for the mission. The actual bombardment, in two phases, appears to have comprised 1,000 yellow cross rounds fired by the heavy field howitzers, 5,150 rounds by the 10-cm guns, and 175 mortar rounds, for a total of 6,325 yellow cross shells on the village and nearby batteries. The bombardment was to have been conducted as three surprise shoots (Gasüberfallen), at 1600 on 19 May, 0400 on 20 May, and 0430 on 22 May, but Hanslian indicates that the series ended with

38

SOI 18, 14 - 15 May; DOR, 14 - 15 May, Analysis, p. 72.

39

SOI 23 and 24, 19 - 21 May. Confusing this attack with that on Villers-Tournelle earlier, a First Army bulletin said that "between 10,000 and 15,000 Yperite shells" fell in the Bois de Coullemelle on 19 May (quoted in suppl to SOI 40, 5 - 6 Jun, and repeated in Hist Sketch, p. 59, and History of the First Division (Society of the 1st Division, Philadelphia, 1922), p. 74).

40

the second shoot. Unless Coullemelle contained French troop concentrations (of which there is no record), as well as French and American battery positions, it was a tremendous weight of shell with relatively minor consequences compared to the Villers-Tournelle attack.

G-3 reported 3 gas casualties in the artillery in the French zone as a result of the two bombardments. But the 6th FA gas officer, estimating that 4,000 77 and 105-mm mustard gas shells had fallen in and around the village on the afternoon of 19 May and intermittent shells thereafter until noon on 20 May, said that 16 artillerymen had been evacuated, 4 of them with serious burns from splashes. "The French battery in the same area was gassed equally as much - all evacuated." Contradicting G-3 and 6th FA estimates are hospital and corps reports that indicate more than a hundred gas casualties in the division during that period.

The battery positions of the 6th FA were evacuated at the end of the first bombardment and for several nights thereafter a single man per piece, clad in gas mask and gas clothing, remained in each position and was relieved at frequent intervals. ⁴¹ The battalion was for the time being thoroughly neutralized.

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Arko 71 Order 2129/18, 1st Res Div, 17 May, cited in Hanslian, pp. 80 - 82.

41

DOR, 19 - 20 May; CO 6th FA to CG 1st FA Brig, 19 May, sub: Gas attack on Coullemelle (1st Div Box 101, 33.6); Rpt on Gas Atk, RGO 6th FA, n.d. (GAF-1st Div); ADC Jnl Opns, 19 May; Spencer, I, 59 - 60, says there were 20 casualties, but see Analysis, p. 72.

Preparations for the Cantigny Attack

All during April First French Army had expected a resumption of the attack in the Montdidier area. When it did not come, and intelligence indicated a more likely renewal of the offensive at Amiens, the Allied High Command began planning a counter-offensive on the Montdidier front. In preparation for the attack, the 1st Division was to capture Cantigny, "to straighten the line and afford a good jumping-off position." The object of the counter-offensive itself was the recapture of Framicourt and Montdidier by the French units to the right of the 1st Division. Except for the Cantigny operation, the plan was abandoned as rumors grew that the next German offensive would be launched somewhere on that front. On 27 May the expected enemy attack was launched from the Chemin des Dames (see Map No. 1).

The initial field order for the 1st Division operation said its purpose was "to capture the plateaux of Cantigny and Mesnil-St. Georges, and to bring up the artillery to the line Cantigny-Fontaine-Mesnil St. Georges," for better fire on the plateau north and northeast of Montdidier. Or, from the point of view of the enemy opposite, the Allied intention was "to take possession of Height No. 104, in order to gain a view of the Dom-stream valley and toward Montdidier."⁴²

⁴²

Hist Sketch, pp. 61 - 62; FO 15, 1st Div, 10 May (Records 1); USA in the WW, III, 267 - 269; XXVI Res Corps WD, 31 May (World War Records First Division, German Documents...Cantigny Sector, vol I). Unless otherwise noted, all references to German documents are to this volume.

The division history was also to suggest that the operation was "to deprive the enemy of this salient, which facilitated his observation and the effect of his fire upon the sector." But from General Pershing's point of view, the real reason for the Cantigny attack "was that at this moment the morale of the Allies required that American troops make their appearance in battle." A successful attack would also "demonstrate that we could best help the Allies by using our troops in larger units instead of adopting their plan of building up their forces" by breaking up and parceling out the huge American divisions.⁴³

Cantigny, a sprawling and largely demolished village on a rise of ground in the center of the slight salient west of Montdidier, was at this time, despite earlier evidence of its light garrison, believed to be fortified and strongly occupied by the 82nd Reserve Division. The village had already been twice captured and lost by the French prior to the arrival of the 1st Division and the enemy was said to have orders to hold it at any cost. It could be captured, but "desperate fighting to hold it would surely follow," and this was the chief anxiety in the preliminary plans of the operation.⁴⁴

The capture of Cantigny was originally planned as an 18th Infantry operation, to take place on 25 May, but General Bullard had to assign it to the 28th Infantry because the 18th had not recovered from the Villers-

⁴³

Pershing, My Experiences in the World War (New York, 1931), II, 55; J. C. Wise, The Turn of the Tide (New York, 1920), pp. 33 - 34.

⁴⁴

Hist Sketch, p. 63.

Tournelle gas attack. With the change of plans he asked that the operation be deferred until 28 May.⁴⁵ On that day, the three battalions of the 28th Infantry, with 12 tanks and a platoon of French flame throwers,⁴⁶ were to converge on Cantigny from the south, west, and north.

On 23 - 25 May the 28th Infantry, under Col. Hanson E. Ely, was withdrawn from the line and replaced by the 18th Infantry. Back at the drill ground east of Maisoncelle, the troops began to train for the attack on a near replica of the objective, with units down to platoons drilled for their parts, particularly in operating with tank assistance and plane observation. Artillery reinforcements brought into the sector gave the planned operation 132 75-mm guns, 36 155-mm guns, 178 heavy guns and howitzers, and 40 trench mortars, a total of 386 guns, with 129,620 rounds of HE, 1,200 smoke shells (to protect the tanks), and 10,000 gas shells. All 64 machine guns in the regiment, with more than 100,000 rounds, were moved into forward positions where they were to maintain a barrage throughout the assault in advance of the artillery barrage.⁴⁷ The hour for the attack was fixed for 0545, 28 May.

Two days before the attack on Cantigny the enemy artillery began demonstration fires to mask the third German offensive. In that attack,

45

Ltr, Lewis to Conner, 17 May, sub: Liaison Rpt (append to DOR, 17 - 18 May, Records 12).

46

FO 15, 10 May; FO 18, 17 May, revised 20 May.

47

ADC Jnl Opns, 27 May; Hist Sketch, p. 65; Opns Memo 46, 1st FA Brig, 20 May, sub: Ammo necessary for the Cantigny operation (Records 9). Col. Ely's Rpt of Capture of Cantigny (quoted in ADC Jnl Opns, 12 Jun, and in Records 13) reports 250 guns, not 386.

launched from the Chemin des Dames on 27 May following a gas bombardment whose effects were felt almost fifteen kilometers back of the front lines, thirty German divisions overran the seven French and British divisions resting on the quiet front above the Aisne. Not until the entire French reserves in the West, comprising 35 infantry and 6 cavalry divisions, had been thrown into the breach were the German armies halted. On 3 June, the drive was stopped at the Marne, forty miles from Paris.⁴⁸

In the demonstrations for the offensive on the Cantigny front, the 82nd and 25th Reserve Divisions gassed battery positions and troop areas of the 1st Division on successive nights, following the second gas attack with two raids in force, simultaneous with the great offensive. Reporting the first Bunkreuz gas attack (i.e., mixed blue cross [diphenylchlorarsine] and green cross [phosgene] gas shells) on the morning of 26 May, the 82nd Reserve Division said:

We gassed the low ground west of Bois St. Eloi with 1200 rounds, the Bois St. Eloi with 600, the Bois des Glands with 580, the low ground northeast of Villers-Tournelle with 600 rounds, the village of Villers-Tournelle with 150, [and two nests of batteries with 770 rounds]. The 25th Reserve Division at the same time gassed the Fontaine woods....The batteries gassed did not reply.⁴⁹

48

Pershing, My Experiences, II, 61; Lt. Col. X. H. Price, "The German Offensive of May 27, 1918" (AEF GHQ G-3 Rpts Box 3159, fol 1138).

49

82nd Res Div WD, 26 May. 82nd Res Div Order 715, 25 May (item 86, Misc Docs, source a), gives only targets, with neither the amounts nor kinds of gas. No arty order has been found.

It is doubtful whether more than a token of the following order was fired: "M.G. woods [Bois de Fontaine]...will be gassed with 5000 rounds of Yellow Cross from 2-5:00 a.m. during night of 25/26 May if the weather is favorable" (Add. to 25th Res Div Order 236, 6:00 p.m., 24 May [item 100, Misc Doc, source a]).

The total of 3,900 gas shells here is higher than the 2,760 reported by Hanslian, who says that the targets were battery positions in the hollows and woods near Villers-Tournelle, and that 940 blue cross and 1,820 green cross shells were fired in a Schwadenschieszen or cloud shoot lasting from 0400 - 0450.⁵⁰

The gas attack was reported by the 1st Division as occurring between 0250 - 0510 on the 26th when about 3,000 yperite and sneeze gas shells were said to have fallen in the Bois St. Eloi, Bois de Cantigny, and Bois de Fontaine, while a battery position west of the Bois de Villers was hit with 100 HE and yperite shells. No casualties were reported at 1000, five hours later. G-3 estimated the shelling at 2,160 rounds but had no casualties to report.⁵¹

A company commander of Engineers working near the Bois de Cantigny said nineteen of his men were evacuated that day, seven of them with severe eye and lung injuries. The 7th FA battery commander, whose unit was on the edge of the Bois de Villers, reported two mustard gas casualties among a number of his men taking refuge in a dugout. He estimated that 400 gas shells had fallen around his position, and said that the odor of gas was still strong two days later.⁵² These are the only accounts of the first attack.

50

Hanslian, pp. 83 - 84.

51

SOI 29, 25 - 26 May; DOR, 25 - 26 May.

52

Rpt on Gas Atk, CO Co F 1st Eng, 26 May; Rpt on Gas Atk of 26 May, CO Bty A 7th FA (GAF-1st Div).

The 82nd Reserve Division artillery order for the second gas attack, on the morning of 27 May -- the immediate demonstration for the Chemin des Dames offensive -- said that all batteries except the light field howitzers, which were short of blue and green cross shells, would "participate in the gas bombardment....We must forego the prescribed gas cloud shoot and contrary to tactical principles use more Yellow Cross, especially on the targets for which there is a limited quantity of Blue and Green Cross available."⁵³

This second gas bombardment was to begin at 0345 with several salvos of blue cross, then a blue cross concentration for five minutes, green cross for eight minutes, followed by drenching with yellow cross. Shortly before 0500 there were to be bursts of blue and green cross and after that hour four batteries were to continue the neutralization with yellow cross until completed. Beginning at 0345, a total of 1,560 blue cross shells, 1,946 green cross, and 1,700 yellow cross shells were to be fired. For completion of the mission after 0500, 300 blue cross, 450 green cross, and 2,500 yellow cross were allotted. During the shoot, 100 rounds of HE were to be mixed with the gas shells, and from 0500 to 0700, just before the raiding parties advanced, the whole 1st Division front was to be bombarded with high explosive. The 25th Reserve Division that same morning was to use blue cross shells only on

53

XXVI Res Corps copy of Arko 82 Order 412/18 (in German Files Box 130, fol I, p. 5) has been used instead of German Documents translation, fn. below.

battery positions on its front.

Hanslian does not report this gas attack on the morning of 27 May, nor do available German records confirm the actual amount of gas fired. The 25th Reserve Division was to say only that "the enemy artillery was not completely silenced by our gas bombardment on account of unfavorable weather conditions."⁵⁵

No estimate of the total number of shells was made by the 1st Division. G-2 said that early on 27 May, as the 28th Infantry moved back into the line, the enemy put down a furious fire of high explosive and shrapnel shells and strong concentrations of gas along the entire front line and rear areas. From 0230 to 0500 an yperite and phosgene bombardment fell in Villers-Tournelle, Bois Avance, Bois de Villers, and Broyes, and from 0345 to 0600 a similar bombardment filled the Bois de Fontaine, Bois des Glands, and Bois St. Eloi with gas. Immediately following the gas shelling, strong enemy raiding parties attempted to penetrate the lines of the 28th and 26th Infantry at Casablanca, Bois de Fontaine, and Belle Assise and were repulsed. The bombardments and raids were mistakenly described as "just a glorified coup de main."⁵⁶

54

Arko 82 Order 412/18, 24 May (item 91, Misc Doc, source a); Arko 127 (25th Res Div) Order for Tannenberg, 378/18, 24 May (item 117). Msg. 25th Res Div to Hq XXVI Corps, 2:45 p.m., 25 May (item 102), requested 11,135 HE and 1,500 blue cross shells for the Tannenberg raids.

55

25th Res Div Opns Rpt 4831...Tannenberg, 28 May (item 89 - 91, Misc Doc, source b). 25th Res Div WD, 27 May (source j), said the gassing "did not have the desired results." Ammo expended that day by the 25th Res Div was reported as 16,604 rounds.

56

SOI 30, 26 - 27 May; ltr, Lewis to Conner, 11:30 AM, 27 May, sub: Liaison Rpt (suppl to DOR, 26 - 27 May, Records 12).

The 5th FA gas officer reported 600 yperite shells near one of his batteries (at Rocquencourt?). Gas fumes blowing across the position resulted in 10 casualties with eye injuries. The 7th FA gas officer estimated between 1,200 and 1,800 yperite shells on the crossroads, battery positions, and towns in the vicinity of the Bois de Villers, but the 11 men gassed and 1 killed (hit by a gas shell) were said to have been all linemen, working on the wire in the area. The eleven men were evacuated with burns where the gas penetrated their clothing.⁵⁷

There is no report available for the 26th Infantry, whose 1st Battalion in Broys and the Bois de Villers was hardest hit in this attack, except that a week later ten men were evacuated who were believed to be delayed casualties of that bombardment.⁵⁸ Without estimating the number of shells in the attack, the Division Gas Officer reported 171 gas casualties, principally in the 26th Infantry, as a result of the chlorpicrin, phosgene, and yperite fired in the 27 May attack.⁵⁹ Since no report by Captain Davis has been found for the attack on 26 May, this total may include both bombardments.⁶⁰

57

Rpt on Gas Attack, RGO 5th FA, RGO 7th FA, 27 May (GAF-1st Div).

58

See SOI, 26th Inf, 27 May (Records 13); memo, RGO 26th Inf to Brig Adj, 7 Jun, sub: Investigation of ten gas cases, Company I (Records 13).

59

Telg, DGO to C Gas Defense SOS, Tours, 27 - 28 May (GAF-1st Div).

60

G-3 made no estimate of shells on 27 May but reported 104 gas casualties, including 7 officers of the 26th Inf. Only 4 of the gassed were yperite cases. On 28 May another 33 gas cases were reported, all from the 26th Inf, and 28 cases from the 18th and 26th Inf on 29 May, 5 of the latter yperite cases. Total casualties recorded by G-3 for the two attacks is therefore 165 (DOR, 26 - 29 May).

Extract of Opns Rpt, 1st Div, 30 Nov (USA in the WW, IV, 331 - 332), said the gas attack and raids on 27 May resulted in 8 killed, 86 wounded, and 97 gassed. This is apparently the source of J. C. Wise's account in The Turn of the Tide, p. 20.

A postwar report on the gas attacks of 26 - 27 May, in which a third of the shells were said to have been mustard gas, the remainder phosgene, indicate that a total of 333 gas casualties resulted. The division hospital admission lists also show more than 300 gas casualties for the period, but the coincidence of gas cases attributed to the Cantigny operation makes separation of delayed cases impossible.⁶¹

Although Hanslian has no record of it, a follow-up of a portion of the yellow cross fire on 27 May was executed on the early morning of 28 May. As Arko 82 reported, "The battery nests near Rocquencourt which had been bombarded with gas yesterday were fired on with 600 10-cm yellow cross shells and the gas concentration was renewed."⁶² The only report that can be identified with this attack is one from the commanding officer of French batteries at Rocquencourt who described the new disposition he had made of his guns following the "violent gassing with Yperite between 11 pm - 3 am" on the night of 27 - 28 May. No mention was made of casualties.⁶³

If German reports indicated some disappointment with this heavy gas fire when their raids failed and blamed it on the weather, 1st Division hospital records reveal once again that gas fire intended for the artillery had severely punished the infantry. The three sleepless nights of gas fire were to have their effect on the Cantigny attack.

61

Ltr, DGO 1st Div to C CWS, 27 Jan 1919, sub: Rpt on Circ Ltr No. 89 (GAF-1st Div); Analysis, p. 72.

62

Arko 82 to Div Hq, Morning Rpt, 28 May (Annexes to WD, 28th Res Div.).

63

Rpt, Capt Malpot, comdg Sub-Gpg to Army, 28 May, n.s. (Records 14).

The Capture of Cantigny

Amid the confusion of the bombardment and raids on the night of 27 - 28 May, the 28th Infantry took up its positions for the attack on Cantigny. The 3rd Battalion came up to the line just northeast of Bois St. Eloi, the 2nd Battalion directly west of Cantigny, and the 1st Battalion to the west edge of the Bois de Cantigny (Map No. 5). A company of the 26th Infantry under Maj. Theodore Roosevelt, Jr. was in regimental reserve behind the 28th, and two companies of the 18th Infantry were in reserve north of Villers-Tournelle. As the troops assembled, the French tanks and the detachment of French flame throwers⁶⁴ joined them for the assault. "The preparation," X French Corps said, was to "be limited to a very powerful general neutralization of the enemy artillery by toxic shell...during the night of [27 - 28 May] and maintained until after the attack;...[with] short and violent action of the trench artillery, howitzers, and the field artillery on the objectives."⁶⁵

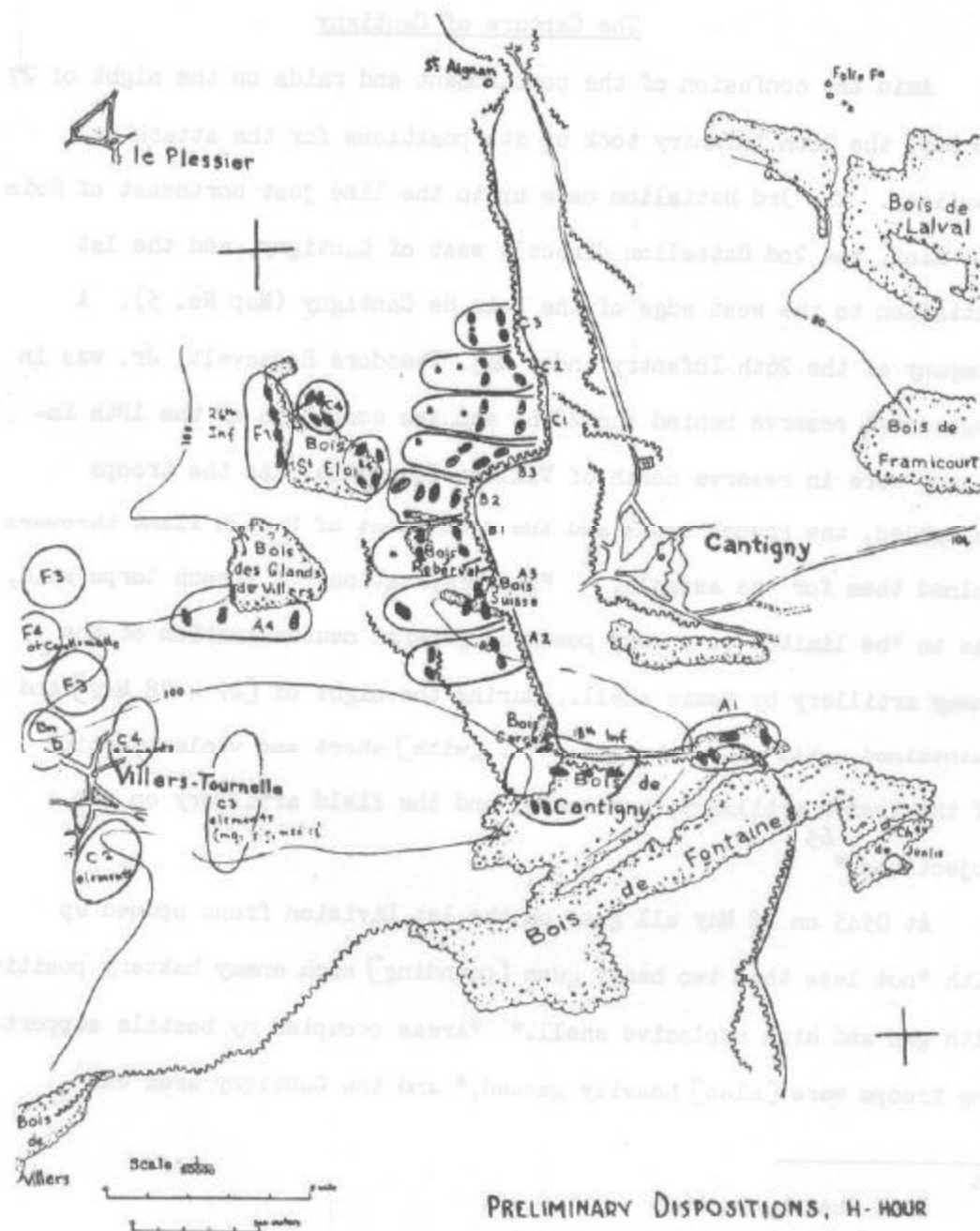
At 0545 on 28 May all guns on the 1st Division front opened up with "not less than two heavy guns [pounding] each enemy battery position with gas and high explosive shell." "Areas occupied by hostile supporting troops were [also] heavily gassed," and the Cantigny area was

64

Hist Sketch, p. 66.

65

Ltr, Vandenberg to CG First French Army, 12 May, n.s. (USA in the WW, IV, 270). Msg, 270th Res Regt to 82nd Inf Brig, 27 May (Annexes to WD, 82nd Res Div), reported a "gas bombardment on Malpart, Ziethenbusch, Narrenbusch and Wolfsschlucht" (see Map No. 6).



PRELIMINARY DISPOSITIONS, H-HOUR

G-3 sketch with Annex 1, FO 18, 1st Div

Source: 1st Div Box 87

MAP NO. 5

quickly converted "into a volcano of bursting shell and flame and smoke."⁶⁶ Special neutralization of enemy batteries at H-5 minutes was carried out by French corps and army artillery with 700 No. 4 and No. 5 gas shells, and it is assumed that the 2,400 gas shells allotted to 60th French Division artillery were fired in other counter-battery missions. German records show that Dombachtal [Dom stream valley], the depression from Gratibus down between Fontaine and Courtemanche, was "strongly gassed [about 6:00 A.M. and again] before 8:45 A.M.," and was heavily bombarded once more at 4:00 PM. The "west edge of Ziethenbusch [Buis du Vicomte] was [also] shelled from 7 to 8 o'clock with about 100 rounds of gas"⁶⁷ (Maps No. 6 and 7).

At 0645, under a rolling barrage and accompanied by tanks, the infantry advanced in three waves, and at 0720 the objective line was reached, 500 meters north of Cantigny and curving back over a two-kilometer front.⁶⁸ "The entire garrison in Cantigny was promptly overcome

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Hist Sketch, p. 67. The 1st FA Brig fired 1200 No. 3 smoke shells at H-5 minutes, and 33,313 75-mm and 4,192 155-mm HE shells that day. Memo, BMO, 27 Feb 1919, sub: Ammo Expended by 1st FA Brig (Records 14), added that 29,932 75-mm and 2,916 155-mm shells were fired on 29 May. See rpt, Special Shells fired by 1st FA Brig, n.d. (Records 14); G-3 rpt, Cantigny Operation, 18 Dec (Records 13).

⁶⁷

Above fn. and Firing Order 254/0, 60th Div arty, 27 May, (Records 9); 25th Res Div WD, 28 May (Misc Doc, source j); 271st Res Regt, Noon rpt, 3:00 P.M., 28 May (Annexes to WD, 82nd Res Div).

⁶⁸

Wise, The Turn of the Tide, p. 21, says the objective was "a line one kilometer beyond the village of Cantigny, extending from the region of St. Aignan...along the forward edge of the wood northeast of the village to point 104 overlooking Courtemanche and the ravine leading along the eastern face of the plateau."

and were prisoners. In all, 5 officers and 25 men were captured last morning.

The activity at noon indicated the captured area in a great box pattern, as patrols and machine rifle units were established in shell

before an cover the communication line. The second line of

troops began to move up the hill, following the ridge line. The

line, which was held by three strong companies, was

of the line was held by the woods at the north edge of the ridge.

and as the night came on the situation was very quiet.

the day before, the line was held by the woods at the north edge of the ridge.

the front line was held by the woods at the north edge of the ridge.

it is reported that the line was held by the woods at the north edge of the ridge.

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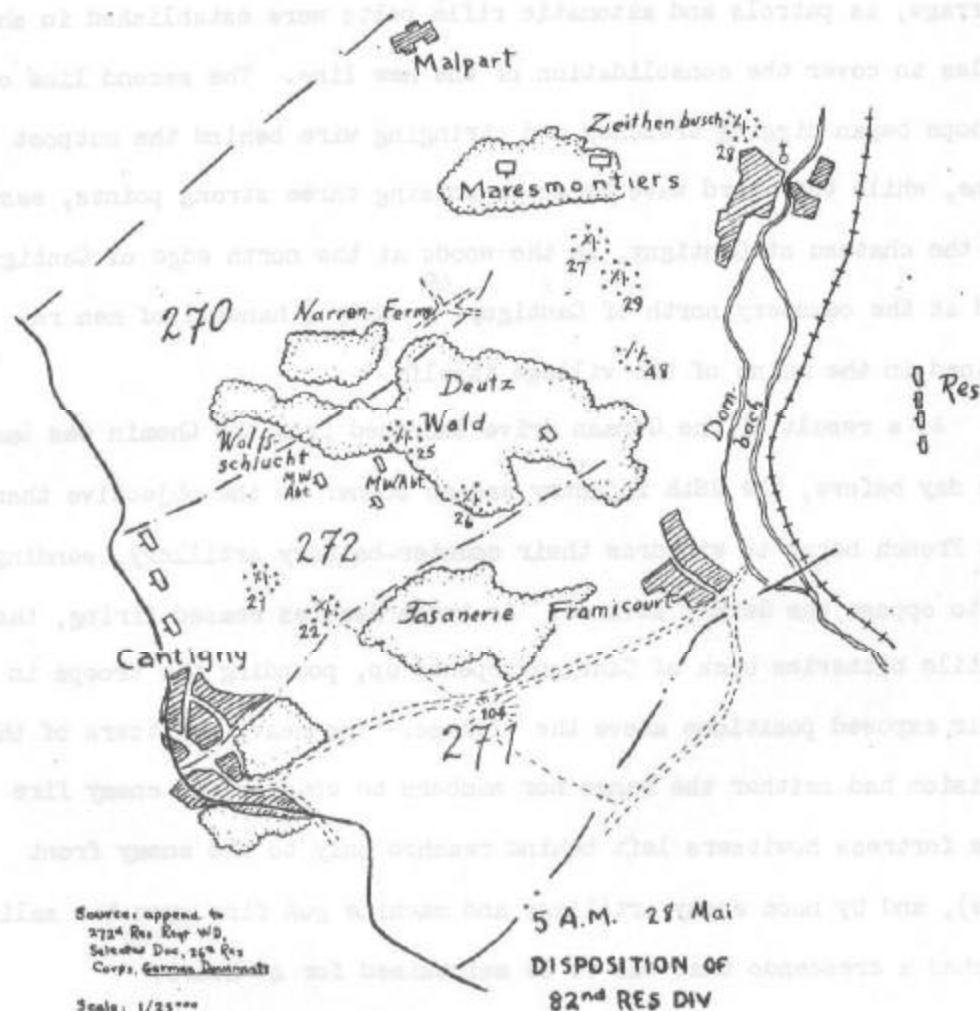
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MAP NO. 7

and made prisoners." In all, 5 officers and 225 men were captured that morning.

The artillery at once enclosed the captured area in a great box barrage, as patrols and automatic rifle posts were established in shell holes to cover the consolidation of the new line. The second line of troops began digging trenches and stringing wire behind the outpost line, while the third wave began organizing three strong points, east of the chateau at Cantigny, in the woods at the north edge of Cantigny,⁶⁹ and at the cemetery north of Cantigny. Only a handful of men re-⁷⁰ mained in the ruins of the village itself.

As a result of the German drive launched from the Chemin des Dames the day before, the 28th Infantry was no sooner on the objective than the French began to withdraw their counter-battery artillery, sending it to oppose the German advance. As these heavies ceased firing, the hostile batteries back of Cantigny opened up, pounding the troops in their exposed positions above the village. The heavy howitzers of the division had neither the range nor numbers to counter the enemy fire (the fortress howitzers left behind reached only to the enemy front line), and by noon enemy artillery and machine gun fire upon the salient⁷¹ reached a crescendo that was to be maintained for 48 hours.

69

Hist Sketch, p. 68; ADC Jnl Opns, 28 - 29 May, reproduces the complete brigade PC journal of the opn.

70

Ltr, Lewis to Conner, 9 A.M., 29 May, sub: Liaison Rpt (suppl to DOR, 28 - 29 May, Records 12).

71

Hist Sketch, pp. 68 - 69.

At 1330, the 82nd Reserve Division issued a new order: "The woods and depressions, support trenches, communication trenches and villages from Flessiers to Belle Assise Ferme will be bombarded with gas...to begin at once."⁷² Execution of the order seems to have been delayed. G-2 reported that the Germans fired at least 6,000 rounds of HE, all calibers, into Cantigny between 1000 - 0700 on 28 - 29 May. Another 1,500 HE rounds fell on 26th Infantry front lines and in the Broys area during 29 May, and that day the gassing began when "the Villers-Tournelle sector was bombarded intermittently with 5,000 shells of small, medium and large caliber, including sneezing gas, Phosgene, Yperite and high explosive."⁷³ But it was the enemy machine guns east of Cantigny and in Fontaine, said General Bullard, that caused the heaviest casualties during the consolidation, before the men could get under ground. By noon on 28 May, over half of the companies above Cantigny had reported a third of their men killed or wounded and were calling for reinforcements or relief.⁷⁴

⁷² Div Order 1992, 82nd Res Div, 1:30 P.M., 28 May (item 66, Annexe to WD, 82nd Res Div).

⁷³ SOI 32, 28 - 29 May. XXVI Res Corps Order 2067, 30 May (item 149, 26th Res Corps Gp Orders), reported that III Corps arty supported 82nd Res Div arty in this gassing, and that XXVI and IX Corps arty also took part in gas missions from Villers to Domfront. There were no details of the gas fire.

⁷⁴ Ltr, CG 1st Div to CG X Corps, 28 May, sub: Prelim rpt on Opn against Cantigny (Records 12); Rpt on Opns at Cantigny, 28th Inf (Records 13). Ltr, Grant LO at 1st Div to Conner, 10 A.M., 30 May, u.s. (Records 12), said the high casualties were "largely due to a German machine gun...which caught them at work before they could get under ground."

The first counterattack reportedly came at 0730 from the direction of the Bois de Framicourt, ten minutes after the objective was reached. It was followed by another attack at 0900 and two more that afternoon, at 1710 and 1730.⁷⁵ Both the 1st and 3rd Battalions fell back a short distance about 1745 as a result of the intense artillery and machine gun fire as well as the counterattacks, and Colonel Ely said it would be necessary to withdraw from the entire front unless he could get heavy artillery support. Bullard replied: "The position must be held. The Commander in Chief expects it." Pershing, who had witnessed the first hours of the assault and then left the sector, had almost at once dispatched "an astonishing letter" to Bullard, impressing upon him "in most earnest, emphatic terms his order to hold the position that we had taken, and under no conditions, under no pressure, to quit it."⁷⁶

To silence the machine guns in the Bois de Fontaine that were hammering Ely's forces, four batteries of 155's fired for more than an hour, but "only by resorting to gas shells were they finally driven out."⁷⁷ During the night of 28 - 29 May, while the enemy artillery

75

Hist Sketch, p. 69. Ltr, Bullard to CG X Corps, 28 May, above, rptd counterattacks at 0730, 1710, 1845, and 1950. Ltr, Lewis to Conner, 9 A.M., 29 May, said there were four counterattacks during the day and three the night of 28 May, at least three of which were made in battalion strength.

76

Msgs, CO 28th Inf to Hq 2nd Brig, 5:45 PM, 6:40 PM, 28 May; Msg, Bullard to Buck CG 2nd Brig, 7:35 P.M., 28 May (Records 15); Bullard, Personalities, p. 198.

77

Brig. Gen. H. W. Dutner, 1st FA Brig, Rpt on Opns against Cantigny, n.d. (Records 14).

"shelled and gassed Cantigny almost continually," and HE and gas shells fell in Coullemelle at the rate of five per minute, the two companies of the 18th Infantry and one of the 26th went in to reinforce the line, and Company D, 1st Engineers, was brought up as reinforcement south of Cantigny.⁷⁸ As further protection for the forces in Cantigny, at 0300 on 29 May the artillery was ordered to put counter-preparation fire and gas concentrations on the Bois de Framicourt and the ravine to the north, on Fontaine and its ravine,⁷⁹ and on the Chateau de Jenlis park.

With every intention of retaking Cantigny, the enemy refrained from using mustard gas in his early bombardments of the salient, but at 0400 on 29 May the artillery of the 25th Reserve Division put 620 yellow cross shells on battery positions in the hollows southeast of Broyes and in the Bois de Fontaine. The next morning the east exit of Villers-Tournelle was gassed with yellow cross. G-3 reported 24 men evacuated from the sector with burns on 29 May and 9 the

78

Hist Sketch, p. 69; ALC Jnl Opns, 28 May. Telg, Bullard to G-3 GHQ AEF, 10:06 P.M., 29 May (Records 12). Pershing, My Experiences, II, 60, says the 28th Inf was reenforced by a battalion each from the 18th and 26th Inf.

79

G-3 memo for CG 1st FA Brig, 28 May, sub: Arty fire during night of 28th - 29th (Records 14). Rpt, Special Shells fired by 1st FA Brig, shows 300 75-mm gas shells fired by the brigade on 28 May, none on 29 May, 130 on 30 May, and 54 on 31 May, but records are admittedly incomplete. See Analysis, pp.77 ff.

next day.

The afternoon and evening of 29 May was the crucial period of the Cantigny operation. Small counterattacks had been made at 0600 and 0700 that morning, followed by a lull in enemy activity. Then at 1745 the enemy made an attack in strength that forced the left side of the line back several hundred meters (Map No. 8).⁸¹ The heavy shelling with gas and HE in the Bois de Cantigny was continuous from 1740 to 0215, 29 - 30 May, said the Company E (18th Infantry) commander, and the strain was great as we were compelled to wear our respirators the greater part of the time....At 3:00 P.M. I was under the necessity of placing under arrest 16 men of _____ Co. who had broken and run from the front line during a counter attack. Ten others were held in our front line by [a platoon leader]. The officer commanding this detachment followed [them] shortly and I gave him the option of either returning under arrest...or returning to his former position in the front line, taking with him his men. He returned to the front line, having been warned that we would shoot to kill if any of his men stopped enroute.⁸²

It appears from 26th Infantry records that the events above actually occurred between 1700 - 1800 on 29 May when D Company, 1st Battalion (A3 on Map No. 8), was reported to have vacated its sector.

80

Hanslian, pp. 85 - 86; 26th Res Corps WD, 29 May; Arko 82, Noon rpt, 30 May (item 148, Annexes to WD, 82nd Res Div); DOR, 29 - 31 May.

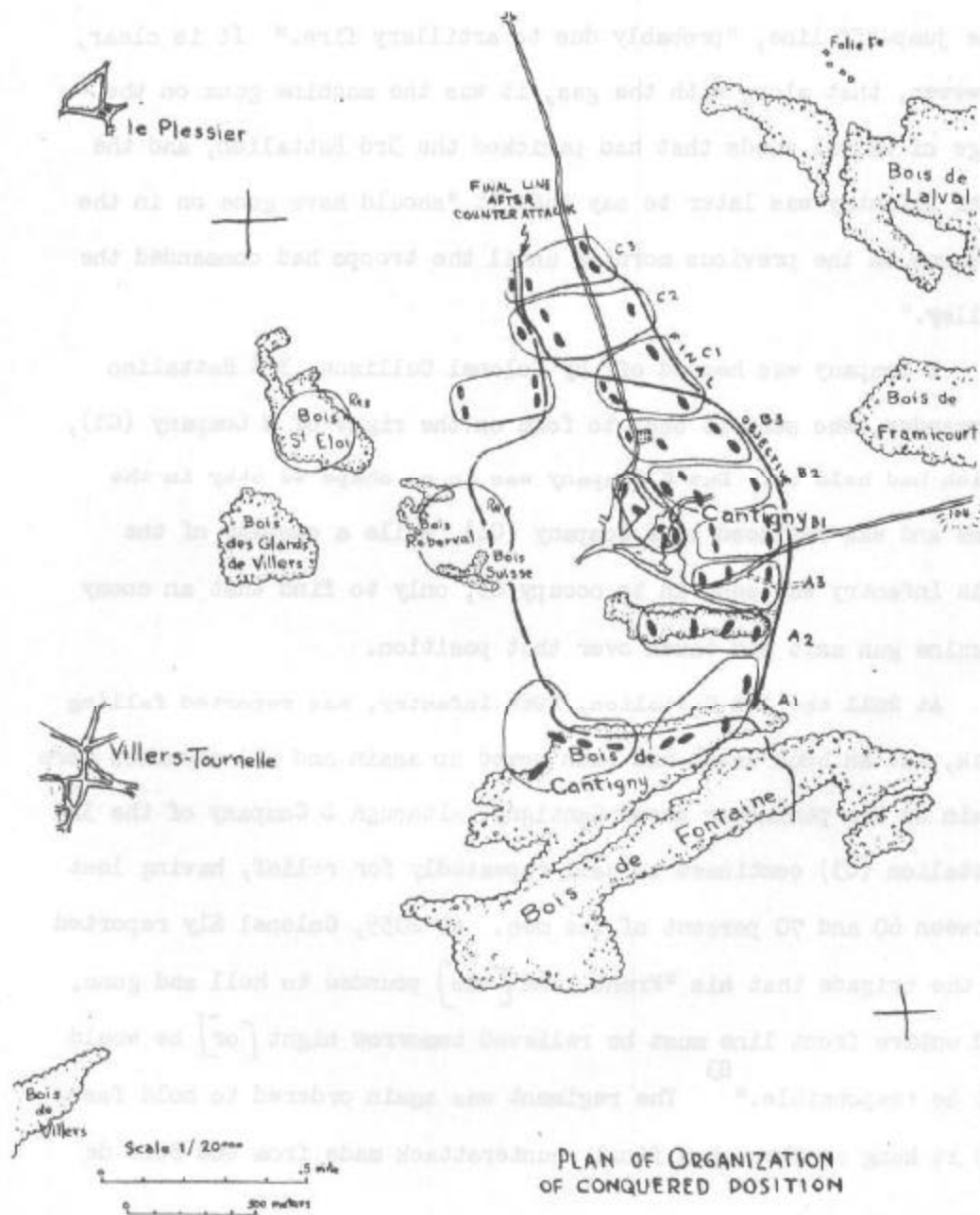
Rpt on Gas Atk, RGO 7th FA, C Bty, 29 May (GAF-1st Div), reported 40 - 50 yperite shells on the battery, a shell hit killing one man, with 11 others in a deep dugout gassed 12 - 36 hours later as a result of remaining in a low concentration.

81

Hist Sketch, p. 69; SOI 32, 28 - 29 May.

82

Memo, Campbell CO Co E 18th Inf for CO 2nd Bn 18th Inf, 5 Jul, sub: Events...during Battle of Cantigny (Records 13).



A half hour before that, K and L Companies of the 3rd Battalion (C2 and C3), at the top of the salient, were said to be falling back to the jump-off line, "probably due to artillery fire." It is clear, however, that along with the gas, it was the machine guns on the edge of Lalval woods that had panicked the 3rd Battalion, and the 28th Infantry was later to say that it "should have gone on in the advance on the previous morning until the troops had commanded the valley."

K Company was headed off by Colonel Cullison, 3rd Battalion commander, who sent it back to form on the right of M Company (C1), which had held on. But K Company was in no shape to stay in the line and was replaced by I Company (C4), while a company of the 18th Infantry was sent in to occupy C3, only to find that an enemy machine gun unit had taken over that position.

At 2011 the 2nd Battalion, 28th Infantry, was reported falling back, but an hour later had been moved up again and all elements were again on the perimeter above Cantigny, although L Company of the 3rd Battalion (C3) continued to call repeatedly for relief, having lost between 60 and 70 percent of its men. At 2055, Colonel Ely reported to the brigade that his "Front line [was] pounded to hell and gone, and entire front line must be relieved tomorrow night [or] he would not be responsible."⁸³ The regiment was again ordered to hold fast, and it hung on through a final counterattack made from the Bois de

83

Msg, Ely to Buck, 8:55 P.M., 29 May (Records 15).

Lalval at 0530, 30 May. The relief by the 16th Infantry was begun
84
that night.

The German Version

The series of counterattacks described by 1st Division are not entirely confirmed in the German records. While the adjacent regiments of the 82nd Reserve Division undoubtedly made repeated efforts to contain the advance above Cantigny, only two counterattacks were actually planned, and the second one, on 3 June, was called off.

Regiment, division, and corps all explained in detail to Eighteenth Army why Cantigny was lost. The village in the salient was by its very location difficult to defend and was therefore lightly garrisoned. The attack had come as a surprise shortly after completion of the relief of the battalions in the line during the night of 27 - 28 May. Taking refuge in the cellars from the intense barrage, the troops in the village had not observed the advancing Americans, and when they emerged, stunned by the bombardment, they had been thrown
85
into confusion by the tanks leading the attack.

84

Jnl of Cantigny Opn, 1st FA Brig (Records 14); Rpt on Opns against Cantigny, 28th Inf (Records 13); Ely, Rpt of Capture of Cantigny, 2 Jun (Records 13).

85

Opn Rpt 2137, XXVI Res Corps to CG 18th Army, 11:30 PM, 2 Jun (26th Res Corps Selected Documents; also in Append to SOI 52, 17 - 18 Jun, and extracted in USA in the WW, IV, 341 - 342).

NOTE: At least four-fifths of the 1st Division volume of German Documents is concerned with the Cantigny operation and confined to records between 27 May - 6 Jun. Supplemental records in the German Files, National Archives, are equally meager outside the period, since the Army War College, like the 1st Div Assn, was principally concerned with the Cantigny operation.

The attack came at 0745, said corps, and by 0900 on 28 May the capture of Cantigny was acknowledged complete, with the Americans entrenching on Height 104. XXVI Corps reported also that the Dom stream valley had been under gas attack since 0600, and that in retaliation 1st Reserve Division (III Corps) artillery assisted 82nd Reserve Division in the gassing of American batteries and troop areas. Both III Corps and IX Corps, on either side of XXVI Corps,⁸⁶ had been called on for help.

At 0950, as the 25th Reserve Division and 2nd Division (IX Corps) artillery began firing on assembly positions, battery groups, and troop concentrations in Fontainewald and the Cantigny approaches, support elements of the 271st and 272nd Infantry advanced from the north and south on Cantigny. By noon they had retaken Height 104, and though they were to repulse two efforts of the Americans to retake the height on 29 May, they could not dislodge them from their positions elsewhere ringing the village.⁸⁷ Shortly after noon of 28 May plans were made for a full-scale counterattack on Cantigny. The preparation was to begin at 1710 and an hour later the reserve

⁸⁶

Msgs, CG XXVI Res Corps to Hq 18th Army, 9:20 a.m., 9:30 a.m., 28 May (26th Res Corps Opn Docs).

⁸⁷

25th Res Div WD, 28 May (misc docs, source j); msgs, 26th Res Corps to 18th Army, 10:15 a.m., 10:45 a.m., 12:30 p.m., 28 May; msg, 82nd Res Div to III Corps, 1315, 28 May; 26th Res Corps Oper & Tact Rpt 2072, 31 May (26th Res Corps Opn Doc 88). See also Rpt on Combat Strength, 82nd Res Div, 29 May (item 37, Selected Docs, 26th Res Corps).

battalion of the 82nd, brought down from the west bank of the Dom, was to retake Cantigny, supported by elements of the 270th and 271st
88
Infantry (See Map No. 7).

The counterattack battalion, relieved in the line only the night before, had been gassed in the Dom valley that morning and was in poor shape. Coming down to Cantigny by way of Ziethenbusch [Bois du Vicomte] and Maresmonthiers, it was delayed by enemy fire and enemy air attacks, and at 1845 was still not in position for the attack. Delay and confusion in the orders to its support units resulted in a highly uncoordinated attack. Any support the 25th Reserve artillery might have given was nullified when its positions in the hollow between Fontaine and
89
Courtemanche came under gas attack shortly after 1700.

The counterattack that evening was thrown back. Six hours later, at 0330, 29 May, elements of the 271st Reserve Infantry again attacked the line and continued to fight until 0930 before withdrawing. Thereafter, until 1 June, the 82nd Reserve Division turned the fight over
90
to its artillery while it reorganized and rested its forces.

Losses in the 82nd Reserve Division on 28 May were reported as 4 killed, 51 wounded, and 17 missing. The losses for the period

38

Msg, 26th Res Corps to III and IX Corps, 1600, 28 May.

89

Msg, 25th Res Div to 26th Res Corps, 1720, 28 May; Opns Rpt 2137, 26th Res Corps to CG 18th Army, above; Oper & Tact Rpt 2142, 26th Res Corps, 5 Jun (26th Res Corps Opn Doc 77).

90

271st Res Regt WD, 28 - 31 May.

29 - 31 May, which undoubtedly included adjusted figures for 28 May, were reported as 192 killed, 656 wounded, and 488 missing — a total of 1,408 in the operation. The 25th Reserve Division reported its losses while assisting in the counterattacks as 3 officers and 256 men.⁹¹ No confirmation has been found for the rumor in the 1st Division that "the German regimental commanders [were] 'limoged' [i.e., broken] on account of the loss of Cantigny."⁹²

With the failure of the counterattack on 28 May, corps ordered the 82nd to prepare a new attack to retake Cantigny. The attack was to be made at 0730 on 3 June. The artillery of four divisions, the 1st Reserve, 82nd Reserve, 25th Reserve, and 2nd Divisions, would begin the preparation on the night of 1 - 2 June with a two-hour concentration of yellow cross on battery positions at Ainval, Esclainvillers, Coullemelle, and Broys. The yellow cross bombardment was to be repeated the next night just before the attack.⁹³

The next day this order was revised. Nonpersistent gas only would be used on the enemy batteries and it would all be fired immediately

⁹¹ Rpt on Losses, 28 - 31 May, 26th Res Corps to 18th Army, n.d. (item 38, 26th Res Corps Opn Docs); 25th Res Div WD, 28 - 29 May. Cf. Rpt, CG 82nd Res Div to CG 26th Res Corps, 1 Jun (26th Res Corps Daily Rpts), showing 202 killed, 730 wounded, 505 missing. Cf. Append. to SOI 34, 30 - 31 May (Records 4).

⁹² ADC Jnl Opns, 19 Jun.

⁹³ Msg, Corps orders to 82nd Res Div, 25th Res Div, 30th Div, 1000, 29 May; Div Order 02021, 6:45 p.m., 30 May (item 158, Annexes to WD, 82nd Res Div).

prior to the attack. At the same time the whole of the north portion of the Bois de Cantigny was to be blinded with smoke. The assault forces, by a surprise attack, were to retrieve "in one dash" the former line of resistance on the west and south edges of Cantigny, thus restoring the salient.⁹⁴

The plan may have been abandoned owing to the depletion in the ranks of the 82nd Reserve Division, or, more likely, to new orders received by Eighteenth Army concerning the coming fourth offensive that spring. On the morning of 1 June, Eighteenth Army said the counterattack would not take place, and inquired whether the 30th Division, then in support of the 82nd, could be released for service elsewhere.⁹⁵ Cantigny was abandoned to the Americans, but they were to get no comfort from it.

An effort to estimate the volume of German artillery fire on the 1st Division sector during the Cantigny operation has proved fruitless. G-2 daily reports show that, exclusive of gas shells, 22,500 rounds of HE fell in the sector between 28 - 31 May. But since the War Diary of the 25th Reserve Division alone shows an expenditure of 23,389 rounds for the three days, 28 - 30 May, the fire of the four divisions, as well as the corps and army artillery, must have been several times the G-2 figure.

94

Draft of Opns O 2090, 26th Res Corps, 31 May (item 50, 26th Res Corps Opns Doc).

Combat strength of the 82nd Res Div was rptd on 31 May as 1,296 effectives in the 270th Regt, 660 in the 272nd Regt, and 583 in the 271st Regt -- a total of 2,539 (Opns Rpt 2090, 26th Res Corps to 18th Army, 31 May (item 52/53, 26th Res Corps Opns Doc).

95

Tele msg, CG 18th Army to CG 26th Res Corps, 1 Jun (item 49, 26th Res Corps Opn Doc).

The heavy fire it had maintained throughout the operation made deep inroads on 82nd Reserve Division stocks, and when an annihilation fire was put down sometime on 31 May, "to see if the enemy artillery was on the alert," the division commander spoke sharply, and with some irony:

By such pointless fire, the entire front is unnecessarily disturbed... and this fire (annihilation fire lasts three minutes) represents an unwarranted expenditure of ammunition and depreciation of materiel.... In view of the state of our ammunition supply, we can not afford to indulge in such a luxury.⁹⁶

The Cost of Cantigny

On the night of 30 - 31 May, Bamford's 16th Infantry relieved the badly depleted 28th Infantry and the three companies of the 18th and 26th Infantry in the Cantigny salient. Over the four days since the attack, the division estimated the cost of Cantigny at 13 officers and 186 men killed, 31 officers and 621 men wounded, 203 men gassed, and 1 officer and 15 men missing -- a total of 45 officers and 1,025 men, against admitted German losses of 1,667.⁹⁷ But "coming at a

96

Div Order 02024, 31 May (item 190/191, Annexes to WD, 82nd Res Div).

97

FO 20, 1st Div, 30 May; Hist Sketch, p. 70.

Ltr, Bullard to CG X Corps, 28 May, estimated losses of 28 officers and 375 men killed and wounded, against German losses of 350 killed and 250 captured. Telg, Bullard to G-3 GHQ AEF, 4:47 P.M., 30 May (Records 12), estimated losses up to that time as 250 killed and 900 wounded.

Ltr, Bullard to CG X Corps, 2 Jun, sub: Casualties...in 28th Inf (Records 12), said losses were 25 killed and 50 wounded in the attack, while the whole operation had cost the regiment and its machine gun companies 14 officers and 203 men killed, 22 officers and 561 men wounded, and 2 officers and 139 men missing, for a total of 941. Ltr, CO 28th Inf to CofS AEF, 7 Jun, n.s. (1st Div Box 83, 12.3), said the total of 862 casualties in the regt comprised 60 percent of the company officers and 32 percent of the men.

moment when the enemy's forces were gaining ground in a new offensive and when the remainder of the Allied front was struggling to hold, [the Cantigny operation]⁹⁸ produced a psychological effect of far-reaching consequences."

As a topographical conquest, Cantigny was admittedly worthless. What had been a salient in the French lines was now a salient in the German lines. Command of the Dom valley, which had some military value but would have necessitated holding Height 104, had not been achieved. The ruins of Cantigny itself had no military value whatever, as a reconnaissance report made clear sometime in the first week of June: "Cantigny is absolutely impractical as a location for a reserve platoon or a dump...regardless of how the map looks." There was no possible protection for troops in the salient and communication with the village⁹⁹ was impossible by daylight.

Considering the gas casualties in Villers-Tournelle early in May, the month-long battering on that front, and the Cantigny operation, it is hard to say how ready for another fight the division was at this time. General Bullard might have but did not comment on this point saying that not long after the capture of Cantigny

the rumor reached me that my division was to be relieved in its sector before Montdidier by the 2nd (American) Division, and we were to be sent to the Marne to face the Germans there. [But the Boche] suddenly became so active and threatening in the bulldog nose (the point of the Chateau Thierry salient) that the 2nd Division [at Beauvais] on its way

98

Hist Sketch, p. 70.

99

Rpt of Recon, CO Co A 28th Inf, n.d. (Records 13).

to relieve us had to be deflected to Chateau Thierry for immediate help to the French there.¹⁰⁰

The German advance in the direction of Paris, begun on 27 May, required the French to take divisions from all along less active fronts, in an effort to slow down and stop the drive. On the nights of 1 - 2 and 2 - 3 June, the 152nd French Division withdrew from the left flank of 1st Division. At the order of X Corps, the divisional artillery fired 26,000 rounds of HE that day to cover the withdrawal, as all three battalions of the 18th Infantry moved up through the departing French and the division extended its sector to Grivesnes, on a new front of 5¹/₂ kilometers. Opposite Grivesnes was the 1st Reserve Division.¹⁰¹

Though it slackened through temporary ammunition exhaustion, the fire exchange on both sides continued, with greater use of gas shells than usual. The 82nd Reserve Division reported the low ground east of Fontaine gassed on 4 June, and on the night of 5 June, strong gas concentrations on Deutz Wald [Bois de Lalval], Malpart, and Zeithenbusch. The next day, the 6th, the area from Fontaine to the left sector limit came under heavy gas fire. The 1st Division artillery fired a total of 827 gas shells on those days.¹⁰²

100

Bullard, Personalities, p. 208. ADC Jnl Opns, 1 Jun, said that on 31 May the Germans had reached the Marne and cut the Paris-Gondrecourt railroad near Chateau Thierry.

101

DOR, 31 May - 2 Jun. See rpt on 1st Res Div in append to SOI 38, 3 - 4 Jun.

102

82nd Res Div WD, 4 - 6 Jun; 272nd Res Regt WD, 5 Jun; 270th Res Regt WD, 5 Jun; rpt, Special Shells fired by 1st FA Brig.

In its noon report on 4 June, Arko 82 said that enemy troops observed advancing from Rocquencourt and Serevillers appeared to be reliefs and it had at once put 300 green cross and 200 blue cross shells in surprise bombardments on them in the hollows between the Cantigny-Le Plessier road and the Cantigny-Villers-Tournelle road. There are no 1st Division gas reports for the period but hospital lists show an average of 10 gas casualties each day through the first week of June.

The Long Month

On 5 June the division learned that a new German offensive would probably fall on the Montdidier-Noyon front in the next day or two, with the 1st Division getting the backlash of the attack. To support the 1st Division in case the expected offensive spread northward, the French put three regiments of Chasseurs Alpins (the famous Blue Devils) with three groups of 75's behind the division. And for the first time the 1st Division front was organized into brigade sectors, the regiments in line in columns of battalions, with the 18th, 16th, 28th, and 26th Infantry in the Esclainvillers, Coullemelle, Villers-Tournelle, and Broyes zones, respectively (Map No. 9).

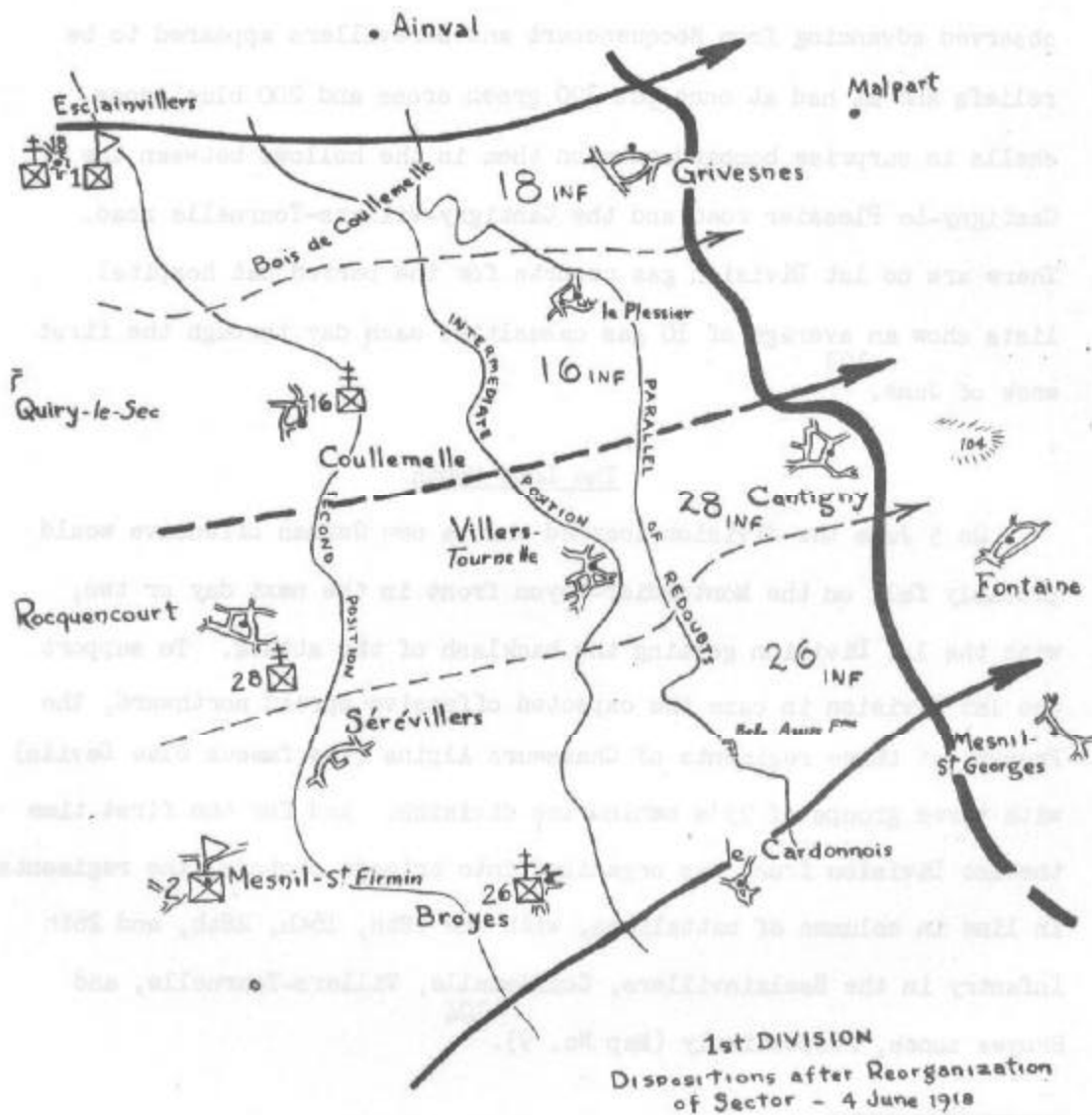
103

Arko 82 to CG 82nd Res Div; Noon rpt, 4 Jun; Combat rpt, 3 - 4 Jun (Annexes to WD, 82nd Res Div); 82nd Res Div WD, 3 Jun: "Enemy assembly positions west and northwest of Cantigny were gassed;" 26th Res Corps WD, 4 Jun.

104

ADC Jnl Opns, 4, 6, 7 Jun; FO 21, 1st Div, 1 Jun; FO 23, 6 Jun; FO 24, 7 Jun; Ltr, Lewis to Conner, 5 Jun.

Referring to the new alignment of the division, simplifying command,



MAP NO. 9

Source: RG 120, Cartographic Div.
NA, 1st DW

The German attack on the morning of 9 June was to the right of the 1st Division, falling on the center of the 60th French Division east to Noyon. The 1st Division at Cantigny, waiting for the main blow, suffered only from the immense demonstration put on by the German divisions on either side of the attack front. G-2 reported that the bombardment lasted from 2350 to 0300, 8 - 9 June and fell principally

east of the line Plainville-Broyes-Esclainvillers, with gas and high explosive, some shrapnel....The gas used was Chlorine Arsenic and Bromine Arsenic and a small percentage of mustard gas, [with the gas shells coming in] at times...as high as 25 per minute. Neutralization fire on batteries B of the 6th, E of the 5th, E and F of the 7th [FA] with Phosgene and Yperite shells. Intermittent shelling on our front positions with gas and H.E. [this morning].

The next day G-2 added that "five battery positions in the region of Broyes [were] heavily gassed with Yperite on 9 June." ¹⁰⁵ Neither G-2 nor G-3 made any estimate of the number of gas or HE shells fired into the sector, but the Division Gas Officer thought approximately 1,100 77-mm, 400 105-mm, and 400 150-mm gas shells had been fired in the bombardment, most of them mustard gas.

Hanslian reported a total of 14,350 gas shells fired by the artillery of the 25th and 82nd Reserve Divisions and two batteries of the 1st Reserve Division over a two-hour period beginning at 0020,

104 (continued)

communications, and supply, Lt Col G. C. Marshall Jr, GS GHQ AEF, said: "I am convinced that this is the best way to handle our large divisions effectively [and] had we been arranged in this fashion the entire time...the troops would have been in 30 per cent better shape than they now are" (Ltr to Col Fassett, 6 Jul, Records 12).

105

SOI 43 and 44, 8 - 10 Jun. Lt Butler (Jnl Opns, 9 Jun) said Btys E and F, 5th FA, and B, C, E, and F, 7th FA, were gassed in the bombardment.

9 June. Of the total, 10,850 shells were yellow cross, 1,670 were
106
blue cross, and 1,830 were green cross.

Probably only a fraction of this gas fell in the 1st Division sector since the artillery of those German divisions covered a much wider front than five kilometers (Map No. 10).

The 18th Infantry at Esclainvillers, most distant from the center of the gas attack, was to report but 10 casualties. In the 16th and 28th Infantry sectors in the center, reliefs were being carried out when the gas shells began falling. A battalion commander of the 28th Infantry described the resulting confusion:

Relief was effected with great difficulty. We were heavily shelled with H. E. and gas. Gas discipline in the Battalion was good [and] therefore no losses. However [in] one section of M. G.'s 14 men were knocked down. They received a shower of gas shells. And in the mixup all the mule drivers were wounded and all the men gassed. Two mules were wounded and two are missing. Lt. Henderson is also missing....¹⁰⁷

The final report of the Division Gas Officer on 14 June said the attack resulted in 10 gas cases in the 18th Infantry, 58 in the 16th Infantry, 34 (elsewhere he reported 80) in the 28th Infantry and 203 in the 16th Infantry. The field artillery had 61 casualties and other
108
elements 23, for a total of 389 gas casualties.

106

Hanslian, pp. 87 - 89; Ltr, DGO to CG 1st Div, 14 Jun, sub: Gas Attack of June 9, 1918 (GAF-1st Div).

107

Msg, CO 2nd Bn 28th Inf to CO 28th Inf, 10 Jun (1st Div Box 85, 32.16); DOR, 28th Inf, 9 - 10 Jun (Records 13).

108

Ltr, DGO to CG 1st Div, 14 Jun, above. The total agrees approximately with the count in hospital admission lists, Analysis, p. 73. DOR, 9 - 15 Jun, showed only 208 gas cases.

REV

Source: Gas map in GAF-
Map Originals. Superimposed
on a gas map of 9 Jan
offense prepared by MAP
Room. G-3 CMQ (G-3 Rpts
CMQ AEE Box 213)



In the hours of uncertainty on 9 June, under the rain of gas and HE shells, division headquarters alerted all units to be ready to put into effect the plans ordered by corps for the evacuation of the sector should it become necessary. A division historian, overlooking the elaborate preparations for departure, was later to say that

there was a general feeling of disappointment that the division had had not stood squarely in the path of the latest German offensiveThe morale could not have been better, and the division was prepared to die east of the Paris-Amiens railroad. All the forces of the division were available for the emergency. The military police forming the rear cordon of the fighting troops of the division were stationed along the railroad, and all dispositions were taken...for the expected combat.¹⁰⁹

Probably in retaliation for its daily concentrations in the period 7 - 16 June, when the 1st FA Brigade fired more than a thousand gas shells each day on enemy targets,¹¹⁰ on the mornings of 17, 18, and 19 June the division suffered successive yellow cross attacks. They were planned by Arko 71, 1st Reserve Division, in an order on 13 June saying that 1,530 yellow cross shells had been allotted for gassing the batteries around Coullemelle, and would be fired in equal lots of 510 each at 0400 and 0530 on 15 June and at 0345 on 16 June. Hanslian said that just one gas bombardment (Verseuchungsschiessen) was fired, at 0400 on 18 June, but 1st Division records indicate that although delayed all three missions were

¹⁰⁹

MS. Hist of First Div, ed. Greely, ch. IV, p. 10 (1st Div Box 12, 11.4).

¹¹⁰

Rpt, Special Shells fired by the 1st FA Brig, above, shows a total of 12,053 No. 4 hydrogen cyanide and No. 5 phosgene shells expended in those ten days.

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fired.

The Division Gas Officer reported that the first attack occurred on the early morning of 17 June when between 500 and 1,000 105-mm and 210-mm yellow cross shells fell around 6th FA batteries near Coullemelle and the Quiry-Coullemelle road, and the second attack the next morning when another 500 yellow cross shells hit Coullemelle, west and south of Coullemelle, between Coullemelle and Quiry le Sec, around PC Marguerite, and in the valley on the edge of the Bois de Coullemelle, north of PC Marguerite (Map No. 11). Each attack was preceded by heavy drum fire on the positions around Cantigny, leading to the belief "that the enemy is at least still interested in this sector."¹¹²

Up to noon on 17 June, said Captain Davis, DGO, there were no casualties to report from the first attack, but at 0700 on 18 June a total of 41 casualties had been evacuated, 23 of them from the infantry, the rest among the artillery.¹¹³ On the morning of 19 June, the 16th Infantry RGO and Captain Davis reported a third attack made on Coullemelle when between 500 and 600 yellow cross shells fell in the area drenched by the previous bombardments. Direct hits on the trenches and dugouts in the area "caused some confusion" and as a result there

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Arko 71 Order 2838/13, quoted in Hanslian, pp. 90 - 92.

112

DOR, 28th Inf, 17 - 18 Jun (Records 13); Ltrs, DGO to CG 1st Div, 17 and 18 Jun, sub: Gas attack, Coullemelle (GAF-1st Div); Memo BGO to CG 1st Brig, 18 Jun, sub: Gas Attacks, Nights of June 16 - 17, 17 - 18. SOI 51 and 52, 1st Div, 16 - 18 Jun, said 1000 gas shells were fired in each attack.

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Rpt on Gas Atk, RGO 16th Inf, 18 Jun; Ltrs, DGO to CG 1st Div, 17 and 18 Jun, above.



MAP NO. 11

were 70 gas casualties. A final count of casualties for the three attacks, said Captain Davis later that day, revealed 138 gas cases, but hospital admission lists indicate a total of 187 for 17 - 19 June, with 114 97 in the 16th Infantry alone and 35 in the artillery.

The marked increase in enemy artillery fire over the week of 14 - 21 June and the yellow cross attacks of 17 - 19 June, with accompanying drum fire on Cantigny, seemed to indicate that the enemy still smarted from the loss of the salient. In a memo on 21 June, Colonel Ely of the 28th Infantry said that a counterattack at Cantigny appeared to be building up, and added that if the village should be captured the problem of retaking it would be the same as on 28 May. The division would wait until the enemy had withdrawn his preponderance of artillery and then two battalions or a regiment or more would be necessary to

115
to take it back. But the enemy did not attack, instead, both sides seem to have agreed to an undeclared truce in the last ten days of June. Their artillery fire subsided and raids ceased while each side cut the tall wheat in front of the trenches, in order to improve their

116
fields of fire.

114

Rpt on Gas Atk, 16th Inf RGO, 19 Jun; Telg, Davis to CDD Gas Serv, 19 Jun (GAF-1st Div); Analysis, p. 73. LOR, 1st Div, 16 - 21 Jun, show only 82 casualties in that period, all in the 16th Inf.

115

Opns memo, 28th Inf, 21 Jun, sub: Counter-attack at Cantigny (Records 10), ADC Jnl Opns, 19 - 20 Jun.

116

G-3 Memo for Div Comdr, 22 and 27 Jun, sub: Wheat Cutting (Records 2). Note: This "truce" coincided with the worldwide epidemic of influenza that broke out in mid-June, lasted through July, and recurred in October 1918.

The division had had hopes of being relieved on that front after its consolidation of Cantigny and the sector, but July came and it was still there. The troops were tiring under the daily rain of between 2,000 and 3,000 HE shells and the periodic gas attacks, and reliefs were frequent. But word was at last received that they were to be relieved, immediately after the 4th of July.

To celebrate that day, said the division history,

48 salvos of 155-mm shell [were] fired into the most sensitive parts of the enemy's positions. In lieu of the usual fireworks, of which there was always an abundance along the front lines, the 75-mm regiments fired at night the first 6000 rounds of French mustard gas issued to the Americans, as concentrations upon the enemy's trenches, kitchens and battery positions.¹¹⁷

The French had first used their new No. 20 yperite shells in quantity to blunt the enemy offensive of 9 June. Not long after, the division learned that the neighboring 60th Division was using the shells, but its requests for yperite were denied. Now it had its first allotment.¹¹⁸ On the 4th, a noon salute with high explosive was fired by all 48 guns of the division. The 6,000 rounds of yperite were saved for a concentration on the Bois de Lalval at 2130 that night. The precise total fired was 5,648, after which the woods were ringed with HE fire, to keep the Germans immobilized in the gassed area.¹¹⁹ A division history

¹¹⁷

Hist Sketch, p. 75.

¹¹⁸

ADC Jnl Opns, 12 Jun.

¹¹⁹

Firing Schedule 66, 4 - 5 Jul (Records 9); DOR, 4 - 5 Jul. Rpt Spec Shells fired by 1st FA Brig (Records 14), shows 243 155-mm No. 5 shells and 5,440 75-mm No. 20 shells fired on 5 Jul.

said of the salute:

It was a peculiar pleasure to the artillery men to retaliate with the very effective French mustard gas. During the occupation of the sector they had suffered as much as the infantry from the enemy's gas concentrations, notably so in the 6th Artillery in the vicinity of Coullemelle.¹²⁰

According to its War Diary entry of 4 July, the 1st Reserve Division missed the point of the salute:

Wolfsschlucht and Warren Farm were heavily gassed with Yperite (new French yellow cross). The 6 Co., 1st Reserve Infantry Regiment which was located there suffered gas casualties (3 off. 68 men). Division ordered an alert...as an enemy attack was expected....Enemy infantry has not yet shown itself, also the Art. fire has diminished considerably.

The regiment concerned reported that the attack occurred between 1030 and 1330, as a result of which "4 off. and 69 men (6th Co. and minen-¹²¹werfer detachment) are sick from the gas."

There was a "violent reaction after our 'Yankee gas' concentration," Lieutenant Dutler said. G-2 reported that "The enemy retaliated for our fire on the Bois Lalval with Yperite early last night by firing heavily on our front line from Bois Fontaine to Parc de Grivesnes." More than 3,000 rounds of HE fell in the principal villages in the sector over a period of an hour or two, and 11 wounded were reported.¹²²

¹²⁰

MS. History of First Div, ed. Greely, ch. IV, p. 10.

¹²¹

1st Res Div WD 4 Jul (Misc Docs, source h); 1st Res Regt WD, 5 Jul (Misc Docs, source p). An earlier use of yperite by the French was reported by III Corps. A battalion had lost 117 men to yperite on 1 Jul, and corps ordered training in yperite defense at once (III Corps Order 1347, 4 Jul, Misc Docs, source l).

¹²²

ADC Jnl Opns, 4 Jul; SOI 69, 4 - 5 Jul.

On 5 - 8 July, "before the enraged enemy could devise some form of retaliation for the gas attack," the 1st Division was relieved at Cantigny by the 152nd and 166th French Divisions.¹²³ Plans to send the division to I Corps reserve, near Chateau Thierry, were abandoned on 11 July when the division was ordered to join the 2nd Division and 1st Moroccan Division northeast of Paris. The German offensive south of the Marne, launched on 15 July, was stopped two days later. On the evening of 17 July, the 1st Division was in place for the French counterattack southwest of Soissons. The next morning the Aisne-Marne campaign began.

ANALYSIS

Battle Casualties

On 20 June, in support of a plea "that if this division is to be preserved as a good division...it should be relieved as soon as possible," casualty data were listed for the period 23 Apr - 16 June as follows:¹²⁴

	<u>Off.</u>	<u>Men</u>
Killed by small arms or arty fire	37	725
Killed by gas	1	3
Wounded by small arms or arty fire	75	1789
Evacuated for gas	43	1733
Missing	1	44
	158	4294
	[recte: 157] [sic]	

¹²³

Wise, The Turn of the Tide, p. 33.

¹²⁴

Ltr, Lewis to Conner, 20 Jun (Records 12), memo, Conner for CofS GHQ AEF, 22 Jun, sub: Memo from C-inC of June 21 (USA in the WWI, III, 324).

The published history of the division has three sets of casualty figures for the 72 days in the Cantigny sector (24 April - 5 July):¹²⁵

	Officers			Men			TOTAL	
	<u>K</u>	<u>W</u>	<u>M</u>	<u>K</u>	<u>W</u>	<u>M</u>	<u>Off</u>	<u>Men</u>
(A)	64	88	0	958	3809	9	152	4776
(B)	56	84	0	958	3614	11	140	4583
(C)	58	178	2	983	4578	32	238	5593

Other total casualty figures, with the wounded distinguished as HE or gas casualties, appear in a G-3 report on the Cantigny operation¹²⁶ and in a medical history of the division:

	Officers				Men				TOTAL	
	<u>K</u>	<u>W</u>	<u>G</u>	<u>M</u>	<u>K</u>	<u>W</u>	<u>G</u>	<u>M</u>	<u>Off</u>	<u>Men</u>
(G-3)	49	81	53	2	804	2182	2146	63	185	5195
(Med)	49	81	53	-	802	2192	2149	-	183	5143

An operations history further distinguishes HE and gas casualties by separating the casualties resulting from the attack on Cantigny from those suffered in sector operations:¹²⁷

	Officers				Men				TOTAL	
	<u>K</u>	<u>W</u>	<u>G</u>	<u>M</u>	<u>K</u>	<u>W</u>	<u>G</u>	<u>M</u>	<u>Off</u>	<u>Men</u>
(Sector Opns)	36	50	53	1	618	1571	1946	48	140	4183
(Cantigny Opn)	<u>13</u> 49	<u>31</u> 81	<u>0</u> 53	<u>1</u> 2	<u>186</u> 804	<u>621</u> 2192	<u>200</u> 2146	<u>15</u> 63	<u>45</u> 185	<u>1022</u> 5205

¹²⁵

History, pp. 97, 337, 346. The probable immediate source of the history figures are the earlier Hist Sketch and MS. History of the First Division, ed. Col. Greely.

¹²⁶

G-3 Rpt on Opns...in Sector West of Montdidier, Apr 25th - Jul 7th, 30 Nov (Records 13 and USA in the WW, IV, 334); MS. Hist of Med Dept, 1st Div, p. 7 (Med Dept Box 3398, fol 1). Cf. ltr, Capt A. H. Bengs, IGO 1st Div to C CWS, 27 Jan 1919, sub: Rpt in Circ Ltr No. 89 (GAF-1st Div), which shows 53 officers and 2,148 men gassed at Cantigny.

¹²⁷

Memo, Brief History of Opns of 1st Div, 21 Dec (1st Div Box 11, 11.4, fol 2 and Records 13).

The highest total of casualties for the Cantigny period are those reported in a compilation from Surgeon General records after the war,¹²⁸ where figures in parentheses represent late returns:

	Killed in action	Gunshot wounded	Gas wounded	TOTAL CASUALTIES
25 Apr - 8 Jun	602	2194	1583	4379
9 - 13 Jun	35	309	416	760
14 Jun - 7 Jul	<u>50</u> 687 (12)	<u>447</u> 2950 (162)	<u>648</u> 2647 (61)	<u>1145</u> 6284 (235)

As usual, no comparison of these casualty figures with those reported daily by G-3 (which total 282 killed, 1,164 wounded, and 1,279 gassed)¹²⁹ is possible.

The strength of the division on 30 January 1918 was 1,290 officers and 24,940 men. The loss of approximately 185 officers and 5,205 men in the Cantigny sector, as reported by the division, therefore represented over 14 percent of officer strength and over 20 percent of enlisted strength.¹³⁰ Continuous replacements did little more than keep the division at this same loss level, for on 12 June the strength of the division as a whole was reported as at 92 percent of its officer strength, 87 percent of its enlisted strength, with the infantry at 87

¹²⁸

Battle Losses, 1st Div, 14 Dec 1921 (1st Div Box 15, 12.3). 1st Div Sum of Opns (Battle Monuments Commission, 1944), p. 17, shows 5230 casualties for the period 19 Apr - 13 Jul, with almost half of them occurring before the attack on 27 May.

¹²⁹

Compiled from DOR, 1st Div, 26 Apr - 7 Jul.

¹³⁰

Ltr, CG 1st Div to CG X Corps, 2 Jun, sub: Casualties...28th Inf (records 12), indicates that as of 2 Jun, despite replacements, these percentages held true of the 28th Inf.

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and 81 percent, respectively.

But it was the large numbers of replacements, not the casualties or vacancies or the weariness of the division as a whole, that worried the staff. "There are so many new men, received as replacements," said the Division Adjutant, "that the men do not know each other and companies have ceased to be homogeneous units."¹³² The division was long overdue relief and needed unit training. It was to be given less than a week to catch up.

Gas Casualty Report

In the previous section the total gas casualties at Cantigny, including officers and men, were variously reported as 2,199, 2,202, and according to Surgeon General records, 2,708 (including 61 in delayed reports). In each case the summaries indicate that the number of gassed and wounded was approximately the same during the campaign — an interesting comparison since the weight of HE shell used against the division was probably seven times that of gas shell. But considerably more than half the wounded were not enemy artillery casualties but had become casualties during raids and as a result of sniping and machine gun fire, particularly the heavy

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Strength Rpt, 12 Jun (Records 12).

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Memo, Maj. H. K. Loughry, Div Adj for CofS 1st Div, 2 Jul (Records 12).

machine gun fire of the Cantigny attack.

Almost complete hospital admission lists are available for the Cantigny period. The tables that follow represent a count of the gas casualties admitted to the four division hospitals in May, June, and July, when, despite the normal specialization of division field hospitals, the large numbers of gas casualties necessitated use of all four prior to the transfer of the severely gassed to the French base hospitals at Beauvais.¹³³

The daily gas casualties reported by the Division Gas Officer and recorded in the Monthly Corps Gas Casualty report are included in the tables for purposes of comparison.

It is difficult to account for the total of 2,118 gas cases counted in the lists, as compared to the 2,708 reported in Surgeon General records, unless a number of gas patients were received at the hospitals of the French divisions (for which there are no records) on either side of the 1st Division, or arrived at the base hospitals without being recorded at any of the division hospitals. The "failure" of the admission lists to account for all gas casualties is pointed up in the last column of the tables, where the daily hospital count of shell and gun-shot wounded is recorded. This

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The count is based on the lists of FH 2 at la Neuville (Med Dept Box 3402); FH 3 at Froissy, moved to Paillart on 6 Jun to handle gas casualties from the left flank of the division (Med Dept Box 3405); FH 12 at Bonvillers (Med Dept Box 3407); and FH 13, the principal gas hospital, at Breteuil (Med Dept Box 3409).

Table No. 1

Field Hospital Admission Data

	16 Inf	18 Inf	MG Bn	26 Inf	28 Inf	MG Bn	FA Brig	Other	Hosp Gas TOTAL	Corps Gas TOTAL	Hosp HE TOTAL
30 Apr	-	14	1	-	-	-	-	2	17	-	14
1 May	-	5	-	-	-	-	3	-	8	7	19
2 May	-	-	-	-	-	-	-	-	-	1	18
3 May	4	1	-	-	-	-	-	1	6	5	22
4 May	37	254	18	1	-	-	2	17	329	17	33
5 May	6	263	18	-	-	-	-	20	307	614	18
6 May	1	21	11	-	-	-	1	2	36	33	43
7 May	1	6	4	-	-	-	2	1	14	17	15
8 May	-	9	-	-	-	-	1	-	10	4	28
9 May	-	3	-	-	-	-	-	-	3	6	24
10 May	-	7	-	-	-	-	1	-	8	2	32
11 May	-	-	-	-	-	-	2	-	2	-	24
12 May	-	3	-	-	-	-	1	-	4	1	28
13 May	-	1	6	-	-	-	1	-	8	7	18
14 May	-	4	-	-	-	-	1	1	6	1	8
15 May	-	7	2	-	-	-	2	2	13	6	28
16 May	-	1	-	1	-	-	1	-	3	1	25
17 May	-	-	2	-	1	-	2	-	5	3	19
18 May	-	5	2	-	3	-	1	-	11	4	12
19 May	-	1	-	-	-	-	1	-	2	3	22
20 May	1	3	-	-	-	-	4	2	10	6	9
21 May	-	6	1	-	4	-	5	5	21	13	33
22 May	1	4	1	-	3	-	8	1	18	20	13
23 May	-	32	-	-	2	-	-	1	35	40	12
24 May	-	8	-	1	-	-	2	-	11	2	26
25 May	1	4	-	-	3	-	2	-	10	3	20
26 May	1	5	-	-	-	-	-	3	9	2	25
27 May	8	10	1	121	3	-	10	27	180	171	50
28 May	2	11	-	54	3	-	26	7	103	234 ^a	152
29 May	12	7	1	23	9	3	13	8	76	99 ^b	263
30 May	3	26	5	34	15	-	29	3	115	58	198
31 May	-	1	4	7	1	-	2	-	15	49	86
	78	722	77	242	47	3	123	103	1395	1429 +17 ^c	1337

a Includes gas casualties for 171st Fr Regt.

b Includes gas casualties for 35th Fr Div.

c Gas deaths. Note: The corps gas casualty totals for May and June are from the Corps Monthly Gas Casualty Reports (GAF-I Corps). The Division Monthly Gas Casualty Reports for May and June (in GAF-1st Div) show the same totals as the corps reports. The division report for April reveals 11 gas casualties and 1 gas death between 27 - 30 April, which should be added to the 1429 and 17.

Table No. 1 (cont'd)

Field Hospital Admission Data

	16	18	MG	26	28	MG	FA		Hosp	Corps	Hosp
	Inf	Inf	Bn	Inf	Inf	Bn	Brig	Other	Gas	Gas	HE
									TOTAL	TOTAL	TOTAL
1 Jun	-	3	3	4	-	1	4	1	16	8	43
2 Jun	-	7	1	2	3	-	2	3	18	10	29
3 Jun	-	-	-	1	-	-	1	-	2	2	6
4 Jun	-	1	-	2	-	-	-	1	4	6	10
5 Jun	-	3	-	4	-	-	2	-	9	7	14
6 Jun	-	1	-	8	1	-	1	-	11	9	14
7 Jun	-	-	-	7	-	-	1	-	8	7	10
8 Jun	1	2	2	2	1	-	2	-	10	5	20
9 Jun	55	-	2	119	34	11	72	1	294	48	69
10 Jun	7	2	-	47	1	-	8	-	65	233	29
11 Jun	-	-	-	6	1	-	3	1	11	50	8
12 Jun	-	-	-	6	1	-	3	1	11	43	18
13 Jun	2	-	-	3	1	-	3	1	10	7	10
14 Jun	-	6	-	2	-	-	6	-	14	8	13
15 Jun	-	-	-	2	2	-	1	-	5	1	18
16 Jun	-	-	-	5	-	-	-	-	5	6	17
17 Jun	16	3	6	3	-	-	14	15	57	6	25
18 Jun	38	4	4	4	-	-	19	13	82	41	8
19 Jun	43	1	1	1	1	-	1	-	48	97	3
20 Jun	5	-	2	-	-	-	1	-	8	18	8
21 Jun	3	-	-	2	-	-	-	-	5	3	7
22 Jun	1	-	-	-	1	-	2	-	4	3	2
23 Jun	1	-	-	-	-	-	-	-	1	2	2
24 Jun	4	-	-	-	-	-	-	-	4	-	3
25 Jun	-	-	-	1	-	-	-	-	1	4	8
26 Jun	4	-	-	-	-	-	2	1	7	-	4
27 Jun	4	-	-	-	-	-	2	2	8	7	1
28 Jun	-	-	-	-	-	-	-	-	-	9	14
29 Jun	-	-	-	-	-	-	-	1	1	1	9
30 Jun	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>2</u>	<u>-</u>
	185	33	21	231	47	12	150	41	720	643 ^c	422
										+ 1 ^c	
1 Jul	-	-	-	-	-	-	1	-	1	-	1
2 Jul	1	-	-	-	-	-	-	-	1	-	2
3 Jul	-	-	-	-	-	-	-	-	-	-	9
4 Jul	-	-	-	-	-	-	-	-	-	-	7
5 Jul	-	-	-	-	-	-	-	-	-	-	11
6 Jul	-	-	-	-	-	-	-	-	-	-	-
7 Jul	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>2</u>
	1	1	-	-	-	-	1	-	3	-	32
GRAND											
TOTALS	264	756	98	473	94	15	274	144	2118	2072 ^c	1791
										+ 18 ^c	

total of 1,791 hospital wound cases is at even greater variance with the totals of 2,263, 2,273, and 2,950 (plus 162) wounded, reported in the previous section, than is the gas total.

A breakdown of the 2,118 gas casualties in the hospital admission lists shows that in May, 1,352 men were admitted simply as "gassed," 2 as "yperite," and 41 with "gas sequelae." In June, 70 were diagnosed as "gassed," 66 as "yperite," 18 as "yperite surface burns," 253 as "yperite inhalation," 304 as "yperite and/or phosgene inhalation," and 9 as "gas sequelae." The 3 gas casualties in July were all "yperite surface burns."

The classification of gas casualties in the hospital lists would seem to be contradicted by the medical director of FH 3, although his was not the principal gas hospital and his experience may have been unique. in the Cantigny area, he said,

nearly one-half of all the battle casualties from April 27th to July 7th were gas cases. Practically all the gas casualties were from 'mustard gas'. The gas discipline in the Division was only fair, as the men had not yet reached the state of mind when their respect for gas and orders pertaining thereto equalled their aversion to wearing the gas mask.¹³⁴

The 1st Division was not to achieve that state of mind, nor was any other division in the AEF, when caught in a gas bombardment or when subjected to daily gas concentrations that contaminated large areas of their fighting sectors. In its seven days in the Soissons operation, the 1st Division was to take over 275 gas casualties, and in its eleven days in the Meuse-

¹³⁴

Lt. Col. W. M. Phelps, Rpt, Medical History of the 1st Div, n.d. (Med Dept Box 3398, fol 1).

Argonne in October, more than 1,425 gas casualties.

The implication in Colonel Phelps's report that gas casualties were avoidable, as high explosive casualties were not, appears also in the report of Major Lewis to Fox Conner concerning the initial 460 casualties as a result of the 3 - 4 May gas attack. Of these casualties, he said:

A good many [are] only slightly [gassed], but enough to put them out of business for some time. Many cases are burned about the eyes without having any lung trouble, as a result of pulling down the upper part of the mask in order to be able to see more clearly. The people at 6th Corps Headquarters were quite worked up about this matter as they say that the number of gassed cases is entirely too high to be the result of a simple bombardment. They express doubts as to the quality of the gas discipline in the division....

Several officers of experience and good sense [in the 3rd Bureau] told me that it was not the real danger of death from Iperite that made it so effective but the fact that a man had a good chance of recovering. In this way it offers a very subtle temptation to the man who is tired and worn out to get slightly gassed and have a good three or four weeks rest in the hospital. They all said that they had had to take especially stringent measures with regard to their gas discipline against it on this account.¹³⁶

Both Colonel Phelps and Major Lewis sought answers to a military problem wholly strange to their training and experience, and complicated by "the rapid change in methods of gas warfare" in 1917 - 1918 that made it impossible, even if it were advisable, to lay down any precise course for [gas defense] training.¹³⁷ If often frustrated by the difficulties of determining the nature and degree of casualties to be expected from gas

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Ltr, DGO to C CWS, 27 Jan 1919, sub: Rpt on Circ Ltr No. 89.

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Ltr, Lewis to Conner, 5 May, sub: Liaison Rpt (suppl to DOR, 4 - 5 May, Records 12).

137

Ltr. Actg Chief Def Div. Gas Serv to officers of Def Div, 14 May, sub: Training in Gas Defense (AEF GHQ G-5 Schools Box 1727, fol P, item 6).

attacks, the AEF could only agree with the French, that "If it is impossible, because of the changing methods of the enemy, to avoid all surprises, it is nevertheless true that vigorous enforcement of the rules for protection is capable of considerably lessening the number of casualties."¹³⁸

Particularly interesting in Major Lewis's liaison report is his unexpected definition of "slightly gassed." Line, staff, and medical officers in the months to come were to make a sharp distinction between the "severely" and the "slightly" gassed, and it is therefore important to know that men slightly gassed were, according to Major Lewis, "put... out of business for some time," that is, "a good three or four weeks."

Concerning the element of gas neurosis hinted at in Major Lewis's report, a study by the 1st Division Psychiatrist of "1718 cases tagged as 'gassed'" that passed through FH 3 during the Meuse-Argonne operation in early October, is of some interest — particularly as it is the only division psychiatrist report that has been found so far in World War I records. On the basis of rather slight evidence, he suggested "that roughly one half of [these 1,718]¹³⁹ 'gassed' cases could legitimately be classed as neuropsychiatric." Wound cases, except for the self-inflicted, presented no hazards or problems like gas casualties, and gas casualties could be as insidious, apparently, as the agents themselves.

138

Memo for the Armies, Gp of Armies of the East, 4th Bur, 23 Apr, n.s. (in 26th Div Box 249, fol 4).

139

Ltr, Div Psychiatrist to Ch Consultant in Neuro-Psychiatry AEF, 1 Nov, Sub: Rpt for Month of October (Med Dept Box 3398, fol 9). This recently recovered ltr was not used in Study No. 3, "The 1st Division in the Meuse-Argonne."

Ammunition Report

G-2 estimates of daily enemy artillery fire in the period 26 April -
140
31 May total more than 130,000 rounds. Between 1 June and 30 June —
when the estimates were regularly preceded by the words "at least" —
there was a reported total of 75,820 HE shells, with a marked let-up
in the fire towards the end of the month. During the last days at
Cantigny, 1 - 6 July, an estimated 9,152 HE shells fell into the
sector. Gas shells over the same April - May period were estimated at
28,500, including the over-estimate of 15,000 mustard gas shells in
the 3 - 4 May gas attack. For the June - July period gas shells seem
to have totaled no more than 6,330, according to the daily G-2 reports. 141

In its 72 days in the Cantigny sector, the 1st Division had thus been
subjected to a probable minimum of 215,000 HE shells and a maximum of
142
34,800 gas shells. In approximately the same period, the 1st Division
artillery, according to G-3 data, fired over 593,000 shells into the
enemy lines, including 22,730 gas shells. Post-war reports, however,
indicate that the artillery fired a total of 658,183 shells, including
31,475 gas shells during the operation or more than twice as much HE
143
as the enemy and at least as much gas.

140

87,246 rounds by count, with adjustments for missing data on
26 - 27, 27 - 28 and 29 - 30 May — days of intense fire.

141

Ltr, DGO 1st Div to C CWS, 27 Jun 1919, sub: Rpt on Circ Ltr
No. 89 (GAF-1st Div), was to estimate 3,600 gas shells fired by the
enemy in June, 90 percent of them mustard gas.

142

Compiled from SOI 1 - 71, 24 Apr - 7 Jul.

143

Memo, BMO 1st FA Brig for G-1 1st Div, 6 Feb 1919 (Records 14),
said 566,536 75-mm and 91,647 155-mm shells were expended between
25 Apr and 6 Jul. Rpt, Special Shells fired by the 1st FA Brig (Records
14), shows the daily gas shells fired.

Impressive as this 1st Division gas shell total seems, almost 6,000 rounds represented the yperite fired in the 4 July salute and probably more than half of the remaining total was No. 4 cyanogen, a virtually worthless agent in the field. Moreover, while the complete allotment of 600 No. 4 and No. 5 shells permitted the 1st Division was fired each day, so far as can be determined it was invariably fired during daylight hours, when the enemy was best able to protect himself against it. No single target seems ever to have been hit with more than 200 rounds on any given day, and usually with much less. This amount would have been effective had it been yperite, but with cyanogen chloride and phosgene it would have nuisance value only.

In August, while in the Saizerais sector, the brigade came to realize the wastefulness of scattering nonpersistent gas shells thinly on many targets, and issued a directive to correct it: "The expenditure of H.E. has already been far in excess of the normal allowance, whereas that of shrapnel and special [shell] has been negligible....As regards the use of special shells, the firing of a few rounds at a time is ineffectual. Concentrations of sufficient density to give an effective cloud only will be undertaken."¹⁴⁴

The 1st Division, like the other American divisions, had to learn the use of gas in offensive as well as defensive operations. General Summerall, in command of the 1st FA Brigade at Cantigny, was the new division commander (with the departure of General Bullard to III Corps)

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Memo, Actg Adj 1st FA Brig for COs 6th and 7th FA, 21 Aug (Records 9).

in late July when he received the circular letter of the Chief of the Chemical Warfare Service asking for his opinion as to the proportion of gas shell which he believed his division artillery should have. While military tradition and prejudice still precluded any idea of using gas in open warfare or in offensive operations, Summerall had already come to believe

that in stabilized sectors the proportion of gas shells to high explosive might well be greater than 50-50; I should say 60-40. In the proportion of 90 percent mustard gas and 10 percent D.A. [diphenylchlorarsine] and chlorpicrin.

In the months to come the 1st Division was to spend little time in stabilized sectors. It learned to counter gas with gas in the attack, and before the war was over fired almost 67,000 gas shells. 145

Casualty Statistics

The total reported wounded by artillery shell fragments in the hospital lists for the period 30 April - 7 July is 925 (based on actual count). To this figure 200 may be arbitrarily added as those killed by artillery shells, or 1,125 altogether. On the basis of a probable minimum of 215,000 HE shells fired into the division sector at Cantigny, the enemy artillery therefore produced a casualty for every 190 shells. If it is assumed that all HE casualties reported in post-war records were the result of artillery fire (3,125 vs. 1,791 found in the hospital lists, above, p. 73), the total of 3,125

145

1st Ind, 1st Div to C Cws, 28 Jul, to ltr, C CWS (missing) (1st Div Box 173, Corresp file #9946); Study No. 3, "The 1st Division in the Meuse-Argonne," p.58.

represents a casualty for every 68 shells.

The extreme of the gas casualty totals in the period, 2,118 reported in the hospital lists and 2,647 plus 61 reported from later Surgeon General records, were the result of a maximum of 34,800 gas shells fired by the enemy. Accepting these figures, gas casualties were produced at the rate of somewhere between 12 and 16 gas shells for each casualty.

In individual gas attack, estimates of the total gas shells fired in the drenching of Villers-Tournelle on the night of 3 - 4 May range between 4,000 and 15,000 with the German record of 4,800 shells in fair agreement with the Division Gas Officer's estimate of 4,000 or more (narrative, p. 14). The 700 gas casualties resulting from this attack (it may have been nearer to 800, according to the narrative, pp. 15 - 16) thus represent a casualty for every 6 or 7 gas shells fired in the attack.

The two enemy gas demonstrations for the 27 May offensive, during which an approximate total of 7,000 blue and green cross and 4,200 yellow cross shells were said to have been fired (narrative, pp. 30 - 31 32 - 33), produced over 300 gas casualties. The unusual proportion between gas shells and gas casualties in this instance is nullified to a degree by the questionable report that no more than 10 of the 300 casualties were caused by mustard gas. Furthermore, since a post-war report said that yperite constituted no more than a third of the gas shells, it may be that that portion of the gas shoot was not completed. Finally, it does not seem probable that a two-day attack with between

7,000 and 11,000 gas shells could ever have been described, as it was, as part of "a glorified coup de main." The assumption that both missions, on 26 and 27 May, were carried out almost entirely with non-persistent agents is bolstered by the enemy admission that the gas bombardment was not successful "on account of unfavorable weather conditions." In that case, whether it was wind or rain that dissipated the agents, the number of casualties seems excessively high.

In the enormous gas preparation for the German offensive on 9 June, some part of a total of 14,350 gas shells, including 10,850 yellow cross shells, fired by the German artillery opposite 1st Division, fell on the division sector. The Division Gas Officer estimated a total of no more than 1,900 gas shells in the division sector, most of them mustard gas. Contrarily, G-2 said mustard gas shells were only a small percentage of the total gas shells. These are the only estimates available.

Total gas casualties in the division as a result of this gas preparation were almost 400 (narrative, p. 59). Even doubling the DGO estimate of 1,900 gas shells results in no more than a casualty for every 9 shells.

A final statistic may be noted. As a result of the 5,648 75-mm yperite shells fired into the Bois de Lalval on 4 July by the 1st FA Brigade, the elements of the German division occupying that wood reported 73 gas casualties (narrative, p. 66). Even making allowances for the dubious character of German reports of their gas casualties, as well as the paucity of forces likely to be stationed

that near the front, the ratio of one gas casualty for every 78 yperite shells suggests that the mission was a gesture, a celebration, rather than an effective retaliation.

In the melee of the Cantigny attack on 27 May, it is impossible to distinguish the enemy gas shells that produced over 200 gas casualties among the defenders of the captured village. ¹⁴⁶ The effect of that gas on the troops seems clear from the narrative. It certainly was a factor in the panic that overtook several of the companies. How much of that panic was owing to the current experience and how much to accumulated apprehensions concerning gas and to gas fatigue as a result of the weeks of gas alarms and gas attacks on that front cannot be said.

The effect of gas on the Cantigny operation as a whole is perhaps best represented in the table of hospital admissions. Although later Division Surgeon figures indicate that the table may not be complete, it reveals that gas casualties were admitted to the division hospitals on 70 of the 72 days in the sector. German gas tacticians had not yet devised the practice, so effective later, of keeping large areas under mustard gas harassment with a relatively few gas shells fired each day. Many of the daily gas casualties in the chart therefore doubtless represent delayed casualties or casualties from residual contamination. Yet the constant procession of casualties reveals that gas never ceased to be a hazard in the sector, and gas mask fatigue cannot be ruled out as an element affecting the operation.

¹⁴⁶

Ltr, Bengs DGO 1st Div to C CWS, 27 Jan 1919, sub: Rpt on Circ Ltr No. 89 (CAF-1st Div), was to say there were approximately 250 gas casualties on 28 - 30 May, "caused by troops advancing over ground that had been previously gassed." This must refer to the approaches to Cantigny.

On Balance

In their emphasis on the psychological effect of the capture of Cantigny on Allied morale, rather than on the military value of the operation, the historians have correctly assessed the worth of that attack. Pershing himself suggested that the immediate purpose of the attack was to raise Allied morale at a time of general despair and to prove the capacity of the American division as a fighting unit (narrative, p.28). His strong letter to Bullard (narrative, p.43) leaves no doubt of the importance of the operation to him.

There is indeed little to be said for the operation as a military feat. None of the military objectives announced for the attack — to straighten the line, to deprive the enemy of his advantage of observation, to advance the artillery for better fire on the enemy in the Montdidier area — were realized. The Germans thought, logically, that an unsuccessful attempt had been made to take Height 104, overlooking the Dem valley. But the planning maps of the operation show that Height 104 was not even considered, that it was well beyond the final objective line set for the attack. Only the commander of the 28th Infantry expressed his awareness, as his men held grimly to the line above the town, that they "should have gone on...until [they]...commanded the valley" (narrative, pp. 47, 54)

In terms of men and material expended on the action, the cost of Cantigny was probably not excessive. Far more had been spent elsewhere during the war on even less valuable pieces of war-torn real estate.

In April 1917, for example, the French in their attack between Soissons

and Reims were said to have lost over 100,000 men in three days, and in August le Mort Homme Hill and Hill 304, west of the Meuse, were captured after four days' continuous bombardment, "the amount of artillery ammunition expended exceeding that of any previous engagement."¹⁴⁷

In the four days that it took to capture and consolidate Cantigny, the division lost approximately 1,055 officers and men, the enemy about 600 more than that. In the other sixty-eight days on that front, in a purely defensive posture, the division lost approximately 5,000 officers and men, somewhat less than half that number to gas alone. It was a highly sensitive front, and with their artillery fire and raids the 1st Division offered constant provocation to the enemy, as well as frequent signs of impending attack. The gas attacks of the enemy would have continued whether Cantigny had been taken or not.

There is no question of the effectiveness of the enemy gas, although no acknowledgement of it has been found either in divisional records or in the histories. The published history of the 1st Division does not hesitate to admit that the division was gassed often and thoroughly, nor to admit that almost half of its casualties at Cantigny were the result of gas. But nowhere does it suggest that it was gas, as much as HE, that wore down the troops, or that the enemy use of gas had any effect on the taking of Cantigny. The fight for Cantigny might well have been more aggressive except for the fear that

¹⁴⁷

Pershing, My Experiences, I, 69 - 70, 140.

overwhelming amounts of gas might at any moment be put on Cantigny as they had been on Villers-Tournelle.

However exaggerated it may appear to be, the report of the Division Psychiatrist (analysis, p. 76) that roughly one-half of the gas cases in October -- in a division with long experience of gas -- might be classified as neuropsychiatric, suggests at the very least the enormous psychological strain of fighting under gas warfare conditions. This is not to minimize the effect of the German machine guns which certainly produced most of the casualties in the Cantigny salient. But in theory at least, there was always some defense possible against machine guns, either by getting under ground, by calling the artillery down on them, or by attacking them. Except for the gas mask, or flight, there was no defense against gas, and as has been shown, the 1st Division tended to lack confidence in its gas mask.